

МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
ЦЕНТРАЛЬНОУКРАЇНСЬКИЙ НАЦІОНАЛЬНИЙ
ТЕХНІЧНИЙ УНІВЕРСИТЕТ

КАФЕДРА ІНОЗЕМНИХ МОВ

**Рекомендації до читання текстів
англійською мовою
для студентів всіх рівнів підготовки
спеціальностей
«Автомобільний транспорт» та
«Транспортні технології»**

Кропивницький
2024

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Затверджено
на засіданні кафедри
іноземних мов
Протокол № 7
від 24.01.2024

Рекомендації до читання текстів англійською мовою для студентів всіх рівнів підготовки зі спеціальності «Автомобільний транспорт» та «Транспортні технології» метод. рекомендації / [уклад. С. В. Щербина] ; М-во освіти і науки України, Центральноукраїн. нац.техн. ун-т. - Кропивницький : ЦНТУ, 2024. - 94 с.

Дані методичні рекомендації й завдання до читання текстів англійською мовою призначені для студентів всіх рівнів підготовки технічних спеціальностей. Методичні рекомендації спрямовані на розвиток навичок і умінь читання текстів за фахом, та розвиток діалогічного мовлення.

Інформаційний зміст текстів доступний до сприйняття студентами. Розроблений комплекс вправ спрямований на розвиток навичок усного мовлення та письма.

Методичні вказівки можуть бути використані як для аудиторної роботи під керівництвом викладача, так і для самостійної позааудиторної роботи.

Укладач: С.В.Щербина, доцент кафедри іноземних мов

Рецензент: О.М. Гавриленко, доцент кафедри іноземних мов.

UNIT 1

1. Прочитайте та перекладіть дані слова, використовуючи словник. Випишіть транскрипцію.

1. steam	12. to carry
2. engraving	13. passenger
3. to depict	14. accident
4. crash	15. patron
5. single	16. fuel
6. inventor	17. to expand
7. evolution	18. piston
8. to occur	19. crankshaft
9. vehicle	20. wheel
10. military	21. locomotive
11. to haul	22. carriage

Text 1

The History of the Automobile

Early Steam Powered Cars



Old Engraving depicting the 1771 crash of Nicolas Joseph Cugnot's steam-powered car into a stone wall.

The automobile as we know was not invented in a single day by a single inventor. The history of the automobile reflects an evolution that took place worldwide.

It is estimated that over 100,000 patents created the modern automobile. However, we can point to the many firsts that occurred along the way. Starting with the first theoretical plans for a motor vehicle that had been drawn up by both Leonardo da Vinci and Isaac Newton.

In 1769, the very first self-propelled road vehicle was a military tractor invented by French engineer and mechanic, Nicolas Joseph Cugnot (1725 - 1804). Cugnot used a steam engine to power his vehicle, built under his instructions at the Paris Arsenal by mechanic Brezin. It was used by the French Army to haul artillery at a whopping speed of 2 1/2 mph* on only three wheels. The vehicle had to stop every ten to fifteen minutes to build up steam power.

The steam engine and boiler were separate from the rest of the vehicle and placed in the front (see engraving above). The following year (1770), Cugnot built a steam-powered tricycle that carried four passengers.

In 1771, Cugnot drove one of his road vehicles into a stone wall, making Cugnot the first person to get into a motor vehicle accident. This was the beginning of bad luck for the inventor. After one of Cugnot's patrons died and the other was exiled, the money for Cugnot's road vehicle experiments ended.

Steam engines powered cars by burning fuel that heated water in a boiler, creating steam that expanded and pushed pistons that turned the crankshaft, which then turned the wheels. During the early history of self-propelled vehicles - both road and railroad vehicles were being developed with steam engines.

mph*- miles per hour (миль за годину)

(Cugnot also designed two steam locomotives with engines that never worked well.) Steam engines added so much weight to a vehicle that they proved a poor design for road vehicles; however, steam engines were very successfully used in locomotives. Historians, who accept that early steam-powered road vehicles were automobiles, feel that Nicolas Cugnot was the inventor of the first automobile.

Early Electric Cars

Steam engines were not the only engines used in early automobiles. Vehicles with electrical engines were also invented. Between 1832 and 1839 (the exact year is uncertain), Robert Anderson of Scotland invented the first electric carriage. Electric cars used rechargeable batteries that powered a small electric motor. The vehicles were heavy, slow, expensive, and needed to stop for recharging frequently. Both steam and electric road vehicles were abandoned in favor of gas-powered vehicles. Electricity found greater success in tramways and streetcars, where a constant supply of electricity was possible.

2. Знайдіть у тексті еквівалентні вирази англійською мовою. Вивчіть їх на пам'ять.

1. бути винайденим за один день	10. погана вдача
2. відображати	11. бути вигнаним
3. бути підрахованим	12. палаюче пальне
4. намалювати	13. нагрівати воду
5. само рухливий дорожній засіб пересування	14. розширяти та виштовхувати поршні
6. паровий двигун	15. колінчастий вал
7. тягти артилерію	16. електричний двигун
8. бути відділеним від решти	17. акумулятор, що перезаряджається
9. потрапити в аварію	18. трамвай

3. Доберіть відповідний переклад.

1. a single inventor	a) додати багато ваги
2. to create the modern automobile	b) моторний засіб пересування
3. to point to smth	c) акумулятор, що перезаряджається
4. a motor vehicle	d) єдиний винахідник
5. engineer and mechanic	e) приводити в рух засіб пересування
6. to power smb's vehicle	f) створити сучасний автомобіль
7. to add so much weight	g) колінчастий вал
8. to be successfully used in something	h) вказати на щось
9. rechargeable batteries	i) бути успішно використаним
10. crankshaft	j) інженер і механік

4. Перегляньте текст та оберіть варіант a) TRUE , якщо дане твердження вірне, або варіант b) FALSE , якщо дане твердження не вірне.

