

МИНИСТЕРСТВО ОБРАЗОВАНИЯ РЕСПУБЛИКИ БЕЛАРУСЬ
Белорусский национальный технический университет

Кафедра «Английский язык № 1»

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ENGLISH FOR AUTOMOTIVE
STUDENTS

АНГЛИЙСКИЙ ЯЗЫК
ДЛЯ СТУДЕНТОВ
АВТОМОБИЛЕСТРОИТЕЛЬНЫХ
СПЕЦИАЛЬНОСТЕЙ

Пособие

*Рекомендовано учебно-методическим объединением по образованию
в области транспорта и транспортной деятельности*

Минск
БНТУ
2021

УДК 811.111(075.8)

ББК 81.2Англ.

Б86

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Б86 English for Automotive Students = Английский язык для студентов
автомобилестроительных специальностей: пособие / А. О. Боярская,
Н. Ф. Ладутько, С. А. Хоменко. – Минск: БНТУ, 2021. – 74 с.
ISBN 978-985-583-393-3.

Данное пособие предназначено для студентов и магистрантов автотракторного факультета технических специальностей.

Целью учебного пособия является развитие навыков устной речи. Пособие представляет собой комплекс текстов, диалогов, коммуникационно-ориентированных упражнений и ситуаций для дальнейшего обсуждения. В конце пособия даны тесты для контроля полученных знаний и скрипты аудио и видео материалов.

Лексический материал подобран из аутентичных источников, что позволяет расширить словарный запас студентов и магистрантов.

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ISBN 978-985-583-393-3

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UNIT 1. CARS IN OUR LIFE

1. What comes in your mind when you hear the word “CAR”?



2. Do you know that:

- the word “car” is believed to originate from the Latin word *carrus* or *carrum*, meaning “wheeled vehicle”, or the Middle English word *carre*, meaning “two-wheel cart”;
- the word “automobile” [ˈɔ:təmə(u)bi:l] comes from two words *autós* (Greek) meaning “self”, and *mobilis* (Latin) meaning “movable”.

3. Discuss the questions below in pairs.

- ✓ Do you (or your family) have a car? What model is it?
- ✓ How old do you have to be to drive in your country?
- ✓ Can you drive a car? Do you have a driving licence?
- ✓ If yes, are you a good driver? When did you get your licence?
- ✓ If no, do you want to get a driving licence? Why? / Why not?
- ✓ Do you prefer to drive or to be a passenger?
- ✓ Do people drive well in your country?
- ✓ Would you like to drive a Formula One car?
- ✓ Are men or women better drivers? Why do you think so?

4. Put the verbs in brackets into Present Simple.

A car ¹ ___ (be) a machine that ² ___ (make) transportation much easier for us. It ³ ___ (use) its own motor engine that ⁴ ___ (help) it to do its job. Today there ⁵ ___ (be) more than 10 billion cars in use. The car ⁶ ___ (be) the most recycled product in the world. Almost 95% of the cars that ⁷ ___ (be) not in working condition ⁸ ___ (be) recycled. An average car ⁹ ___ (have) around 30,000 different parts in it. A car engine ¹⁰ ___ (look) like a complex jumble of metal, wires, and tubes but it actually ¹¹ ___ (keep) the machine working.

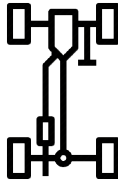
5. Can you identify the car parts? Match the pictures to the words:

an engine, a wheel, a steering system, brakes, a body, chassis ['ʃæsi], pedals, a steering wheel

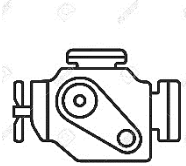
1



2



3



4



5



6



7



8



6. Make up the word combinations from columns A and B and find their equivalents in C.

A	B	C
1) volatile	a) fiberglass	двигатель внутреннего сгорания
2) strong	b) jam	крепиться к раме
3) to propel	c) vehicle	транспортный затор, дорожная «пробка»
4) an internal combustion	d) to the chassis	перегруженная дорога
5) a traffic	e) engine	дорожно-транспортное происшествие
6) an outer	f) a vehicle	автомобиль
7) a motor	g) accident	легко испаряющееся топливо
8) a traffic	h) shell	приводить в движение транспортное средство
9) a congested	i) fuel	прочное стекловолокно
10) to attach	j) road	наружный корпус

7. Put the verbs in brackets into Present Simple Passive. Translate the sentences.

1. In Paris today, the streets (*crowd*) with automobiles. 2. Two ropes (*attach*) to the bumper of a car. 3. Air (*supply*) to the brake system from the main reservoir. 4. Some areas (*congest*) with both cars and people. 5. This colourless gas (*emit*) mainly from cars and trucks. 6. Over 12 million cars (*recycle*) in the U.S. every year. 7. If someone (*injure*) in a car accident, you should not move him or her. 8. The doors of all Ferraris (*make*) from aluminium. 9. The ship (*propel*) by steam and (*light*) by electricity.

8. Read the text. Complete the sentences in par. 3–5 with the words (1–8) from ex.5. Listen to the recording to check your answers.



1. It is hard to imagine what life was like before there were automobiles or cars. Cars and other motor vehicles have made it easy for

people to travel within a city or across a continent. They have also affected how people live. People once had to live near their jobs, but now they can live farther away and drive to work.

2. Yet automobiles have brought problems as well. Tens of thousands of people are killed or injured each year in traffic accidents. Cities are often congested with huge traffic jams. And gasoline is a limited resource that pollutes the atmosphere.

3. An automobile is a four-wheeled vehicle designed mainly for passenger transportation and usually propelled by an internal-combustion ¹ ___ using a volatile fuel.

4. All automobiles have certain basic parts. The ² ___ of an automobile is the outer shell that encloses the vehicle's mechanical parts and its passengers. Most auto bodies are made of steel, but some are made of strong plastics or fiberglass. The body is attached to the ³ ___. This consists of a frame that holds all the other major parts of the automobile together. Those other parts include an engine, a steering system, ⁴ ___, and four ⁵ ___. The ⁶ ___ controls the direction in which a car moves.

5. A driver operates a car by pressing on ⁷ ___ to make it go and stop and by turning the ⁸ ___ to guide where the car goes. The pedals and steering wheel work because they are part of a larger system [1].

9. Find a word or expression in the text which is similar in meaning to:

a) a device for carrying persons or objects (par. 1); b) a colourless liquid used as a motor fuel (par. 2); c) a long line of vehicles that cannot move forward because there is too much traffic (par. 2); d) to do physical harm or damage to someone (par. 2); e) to overfill or overcrowd (par. 2); f) an engine which generates power by the burning of fuel with air inside the engine (par. 3); g) to direct the motion of a vehicle (par. 5).

10. Complete the statements with the appropriate information from the text.

1. It is impossible to imagine our life ...
2. An automobile is a ...
3. The common auto body material is ...

4. The automobile basic parts are ...
5. A driver presses on pedals to ...
6. A driver turns the steering wheel to ...
7. The advantages of automobiles in our life are ...
8. The disadvantages of automobiles in our life are...

11. Match the words having a similar meaning.

1) an advantage	a) a congestion
2) a driver	b) to devote
3) a traffic jam	c) current
4) typical	d) a benefit
5) present-day	e) to emit
6) to produce	f) a motorist
7) city	g) to encourage
8) to motivate	h) urban
9) to give	i) average

12. The United States is a prime example of a car-centred nation. Complete the text below with the appropriate words and find out how transportation affects the life of people in the USA.

air pollution, congestion, motor vehicles, motorists, environment, accidents, injure, maintenance, parking lots, climate-changing

¹ ___ ___ offer a convenient way to get people around. They are also symbols of power, social status, and success for many people. And much of the world's economy is built on producing motor vehicles and supplying fuel, roads, vehicle ² ___, and repairs.

Despite their important benefits, motor vehicles have harmful effects on people and the ³ ___. Every year, automobile ⁴ ___ in the United States kill about 44,000 people and ⁵ ___ another 2 million.

Motor vehicles are the world's largest source of outdoor ⁶ ___ ___, which kills about 100,000 people per year in the United States. They are also the fastest-growing source of ⁷ ___ carbon dioxide emissions. The average car in the USA emits about 2.2 tons of CO₂ each year. In addi-

tion, half of the urban land is devoted to roads, ⁸ ____, and gasoline stations.

Widespread use of motor vehicles causes traffic ⁹ ____. If current trends continue, U.S. ¹⁰ ____ will soon spend an average of 2 years of their lives in traffic jams. Building more roads may not be the answer because more roads usually encourage more people to drive [2].

13. Look through the text again. Discuss in groups.

- ✓ Are the transport problems in the USA similar to those in your country?
- ✓ In your opinion what is the best solution to reduce the harmful effects of automobile use?
- ✓ If you own a car or hope to own one, what conditions would encourage you to drive your car less and to travel to the University or work by bicycle, on foot or by carpool (*по очереди подвозить друг друга на авто*)?

Below are some phrases that you can use to help express opinions.

I think....

From my point of view....

I believe....

As far as I'm concerned....

I suppose....

Personally, I think....

I guess....

I'd like to point out that....

In my view....

Some people say that....

In my opinion....

It is generally accepted that....

It seems to me that....

It goes without saying that....

14. Work in pairs. Make a list of advantages and disadvantages of automobile use. Add your own ideas of benefits and drawbacks. Share your opinions with your partner. Follow the example.

S1 First of all, you can move quickly from one place to another and don't have to waste your time and wait for a bus.

S2 But a lot of cars cause traffic jams and you have to spend much time in these jams. So, it may not be so fast as you want.

Pros	Cons
1. Easy transportation of goods	1. Traffic jams
2. Flexibility	2. Air pollution
3. Reliability	3. A lack of parking spaces
4. ...	4. High parking charges

UNIT 2. A BRIEF HISTORY OF CARS

1. Do you agree that....

- we live in a “world of wheels”?
- automobiles are believed to be a symbol of personal growth and development nowadays?
- cars have changed the way people live all over the world?
- cars have affected all aspects of society such as family life, the economy, and even the environment?
- “necessity is the mother of invention”?

Below are some phrases that you can use to help express agreement.

I agree....

Definitely....

I think so too....

That's true....

I completely disagree....

Umm, I'm not sure about that....

Well, I don't quite agree with...

That's not always true....

I don't think so....

No, I'm not sure about that because....

I'm afraid, I disagree....

2. The automobile as we know it today was not invented in a single day by a single inventor. Many people or teams of people are credited with inventing the car. Guess if these people are from Germany, France, the USA or the UK?

Nicolas Joseph Cugnot

Richard Trevithick

Nicolaus August Otto

Karl Benz

Gottlieb Daimler

Wilhelm Maybach

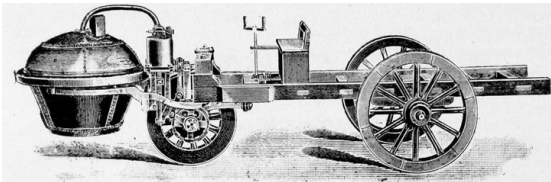
Rudolf Diesel

Henry Ford

3. Make up the word combinations from columns A and B and find their equivalents in C.

A	B	C
1) gas-powered	a) time	самодвижущийся экипаж
2) mechanical	b) carriage	замена двигателя
3) engine	c) mixture	инженер-механик
4) assembly	d) Devil	затраты на производство
5) production	e) transportation	«Пыхтящий дьявол»
6) cannon	f) replacement	продолжительность сборки
7) compressed	g) carriage	сжатая смесь
8) steam	h) vehicle	автомобиль с газовым двигателем
9) horseless	i) costs	перевозка артиллерийского орудия
10) Puffing	j) engineer	тележка с паровым двигателем

4. Read the information about the major figures in the early history of the automotive industry.



It travelled about 3 mph (5km/h) and had to stop every 10 minutes to build up steam.

- Before 1801, many people in the UK travelled around in carriages pulled by horses. Then **Richard Trevithick** found a way of making steam engines much smaller, and he put one of these engines on a carriage. His new “horseless carriage” was called the Puffing Devil.

- **Nicolaus August Otto** was the German inventor who, in 1876, built the first four-stroke internal combustion engine, the prototype of the hundreds of millions that have been built since then. The Otto engine ran on a compressed mixture of gas and air, and it became the first practical and successful replacement of the steam engine.

- In 1885, a German mechanical engineer **Karl Benz** designed and built the world's first practical automobile which was powered by an internal-combustion engine. On January 29, 1886, Benz received the first patent for a gas-powered vehicle. It was a three-wheeler; Benz built his first four-wheeled car in 1891.
- In 1885, **Gottlieb Daimler**, a German mechanical engineer, along with his design partner, **Wilhelm Maybach**, improved Nicolaus Otto's internal combustion engine. They made it small, lightweight, and fast. They also developed a carburettor that made possible the use of gasoline as fuel.
- Another type of internal-combustion engine was introduced by **Rudolf Diesel**, also of Germany, in the early 1890s. Named for its inventor, the diesel engine was more efficient than engines of the Otto variety and was fuelled by heavy oil, which is cheaper and less volatile than gasoline.
- **Henry Ford** incorporated the Ford Motor Company in 1903. He is known as the father of the modern assembly line. The assembly line reduced production costs for cars by reducing assembly time. Ford's famous Model T was assembled in ninety-three minutes.

5. Match the names of the inventors to their developments.

1. Nicolas Cugnot	a) found a cheap power source.
2. Richard Trevithick	b) modified the four-cycle Otto engine.
3. Nicolaus August Otto	c) invented the first "horseless carriage" to be driven by an internal combustion engine.
4. Karl Benz	d) made life easier for horses.
5. Gottlieb Daimler, Wilhelm Maybach	e) made it possible for lots of people to buy a car.
6. Rudolf Diesel	f) offered the first practical alternative to the steam engine as a power source.
7. Henry Ford	g) made it easier for the French to go to war.