1. The automobile, as we know, was invented in a single day by a single inventor.

- a) TRUE
- b) FALSE

2. Starting with the first theoretical plans for a motor vehicle that had been drawn up only by Leonardo da Vinci.

- a) TRUE
- b) FALSE

3. In 1769, the very first self-propelled road vehicle was a military tractor invented by French engineer and mechanic Nicolas Joseph Cugnot.

- a) TRUE

- b) FALSE
4. The steam engine and boiler were not separate from the rest of the vehicle and placed in the front.
- a) TRUE
b) FALSE
5. In 1998, Cugnot drove one of his road vehicles into a stone wall, making Cugnot the first person to get into a motor vehicle accident.
- a) TRUE
b) FALSE
6. During the early history of propelled vehicles – both road and railroad vehicles were being developed with steam engines.
- a) TRUE
b) FALSE
7. Steam engines were the only engines used in early automobiles.
- a) TRUE
b) FALSE
8. Both steam and electric road vehicles were abandoned in favor of gas-powered vehicles.
- a) TRUE
b) FALSE
9. It was used by the French Army to haul artillery at a whopping speed of 2 ½ mph on only three wheels.
- a) TRUE
b) FALSE
10. However, we can point to the many first that occurred along the way.
- a) TRUE
b) FALSE

5. Can you name all the key-words from the text?

6. Виконайте письмовий переклад 2-ох останніх абзаців.

UNIT 2

1. Прочитайте та перекладіть дані слова, використовуючи словник. Випишіть транскрипцію.

1.combustion	10. a battery
2. to integrate	11. clutch
3. chassis	12. water radiator
4. void	13. innovation
5. converted carriage	14. approximately
6. carburetor	15. license
7. accelerator	16. amphibious
8. ignition	17. a bow
9. spark	18. vehicle

Text 2

Production of automobiles begins



In 1885, German mechanical engineer, Karl Benz designed and built the world's first practical automobile to be powered by an internal-combustion engine. On January 29, 1886, Benz received the first patent (DRP No. 37435) for a gas-fueled car. It was a three-wheeler; Benz built his first four-wheeled car in 1891. Benz & Cie., the company started by the inventor, became the world's largest manufacturer of automobiles by 1900. Benz was the first inventor to integrate an internal combustion engine with a chassis – designing both together.

Karl Benz began to work on new engine patents in 1878. First, he concentrated all his efforts on creating a reliable two-stroke gas engine, based on Nikolaus Otto's design of the four-stroke engine. A patent on the design by Otto had been declared void. Karl Benz finished his engine on New Year's Eve and was granted a patent for it in 1879. Karl Benz built his first three-wheeled automobile in 1885 and it was granted a patent in Mannheim, dated January of 1886. This was **the first automobile designed and built as such rather** than a converted carriage, boat, or cart. Among other items Karl Benz invented for the automobile are the carburetor, the speed regulation system known also as an accelerator, ignition using sparks from a battery, the spark plug, the clutch, the gear shift, and the water radiator. He built improved versions in 1886 and 1887 and went into production in 1888 the world's first automobile put into production. His wife, Bertha, made significant suggestions for innovation that he included in that model. Approximately twenty-five were built before 1893, when his first four-wheeler was introduced. They were powered with four-stroke engines of his own design. Emile Roger of France, already producing Benz engines under license, now added the Benz automobile to his line of products. Because France was more open to the early automobiles, in general, more were built and sold in France through Roger, than Benz sold initially from his own factory in Germany.

The first automobile patent in the United States was granted to Oliver Evans in 1789 for his "Amphibious Digger". It was a harbor dredge scow designed to be powered by a steam engine and he built wheels to attach to the bow. In 1804 Evans demonstrated his first successful self-propelled vehicle, which not only was the first automobile in the US but was also the first amphibious vehicle, as his steam-powered vehicle was able to travel on wheels on land as he demonstrated once, and via a

paddle wheel in the water. It was not successful and eventually was sold as spare parts.

The Benz Motorwagen, built in 1885, was patented on 29 January 1886 by Karl Benz as the first automobile powered by an internal combustion engine. In 1888, a major breakthrough came with the historic drive of Bertha Benz. She drove an automobile that her husband had built for a distance of more than 106 km (i.e. - approximately 65 miles). This event demonstrated the practical usefulness of the automobile and gained wide publicity, which was the promotion she thought was needed to advance the invention. The Benz vehicle was the first automobile put into production and sold commercially. Bertha Benz's historic drive is celebrated as an annual holiday in Germany with rallies of antique automobiles.

2. Знайдіть у тексті еквівалентні вирази англійською мовою. Вивчіть їх на пам'ять.

1. двигун внутрішнього згорання	9. свіча запалювання
2. отримувати на щось патент	10. перемикання передачі
3. двигун внутрішнього згорання з ходовою частиною	11. прийняти важливу пропозицію
4. сконцентрувати всі зусилля на щось	12. самохідний транспортний засіб
5. двотактний двигун	13. за допомогою грібного колеса
6. визнати неефективним	14. запасна деталь
7. ресорний екіпаж (для швидкої їзди на запряжених конях)	15. головне технічне досягнення

8. система регулювання швидкості	
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3. Доберіть відповідний переклад.

1. завоювати широку популярність	a) the largest manufacture of automobiles
2. ралі старовинних автомобілів	b) promotion
3. розвиток, просування, сприяння	c) to include in
4. прикріпити до дуги	d) to gain wide publicity
5. напередодні нового року	e) to attach to the bow
6. найбільший виробник автомобілів	f) on New Year`s Eve
7. включати в	g) rally of antique automobiles

Helpful Prompts

1.The general question(загальне запитання)

Вимагає “a yes-no-answer”

e.g. Your family is large.(стверджувальне речення)

e.g. Is your family large?

e.g. Do you drive a car?

2.The alternative question (альтернативне запитання)

e.g. Can you skate or ski?

e.g. Is it your book or mine?

3. The special question (спеціальне запитання)

Починається з питального слова wh-words(when, where why, who....)

e.g. When will you come?

e.g. Why have you done it?

4. The disjunctive question (розділове запитання)

Вимагає так-ні-відповідь. Якщо перша частина речення стверджувальна, то друга обов'язково має бути заперечна і навпаки. (+, -)

(-, +)

e.g. John doesn't live in London, does he?

e.g. He is a student, isn't he?

4. Put to the following sentences:

a) the general question

b) the alternative question

c) the special question

d) the disjunctive question

1. Karl Benz finished his engine on New Year's Eve.
2. France was more open to the early automobiles.
3. In 1804 Evans demonstrated his first successful self-propelled vehicle.
4. She drove an automobile for a distance of more than 106 km.
5. Benz built his first four-wheeled car in 1891.

5. Can you name the key-words connected with the car structure using this text.

6. Виконайте письмовий переклад другого абзацу.

UNIT 3

1. Прочитайте та перекладіть дані слова, використовуючи словник. Впишіть транскрипцію.

1. steam engine	9. mixture
2. to burn	10. cylinder

3. combustion	11. to ignite
4. hydrogen	12. exhaust
5. methane	13. restriction
6. propane	14. emission
7. fuel	15. gasket
8. ratio	16. tank

Text 3

Alternative Fuels and Batteries

An internal combustion engine is any engine that operates by burning its fuel inside the engine. In contrast a steam engine burns its fuel outside the engine. The most common internal combustion engine type is gasoline powered. Others include those fueled by diesel, hydrogen, methane, propane, etc. Engines typically can only run on one type of fuel and require adaptations to adjust the air/fuel ratio or mix to use other fuels.

In a gasoline engine, a mixture of gasoline and air is sprayed into a cylinder. This is compressed by a piston and at optimal point in the compression stroke, a spark plug creates an electrical spark that ignites the fuel. The combustion of the fuel results in the generation of heat, and the hot gases that are in the cylinder are then at a higher pressure than the fuel-air mixture and so drive the piston back down. These combustion gases are vented and the fuel-air mixture reintroduced to run a second stroke. The outward linear motion of the piston is ordinarily harnessed by a crankshaft to produce circular motion. Valves control the intake of air-fuel mixture and allow exhaust gasses to exit at the appropriate times.

With heavy taxes on fuel, particularly in Europe and tightening environmental laws, particularly in California, and the possibility of further restrictions on greenhouse gas emissions, work on alternative power systems for vehicles continues.

Diesel-powered cars can run with little or no modification on 100% pure bio-diesel, a fuel that can be made from vegetable oils but require modifications if you drive in cold weather countries. The main plus of Diesel combustion engines is its 50% fuel burn advantage over 23% in the best gasoline engines. This makes Diesel engines capable of achieving an average of 6 L/100km fuel efficiency. Many cars that currently use gasoline can run on ethanol, a fuel made from plant sugars. Most cars that are designed to run on gasoline are capable of running with up to 15% ethanol mixed in. With a small amount of redesign, gasoline-powered vehicles can run on ethanol concentrations as high as 85%. All petrol fuelled cars can run on LPG*. There has been some concern that the ethanol-gasoline mixtures prematurely wear down seals and gaskets. Theoretically, the lower energy content of alcohol should lead to considerably reduced efficiency and range when compared with gasoline. However, EPA* testing has actually shown only a 20-30% reduction in range. Therefore, if your vehicle is capable of doing 750 kilometers on a 50 liter tank (15 kilometers per liter), its range would be reduced to approximately 600 kilometers (12 kilometers per liter). Of course, certain measures are available to increase this efficiency, such as different camshaft configurations, altering the timing/spark output of the ignition, increasing compression, or simply using a larger fuel tank.

In the United States, alcohol fuel was produced in corn-alcohol stills until Prohibition criminalized the production of alcohol in 1919. Interest in alcohol as an automotive fuel lapsed until the oil price shocks of the 1970s. Reacting to the high price of oil and its growing dependence on imports, in 1975 Brazil launched a huge government-subsidized effort to manufacture ethanol fuel (from its sugar cane crop) and ethanol-powered automobiles. These ethanol-only vehicles were very popular in the 1980's, but became economically impractical when oil prices fell - and sugar prices rose - late in that decade. In recent years Brazil has

encouraged the development of flex-fuel automobiles, where the owner can use any mixture of ethanol and gasoline based on their individual cost and performance goals. In 2005, 70% of the cars sold in Brazil were flex-fuel.

LPG (liquefied petroleum gas) – зріджений нафтовий газ
EPA (Environmental Protection Agency) – управління по охороні навколишнього середовища

2. Знайдіть у тексті еквівалентні вирази англійською мовою. Вивчить їх на пам'ять.

1. на відміну від	11. викликати кругові рухи
2. працювати на одному типі пального	12. клапани контролюють всмоктування
3. бензиновий двигун	13. дозволяти вихлопним газам виходити
4. суміш бензину і повітря	14. у відповідний час
5. бути стиснутим поршнем	15. великі податки на пальне
6. свіча запалювання	16. подальша заборона на
7. створювати електричну іскру	17. парникові газові виділення
8. вироблення тепла	18. овочева олія
9. палаючи гази	19. вимагати змін
10. використовувати колінчатий вал	20. зношувати затвори і прокладки

3. Доберіть відповідний переклад.