6. Put the words in the right order to make questions and answer them.

1. When / steam / Cugnot / build / a / did / carriage?
2. What / invention / Trevithick's / the / was / of / name?

3. What / 1876 / Otto / build / in / did? Otto's / engine / replace / engine / did / steam / the?
4. What / did / in / receive / patent / Benz / 1886 / Karl?
5. Who / engine / in / improved / Otto's / 1885?
6. Did / by / Diesel / develop / engine / fuelled / heavy / the / Rudolf / oil?
7. How long / it / the / 1900s / assemble / Ford's Model T / did / in / to / early / take?

7. Complete the sentences. Use the Past Simple Passive of the verbs below.

take, power, invent, build, find, use, leave, injure, repair

1. The stolen car ___ in the garage.
2. After the accident he ___ into the hospital.
3. Hundreds of people ___ in the train accident last week.
4. My car ___ last week.
5. A new ring-road ___ around the city last month.
6. Anna's Rolls-Royce ___ to her by her grandfather.
7. Air bags ___ by General Motors.
8. The first U.S. stop sign ___ in Detroit in 1915, and the first traffic lights were invented in Detroit.
9. The automobile ___ by a four-cylinder four-stroke gasoline engine.



8. Video activity

Before you watch

- ✓ *Do you know who took the world's first long-distance journey by car?*
- ✓ *Match the English words with their Russian equivalents.*

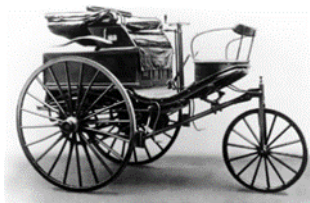
1. To be obsessed with	a) превращать в источник прибыли
2. A forward gear	b) рисковать состоянием
3. A daredevil	c) оказывать поддержку
4. To commercialize	d) полный решимости

5. To stake fortune	e) сталкиваться с препятствиями
6. To offer support, to back	f) неуверенный в себе
7. To be determined	g) раскрывать изобретение
8. To face obstacles	h) одержимый чем-либо
9. To be timid	i) консервативные декреты
10. To unveil an invention	j) передняя передача
11. Conservative decrees	k) сорвиголова; смельчак

While you watch

✓ ***Watch the video and answer the questions:***

- When did Karl Benz decide to invent “the horseless carriage”?
 - What kind of support did Karl Benz receive from his wife?
 - What obstacles did Karl and Bertha Benz face?
 - What happened on the 12th of August, 1888?
 - Which words are used to characterize Bertha and Karl Benz?



✓ ***Watch the video again and complete the gaps in the sentences.***

forward gear, vision, moral support, horseless carriage, fortune, replacing, horse, invention, machine, workshop

1. Engineer Karl Benz decided to invent the ___ ___ when he was just 15.
2. His latest prototype has a one-cylinder internal combustion engine and a single ___.
3. And Bertha offers more than ____. She stakes her ___ on Karl.
4. He (Germany’s Kaiser) says the idea of ___ them with a ___ is not only foolish, it’s unpatriotic.
5. Up against such opposition Karl stays in his ___ too timid to unveil his latest ___.
6. But Bertha has a ___ that the car, her husband’s car, and not the ___ is how we will all travel in the future.

After you watch

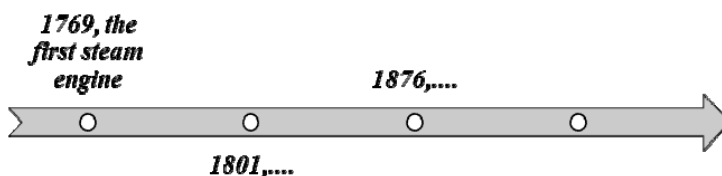
✓ *Discuss the following questions in groups.*

- Several things went wrong on the trip. What do you think went wrong on the trip?
- Do you consider Mrs. Benz's idea a success or a failure? Why do you think so?

9. Here is some information concerning the history of electric vehicles. Complete the text with the correct forms of the verbs. Use the Past Simple Active or Passive.

The history of the first electric-powered vehicles dates back to the 1830s when the Scottish inventor Robert Anderson ¹ ___ (*design*) the first two-wheel vehicle with a non-rechargeable battery. The interest in electric mobility ² ___ (*grow*) and in 1859 Gaston Plante, a French physicist, ³ ___ (*invent*) the first rechargeable battery, which ⁴ ___ (*make*) the production of the first EVs possible. The German engineer Andreas Flocken ⁵ ___ (*develop*) the first four-wheeled EV in 1888 and three years later, the first EV in the USA ⁶ ___ (*introduce*) by William Morrison. In the 1890s, EVs ⁷ ___ (*attract*) more interest, and a lot of EV models ⁸ ___ (*manufacture*). In 1897, Pope Manufacturing Company in Connecticut [kə'netɪkət], USA, ⁹ ___ (*become*) the leading large-scale EV producer. The main advantage of EVs at that time ¹⁰ ___ (*be*) their more comfortable driving experience compared to gas-powered vehicles because noise and vibrations ¹¹ ___ (*reduce*). The popularity of EVs ¹² ___ (*start*) to decline in the 1920s, because Henry Ford ¹³ ___ (*introduce*) an assembly line which ¹⁴ ___ (*make*) manufacturing gas-powered vehicles more cost-effective [3].

10. Work in pairs. Create a timeline of the major events in the development of the car and the car manufacturing industry. Research to add information to the timeline. Present your timeline for comments and clarifying questions. Discuss and decide which of these is the most important.

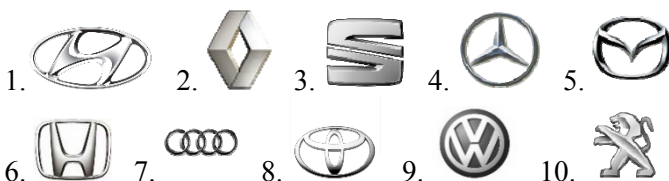


UNIT 3. CAR LOGOS AND MAKES

1. Discuss the questions below in pairs.

- ✓ What are the biggest car manufacturers in the world? Make a top 5.
- ✓ Are there any car manufacturing companies in your country?
- ✓ What are the best-selling cars in the world and in your country?
- ✓ What is your favourite car? Explain why.

2. Match the logos to the car makes. Where are the car manufacturers from?



a)	Peugeot [ˈpɜːʒəʊ]	f)	Toyota [tɔɪ ˈəʊt ə]
b)	Hyundai [ˈhaɪ ən daɪ]	g)	Volkswagen [ˈfɒlksvaːɡn]
c)	Renault [ˈrɛnəʊ]	h)	Honda [ˈhɒnd ə]
d)	Seat [ˈsiːt]	i)	Mercedes [mə ˈseɪd ɪz]
e)	Mazda [ˈmæz də]	j)	Audi [ˈaʊdi]

3. Do you know which of these cars:

- was named after a girl?
- has models named after Spanish cities or regions (Toledo, Málaga)?
- has models named after oceanic currents and winds (Golf)?
- has a logo symbolizing air, land, and sea?
- has a name meaning “People’s car”?
- has a slanted, stylized 'H' in its logo which is symbolic of two people (i. e. the company and customer) shaking hands?
- has a logo with an image of wings in flight which symbolises the car manufacturing company’s flight toward the future?

4. Make up the word combinations from columns A and B and find their equivalents in C.

A	B	C
1) quartered	a) works	транспортное средство с высокими эксплуатационными характеристиками
2) sophisticated	b) brand	автомобильный завод
3) motor	c) interior	утонченный, изысканный внешний вид
4) high-performance	d) feature	пространство внутри, разделенное на четыре части
5) aircraft	e) propeller	отличительная черта
6) distinctive	f) engine	авиационный двигатель
7) well-established	g) vehicle	вращающийся винт (пропеллер)
8) spinning	h) appearance	широко известный торговый знак

5. Read the text about one of the best-selling automakers in the world. Discuss which fact is the most interesting for you.

BMW is a well-established brand in the car industry and is possibly the best-known German car manufacturer. It has become synonymous with high-performance vehicles that are sophisticated in appearance and comfortable to drive. While most people are aware of this company due to its long history and the high numbers of cars it has produced, not everyone knows specific details about this company and the vehicles they have manufactured over the years. Here are some interesting facts you might not know about the car manufacturer BMW:

1. BMW, which stands for Bayerische Motoren Werke (Bavarian Motor Works), started out by making aircraft engines in 1916. It was during World War I when there was the need for airplane engines.



2. Following the war, **the terms of the Treaty of Versailles**¹ banned German companies from producing warplanes and their engines. For this reason, BMW was forced to begin manufacturing cars to remain in business.

3. The headquarters of BMW in Munich, Bavaria, have a rather unusual design. They represent the shape and design of BMW's famous four-cylinder engines. BMW is famous for its four-cylinder heritage and designers of the headquarters wanted to reflect this.

4. During a particularly difficult period in BMW's history in the 1950s, they were almost taken over by Mercedes. BMW had almost gone bankrupt by 1959 and one reason for this was the Cold War. However, BMW managed to find a private investor to buy back its shares.

5. The logo for BMW is easily recognizable. It consists of a black circle with the interior quartered and the sections within are blue and white. Many people mistakenly believe that the logo represents a spinning propeller, but that is not the case. Blue and white are the national colours of Bavaria.

6. One of the most distinctive features of a BMW is the grille, which is known as the **kidney grille**². This is one of the features that people notice when they see a car and instantly recognize it as being a car manufactured by BMW. Some people even find this a more recognizable feature than the BMW logo [4].

¹ *the terms of the Treaty of Versailles [veə'saɪ] – условия Версальского мирного договора;*

² *kidney grille – фирменная решетка радиатора автомобилей БМВ, отдаленно напоминающая по форме человеческие почки.*

6. Find a word or expression in the text which is similar in meaning to:

- a) to officially prevent (someone) from doing something (fact 2);
- b) the main offices of an organization (f3); c) the history, traditions of a company that exist from the past and continue to be important (f3);
- d) to take control of a company (f4); e) to be unable to pay (f4); f) a person or organization that puts money into something to make a profit (f4);
- g) a small picture or design that a company uses as its symbol (f5);
- h) a screen of metal bars, placed in front of something as protection or to allow ventilation (f6).

7. Discuss whether the statements are true or false. Correct the false ones.

1. BMW is said to be the best-known truck manufacturing company.
2. Bavarian Motor Works was founded in 1916 in Germany.
3. During WWI the company manufactured only motorcycles and cars.
4. There was a time when BMW almost became Mercedes in the late seventies.
5. The logo of BMW represents the national colours of Bremen, Germany.
6. BMW's headquarters are shaped like car parts.
7. The most distinctive features of a BMW are the grille and the logo.

8. Complete the statements with the appropriate information from the text.

1. BMW is a
2. It is synonymous with
3. BMW stands for
4. It was founded in
5. It started out by
6. There was a difficult period in BMW's history when
7. It is headquartered in
8. The logo for BMW is It represents
9. The most distinctive features of a BMW are

9. Complete the text with the correct forms of the verbs. Use the Present or Past Simple Active or Passive. Listen and check your answers.



Honda Motor Company Ltd. ¹ ___ (*be*) a Japanese multinational company mainly known for its cars and motorcycles. It's the sixth-largest carmaker in the world. The company ² ___ (*start*) by a mechanic Soichiro Honda. He ³ ___ (*make*) small motorbikes after WWII and by 1964 had become the world's largest manufacturer of motorbikes. Honda also ⁴ ___ (*manufacture*) garden equipment, boat engines, power generators, and jet engines. Since 1986, the company has been involved with robotics research. It ⁵ ___ (*develop*) what ⁶ ___ (*be*) today the world's best-known robot - the ASIMO - in 2000. Honda also heavily ⁷ ___ (*involve*) in motorsports and ⁸ ___ (*have*) racing teams in both Formula 1 and motorbike

events. Honda's slogan ⁹ ___ (*be*) "The Power of Dreams". Its website ¹⁰ ___ (*say*): "Dreams ¹¹ ___ (*inspire*) us to create innovative products that ¹² ___ (*enhance*) mobility and ¹³ ___ (*benefit*) society [5]."

10. Complete the sentences with the correct forms of the verbs. Use the Past Simple or Present Perfect Active.

1) Cars always ___ (*play*) a big role in the development of the economy and industry as well as lifestyles and culture. 2) In 1997 Toyota ___ (*introduce*) its four-passenger Prius hybrid to the Japanese market. 3) Brakes themselves ___ (*not change*) much since the introduction of disc brakes, but braking control systems ___ (*make*) brakes safer and more effective. 4) Luxury carmakers like Mercedes-Benz ___ (*begin*) to use modern airbags in the 1980s, and Ford ___ (*make*) airbags standard on all its vehicles in 1990. 5) The idea of creating environmentally-friendly cars ___ (*become*) a 'hot topic' over the past few decades. 6) In 2010 General Motors ___ (*introduce*) the Chevrolet Volt, a car that ___ (*can*) drive up to about 35 miles on electric batteries. 7) Automobile production in the USA ___ (*begin*) in the 1890s. It ___ (*be*) Henry Ford who ___ (*start*) producing cars on an assembly line. 8) Since 2003 the number of accidents on UK roads ___ (*fall*) by 37%, while the fatality rate ___ (*reduce*) by more than a half. 9) Volvo always ___ (*be*) a car safety pioneer. 10) Airbags ___ (*save*) tens of thousands of people since 1991. 11) Renault ___ (*begin*) to produce its own engines independently in 1903. 12) Since 1937 Toyota ___ (*make*) more than 200 million cars in Japan. 13) The Beetle ___ (*be*) one of America's most recognizable vehicles for nearly 70 years. The Beetle ___ (*come*) to the U.S. in 1949, where it ___ (*become*) known as a simple car with a very unusual look.

11. Choose a car manufacturer and use the Internet to gather information about it. Give a short presentation on your research or prepare a three-minute report on the car maker you have chosen. Listen to feedback from others in your group. Here are some questions to investigate:

- ✓ What kind of company is it? What is it known for?
- ✓ When and where was it founded? What was the first product manufactured by this company?