1. 50-liter tank	a) заборона
2. to increase compression	b) екологічні закони
3. alcohol fuel	c) спиртне паливо

4. prohibition	d) пальне зроблене з рослинного цукру
5. steam engine	e) розпилювати в циліндр
6. to spray into a cylinder	f) чистий біо-дизель
7. the outward linear motion	g) 50-ти літровий бак
8. environmental laws	h) паровий двигун
9. pure bio-diesel	i) збільшувати компресію
10. fuel made from plant sugars	j) зовнішній лінійний рух

4. Complete the table like in the model:

a boy

a girl

1. a brother	
2. a lad	
3. a man	
4.	an aunt
5. a nephew	
6. a son	
7. a king	
8. a male	
9. a gentleman	
10.	a grandmother

5. Дайте відповіді на наступні запитання.

1. What is the main plus of diesel combustion engines?
2. What is LPG?
3. What cars can run on LPG?
4. When was the prohibition for production of alcohol ?
5. What is the most common internal combustion engine type?

6. Виконайте письмовий переклад 2-ого та 4-ого абзацу.

UNIT 4

1. Прочитайте та перекладіть дані слова, використовуючи словник. Випишіть транскрипцію.

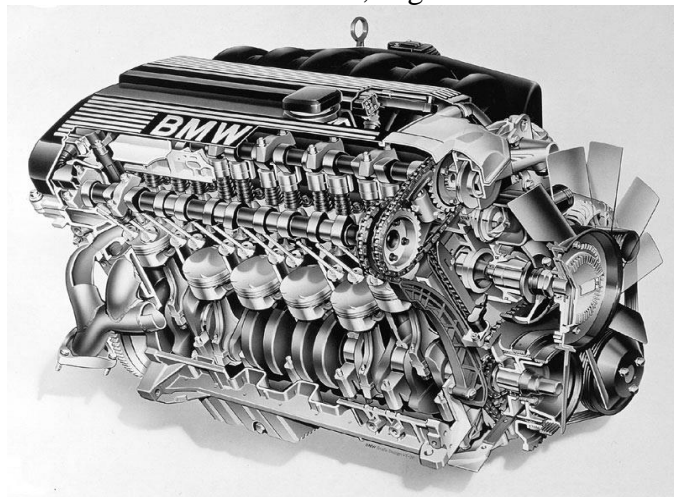
1. antiquity	9. gunpowder
2. capstan	10. solar
3. pulley	11. simultaneously
4. to transmit	12. layout
5. Ancient Greece	13. engine capacity
6. oared warship	14. enormous power
7. to augment	15. crane
8. breeds of cattle	

Text 4

History of Engines

Antiquity

While chemical and electrical engines of enormous power dominate the modern world, engines themselves are not new.



Загальний вигляд двигуна на прикладі BMW

Engines using human power, animal power, water power, wind power and even steam power date back to antiquity.

Human power was focused by the use of simple engines, such as the capstan, windlass or treadmill, and with ropes, pulleys, and block and tackle arrangements, this power was transmitted and multiplied. These were commonly used in cranes and aboard ships during Ancient Greece, and in mines, water pumps and siege engines in Ancient Rome. Early oared warships used human power augmented by the simple engine of the lever -- the oar itself. By the 1st century AD, various breeds of cattle and horses were used in mills, using machines similar to those powered by humans in earlier times.

Modern

English inventor Sir Samuel Morland allegedly used gunpowder to drive water pumps in the 17th century. For more conventional, reciprocating internal combustion engines the fundamental theory for two-stroke engines was established by Sadi Carnot, France, 1824, whilst the American Samuel Morey received a patent on April 1, 1826.

Automotive production down the ages has required a wide range of energy-conversion systems. These include electric, steam, solar, turbine, rotary, and different types of piston-type internal combustion engines. The gasoline internal combustion engine, operating on a four-stroke Otto cycle, has traditionally been the most successful for automobiles, while diesel engines are widely used for trucks and buses. . In 1896, Karl Benz was granted a patent for his design of the first boxer engine with horizontally-opposed pistons. His design created an engine in which the corresponding pistons reach top dead centre simultaneously, thus balancing each other with respect to momentum. Flat engines with four or fewer cylinders are most commonly boxer engines and are also known as, horizontally-opposed engines. This continues to be the design principle for high performance,

automobile racing engines such as Porsches. Continuance of the use of the internal combustion engine for automobiles is partially due to the improvement of engine control systems (computers) and forced induction (turbos and superchargers), giving modern diesel engines the same power characteristics as gasoline engines. This is especially evident with the popularity of diesel engines in Europe.

The internal combustion engine was originally selected for the automobile due to its flexibility over a wide range of speeds. Also, the power developed for a given weight engine was reasonable; it could be produced by economical mass-production methods; and it used a readily available, moderately priced fuel--gasoline.

The first half of the twentieth century saw a trend to increase engine power, particularly in the American models. Design changes incorporated all known methods of raising engine capacity, including increasing the pressure in the cylinders to improve efficiency, increasing the size of the engine, and increasing the speed at which power is generated. The higher forces and pressures created by these changes created engine vibration and size problems that led to stiffer, more compact engines with V and opposed cylinder layouts replacing longer straight-line arrangements. In passenger cars, V-8 layouts were adopted for all piston displacements greater than 250 cubic inches (4 litres).

Smaller cars brought about a return a to smaller engines, the four- and six-cylinder designs rated as low as 80 horsepower (60 kW), compared with the standard-size V-8 of large cylinder bore and relatively short piston stroke with power ratings in the range from 250 to 350 hp (190 to 260 kW).

2. Знайдіть у тексті еквівалентні вирази англійською мовою. Вивчить їх на пам'ять.

1. переважати в сучасному світі	8. двигун з горизонтально розташованими циліндрами
2. лебідка або тупчак (одноманітна механічна праця)	9. висока ефективність
3. ця сила була передана і примножена	10. наддув
4. система перетворення енергії	11. маса двигуна
5. чотири тактний цикл	12. об'єм двигуна
6. досягати до розташування верхньої мертвої мітки	13. викликати, приводити до
7. по відношенню до кількості рухів	14. кінська сила

3. Оберіть дієслова, що узгоджуються з підметами.