- ✓ Where is the company headquartered?
- ✓ What are the most distinctive features of its vehicles?
- ✓ What does the logo represent? What is the story behind the logo?
- ✓ What is the slogan of this company?
- ✓ What are the best-selling cars of this maker?
- ✓ What interesting facts have you found out about this company and its cars?

UNIT 4. BUYING A NEW CAR

1. Buying a new car can be exciting, but it's also a complicated process. There are plenty of things to consider when you decide which car is right for you. Match the questions with the answers to make mini-dialogues.

1. How much do you like driving?	A. I would go to a dealer.
2. What kind of car would you like to have?	B. Not at all, I'd rather have a powerful engine.
3. Where would you shop for a new car?	C. Normally 2, sometimes 3.
4. Do you care about CO ₂ emissions?	D. Exotic, like a Ferrari.
5. How many passengers do you need to carry?	E. I drive everywhere, all the time.
6. What kind of driving do you mostly do?	F. Next to me with the wind in his face.
7. How much money would you spend on a car?	G. Like? Driving is my life!
8. If you had a dog, where in your car would it sit?	H. Any amount, as long as I love the car!

2. Work in pairs. Ask and answer the questions in Exercise 1. Give answers that are true for you. Answer some more questions.

- ✓ How often would you drive?
- ✓ How much cargo (stuff) would you carry in your car?

- ✓ Do you have bikes or other sports equipment to transport?
- ✓ Do you live in an area with bad weather or difficult driving conditions?
- ✓ Would you need to tow a trailer?
- ✓ Are you on a tight budget?
- ✓ Are you looking for a car with great fuel economy?
- ✓ What are your must-have features (leather seats, backup camera)?
- ✓ How much garage or parking space do you have?
- ✓ Would you use children's car seats?
- ✓ What is more important to you: fuel efficiency or safety?
- ✓ Do you like the wind in your hair?

3. Below are seven common body types of vehicles. Complete the text below with the names of body types (1-7). Mind the pronunciation of these words.

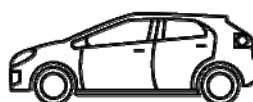
['ku:peɪ] [ɪs'teɪt] ['hæʃbæk] ['pɪkʌp]
 ['es ju:'vi] [sɪ'dæn] [kən'vɜ:təbl]



COUPE



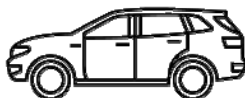
ESTATE



HATCH BACK



PICK UP



SUV



SEDAN



CONVERTIBLE

* *estate car (Br)=station wagon (Am)*
 * *saloon (Br)=sedan (Am)*

Car bodies have come in many different types. In the early days most cars were open, without a fixed top. Now, in addition to ¹ _____, most cars are closed. The most common styles include coupes and sedans. A ² _____ is a two-door car with a small back seat. A ³ _____ usually has four doors and seats four or five people. It is one of the most popular styles because it is big enough for adults to sit comfortably. A car with a hatch-type rear door that can be lifted up to allow things to be put in is called a ⁴ _____. It is similar to an ⁵ _____, however, the **latter** is longer and is more likely to have the roofline extended to the rear of the car to maximize the cargo space. By the end of the 20th century, however, they had been mostly replaced by minivans and ⁶ _____. The latter have multiple rows of seating, and can usually drive off-road. A ⁷ _____ is a vehicle with an open part at the back in which goods can be carried. Today in North America, it is mostly used as a passenger car.

**latter - последний (из двух названных)*

4. Read the text and be ready to discuss benefits and drawbacks of buying a new or used car, with an automatic or manual gearbox.

When it comes time to buy a car, you have a variety of choices available to you. Not only do you need to pick the make (e. g. Toyota) and model (e. g. Camry) of your car, you also need to decide if you want to buy a **new** or **used** car. Of course, there are benefits and drawbacks on both sides. The advantage of buying a new car is that you are buying a car that generally comes with a warranty. Most new cars will have very few repairs in the first few years, so you can focus only on the maintenance of the car. Another advantage is that the new cars will have the latest technology, which will mean that you may find cars with better gas mileage and lower emissions.

If you decide to buy a used car, there is a chance to come in contact with at least one automobile that was in an accident. The most important thing about buying a used car is that you know everything about the history of the car, including:

- the number of previous owners,
- if the car was ever involved in an accident,
- any previous mechanical problems,
- the maintenance history of the car.

One of the largest benefits of buying a used car is that you can get a great deal and, in many cases, the car you buy may even be relatively new.

The next important decision you'll have to make is to get an **automatic** or **manual gearbox** on your car? In a car with a manual transmission, the driver uses a clutch and gearshift to change gears. An automatic transmission shifts gears automatically, depending on how fast or slow the car is being driven. When a car reaches the maximum speed for a particular gear, the transmission shifts into a higher gear. When a car slows down, the transmission shifts into a lower gear.

While a manual transmission will give you more control over the vehicle and may enhance the driving experience, an automatic is easy and convenient. If you don't enjoy driving and see a car as a means of getting from A to B, then you should buy a car with an automatic gearbox.

If you love the open road and dream of buying a two-seat sports car to roar off into the distance, then you might want to consider buying a car with a manual gearbox.

Cars with an automatic gearbox are generally more expensive to buy than the equivalent car with a manual gearbox [6].

5. Find a word or expression in the text which is similar in meaning to:

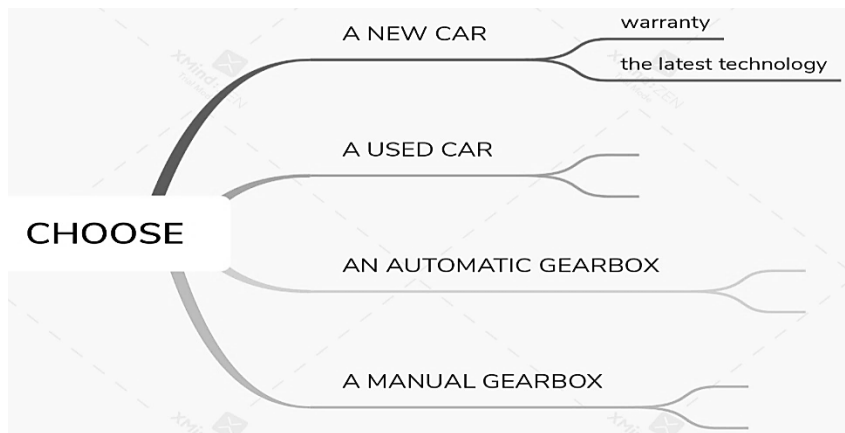
a) a type of product or the name of the company that made it; b) a particular design or version of a product; c) a written guarantee promising to repair within a particular period of time; d) the process of keeping something in good condition; e) the act of fixing something that is broken or damaged; f) the number of miles that a vehicle can travel using a particular amount of fuel; g) the production of something, especially gas or radiation; h) to buy something at a good price; i) a metal box containing the gears in a vehicle; j) to move at high speed making a lot of noise.

6. Complete the sentences with words or expressions from ex. 7 in the appropriate form.

1. My uncle returned to the car park after shopping just in time to see his car pull away and ___ ___ at great speed. 2. The car comes with a three-year _____. 3. Honda cars have low _____ and great _____, and they are very reliable. 4. The company introduced their latest _____ at the

Motor Show. 5. This engine is offered with a choice of five-speed manual or four-speed automatic _____. 6. Regular preventive _____ is probably the single thing you can do as a car owner to save money on _____ in the future. 7. I am lucky, I _____ on these winter tyres.

7. Complete the Mind Map with the information from the text (Ex. 4).



8. Make up the word combinations from columns A and B and find their equivalents in C.

A	B	C
1) high torque	a) consumption	стоимость при перепродаже
2) resale	b) range	экологически благоприятный
3) limited	c) requirements	зарядная станция общего пользования
4) environmentally	d) charging station	расход топлива
5) public	e) value	высокий крутящий момент при низкой скорости
6) fuel	f) at low speed	расходы на топливо
7) maintenance	g) friendly	требования по техническому обслуживанию
8) fuel	h) costs	ограниченная дальность хода (автомобиля)

9. Let's look at the differences between traditional petrol and diesel-powered cars, and electric and hybrid cars. Run through the pros and cons of these vehicles.

Vehicle type	Pros	Cons
<u>Petrol-powered cars</u>	<ul style="list-style-type: none"> ✓ cheap to buy ✓ petrol is cheap and easy to refuel and repair ✓ a smoother drive 	<ul style="list-style-type: none"> ✗ less efficient than diesel vehicles (consume more fuel) ✗ higher levels of CO₂ emissions
<u>Diesel-powered cars</u>	<ul style="list-style-type: none"> ✓ less fuel consumption, especially over longer distances ✓ more reliable than petrol cars ✓ lower CO₂ emissions than petrol cars ✓ good for towing, as they offer more low speed torque 	<ul style="list-style-type: none"> ✗ more expensive to buy and maintain ✗ not great for driving in cities
<u>Hybrid cars</u> <i>(have a petrol engine and a battery)</i>	<ul style="list-style-type: none"> ✓ environmentally friendly ✓ cheaper to run ✓ longer range than electric cars ✓ no need to plug them in ✓ higher resale value than petrol and diesel cars 	<ul style="list-style-type: none"> ✗ more expensive than petrol and diesel cars ✗ performance isn't as good as petrol and diesel cars ✗ less choice of models ✗ more expensive to repair and service ✗ not as environmentally friendly as purely electric cars
<u>Electric cars</u> <i>(have a battery)</i>	<ul style="list-style-type: none"> ✓ no pollution ✓ cheaper to run ✓ quiet and easy to drive ✓ charge them up from a normal plug at home, or a public charging station 	<ul style="list-style-type: none"> ✗ can be expensive to buy ✗ can take hours to charge up ✗ less choice of models

	<ul style="list-style-type: none"> ✓ minimal fuel costs ✓ electric cars have low maintenance requirements with fewer moving parts 	<ul style="list-style-type: none"> ✗ limited range before they run out of power ✗ lack of charging stations ✗ lower battery life in the winter, due to the need for lights and heating
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10. Discuss whether the statements are true or false. Correct the false ones.

1. Both petrol and diesel-powered cars need filling up with fuel at the petrol station.
2. A hybrid car is the best option if you want to move on from a petrol or diesel car, but aren't ready for an electric car.
3. Petrol engines don't emit much carbon dioxide.
4. Diesel cars are environmentally-friendly.
5. Petrol engines are considered more reliable than diesel ones.
6. Hybrid cars are 100% emission-free.
7. Hybrid cars are good for long distances.
8. One of the first things you'll notice about driving an electric car is the lack of noise.
9. It takes less time to charge an EV than to fuel a conventional car.
10. Electric cars don't burn any fuel, so they don't produce emissions.
11. You need to charge an EV only at a public station.
12. There's no fuel tank on an electric car, so if the battery dies, you're out of luck.

11. What is the most important thing to consider when you buy a used car? Rank them 1–8. (1 = most important)

Price, make and model, condition (used or new), warranty, mileage, size, special features, the car's history of accidents or repairs

- ✓ Use the Internet to find tips on buying used vehicles. What three pieces of advice can you give?



12. Listen to the recording and answer the questions.

1. What is the price of the first car?
a) \$1,495 b) \$1,395 c) \$1,419
2. What is the possible problem with the first car?
a) It has a lot of mileage c) The car is unreliable
b) It's been in an accident
3. What year is the minivan?
a) 1966 b) 2006 c) 2016
4. How much is the minivan?
a) \$3,495 b) \$9,495 c) \$4,995
5. Randall thinks that his ... will not like the minivan.
a) wife b) kids c) dad
6. How much is the last car?
a) 25,990 b) 25,919 c) 23,990

13. Complete the sentences with the correct form of the words.

little (3), small, high, few, efficient, good, safe, expensive

1. Buy a ____ car if you want to save money. Small cars generally cost ____ than larger models. They also consume ____ fuel, which will save you money over the long term. 2. The ____ car for you is the one that fits your budget and meets your needs. 3. Petrol engines emit ____ levels of Carbon Dioxide than diesel cars. 4. Electric cars are ____ than conventional cars, but they are ____ and more environmentally friendly. Besides, they don't have any moving parts, so they require ____ maintenance. It means making ____ trips to the mechanic. 5. Some people feel that an SUV is a ____ vehicle because it's larger and heavier built.

14. Work in pairs. Which car would you recommend to buy?

I recommend...

He/she should/shouldn't buy a....

This person needs a car which...

.... would be ideal/perfect for him/her.

* *a gas guzzler – автомобиль, потребляющий много топлива;*
to commute – совершать ежедневную поездку из пригорода на работу и обратно;

6'2 ≈ 188 cm

1. **I live in NYC and I am considering buying a car. I don't NEED one, but I just want to experience the concept of actually being able to get out of the city on the weekends without having to commute. I want something that will have a little bit of room so it can hold skis for the winter, and something that is dog friendly as well. I also want something that isn't a gas guzzler.**

2. **First time looking for a car. Please help!**

I'm living in Pennsylvania. Where I live we usually get a decent amount of snow in the late fall and throughout the winter. I mainly need a car for getting to work and school. I live near my job, so it's only about a 10-minute drive, and school is only a 15-minute drive. I have no clue whether to get new or Used, what Make or Body Type.

Looking for a good mix of practical, comfortable, and fun for under \$10K

My wants are good cargo space, manual transmission, good comfort and gas mileage for a short work commute and a 1-4-hour trip every week, the ability to tow a small trailer and reliability.

Something more suitable

I have a 2017 Honda Civic coupe that was nice to drive for a while but now I'm sick of it. Climbing in and out of a low sitting car is a pain at 6'2, and my trunk doesn't have room for anything since my golf gear is in it 24/7.

3.

4.

15. Imagine that you want to buy a car. Decide on whether you want used or new, diesel or petrol, automatic or manual, and choose a body type. Share your idea with your partner or group.

I'm (rather) more interested in X than Y.

I would rather buy/choose... than...

I'd prefer to buy ... because/as...

I'd (really) like to ...

I'd (really) love to ...

That sounds good to me.

UNIT 5. CAR EXTERIOR INSPECTION

1. Discuss the questions below in pairs.

- ✓ How important is the car appearance to you?
- ✓ Do you think the appearance is a reflection of your lifestyle (a mode of self-expression, a status symbol)?
- ✓ Does the car appearance reflect the mechanical condition of the car?
- ✓ Would you buy a car if you didn't like its appearance but you liked its price?
- ✓ Do you agree with the statement: the older the driver, the more car appearance matters?
- ✓ Can you identify the make and model of a car by having a look at the car?



2. Listen to the man describing cars. Guess which car he is talking about.

1



2



3



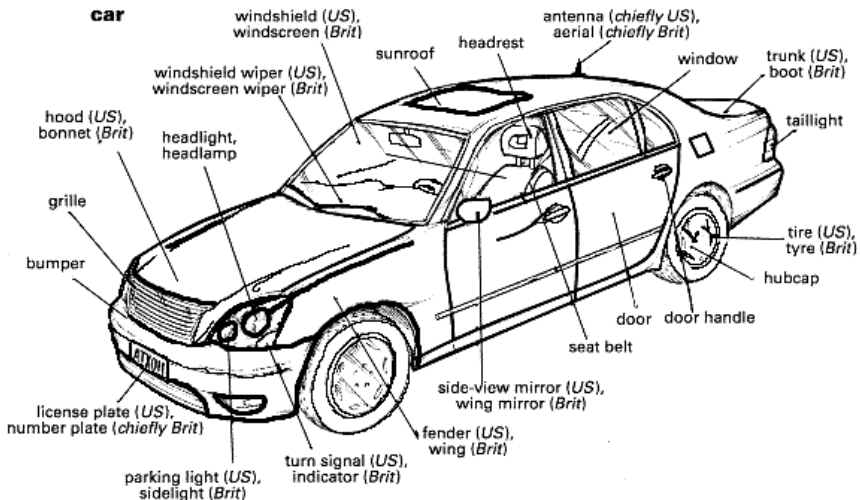
4



3. Listen again. Which words from the description mean the same as:

- 1) old and classic; 2) shiny, silky and smooth; 3) very expensive;
- 4) comfortable and suitable for family; 5) smaller than usual; 6) not harmful for the environment; the car which produces little emissions ($\times 2$); 7) oversized, bigger than usual; 8) the car which uses lots of fuel.

4. Make sure you know these words and word combinations.



5. Read the definitions below. Guess what parts of a car they define.

- 1) a long thin piece of metal with a rubber edge that moves across a windscreen to remove rain;
- 2) a device for absorbing shock or preventing damage (in a collision);
- 3) a powerful light at the front of a motor vehicle;
- 4) a sign on the front and back of a vehicle that shows its registration number;
- 5) a glass screen at the front of a motor vehicle;

- 6) a flashing light on a vehicle to show that it is about to change lanes or turn;
- 7) an enclosed space at the back of a car for carrying luggage or other goods;
- 8) the front part of a car which covers the engine;
- 9) a part of a car roof that can be opened to allow air and light from the sun to come in;
- 10) one of the four parts at the side of a car that goes over the wheels;
- 11) a mirror on the outside of a car door that allows the driver to see the vehicles that are behind or trying to pass.

6. Make up the word combinations from columns A and B and find their equivalents in C.

A	B	C
1) car	a) damage	запасное колесо
2) spare	b) spot	ключ для гаек крепления колеса, баллонный ключ
3) frame	c) absorber	пятно ржавчины
4) tire	d) wrench	амортизатор
5) rust	e) panel	красочное покрытие
6) shock	f) inspection	ниша колеса
7) paint	g) light	резиновое уплотнение
8) lug	h) seal	осмотр автомобиля
9) rubber	i) tire	фонарь заднего хода
10) reverse	j) finish	панель кузова
11) body	k) wear	повреждение рамы
12) wheel	l) well	износ шины

7. Skim the text and match the headings (A–F) with the paragraphs (1–6). Identify if the text is taken from the British or American website.

- A. ON EVEN GROUND, CHECK OUT THE SUSPENSION
- B. CHECK THE CONDITION OF THE BODY
- C. ARE THE LIGHTS AND LENSES IN GOOD CONDITION?

- D. TAKE A LOOK AT THE GLASS
- E. IF POSSIBLE, CHECK THE EXHAUST SYSTEM AND UNDERNEATH THE CAR FOR RUST
- F. TIRES TELL A STORY OF THEIR OWN

1. The first thing to do in a used car inspection is to examine each body panel, as well as the roof. **Take note of** any rust spots, dents, and scratches. **Look closely at** the gaps between the panels (e. g. between the fenders and the doors). If the gaps are uneven, this usually means they were assembled poorly in the factory, or the vehicle was **poorly repaired**. Also, ensure the color and paint finish are the same on each panel. Next, using a flashlight, take a look inside of the wheel wells for rust. Lastly, open and close all of the doors, as well as the hood and trunk. Inspect all rubber seals around the doors and windows for tearing.

2. Walk around the vehicle and take a careful look at all the glass to make sure there are no cracks. Cracks will only get worse and can require an expensive repair later.

3. Another essential thing to check in a used car inspection is the suspension. **Stand back** from the car and see if it's sagging anywhere. Push down on each corner of the car. If the shock absorbers are in good condition, the car should **rebound** only once. If the car continues moving up and down, **there's something wrong**.

4. **Be sure** to check all lights on the vehicle: turn signals, fog lights, brake lights, and reverse lights. Additionally, ensure that all lenses and reflectors are not damaged, or fogged with moisture.

5. Surprisingly, a lot of information about a car can be collected from the tires alone. Be sure to look closely at tire wear. What you don't want to see is uneven wear across the surface of the tire, as this suggests the vehicle may have a mechanical problem or that it hasn't been properly maintained. Make sure to check if all four tires are of the same type and size. Finally, check if the spare tire is **in good condition** and that all the tire changing tools are present (e. g. lug wrench, jack, etc.).

6. When completing a used car inspection, it's important to check the exhaust system. Check for black spots, which may signify leakage. While the engine is running, if it's not cold outside and there is a white vapor, this is also a bad sign. The final thing to do when performing a used car inspection of the car's exterior is to check the underbody for rust and any signs of frame damage [7].

8. Complete the table with the information from the text.

	Parts of a car	Common problems
1.	Body panel and roof	
2.	Doors	
3.	Windows	
4.	Suspension	
5.	Lights	
6.	Tires	
7.	Exhaust system	

9. Replace the words in italics with the words in bold from the text (Ex. 7).

1. *Pay special attention to* rust spots, wear, or defects in the material of the fuel tank.
2. Firstly, *take a good look at* the body colour under the bonnet.
3. *Step back* away from the vehicle 20 feet or so and look at it from all angles.
4. *Don't forget* to check the trunk. It should not have any rust spots or cracks that allow water in.
5. With your car parked safely, push down firmly on the boot, the vehicle should *bounce back* and settle in place after one bounce.
6. Glass in windows must have no holes or cracks, mirrors must be clean and *unbroken*.
7. *A badly fixed* car represents a health and safety hazard.
8. Generally, a warning light on your dashboard will indicate that *something is faulty* in your vehicle.

10. Give the English equivalent of the words in brackets.

1. Most (*шины*) will last for four years with normal (*износ*). 2. She ran into my car and put a (*вмятина*) in it. 3. I looked under the (*капот*) and clouds of smoke poured out. 4. Stolen goods were found in the (*багажник*) of her car. 5. The car windows were (*запотеть*). 6. The (*безвредный для окружающей среды*) car (also known as a green car) is a vehicle that emits low carbon compounds when it runs. 7. Contact

between the (*крыло*) and (*колесо*) could cause the rider to lose control. 8. You need a (*домкрат*) in order to change a tyre. 9. Diesel (*двигатели*) can (*работатъ*) on the fuel without being converted.

11. Use phrases below to describe the whole process of a used car inspection.

Firstly / First of all...

After that....

The next step is....

Additionally..../ Then....

Following that....

Next....

Finally..../ The final step..../ The final thing to do is to...

12. Before buying a car, you should always try and test drive it. Arrange the words in the proper order to make questions you should ask yourself during the test drive.

- 1) the engine / does / of / start / the car / instantly?
- 2) comfortable / the car / is / to drive?
- 3) quiet / the engine / and / is / smooth?
- 4) the gears / to find / are / all / and / easy / engage?
- 5) handle / of / does / well / on / types / different / it / road?
- 6) easily / the driver's / adjust / steering / are / able / seat / and / you / to / wheel?
- 7) the brakes / to make / smooth / do / allow / you / stops?

13. Put the verbs in brackets in the correct form using the Past Simple or Past Continuous Tense (Active Voice). Listen and check your answers.



Police in the Northern California ¹ ___ (*arrest*) a man who ² ___ (*travel*) on a road near San Francisco early Friday morning while sleeping behind the wheel of his Tesla Model S.

At 3.40 a.m. police officers ³ ___ (*notice*) that the electric luxury sedan ⁴ ___ (*drive*) at 70 miles per hour, above the speed limit. When the officers ⁵ ___ (*drive up*) next to the vehicle and ⁶ ___ (*look*) inside, they

⁷ ___ (see) that the driver ⁸ ___ (sleep) in the driver's seat. The officers ⁹ ___ (turn on) their car's warning lights and siren but the driver ¹⁰ ___ (not/wake up). In order to stop the sleeping driver's Tesla, the officers ¹¹ ___ (block) traffic behind the vehicle. While another officer ¹² ___ (travel) in front of the speeding Tesla, he gradually ¹³ ___ (start) to slow down his car, forcing the semi-autonomous Tesla, which can respond to varying traffic speeds, to a complete stop.

After that, the officers ¹⁴ ___ (can) wake the driver and ¹⁵ ___ (place) him in a patrol car. The car owner was arrested on suspicion of **driving under the influence** (*управление автомобилем в состоянии опьянения или под действием наркотиков*).

14. Imagine you would like to sell your car. Write a brief (three- to four-line) description using the text below as a model. Include information about the age and condition of the car, price, and contact information. Exchange your description with a partner.

Students can post their advertisements on Padlet (<http://padlet.com>) or Linoit (<http://en.linoit.com>) interactive sticky boards.

2013 Volkswagen Beetle 1.2 Design Convertible

2 Owners ABS Adjustable Steering Column Air Conditioning Alloy Wheels Auto Lighting Auxiliary In Bluetooth CD Player Central Locking Climate Control Cruise Control Electric Windows Full Service History Multi Function Steering Wheel Non Smokers Car Parking Sensors PAS Power Hood Trip Computer

2011 60 HYUNDAI iX20 1.4 Blue Drive Style 5 Door MPV

WHITE, 57000 Miles, 2 Previous Owners, Service History, Remote Central Locking, Electric Windows, Electric Mirrors, Sunroof, ABS, Air Conditioning, Power Steering, Drivers Airbag, Passenger Airbag, Cruise Control

2013 13 CHEVROLET SPARK 1.2i LT 5 Door Hatchback

GREEN, 21275 Miles, 2 Previous Owners, Full Service History, Remote Central Locking, Electric Windows, Electric Mirrors, Power Steering, Drivers Airbag, Passenger Airbag, Alarm, Immobiliser.

15. Work in pairs to do the following role-play. Search <https://www.buyacar.co.uk/> for more car options if necessary. You can also use the information from your advertisements (Ex. 14).

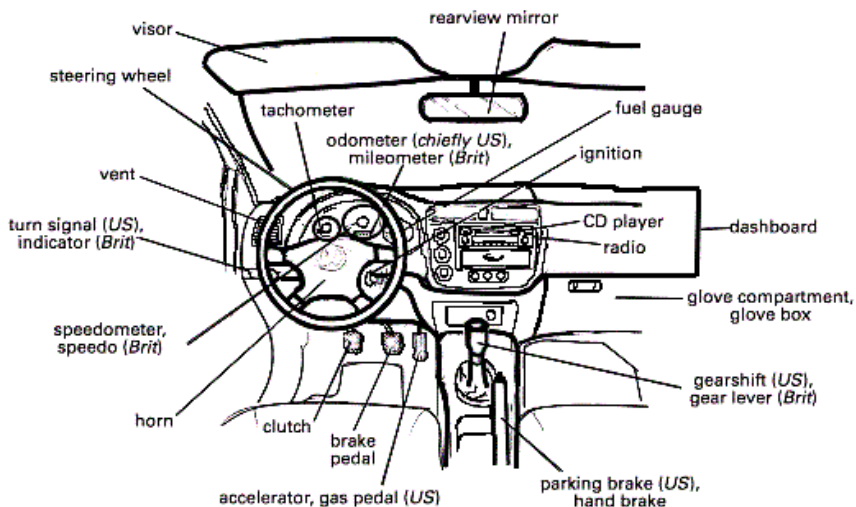
Student 1	Student 2
<p>You want to buy a used car. You have £10,500. Ask for information about the following:</p> <ul style="list-style-type: none"> • Make and model of the car • Mileage • Price • Colour • Year of the car • If it has ever been in an accident • Warranty 	<p>You are selling a Honda Civic SE hatchback for £11,280. Year 2015. It has 20,000 miles and comes with an extended warranty up to 30,000 miles.</p> <ul style="list-style-type: none"> • The car is black. It has body coloured bumpers, front fog lights, a rear wiper, a tinted rear windscreen. • You have never been in an accident. You want to sell the car because you are moving to Asia. • You have kept up the maintenance on the vehicle (regular tune-ups (<i>регу-лировка двигателя</i>) and oil changes).

UNIT 6. COMFORTABLE DRIVING

1. Discuss the questions below in pairs.

- ✓ What does driving comfort mean?
- ✓ Do you agree that comfort starts with the seats?
- ✓ Do you agree that comfortable car seats are like comfortable shoes – what’s comfortable for me, may not be for you?
- ✓ What other features make drives much more comfortable (heating, ventilation, climate control, cruise control, etc.)?
- ✓ Would you like to have a powerful sound system in your car?