- 1) A few of the girls **is / are** experienced riders.
- 2) Each of them **has / have** a complete set of maps.
- 3) Most of the milk **is / are** gone.
- 4) Neither of the cars **has / have** a radio.
- 5) Everyone quickly **understands / understand** the rules of the game.
- 6) Ninety percent of the students **is /are** present.

4. Перегляньте текст та оберіть варіант a) TRUE , якщо дане твердження вірне, або варіант b) FALSE , якщо дане твердження не вірне.

- 1) While chemical and electrical engines of enormous power dominate the modern world, engines themselves are new.

- a) True
- b) False

2) American inventor Sir Samuel Morland allegedly used gunpowder to drive water pumps in the 18th century.

- a) True
- b) False

3) In 2002, Karl Benz was granted a patent for his design of the first boxer engine with horizontally opposed pistons.

- a) True
- b) False

4) Flat engines with four or fewer cylinders are most commonly boxer engines.

- a) True
- b) False

5) The second part of the twentieth century saw a trend to increase engine power particularly in the American models.

- a) True
- b) False

6) In passenger cars, V-6 layouts were adopted for all piston displacements greater than 250 cubic inches (4 litres).

- a) True
- b) False

7) Engines using human power, animal power, water power, wind power and even steam power date back to antiquity.

- a) True
- b) False

5. Can you name the key-words connected with the car structure using this text.

6. Виконайте письмовий переклад 3-ого, 4-ого і 5-ого абзацу.

UNIT 5

1. Прочитайте та перекладіть дані слова, використовуючи словник. Випишіть транскрипцію.

1. cylinder	10. to measure
2. performance	11. to deliver
3. to alter	12. fluid
4. flow	13. viscosity
5. to slide	14. inertia
6. choke	15. idling
7. carburetor	16. acceleration
8. to adjust	17. circuit
9. to maintain	

Text 5

Carburetor

History and development

The carburetor was invented by the Hungarian engineer Donát Bánki in 1893. Frederick William Lanchester of Birmingham, England experimented early on with the wick carburetor in cars. In 1896 Frederick and his brother built the first petrol driven car in England, a single cylinder 5 hp (4 kW) internal combustion engine with chain drive. Unhappy with the performance and power, they re-built the engine the next year into a two cylinder horizontally opposed version using his new wick carburetor



design. Today, most automotive carburetors are either *downdraft* (flow of air is downwards) or *side-draft* (flow of air is sideways).

Operation

Carburetors are either:

- Fixed Choke (Venturi) — the varying air pressure in the venturi alters the fuel flow; this is the common downdraft carburetor found on American and most Japanese cars
- Constant depression — the fuel jet opening is varied by the air flow to alter the fuel flow. This is done by a vacuum operated piston connected to a tapered needle which slides inside the fuel jet. The most common variable choke (constant depression) type carburetor is the sidedraft SU carburetor, which was simple in principle to adjust and maintain. This rose to a position of domination in the UK car market for that reason. Other similar designs are used on some European and a few Japanese automobiles.

The carburetor must:

- Measure the airflow of the engine
- Deliver the correct amount of fuel to keep the fuel/air mixture in the proper range (adjusting for factors such as temperature)
- Mix the two finely and evenly

This job would be simple if air and petrol were ideal fluids; in practice, however, their deviations from ideal behavior due to

viscosity, fluid drag, inertia, etc. require a lot of complexity to compensate at exceptionally high or low engine speeds. A carburetor must provide the proper fuel/air mixture under a wide variety of different circumstances and engine speed range:

- Cold start
- Idling or slow-running
- Acceleration
- High speed / high power at full throttle
- Cruising at part throttle (light load)

In addition, modern carburetors are required to do this while maintaining low rates of exhaust emissions.

To function correctly under all these conditions, most carburetors contain a complex set of mechanisms to support several different operating modes, called *circuits*.

Basics

In fuel injection, the tasks of metering airflow, and metering fuel, are accomplished using separate components. In a carburetor, both are accomplished simultaneously as the throttle is opened.

A carburetor basically consists of an open pipe, a "throat" or "barrel" through which the air passes into the inlet manifold of the engine. The pipe is in the form of a venturi — it narrows in section and then widens again, causing the airflow to increase in speed in the narrowest part. Below the venturi is a butterfly valve or **throttle** — a rotating disc that can be turned end-on to the airflow, so as to hardly restrict the flow at all, or can be rotated so that it (almost) completely blocks the flow of air. This valve controls the flow of air through the carburetor throat and thus the quantity of air/fuel mixture the system will deliver, thereby regulating engine power and speed. The throttle is connected, usually through a cable or a mechanical linkage of rods and joints or rarely by pneumatic link, to the accelerator

pedal on a car or the equivalent control on other vehicles or equipment.

2. Знайдіть у тексті еквівалентні вирази англійською мовою. Вивчіть їх на пам'ять.

1. машина яка їздить на бензині	10. холодний пуск
2. ланцюговий привід	11. робота на холостому ході
3. – одно / два циліндровий	12. повністю відкритий дросельний клапан
4. карбюратор з падаючим потоком	13. низький відсоток
5. паливний струмінь	14. викид вихлопних газів
6. вимірювати повітряний потік	15. схеми
7. завдяки в'язкості	16. уприскування палива
8. флюїдний опір	17. складатися з відкритої трубки
9. діапазон швидкостей	18. клапан метелика

3. Впишіть наступні слова, де потрібно, за змістом:
throttle, invented, air, petrol, circuits, chain drive

1. This job would be simple if and ... were ideal fluids.

2. To function correctly under all these conditions, most carburetors contain a complex set of mechanisms to support several different operating modes, called

3. In a carburetor, both are accomplished simultaneously as the is opened.

4. The carburetor was by the Hungarian engineer Donat Banki in 1893.

5. In 1896 Frederick built the first petrol driven car in England, a single cylinder internal combustion engine with

4. Завершіть речення з правильним допоміжним дієсловом в позитивній або негативній формі.