2. Make sure you know these words and word combinations in order to complete the sentences below.



1. The driver uses ____ to make the car go in a certain direction.
2. The driver presses ____ to slow down or stop the car.
3. There are two types of transmission – manual and automatic. You use ____ to change the power of the car's engine.
4. You put on ____ when you park your car so that it doesn't move by itself. It's situated between the driver's and passenger's seats.
5. The driver presses ____ to speed up.
6. In the middle of the steering wheel, we often find _____. You press it to make a loud sound to alert other drivers.
7. When you want to change gears you press _____.
8. ____ enables the driver to see the vehicle or road behind.
9. ____ is used for storing small items.
10. ____ is used to maintain a cool atmosphere in warm conditions.
11. ____ is an information centre. It supplies data on fuel, speed, time, and engine-operating conditions. It can also give information on the inside and outside temperature.
12. ____ tells you the rate at which the car is travelling. The rate, or speed, is reported in miles per hour (mph) or kilometres per hour (km/h or kph).

3. Make up the word combinations from columns A and B and find their equivalents in C.

A	B	C
1) spacious	a) handling	боковая поддержка (<i>валиками спинки сиденья</i>)
2) long-distance	b) running	отделка салона
3) lower	c) trip	поясничная область спины
4) interior	d) seat	дорожный просвет, клиренс
5) fabric-trimmed	e) vehicle	просторный автомобиль
6) smooth	f) isolation	дальняя поездка
7) ground	g) support	сиденье с тканевой отделкой
8) noise	h) back	плавный ход
9) lateral	i) trim	шумоизоляция
10) excellent	j) clearance	отличная управляемость

4. Read the text about the most comfortable cars for a long trip.

- ✓ Which adjectives from the text would you use to describe a car?
- ✓ Which of these cars would you like to drive? Give reasons.

If you spend a lot of time in a car, you probably know that comfort during trips is the most important thing. In case the car is not comfortable, then long trips usually cause fatigue and irritation. Unfortunately, not all car brands can boast of comfort and convenience.

Nevertheless, there are models that have a huge advantage over other brands in terms of comfort. So, analysing the car's driving comfort, noise isolation, the comfort of the driver's seat and the front passenger seat, we've selected the most comfortable cars for long-distance trips...

Audi A6 is a very convenient and *spacious* vehicle. Travelling by this car will please even the most *experienced* driver or passenger. The interior comfort of Audi A6 is better than in other Audi models. The cabin is quiet, even at a speed of 100 km/h. The engine sound and the road noise are barely *audible*. Ideally designed front seats will not let the driver and the passengers get tired even during a long-distance trip.

Chevrolet Impala is a sporty-style business sedan with a roomy, *comfortable*, and quiet interior, and excellent handling. Large and spacious front seats also attract attention. They are pleasant to the touch and perfectly support the lower back, which allows you to travel long distances with comfort.

Ford Mondeo offers the maximum comfort both for the driver and passengers. The vehicle is *quiet*. The noise comes only from the ventilation of climate control. Also, some noise will bother you a few minutes after starting the engine in cold weather. After warming up, you won't hear the sound of the motor. The front seats are very comfortable thanks to the support of the lower back. It's worth noting that the leather seats hold the back much better than the fabric chairs. Plus, fabric-trimmed seats are somewhat *stiffer* than leather seats, which can lead to fatigue during long trips in traffic jams.

Lexus ES provides *complete* silence in the cabin. Even at high speed, you will not hear the sound of the wind. The interior of Lexus ES is modern and thought through to the smallest detail. The comfort of the car is *incredible*. *Luxurious* interior trim pleasantly surprises with its textures. ES models feature very quiet engines and excellent noise insulation. Seats are distinguished by their comfort due to their width and balanced softness.

Volkswagen Tiguan provides great convenience for the driver and passengers. Tiguan will not cause any worries on all road types, because the ground clearance is quite large. Sound insulation is *fantastic*. The *smooth* running of the car and excellent handling are the main advantages of this model. All seats are very comfortable.



Mercedes-Benz GL. This model of Mercedes is the most *suitable* SUV for a long-distance trip. High-quality interior trim, perfect functionality, and great convenience won't leave *indifferent* even the most obvious critics of Mercedes cars. The front seats are spacious and wide in size. But despite this, a driver and front passenger will feel comfort even at high speed thanks to the lateral support.

A comfortable car is a key to a successful trip. If you and your passengers feel good, then you are guaranteed to get positive emotions [8].

5. Read the text again. Find adjectives in italics with the following meaning.

a) very comfortable and expensive; b) difficult to believe, extraordinary; c) right or appropriate for a particular person; d) bulky, large and roomy; e) calm or gentle in movement; f) rigid and hard, not easily

changed in shape; g) providing physical ease and relaxation; h) making little or no noise; i) entire, full; j) extraordinarily good; k) having no particular interest; l) having skill because you have done something many times; m) able to be heard.

6. Paraphrase the following sentences using the underlined expressions from the text.

1. The front seats are soft and convenient. Special pillows *provide excellent back support*.
2. Various conveniences, luxurious items, and silence won't *let you get tired* while driving Chrysler 300.
3. Volkswagen Tiguan *provides great convenience* for the driver and passengers.
4. Even at high speed, *you will not hear the sound of the wind*.
5. SUV is a very suitable car for off-road journeys. *It offers high ground clearance*.
6. This minivan being small outside is quite *capacious* inside.
7. Subaru Forester *impresses with* its reliability, excellent handling, and a significant engine resource.
8. Honda CR-V is able to *meet the needs of* the most demanding drivers regarding the comfort.
9. *It is essential to know* that SUVs also offer the best ride on bad roads.

7. Give the English equivalent of the words in brackets.

Mercedes-Benz E-Class

In addition to (*безопасность*) and (*надёжность*), E-class can also (*похвастаться о*) its comfort. Generally, Mercedes is one of the best cars in many parameters. Launching a new (*поколение*) of E-class, the Mercedes-Benz Company focused on comfort, functionality, and (*удобство*). Engineers of the German company have created a (*подвеска*) that will be soft even on a very bad road. The car is especially ideal on the (*автомагистраль*), where you will not hear the loud work of the (*двигатель*) and the (*шум*) of the tyres. The front seats are large and comfortable (*благодаря идеальному размеру*).

8. Complete the text below with the appropriate word.

Camera, card, innovative, consumption, seats, compact, airbags, button, parking, wheels, length, control

Kia Picanto is a tiny car with great opportunities. It is a city minicar of “A” class which is simple for ¹ _____ on the loaded streets of the megapolis. Outside it looks ² _____ and sporty. Being only 3.6 meters in ³ _____, it contains a set of high-quality materials and technologies! Inside you will find a lot of useful devices and ⁴ _____ systems designed to make your trip comfortable, interesting, and safe. So, the car is equipped with: seven ⁵ _____, full-time parking sensors, a rearview ⁶ _____, climate ⁷ _____, multi-function trip computer, full power accessories, heated ⁸ _____, mirrors, windows and steering wheel, driver’s seat lift, alloy ⁹ _____, fog lights, cruise control, standard navigation system, and even a key ¹⁰ _____ to start the engine with a ¹¹ _____. Fuel ¹² _____ is 7.6 litres per 100 km on the road and 5 litres per 100 km on the highway [9].

9. Choose the right variant for each word combination.

a) shift paddles	1) «педаль в пол» при трогании с места
b) gesture-control system	2) наготове
c) to vaporize speed	3) масштабирование (увеличение и уменьшение) навигационных карт
d) anti-roll bars	4) подрулевые лепестковые переключатели
e) at the ready	5) адаптивная подвеска
f) zooming the nav map	6) гасить скорость
g) adaptive M suspension	7) система управления жестами
h) next-gen	8) стабилизаторы поперечной устойчивости
i) audio volume	9) удачно расположенный
j) WOT from a stop	10) следующее поколение
k) well sited	11) уровень громкости

10. Substitute the words in Russian with their appropriate equivalents in English.

springs, fit and finish, brakes, steering, gauges and controls, seats, adjust, lag, all-wheel drive, noise levels, ride, engines, handling balance, dampers

The focus of BMW's designers and engineers was toward creating a next-gen X4 that looks and drives more like a coupe than an SUV. Did they succeed? Both the standard and optional adaptive M suspensions feature firmer (*пружины*), (*амортизаторы*), and anti-roll bars than in equivalent X3s. The 30i's (*тормоза*) provide excellent modulation, feel, and short stops. But the M Sport brakes are incredible in their ability to vaporize speed. The (*рулевое управление*) still does not feel as linear as I would like, but the overall (*езда*)/steering/ (*сбалансированность*) is as advertised. Dynamically, the X4 doesn't drive like an SUV. Except for a slight (*задержка*) at WOT from a stop, the X4's 2.0-L turbo motor responds more like a powerful six. Likewise, the M40i's 6-cylinder performs like a V8. Both (*двигателя*) come with standard (*полный привод*) and a ZF 8-speed automatic with shift paddles at the ready.

The X4 provides exceptional comfort, well-sited (*датчики и механизмы контроля*) and low (*уровень шума*). (*Сидения*) are comfortable and supportive. One of the M40i's I drove was equipped with BMW's gesture-control system, which can (*настраивать*) controls such as audio volume and zooming the nav map in and out. It needs more development. High-quality materials, and excellent (*оборудование и отделка*) are found throughout the interior. And the central control screen can be programmed.



11. Video activity

Before you watch

Today's vehicles are fitted with such advanced technologies as:

- ***passive safety systems*** to protect occupants of a car and other road users if a collision occurs, and also,
- ***active safety technologies*** to prevent accidents from happening.

✓ **Match the names of safety features to their definitions, translate the definitions and guess if they are active or passive safety systems:**

1. Anti-lock braking systems (ABS)	a) start braking automatically if a collision is likely to happen and the driver is not taking any action (or not fast enough)
2. Electronic stability control (ESC)	b) are cushions built into a vehicle that protect occupants from hitting the vehicle interior during a collision
3. Autonomous emergency braking (AEB) systems	c) help to prevent the wheels of a vehicle from locking when braking heavily, and enable the driver to keep steering
4. Airbags	d) are systems that hold you in your seat, in order to reduce the risk of being injured in an accident
5. Seatbelts (or safety belts)	e) helps to prevent a vehicle from skidding, and the driver from losing control while turning a corner

✓ **Match the English words with their Russian equivalents.**

1) uncontrollable skidding	a) датчик пространственного положения
2) stopping distance	b) неуправляемый занос; скольжение
3) grinding or thumping noise	c) резкое, внезапное отклонение (от курса)
4) attitude sensor	d) противобуксовочная система, регулирование тягового усилия
5) steering column	e) боковое столкновение
6) seatbelt buckle	f) шторка безопасности
7) throttle opening	g) рулевая колонка
8) sudden swerve	h) открытие дросселя
9) traction control	i) скользкая поверхность
10) slippery surface	j) ослабление, провисание ремня безопасности
11) curtain airbag	k) замок ремня безопасности
12) seatbelt slack	l) тормозной путь
13) side collision	m) скрежещущий звук

✓ **Complete the sentences with the verbs below.**

prevent, turn on, monitor, reduce, deploy

1. The system can apply brakes and ___ a knee airbag if it senses that a frontal collision is likely to happen.
2. When you ___ the ignition and lights don't light up on the dashboard, it means that the energy doesn't get enough energy from the battery.
3. ESC uses sensors to ___ the attitude, steering, and throttle opening of the vehicle.
4. Pretensioners tighten and ___ slack in seatbelts to protect occupants from rapidly moving forward in the event of a crash.
5. Electronic stability control systems help ___ vehicles from skidding or rolling over when drivers need to steer hard or turn on slippery roads.

While you watch

✓ **Watch the video and answer the questions.**

- Which system has sensors situated in the windscreen, grille, bumper?
- Which system may cause the car to make a thumping noise?
- Which system should be turned off when you start the car on very slippery surfaces?
- Which system is identified by SRS emblems?
- How do you know that your vehicle is equipped with ABS?

✓ **Watch the video again and complete the gaps in the sentences.**

*knee, skidding, window, distance, button, injury,
airbags, swerve, collision*

- a. This stops the car from uncontrollable ____, reduces the stopping ____ and enables the car to be steered during braking.
- b. ESC can correct a slide or help prevent the car from rolling after a sudden ____.
- c. Most cars have a ____ that allows you to turn the ESC off.
- d. Some systems can reduce the ____ impact at higher speeds.

- e. Some cars may have a ___ bag under the steering column on the driver's side that helps prevent lower leg ___.
- f. There are curtain ___ that deploy from along the top of the side ___ to help prevent head injuries in a side collision.

After you watch

✓ *Discuss the following questions in groups.*

- What standard safety features must any car be equipped with?
- Do you always wear seat belts? Why / why not??
- Should people be required to wear seatbelts in the back seat?
- Do you agree with the saying “The best car safety device is a rear-view mirror”?
- What's the correct action to take if your car begins to skid?

✓ *Work in pairs. Choose a safety feature. Give a short presentation or prepare a three-minute report.*

12. Describe a vehicle you would like to buy.

Students can post their advertisements on Padlet (<http://padlet.com>) or Linoit (<http://en.linoit.com>) interactive sticky boards.

.... is a very and car.

It is a sedan / SUV / with a interior.

The front seats are and They will not let you

The car is equipped with such useful devices as

.... won't leave you indifferent.