Приклад: Anna likes ice-cream but John doesn't.

I don't like ice-cream but Jill does.

1. I've been to Australia but Ann
2. Maria isn't studying hard but I
3. John loves flying but we
4. I watched TV last night but my sister
5. Bill hasn't finished his work but we
6. We don't want to leave early but they ...
7. They didn't remember my birthday but you

5. Can you name the key-words connected with the car structure using this text.

6. Виконайте письмовий переклад будь-яких 3-х абзаців.

UNIT 6

1. Прочитайте та перекладіть дані слова, використовуючи словник. Впишіть транскрипцію.

1. to prevent	9. gyroscopic
2. locking	10. to detect
3. braking	11. surface
4. skidding	12. bitumen
5. motorcycle	13. alertness
6. rotation	14. emergency

7. metallic dust	15. obstruction
8. diagnostics	16. gravel

Text 6

Anti-Lock Braking System

An **anti-lock braking system** (commonly known as **ABS**, from the German name "*Antiblockiersystem*" given to it by its inventors at Bosch) is a system on motor vehicles which prevents the wheels from locking while braking. The purpose of this is twofold: to allow the driver to maintain steering control under heavy braking and, in most situations, to shorten braking distances (by allowing the driver to hit the brake fully without the fear of skidding or loss of control).

The German firm Bosch had been developing anti-lock braking technology since the 1930s, but the first production cars using Bosch's electronic system became available in 1978. They first appeared in trucks and the Mercedes-Benz S-Class. ABS Systems were later introduced on motorcycles.

Operation

The anti-lock brake controller is also known as the CAB (Controller Anti-lock Brake).

A typical ABS is composed of a central electronic unit, four speed sensors (one for each wheel), and two or more hydraulic valves on the brake circuit. The electronic unit constantly monitors the rotation speed of each wheel. When it senses that any number of wheels are rotating considerably slower than the others (a condition that will bring it to lock) it moves the valves to decrease the pressure on the braking circuit, effectively reducing the braking force on that wheel. Wheel(s) then turn faster and when they turn too fast, the force is reapplied. This process is repeated continuously, and this causes the characteristic pulsing feel through the brake pedal.

The sensors can become contaminated with metallic dust and fail to detect wheel slip; this is not always picked up by the internal ABS controller diagnostics.

In modern ABSes, two more sensors are added to help ESP work: these are a wheel angle sensor, and a gyroscopic sensor. The theory of operation is simple: when the gyroscopic sensor detects that the direction taken by the car doesn't agree with what the wheel sensor says, the ABS software will brake the necessary wheel(s) (up to three with ABS 8.1 or greater) so that the car goes the way the driver intends. The wheel sensor also helps in the operation of CBC, since this will tell the ABS that wheels on the outside of the curve should brake more than wheels on the inside, and by how much.

Effectiveness

On high-traction surfaces such as bitumen, whether wet or dry, most ABS-equipped cars are able to attain braking distances better (i.e. shorter) than those that would be easily possible without the benefit of ABS. An alert skilled driver without ABS should be able, through the use of techniques like cadence braking or threshold braking, to match or improve on the performance of a typical driver with an ABS-equipped vehicle. However, for a majority of drivers, in most conditions, in typical states of alertness, ABS will reduce their chances of crashing, and/or the severity of impact. The recommended technique for non-expert drivers in an ABS-equipped car, in a typical full-braking emergency, is to press the brake pedal as firmly as possible and, where appropriate, to steer around obstructions. In such situations, ABS will significantly reduce the chances of a skid and subsequent loss of control.

In gravel and snow, ABS tends to increase braking distances. On these surfaces, locked wheels dig in and stop the vehicle more quickly. ABS prevents this from occurring. Some ABS calibrations reduce this problem by slowing the cycling time, thus letting the wheels repeatedly briefly lock and unlock. The primary benefit of ABS on such surfaces is to increase the ability

of the driver to maintain control of the car rather than go into a skid — though loss of control remains more likely on soft surfaces like gravel or slippery surfaces like snow or ice. On a very slippery surface such as sheet ice or gravel it is possible to lock multiple wheels at once, and this can defeat ABS (which relies on detecting individual wheels skidding). Availability of ABS should not deter drivers from learning to master cadence braking.

2. Знайдіть у тексті еквівалентні вирази англійською мовою. Вивчить їх на пам'ять.

1. протиблокувальна гальмівна система	10. поверхня з високим тертям
2. рульове управління	11. пильний майстерний водій
3. жорстке гальмування	12. переривчасте гальмування
4. ударити по гальмах	13. зменшувати шанси
5. втрата контролю	14. різкість удару
6. швидкість обертання кожного колеса	15. лавірувати навколо перешкод
7. зменшувати тиск	16. слизька поверхня
8. бути зіпсованим чим-небудь	17. крижана поверхня
9. датчик повороту колеса	

3. Reply to the following sentences with a suitable question:

e.g.: 'I'm going shopping.'

What are you going to buy?

a) 'David speaks four languages.'

b) 'Joy and Eric paid a lot of money for their house.'

c) 'We had a wonderful meal in that restaurant.'

d) 'Bob's cat has just had kittens.'

e) 'Lily's going to the cinema tonight.'

f) 'Joan's writing a letter.'

g) 'My job's really interesting.'

h) 'We had a wonderful holiday.'

4. Оберіть вірне продовження речення.

(в деяких випадках може бути 2 вірні відповіді)

1. The inventor of ABS was

a) Ferredo

b) Bosch

c) Siemens

2. ABS is a system on motor vehicles which prevents the wheels from locking while

- a) driving
- b) skidding
- c) braking

3. Bosch's electronic system became available in

- a) 1930
- b) 1978
- c) 1950

4. ABS systems first appeared in ...

- a) motorcycles
- b) trucks
- c) bike
- d) Mercedes – Benz S - Class

5. The electronic unit constantly monitors

- a) heavy braking
- b) metallic dust
- c) rotation speed

6. In modern ABSes, two more sensors are added, these are :

- a) a gyroscopic sensor
- b) steering control
- c) a wheel angle sensor
- d) cadence braking

7. In gravel and snow, ABS tends

- a) to reduce braking distances
- b) to increase braking distances
- c) to stop the vehicle more quickly

5. Can you name the key-words connected with the car structure using this text.

6. Виконайте письмовий переклад 2-ого абзацу.

UNIT 7

1. Прочитайте та перекладіть дані слова, використовуючи словник. Впишіть транскрипцію.

1. petrol	10. albeit
2. switch on / off	11. circuitry
3. key	12. coil
4. crude	13. distributor
5. copper	14. condenser
6. brass	15. dynamo
7. arrangement	16. winding
8. to supersede	17. voltage
9. spark	18. oxidation

Text 7

Ignition System

Distributor cap

The **ignition system** of an internal-combustion engine is an important part of the overall engine system that provides for



the timely burning of the fuel mixture within the engine. All conventional petrol (gasoline) engines require an ignition system. The ignition system is usually switched on/off through a lock switch, operated with a key or code patch.

History

The earliest petrol engines used a very crude ignition system. This often took the form of a copper or brass rod which protruded into the cylinder, which was heated using an external source. The fuel would ignite when it came into contact with the rod. Naturally this was very inefficient as the fuel would not be ignited in a controlled manner. This type of arrangement was quickly superseded by spark ignition, attributed to Karl Benz, a system which is generally used to this day, albeit with sparks generated by more advanced circuitry. Early low-speed stationary engines often used a moving contact which protruded into the cylinder. This contact was quickly closed and reopened at the precise instant, producing a spark across the contacts, generated by a coil.

Modern ignition systems

Mechanically timed ignition

Most four-stroke engines have used a mechanically timed electrical ignition system. The heart of the system is the distributor which contains a rotating cam running off the engine's drive, a set of breaker points, a condenser, a rotor and a distributor cap. External to the distributor is the ignition coil, the spark plugs, and wires linking the spark plugs and ignition coil to the distributor.

The power source is a lead-acid battery, kept charged by the car's electrical system, which generates electricity using a dynamo or alternator. The engine operates contact breaker points, which interrupt the current flow to an induction coil (known as the ignition coil).

The ignition coil consists of two transformer windings sharing a common magnetic core - the primary and secondary windings. An alternating current in the primary induces alternating magnetic

field in the coil's core. Because the ignition coil's secondary has far more windings than the primary, the coil is a step-up transformer which induces a much higher voltage across the secondary windings. For an ignition coil, one end of windings of both the primary and secondary are connected together. This common point is connected to the battery (usually through a current-limiting resistor). The other end of the primary is connected to the points within the distributor. The other end of the secondary is connected, via the distributor cap and rotor.

Electronic ignition

The disadvantage of the mechanical system is the use of breaker points to interrupt the low voltage high current through the primary winding of the coil; the points are subject to mechanical wear where they ride the cam to open and shut, as well as oxidation and burning at the contact surfaces from the constant sparking. They require regular adjustment to compensate for wear, and the opening of the contact breakers, which is responsible for spark timing, is subject to mechanical variations. In addition, the spark voltage is also dependent on contact effectiveness, and poor sparking can lead to lower engine efficiency. In the initial systems, points were still used but they only handled a low current which was used to control the high primary current through a solid state switching system. Soon, however, even these contact breaker points were replaced by an angular sensor of some kind - either optical, where a vaned rotor breaks a light beam, or more commonly using a Hall effect sensor, which responds to a rotating magnet mounted on a suitable shaft. The sensor output is shaped and processed by suitable circuitry, then used to trigger a switching device such as a thyristor, which switches a large flow of current through the coil. The rest of the system (distributor and spark plugs) remains as for the mechanical system. The lack of moving parts compared with the mechanical system leads to greater reliability and longer service intervals. In some cases, a modern distributor will fit into the older engine with no other modifications park plugs.

2. Знайдіть у тексті еквівалентні вирази англійською мовою. Вивчить їх на пам'ять.

1. двигун внутрішнього згорання	10. кришка переривника
2. замок запалення	11. магнітний сердечник
3. примітивна система запалювання	12. змінний струм
4. мідний або латунний стрижень	13. магнітне поле
5. тип механізму	14. свіча запалювання
6. іскрове запалювання	15. струмо-обмежуючий резистор
7. певний момент	16. механічно хронометроване запалювання
8. чотиритактний двигун	17. електронне запалювання
9. бігунок	18. пускова система

3. Заповніть пропуски.