You will not hear

It is worth noting that

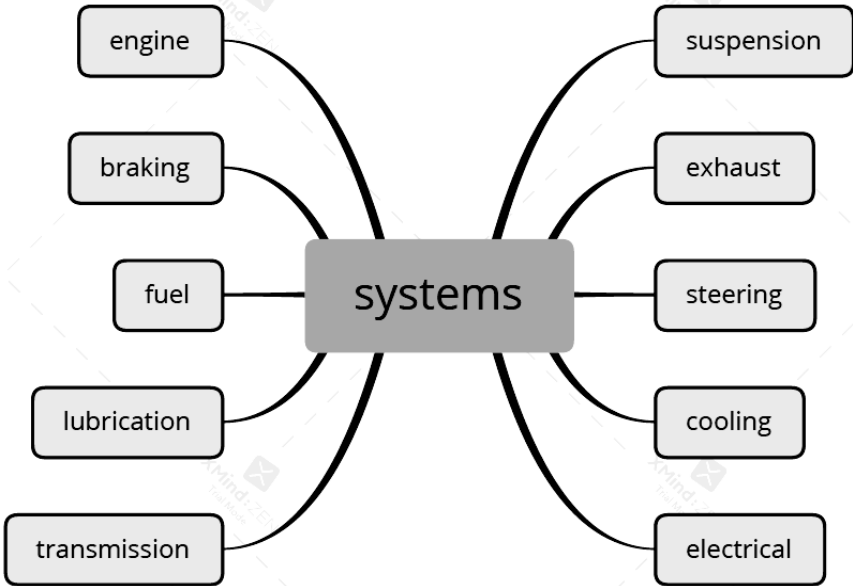
The main advantages of this model are handling and

The car is packed with such safety features as .../ Its safety features include

The car impresses with

UNIT 7. CAR SYSTEMS

1. The modern vehicle is made up of a variety of parts and components assembled in systems to perform various tasks. They are:



Do you know which system:

- supplies the fuel to the engine,
- transmits the motion produced by the motor to the wheels,
- changes the direction of the car,
- reduces the vehicle's speed and keeps it in place while parked,
- removes excess heat from the engine,
- expels the burnt gases to the outside of the vehicle,
- supplies the necessary current for starting the vehicle and operating its electric accessories,
- uses the energy from liquid fuel or steam to produce movement,
- reduces friction between moving parts,
- reduces the effects of traveling over an uneven surface.

2. How much do you know about car systems? Work with a partner and complete this quiz.

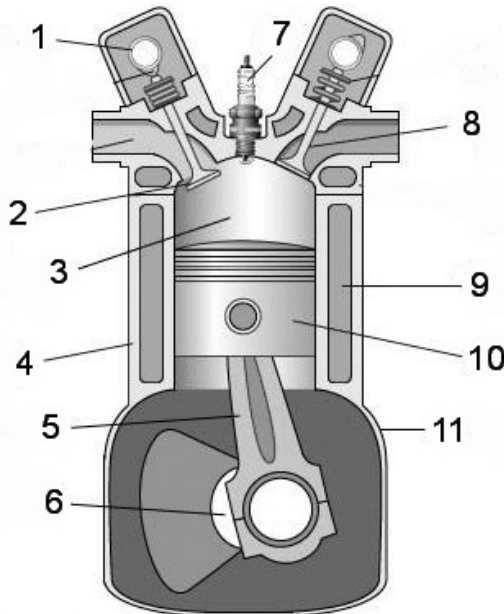
- A car engine's job is to:
 - convert fuel into heat
 - convert fuel into motion
 - convert fuel into exhaust
- Where are engine parts such as the pistons and cylinders housed in your car engine?
 - engine block (cylinder block)
 - side wells
 - sump
 - trunk
- A car uses a four-stroke engine. The four strokes are:
 - intake, compression, combustion and exhaust
 - injection, rotation, combustion and exhaust
 - injection, carburetion, rotation and exhaust
- The fuel system of an engine takes fuel from a fuel tank and mixes it with what?
 - more fuel
 - electricity
 - exhaust
 - air
- Fuel is transmitted along this to the engine. Which of these are we talking about?
 - fuel tank
 - fuel filter
 - fuel line
 - carburetor
- What sort of fluid should you put in your car's radiator?
 - Coca-Cola
 - brake fluid
 - motor oil
 - coolant
- The liquid used in the engine's lubrication system is _____.
 - oil
 - water
 - fuel
 - air
- A car needs a source of electricity to power things such as the radio, wipers and headlights. Which engine part is responsible for this?
 - alternator
 - radiator
 - starter
- Which tool would you use to charge up a dead car battery?
 - jumper cables
 - lug wrench
 - multi-tool
- What does the oil filter in your engine do?
 - cleans impurities from the oil
 - pumps oil through the engine
 - stores reserve oil when it runs out

11. What car part moves coolant through the engine when it starts to get too hot?
- a) oil filter
 - b) water pump
 - c) fuel line
 - d) none of the above
12. Dashboard warning lights tell us of potential problems in our vehicles. What does a red can with a droplet mean?



- a) you are running out of fuel
- b) your power steering fluid needs checking
- c) you need to fill your brake fluid
- d) your oil is running low, top it up immediately

3. Basically, the engines are of two types, and these are *external combustion engines* and *internal combustion engines*. Label the parts of a four-stroke engine and find out which parts of an internal combustion engine are located in the engine block.



spark plug, cooling water, camshaft, connecting rod, crankcase, exhaust valve, intake (inlet) valve, cylinder block, crankshaft, combustion chamber, piston



4. Read the text and fill in the gaps with the words. Watch the video to check your answers.

valves, cycle, camshaft, compression, pistons, engine block, motorcycles

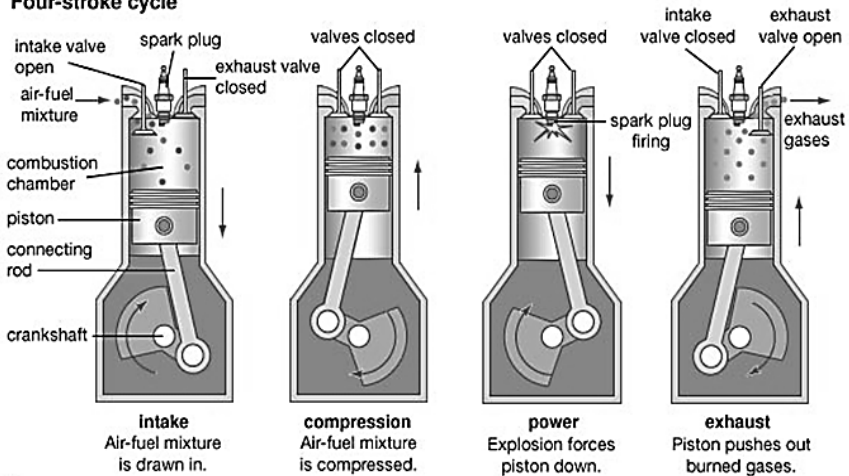
Today the internal combustion engine is used in ¹ ____, automobiles, boats, trucks, aircraft, ships, heavy-duty machinery, and powered generators. A four-stroke engine is an internal combustion engine in which the piston completes four separate strokes - intake, ² ____, power, and exhaust – during two separate revolutions of the engine’s crankshaft, and one single thermodynamic ³ ____.

Let’s have a look at the basic internal parts of a four-stroke engine. Inside the ⁴ ____ there is a crankshaft. Piston rods are attached to the crankshaft. Pistons are attached to the pistons’ rods. As the crankshaft turns it causes the lifter to make each piston move up and down. At the top of the crankshaft there is a ⁵ ____ which is connected to the crankshaft by a timing belt. While the crankshaft is making the ⁶ ____ move up and down the camshaft is turning making the ⁷ ____ to open and close.



5. Take a look at how the combustion creates piston’s motion. Match the names of four strokes to their descriptions. Watch the video to check your answers.

Four-stroke cycle



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- 1st, INTAKE STROKE
- 2nd, COMPRESSION STROKE
- 3rd, COMBUSTION STROKE
- 4th, EXHAUST STROKE

- A. The inlet valve is closed and the piston travels back up the cylinder compressing the fuel-air mixture. Just before piston reaches the top of the cylinder, a spark plug emits a spark to combust the fuel-air mixture.
- B. The exhaust valve is opened and the piston travels back up expelling the exhaust gases through the exhaust valve. At the top of the stroke, the exhaust valve is closed.
- C. The inlet valve is opened and the fuel-air mixture is drawn in as the piston travels down.
- D. The piston is now forced down by the pressure wave of the combustion of the fuel-air mixture. The engine's power is derived from this cycle.

**power stroke=combustion stroke=ignition stroke*

6. Find words or phrases in Ex. 3, 4, 5 which fit these meanings.

- 1) a rod that links a piston to a crankshaft;
- 2) a device that opens and closes to control the flow of fluid;
- 3) a substance that produces heat or power when burned;
- 4) the main part of an engine to which other parts are attached;
- 5) a device in an engine that produces an electrical spark that lights the fuel and makes the engine start;
- 6) a piece of metal that moves up and down inside a cylinder in an engine to press the fuel into a small space;
- 7) a case or covering enclosing a crankshaft.

7. Answer the questions.

1. What is an internal combustion engine?
2. What are the four strokes that make up a four-stroke engine cycle?
3. What burns within the engine to keep the combustion process going and the engine running?

4. Which two engine parts are linked by a timing belt to ensure they keep the valves and pistons in sync?
5. In which engine stroke does the combustion of the fuel/air mixture take place?

8. There are different types of internal combustion (I.C.) engine and the classification depends upon various basis. Complete the table with appropriate types of engine:

two-stroke, single cylinder, air-cooled, horizontally opposed, spark ignition, diesel, in-line, double cylinder, four-stroke, petrol, water-cooled, compression ignition, electric, V-type, gas, multi-cylinder

Basis	Engine types
Air intake process	<i>naturally aspirated, supercharged, turbocharged</i>
Type of fuel	
Number of strokes	
Layout of engine	
Type of ignition	
Number of cylinders	
Types of cooling	

9. Read the definition below. Guess types of I.C. engines they define.

1. In this engine, the cylinders are arranged at an angle. The angle between the cylinders has a 'V' shape.
2. The engine in which the piston does two times motion to produce a power stroke.
3. The engine that uses diesel for its operation.
4. The engine that takes in air at the atmospheric pressure.
5. In this engine, there is a spark plug that produces spark and ignites the air-fuel mixture for the combustion.
6. The engine which consists of two cylinders.
7. In these engines, the air is used to cool the engines.

8. The cylinders are arranged in two banks on opposite sides of the engine.
9. It is an eco-friendly engine. It doesn't use any fuel to burn.
10. It has all of the cylinders next to each other in a single bank.
11. In this engine, there is no spark plug at the cylinder head. The fuel is ignited by the heat of the compressed air.

10. Make up a dialogue in which one student consults the second student on the types of engines.

A: Could you explain me the difference between the air-cooled engine and the water-cooled engine?

B: Well, it's rather simple. In the air-cooled engines, while in the water-cooled engines

11. Study the information in the box and find in the text what the numbers and abbreviations stand for? Write a similar description of a car (1–4).

2019 Mercedes-Benz CLA 180	
P T	4 door sedan/saloon FF
6M	1332 cm ³ / 81.3 cu in 136 PS
134 bhp	100 kW 125.0 CO ₂
1395 kg	
4 cyl, 1.3ℓ, l: 4688mm, wb: 2729mm	

Mercedes-Benz CLA 180 is an automobile that has a 4-door sedan / saloon body style with a front mounted engine driving through the front wheels. The Mercedes-Benz CLA 180's engine is turbocharged petrol, 1.3 litre, 4 cylinder. It develops 134 bhp¹ (136 PS²/100 kW) of power. The power is transmitted to the wheels through a 6-speed manual gearbox. Its kerb weight³ is 1395 kg. The automobile is 4688mm

long, its wheelbase is 2729mm. Carbon dioxide emissions are claimed to be 125.0 g/km.

¹ bhp – brake horsepower – тормозная лошадиная сила;

² PS – Pferdestärke (нем) – лошадиная сила;

³ kerb weight – вес автомобиля с полной заправкой и оборудованием, без пассажиров.

1 **2019 Nissan Skyline GT Type P Hybrid**
HV37

P NA H 4 door sedan/
saloon FR 7A 3498
cm³ / 213.5cuin 306 PS
302 bhp 225 kW 1830
kg

6 cyl, 3.5ℓ, l: 4810mm, wb: 2850mm


2 **2019 Mazda 3 2.0 M Hybrid**

P NA H 5 door
hatchback FF 6M 1998
cm³ / 121.9cuin 122 PS
120 bhp 89 kW 139.0
CO₂ 1350 kg

4 cyl, 2.0ℓ, l: 4460mm, wb: 2725mm

3 **2019 Honda HR-V 1.6 i-DTEC**

D T 5 door suv/
sports utility
vehicle FF 6M
1597
cm³ / 97.5cuin 120 PS 118 bhp 88
kW 105.0 CO₂ 1343 kg



4 cyl, 1.6ℓ, l: 4335mm, wb: 2610mm

4 **2018 Suzuki Jimny 1.5 Automatic**
3BA-JB64W

P NA 3 door off-road vehicle F4
4A 1462 cm³ / 89.2cuin 101 PS
100 bhp 75 kW 170.0 CO₂ 1185
kg

4 cyl, 1.5ℓ, l: 3645mm, wb: 2250mm

12. Choose a car system and use the Internet to gather information about it. Give a short presentation on your research or prepare a three-minute report on the car system you have chosen. Listen to feedback from others in your group. Here are some questions to investigate:

- ✓ What is the function of a car system?
- ✓ What are the components of the system? What are the functions of each component?
- ✓ How does the system work?
- ✓ What are the maintenance requirements of the system?

13. Work in pairs. Research to find information on the technical specifications of a car and complete the table. Exchange the information with your partner. Two questions are done for you.

- ✓ *What is the body type of your car?*
- ✓ *How long is the car?*

Specifications	Student A	Student B
body		
length, mm		
wheelbase, mm		
kerb weight, kg		
engine type		
engine capacity, l		
cylinders		
maximum power output, hp		
engine coolant		
maximum speed, km/h		
fuel consumption, L/100 km		
gearbox		
carbon dioxide emissions, g/km		

14. Read the text about intelligent transport systems.

Intelligent Transport Systems (ITS) are vital to increase safety and tackle Europe's growing emission and congestion problems. They can make transport safer, more efficient and more sustainable by applying various information and communication technologies to all modes of passenger and freight transport.

Intelligent transport systems vary in technologies applied, from basic management systems such as car navigation; traffic signal control systems; automatic number plate recognition or speed cameras to more advanced applications that integrate live data and feedback from some other sources, such as parking guidance and information systems; weather information, etc.

In road transport, ITS have been developing for over 20 years. Some applications are now widespread. For example, several millions of cars

and trucks are equipped with on-board navigation systems that can consider real-time traffic and travel information.

Road accidents are a major cause of death in industrial countries. Numerous ITS can contribute to a possible solution. Inside the car or truck these include the advanced driver assistance systems. They support drivers to maintain a safe speed and distance, to drive within the lane, to avoid overtaking in critical situations and to safely pass intersections in an increasingly complex driving environment.

It is indisputable that a significant number of road accidents involving casualties occur in poor visibility, normally at night or in foggy conditions. Different types of sensors are used to obtain information about objects in the vicinity of the vehicle. The most frequently used technologies in the automotive industry are ultrasound sensors, infrared sensors, radars, LiDARs (Light Detection and Ranging) [10].

15. Answer the following questions:

1. Why are Intelligent Transport Systems important in a transport sector?
2. How long have engineers been developing ITS in road transport?
3. What is the function of the advanced driver assistance systems?
4. What is the main reason of road accidents?
5. Which types of sensors are used in the automotive industry?

16. For nouns in column B find suitable attributes in column A.

A	B
1. Freight	camera
2. Speed	sensor
3. Infrared	traffic
4. Traffic	system
5. Real-time	transport
6. Assistance	signal

17. Complete the sentences with the phrases from Ex. 16.

- 1) A ___ is designed to catch speeding vehicles by taking a photograph.

- 2) Users of the transport corridor can now benefit from the mobility application Worldsensing developed which allows drivers to plan their journeys based on ___ ___ information, request help or report accidents.
- 3) The ___ ___ is generally located above a doorway and operates by continuously scanning the area and detecting the temperature contrast between a person and the surrounding environment.
- 4) A total of 300 delivery and transport vehicles have circulated in the city of Barcelona equipped with high-tech Advanced Driver ___ ___ (ADAS) which is believed to be able to predict 80% of possible driver errors.
- 5) ___ ___ is moving of goods from one place to another.
- 6) The world's first ___ ___ was installed on Dec. 9, 1868, at the intersection of Bridge Street and Great George Street in London, near the Houses of Parliament and the Westminster Bridge.

TEST YOURSELF!

1. Match the words with their definitions.

driving licence, engine, cylinder, all-wheel drive, gas mileage, indicator, internal combustion engine, valve, vehicle, coolant, steering wheel, spark plug, wiper, carburettor

1. The wheel in a vehicle that the driver turns in order to make the vehicle go in a particular direction;
2. Official permission for someone to drive a car, received after passing a driving test, or a document showing this;
3. A machine, usually with wheels and an engine, used for transporting people or goods on land, especially on roads;
4. A machine that uses the energy from fuel or steam to produce movement;
5. A system in which a vehicle's engine supplies power to all its wheels instead of just to two, so that the vehicle can travel over very rough ground;
6. An engine which generates power by the burning of fuel with air inside the engine to produce movement;
7. The number of miles that a vehicle can travel using a particular amount of fuel;
8. A long thin piece of metal with a rubber edge that moves across a windscreen to remove rain;
9. A flashing light on a vehicle to show that it is about to change lanes or turn;
10. A device in an engine that produces an electrical spark that lights the fuel and makes the engine start;
11. A metal tube in the engine, in which a piston slides;
12. A device that is used to mix air and petrol in the right proportions required for burning by the engine;
13. A device that opens or closes to stop or allow gas or fluid flow;
14. A liquid consisting of a mixture of water and antifreeze, used in the car's engine cooling system.

2. Complete the sentences using the words given below.

congested, high-performance, injured, gears, motor, production costs, comfortable, fuel, crowded, assembly line, automobiles, petrol, steering wheel, driver, electric, speed, engine, transmission, collision, hatchback, rear-view mirror, automatic transmission, brakes, traffic congestion, driving licence, traffic, vehicle

1. Both ... and diesel-powered cars need filling up with ... at the petrol station.
2. A car with an extra door at the back that can be lifted up to allow things to be put in is called
3. Some people were ... in the bus accident last week.
4. Henry Ford is known as the father of the modern which reduced for cars by reducing assembly time.
5. BMW has become synonymous with ... vehicles that are sophisticated in appearance and ... to drive.
6. In Minsk today the streets are ... with
7. If you turn the ..., the car will go right or left.
8. Hybrid electric vehicles use two power sources: a conventional ... and an electric ...
9. One of the first things you'll notice about driving an ... car is the lack of noise.
10. A ... enables the driver to see the vehicle or road behind.
11. A car using changes ... for you, giving you less work to do while driving.
12. The in the city gets worse during the summer.
13. Nowadays, a lot of new cars are equipped with an automatic emergency braking system that automatically activates the ... if the electronic system detects that the ... is likely to happen.
14. This engine is offered with a choice of five- ... manual or four-speed automatic ...
15. ... roads and towns have too much ... and movement is made difficult.
16. You can't get a till you're eighteen in our country.
17. The police officer asked the ... whether he was the registered owner of the ...

3. Choose which word best fits each blank.

1. The logo for ... is easily recognizable. It consists of a black circle with the interior quartered and the sections within are blue and white.
a) Mercedes b) Audi c) BMW
2. The first road vehicles were powered by
a) steam b) electricity c) petrol
3. Buses, cars, ... are road vehicles as they have wheels and travel on roads.
a) tram b) trucks c) ferry
4. ... transmissions require drivers to shift gears with a clutch pedal and shifter. ... cars tend to have four modes: Park, Reverse, Neutral, Drive.
a) radio b) automatic c) manual
5. Most auto bodies are made of ..., but some are made of strong plastics or fiberglass.
a) glass b) rubber c) steel
6. A ... is a car with a fixed roof, two doors, two or four seats, and usually a sloping back.
a) sedan b) hatchback c) coupe
7. A ... car is the best option if you aren't ready for an electric car as they are environmentally friendly and cheaper to run.
a) diesel b) hybrid c) petrol
8. You usually put on ... when you park your car so that it doesn't move by itself later (especially down hills). It is usually situated between the driver's seat and the passenger's seat.
a) clutch b) hand brake c) ignition
9. The up and down motion of the ... in the cylinder is converted into ... motion by the crankshaft.
a) valve b) piston c) rod
a) linear b) longitudinal c) rotational
10. The rotational force generated by the engine is called
a) torque b) valve c) transmission
11. The alternator provides ... to every part of the vehicle once it is started.
a) air b) fuel c) power

4. Name FIVE:

- ✓ surnames of car inventors;
- ✓ car makes (brands);
- ✓ car body types;
- ✓ car exterior parts;
- ✓ car interior parts;
- ✓ car systems;
- ✓ car engine components;
- ✓ negative transportation effects on people's life;
- ✓ factors you need to consider when buying a used car;
- ✓ adjectives you can use to describe a car.

Name THREE:

- ✓ types of fuel;
- ✓ types of motor vehicles;
- ✓ car pedals;
- ✓ materials car bodies can be made of;
- ✓ types of airbags;
- ✓ problems which are likely to happen when driving on slippery roads.

5. Complete the crossword puzzle below.

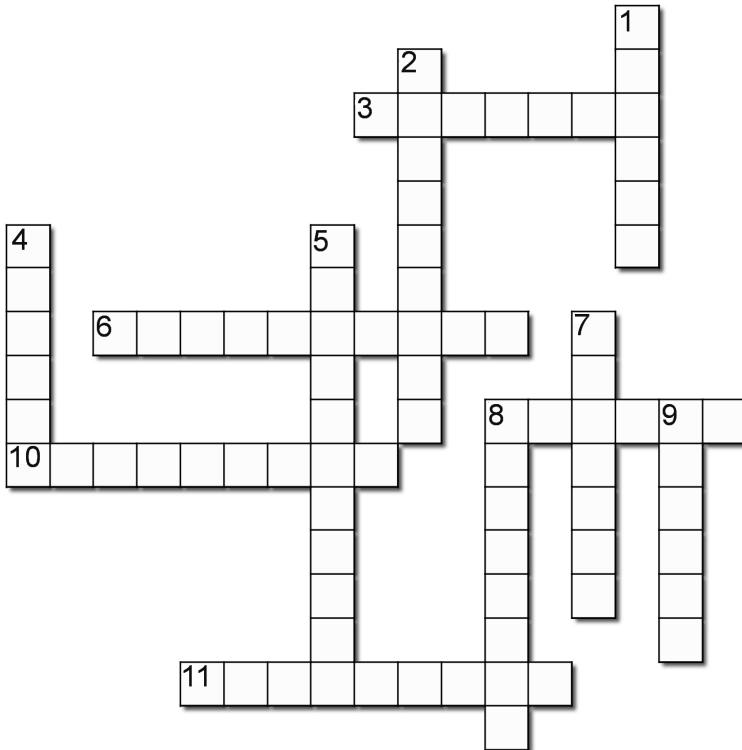
ACROSS

3. A specially prepared liquid that is used to stop a machine from getting too hot while it is operating.
6. Equipment attached to the wheels of a vehicle that reduces the uncomfortable effects of going over road surfaces that are not even.
8. The location of BMW's headquarters.
10. The panel facing the driver's seat where most of the instruments and switches are.
11. The distance between the front and the back wheels of a motor vehicle.

DOWN

1. A liquid obtained from petroleum, used especially as a fuel for cars.
2. An accident that happens when two vehicles hit each other with force.

4. A vehicle with an engine that uses both petrol and another type of energy, usually electricity.
5. A car with a soft roof that can be folded back.
7. Old and classic.
8. A person who drives a car.
9. A French engineer who built a steam carriage for transporting cannons.



TRANSCRIPTS

Unit 2, exercise 8

Mannheim, Germany, 1888

Engineer Karl Benz decided to invent the horseless carriage when he was just 15. Twenty years later he's still working on it. "I think there is no question that Karl Benz was a genius, almost obsessed, he was determined that he was going to be the person that was gonna crack the horseless carriage". His latest prototype has a one-cylinder internal combustion engine and a single forward gear. Karl calls it the "Patent Motorwagen". But the outside world knows nothing about it.

"The problem with Karl was that he was an absolutely hopeless businessman, so he had no idea as to how he could go about and commercialize his invention". Karl's wife Bertha is determined that his ideas reach the public.

Their great-granddaughter Jutta Benz knows the story well. "I must tell you the role of my great-grandmother. She always was pushing him, and that he had to do this invention and he had to exercise this invention."

And Bertha offers more than moral support. She stakes her fortune on Karl. "She saw something in Karl that was special, and exciting, and different. So she actually used her money back in the 1880s to back him."

"Bertha was an amazing woman ...my kind of woman ". "She was a daredevil, a risk-taker, someone who I think also gets excited about new things."

But Karl and Bertha faced some big obstacles. Germany's Kaiser loves horses. He says the idea of replacing them with a machine is not only foolish, it's unpatriotic. And that's not all.

"You also had the church whose decrees were very conservative in those days. You know the horseless carriage was actually the work of the devil. So you can imagine that this was not a good environment to be the person inventing the horseless carriage".

Up against such opposition, Karl stays in his workshop too timid to unveil his latest invention. "He wasn't confident enough to actually go out and try this thing, and believe in himself". But Bertha believes and takes action without telling him.

12th August 1888

Bertha gets up, she gets the car, and she doesn't just go out around the courtyard. She goes on a 65-mile journey. All the more incredible, if you remember, there was no roads, no petrol station, no garages. There's this one woman in this open-top carriage going on the adventure of a lifetime. This is a world where most travel is on foot, on bike or by horse. But Bertha has a vision that the car, her husband's car, and not the horse, is how we will all travel in the future [11].

Unit 4, exercise 12

Hi, I'm Randall, and I'm thinking about buying uh, another car, but, uh, let's see here. One of them is an old, uh, midsize car. One thousand four hundred ninety-five dollars, but I'm concerned about the number of miles, so that might not be the best choice.

The second one is a, an old minivan, uh, nineteen, wait wait, two thousand six, uh, it's four thousand nine hundred ninety-five dollars, but I don't think my kids are so interested in riding in an old, beat up minivan.

And the last thing is a Jeep. Uh, twenty-five thousand nine hundred ninety dollars. I can see myself going over the mountains, through the hills, but unfortunately, I have other bills to pay so, I think I'll have to think about that a little bit more [12].

Unit 5, exercise 2

a) That is a beautiful vintage car. I love how the glossy black contrasts with the silver metal and the white on the tires but I imagine that it costs a pretty penny.

b) This is my kind of car. Sleek, sporty, and powerful! The only downside is that it is not really family-friendly but it will definitely get you noticed when driving down the street.

c) This is an affordable compact car. These cars are perfect for navigating cities and are usually more environmentally-friendly than other cars.

d) Wow! What a big bulky SUV! This is I imagine that it's a real gas guzzler which means it's not very eco-friendly and it wouldn't be practical for some cities such as London which has really narrow streets. On the other hand, if you want to dominate the roads, this would be a good choice.

Unit 6, exercise 11

Modern cars have lots of safety systems. Airbags and seatbelts may seem obvious, but they can also have more advanced technologies such as Anti-lock Braking Systems, Electronic Stability Control, and Autonomous Emergency Braking. How do you know what your car has?

Anti-lock Braking System

Around since the 80s, ABS prevents the car's wheels from locking up in a braking emergency. This stops the car from uncontrollably skidding, reduces the stopping distance, and enables the car to be steered during braking. So how can you tell if your car has ABS? As you turn on the ignition, the lights on the dash illuminate. If your car has ABS, this symbol will light up. Making the most of the ABS requires the driver to quickly apply full pressure to the brakes and hold the pressure until the car comes to a stop. The car may make grinding or thumping noises as ABS is engaged. However, this is to be expected.

Electronic Stability Control

Many cars have electronic stability control or ESC. Depending on the make of your car, this could be identified as DSC, ASC, ESP, or a number of other names. ESC uses sensors to monitor the attitude, steering, and throttle opening of the car by cutting the power to the engine and automatically applying brake pressure to individual wheels, ESC can correct a slide or help prevent the car from rolling after a sudden swerve. If your car has ESC, you will see this symbol when you turn on the ignition. If the ESC intervenes, the light will turn on as an indication that the car has lost traction. Most cars have a button that allows you to turn the ESC off. You should only turn off the ESC in rare situations such as starting off on very slippery surfaces such as mud, or ice. When the wheels may need to spin to get the car moving, the ESC light will stay on as a warning until reactivated.

Traction control

ESC and Traction control are often confused. Traction control while the part of ESC only prevents wheel spin under acceleration.

Autonomous Emergency Braking

Autonomous Emergency Braking or AEB can be known as city brake or collision avoidance. This is a relatively new technology that uses laser, radar or camera technology or a combination of all three. AEB automatically breaks the vehicle to prevent a crash at low speeds. Some

systems can reduce the collision impact at higher speeds. A car with AEB can be identified by a variety of sensors usually found in the wind-screen, grille, bumper, or video cameras in the back of the rearview mirror. Often accompanying AEB is a forward-collision warning system involving visual and audible alarms.

Airbags

Some vehicles have as many as 13 airbags servicing different areas of the car. Frontal airbags can be easily identified by SRS or airbag badges on the steering wheel or passenger dash panel. Some cars may have a knee bag under the steering column on the driver's side that helps prevent lower leg injury. Airbags can also be in the front seats for the doors and there are curtain airbags that deploy from along the top of the side window to help prevent head injuries in a side collision. These are also identified by SRS emblems and tags.

Active seatbelts

Active seatbelts retract mechanically or explosively in order to reduce the amount of slack in the seatbelt immediately after a collision but before activation of the airbag. Active belts are identified by tags or stickers at the base of the buckle [13].

Unit 7, exercises 4, 5

Today the internal combustion engine is used in motorcycles, automobiles, boats, trucks, aircraft, ships, heavy-duty machinery, and powered generators. A four-stroke engine is an internal combustion engine in which the piston completes four separate strokes - intake, compression, power, and exhaust - during two separate revolutions of the engine's crankshaft, and one single thermodynamic cycle.

Let's take a look at the basic internal parts of a four-stroke engine. Inside the engine block, there is a crankshaft. Piston rods are attached to the crankshaft. Pistons are attached to the pistons' rods. As the crankshaft turns it causes the lifter to make each piston move up and down. At the top of the crankshaft there is a camshaft which is connected to the crankshaft by a timing belt. While the crankshaft is making the pistons move up and down, the camshaft is turning making the valves to open and close.

Let's now take a look at how the combustion creates piston's motion.

First, intake stroke. The inlet valve is opened and the fuel-air mixture is drawn in as the piston travels down.

Second, compression stroke. The inlet valve is closed and the piston travels back up the cylinder compressing the fuel-air mixture. Just before the piston reaches the top of its compression stroke, a spark plug emits a spark to combust the fuel-air mixture.

Third, combustion stroke. The piston is now forced down by the pressure wave of the combustion of the fuel-air mixture. The engine's power is derived from this cycle.

Forth, exhaust stroke. The exhaust valve is opened and the piston travels back up expelling the exhaust gases through the exhaust valve. At the top of the stroke, the exhaust valve is closed.

This process is repeated. What has been presented is the cycle of operation of one cylinder of a four-stroke engine. Generally, engines have two or more cylinders acting in concert with each other to produce the engine power [14].

VOCABULARY

A

accessories оборудование; принадлежности

adjust налаживать; регулировать

affect 1) влиять, воздействовать; действовать; 2) нарушать, повреждать

affordable допустимый, возможный

Anti-lock braking system (ABS) антиблокировочная система тормозов

appearance внешний вид

assembly line сборочный конвейер

attach прикреплять; присоединять

audible слышимый; звуковой

Autonomous emergency braking system автономная система аварийного торможения

B

brake тормозной механизм; тормозить

to apply / step on a brake – нажать на тормоз

to release a brake – отпустить тормоз

belt ремень

safety belt (seat belt) – ремень безопасности

timing belt – ремень привода газораспределительного механизма

boast хвастать; похвляться

boot багажник

bonnet капот; крышка

bulky громоздкий, большой

C

camshaft распределительный вал, кулачковый вал

capacity 1) вместимость; емкость; 2) мощность; производительность; 3) рабочий объем двигателя

carpool объединение владельцев легковых автомобилей для совместного поочередного пользования ими

carriage тележка; экипаж; карета; повозка; платформа; транспорт; перевозка

charge 1) заряд (электрический); 2) заряжать; 3) затраты, расходы

chassis ходовая часть; шасси

clearance 1) зазор; промежуток; просвет; 2) клиренс; 3) величина прогиба упругого элемента подвески до упора

collision столкновение

comfortable удобный, комфортабельный

congest перегружать; переполнять

congestion скопление (транспортных средств); затор (движения); дорожная пробка

connecting rod шатун

consume потреблять; расходовать (напр. топливо)

consumption расход
fuel consumption – расход горючего

convenience удобство

convenient удобный; подходящий;

coolant охлаждающая жидкость; охладитель; хладагент

crack трещина; трескаться

crankshaft коленчатый вал; коленвал

crash авария, сильный удар при столкновении

current 1) электрический ток; 2) поток; 3) текущий; действующий

D

damage 1) повреждение, повреждать; 2) дефект

dent вмятина; выбоина

deploy развертывать, срабатывать (подушки безопасности)

distinguish отличать, различать

doorlock дверной замок

downside недостаток

drawback недостаток

E

Electronic stability control
электронный контроль стабилизации, система курсовой устойчивости,

emit 1) выделять; 2) излучать

emissions выброс загрязняющего вещества в атмосферу

engine двигатель

internal combustion engine – двигатель внутреннего сгорания

enhance повышать; улучшать; усиливать; увеличивать

environmentally friendly не наносящий ущерба окружающей среде, не загрязняющий окружающую среду

excessively чересчур, чрезмерно

exhaust 1) выпуск; 2) выхлоп

exhaust pipe выхлопная труба

expel вытеснять; удалять

F

fatigue усталость

feature характерное свойство; 1) (техническая) характеристика; 2) особенность; (отличительный) признак; свойство; черта

fender крыло; брызговик; ограждающий щиток

fiberglass стекловолокно

flashlight карманный фонарь

flexibility гибкость; упругость; эластичность; приспособляемость (машины); мягкость хода (напр. автомобиля); маневренность

fluid жидкость, жидкий; жидкостный

fog туман, затуманиваться

front передний

fuel 1) горючее, топливо; 2) заправлять горючим топливом; 3) запастись топливом

fuel tank – топливный бак

G

gap 1) зазор; интервал; промежуток; 2) искровой промежуток
gasoline амер; брит. petrol – бензин

gas station = gasoline station – бензозаправочная станция

gas guzzler – пожиратель бензина

gear 1) зубчатая передача; шестерня; 2) механизм; привод;

gearbox коробка передач; коробка скоростей

gearshift (gearlever) рычаг переключения передач

guide 1) направляющая; направляющее устройство; 2) направлять; управлять

H

handling 1) управление; 2) уход (за механизмом)

hatch люк, задняя дверь с фрамугой

hazard риск; опасность, угроза

headlight фара

hood капот

I

incredible невероятный

indicator 1) индикатор; указатель; 2) измерительный прибор со шкалой;

injure ранить; причинять вред; наносить ущерб

injury 1) повреждение; 2) травма

impurity загрязнение; примесь

interior 1) внутренний; 2) интерьер

irritation недовольство, раздражение

insulation 1) изоляция; 2) изоляционный материал, изолирующий материал

intervene вмешиваться

J

jack домкрат; лебедка

jumble путаница, неразбериха;

jumper cables = jump leads – электропровода большого сечения (для запуска двигателя от постороннего источника)

L

lane полоса движения

lateral поперечный, боковой

leakage течь; утечка; протекание

lifter подъемник (напр. автомобильный); толкатель клапана ДВС

liquid 1) жидкость; 2) жидкий

logo (logotype) логотип, фирменный знак, эмблема

lug wrench ключ для гаек крепления колеса

luggage багаж

M

maintenance техническое обслуживание; уход; содержание в исправности; текущий ремонт; эксплуатация

mid-size car семейный/среднегабаритный автомобиль

mileage пробег (автомобиля)
в милях; число миль; пройден-
ное расстояние в милях

mixture смесь

fuel-air mixture – топливная
смесь

moisture влага; влажность

N

navigate управлять, проводить

number plate номерной знак

O

obsess about / over постоянно
думать или говорить о чем-л.

obstacle помеха, преграда, пре-
пятствие

obvious очевидный; явный

offer предлагать

P

parking lot автостоянка; пар-
ковка

piston поршень;

piston rod – шток поршня;
шатун

piston ring – поршневое
кольцо

performance 1) характеристика
(работы двигателя); 2) эксплу-
атационные качества, 3) эффек-
тивность; приемистость (авто-
мобиля); 4) функционирование;
5) производительность; КПД

plug in включать в сеть, встав-
лять вилку в розетку

pollute загрязнять (воздух, воду,
окружающую среду);

to pollute the environment –
загрязнять окружающую среду

pollution загрязнение (окружаю-
щей среды)

pretensioner натяжитель ремня
безопасности

“**a pretty penny**” кругленькая
сумма

previous предыдущий; предше-
ствующий

preventive repair профилакти-
ческий ремонт

preventive inspection профилак-
тический осмотр

preventive maintenance профи-
лактическое обслуживание

purchase покупка; приобрете-
ние; приобретать; покупать;
закупать

push толкать; нажимать

R

range 1) диапазон; 2) запас хода;
пробег без дозаправки

reliable безотказный; надежный
в работе (о механизме, обору-
довании)

rear window заднее окно

rebound отскакивать; пружи-
нить

recycle перерабатывать

reduce понижать; уменьшать

release разъединять; размыкать

reverse 1) изменение направ-
ления; 2) задний ход; обрат-
ный ход

roar реветь; рычать; грохотать

roof крыша

rope трос, канат
rubber edge резиновая оторочка
rust ржавчина, ржаветь

S

sag прогиб; прогибаться
scratch царапина, царапать
seal 1) пломба, пломбировать;
2) уплотнение, уплотнять
to seal in – герметизировать,
уплотнять
shell кожух; корпус
body shell – корпус кузова
side mirror боковое зеркало
заднего вида
signify иметь значение; выра-
жать
skidding скольжение, занос
slanted наклонный; скошенный
sleek глянцевый, ухоженный
smooth гладкий; плавный; сгла-
живать; выравнивать; смягчать,
успокаивать
spare запасная часть, запасной
spin вращать; вращаться; вра-
щение
spacious вместительный, боль-
шой, объемистый
steam 1) пар; 2) испарять; ис-
паряться
steer 1) руль; 2) управлять; вес-
ти; управлять рулем; держать
путь
steering рулевое управление;
управление направлением дви-
жения; рулевой механизм
steering system – система ру-
левого управления

steering wheel 1) рулевое ко-
лесо; 2) управляемое колесо
stiff жесткий; негнущийся;
крепкий
stroke такт; ход
intake stroke – такт впуска
compression stroke – такт
сжатия
*combustion stroke = power
stroke = ignition stroke* – такт
сгорания
exhaust stroke – такт выхлопа
substance вещество; материал
sump поддон
supply снабжение, поставка, по-
ставлять; доставлять
support поддержка; основание,
опора
suspension подвеска
suitable подходящий; соответ-
ствующий
swerve отклонение от курса,
поворот

T

tag ярлык, этикетка
tear износ, разрыв
timid робкий; застенчивый
tinted окрашенный
transmit 1) отправлять; 2) пере-
давать; 3) проводить
torque крутящий момент
tow буксировать, тащить (авто-
мобиль)
traffic jam затор; дорожная
пробка
transmission 1) коробка передач;
2) передача; привод; трансмиссия

trim внутренняя отделка; отделка салона (автомобиля)

truck грузовой автомобиль, грузовик

trunk багажник

U

underneath внизу, вниз

uneven неровный, неравномерный, неустойчивый

unveil объявлять, сообщать

V

valve клапан; вентиль;

inlet valve – впускной клапан

exhaust valve – выпускной клапан

van автомобиль-фургон, кузов-фургон

vapor пар, испарять(ся)

vehicle транспортное средство; автомобиль

volatile летучий; улетучивающийся

W

warranty гарантия

wheel well ниша шасси

windscreen (windshield) ветровое стекло; переднее стекло

wiper стеклоочиститель, дворник (ветрового стекла)

wear износ

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Учебное издание

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ЛАДУТЬКО Наталия Фёдоровна
ХОМЕНКО Светлана Анатольевна

ENGLISH FOR AUTOMOTIVE STUDENTS

**АНГЛИЙСКИЙ ЯЗЫК
ДЛЯ СТУДЕНТОВ АВТОМОБИЛЕСТРОИТЕЛЬНЫХ
СПЕЦИАЛЬНОСТЕЙ**

Пособие

Редактор *Е. В. Герасименко*
Компьютерная верстка *Н. А. Школьниковой*

Подписано в печать 04.01.2021. Формат 60×84 ¹/₁₆. Бумага офсетная. Ризография.
Усл. печ. л. 4,36. Уч.-изд. л. 3,41. Тираж 150. Заказ 426.

Издатель и полиграфическое исполнение: Белорусский национальный технический университет.
Свидетельство о государственной регистрации издателя, изготовителя, распространителя
печатных изданий № 1/173 от 12.02.2014. Пр. Независимости, 65. 220013, г. Минск.