1. All conventional _____ require an ignition system.

- a) steam engines
- b) electric engines
- c) petrol engines

2. The ignition system is usually switched on / off through _____ operated with a key.

- a) a dynamo
- b) a lock switch
- c) a current- limiting resistor

3. The earliest petrol engines used a very _____ ignition system.

- a) complicated
- b) conventional
- c) crude

4. The fuel would ignite when it came into contact with the ____

- a) stick
- b) rod
- c) plug

5. This type of arrangement was quickly superseded by spark ignition, attributed to _____

- a) Sir Samuel Morland
- b) Nicolas Joseph Cugnot
- c) Karl Benz

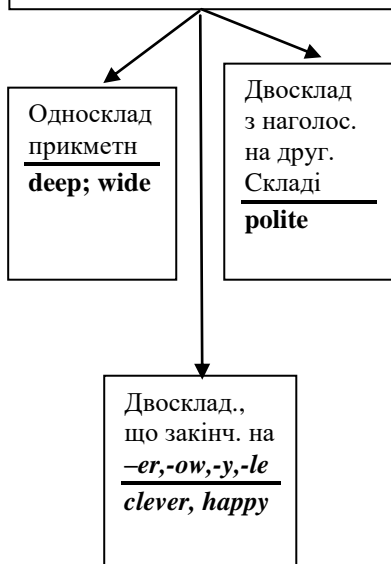
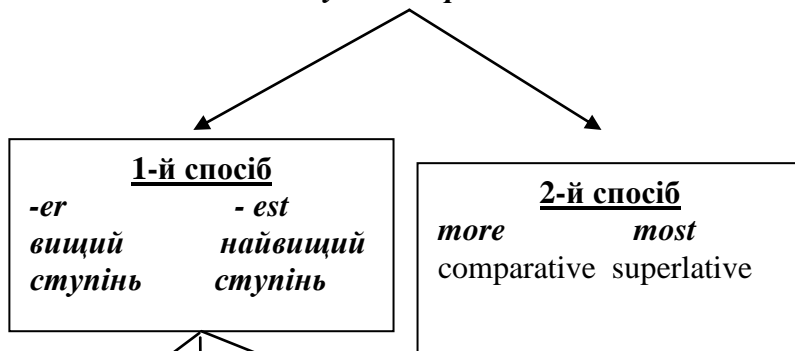
6. The heart of the system is the distributor which contains _____running off the engine`s drive.

- a) a rotating cam
- b) spark plugs
- c) ignition coil

4. Утворіть ступені порівняння слідуєчих прикметників за допомогою таблиці:

Old, bad, cold, yellow, clean, large, comfortable, little, green, red, long, interesting, difficult, important, easy.

Degrees of Comparison Ступені Порівняння



РЕШТА ПРИКМЕТНИКІВ

Прикме- ник	Вищий ступень	Найвищ Ступень
Interesting	more interesting	(the) most interesting
tired	more tired	most tired
afraid	more afraid	most afraid

Good ---- better----best
 Bad --- worse ----the worst
 Little --- less ---- the least
 Many --- more ----the most
 Old ---older ---the oldest
 Old ---elder ---the eldest (про
 старшинство у родині)

Deep –deeper—the deepest
Wide –wider –the widest
Polite –politer –politest
Clever—cleverer—cleverest
Happy—happier--happiest

5. Can you name the key-words connected with the car structure using this text.

6. *Виконайте письмовий переклад до слів “Electronic ignition”.*

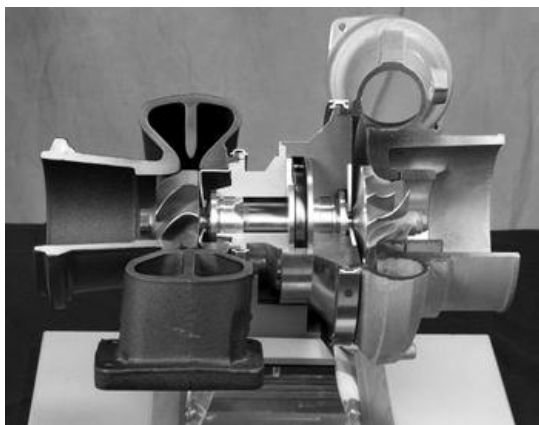
UNIT 8

1. *Прочитайте та перекладіть дані слова, використовуючи словник. Випишіть транскрипцію.*

1. turbocharger	11. to exceed
2. exhaust	12. device
3. oxygen	13. detonation
4. supercharger	14. to downgrade
5. turbine	15. to alleviate
6. ratio	16. aftercooling
7. fan	17. intercooling
8. knocking	18. to idle
9. advantage	19. responsive
10. disadvantage	

Text 8

Turbocharger



*Air foil bearing-
supported
turbocharger
cutaway made by
Mohawk Innovative
Technology Inc.*

A turbocharger is an exhaust gas-driven compressor used to increase the power output of an internal-

combustion engine by increasing the mass of oxygen entering the engine. A key advantage of turbochargers is that they offer a considerable increase in engine power with only a slight increase in weight.

Principle of operation

A turbocharger is an exhaust gas driven supercharger. All superchargers have a gas compressor in the intake tract of the engine which compresses the intake air above atmospheric pressure, greatly increasing the volumetric efficiency beyond that of naturally-aspirated engines. A turbocharger also has a turbine that powers the compressor using wasted energy from the exhaust gases. The compressor and turbine spin on the same shaft, similar to a turbojet aircraft engine.

The term supercharger is very often used when referring to a mechanically driven supercharger, which is most often driven from the engine's crankshaft by means of a belt (otherwise, and in many aircraft engines, by a geartrain), whereas a turbocharger is exhaust-driven, the name turbocharger being a contraction of the earlier "turbosupercharger". Because the turbine of a turbocharger is in-itself a heat engine, a turbocharger equipped engine will normally compress the intake air more efficiently than a mechanical supercharger. But because of "turbo lag" (see below), engines with mechanical superchargers are typically more responsive.

The compressor increases the pressure of the air entering the engine, so a greater mass of oxygen enters the combustion chamber in the same time interval (an increase in fuel is required to keep the mixture the same air to fuel ratio). This greatly improves the volumetric efficiency of the engine, and thereby creates more power. The additional fuel is provided by the proper tuning of the fuel injectors or carburetor.

The liquid cooling system must be capable of cooling the engine well at slow speeds, with the help of electric fans or at higher speeds using the air flow generated by the movement of the car.

All too often, manufacturers install too small a cooling system which requires that the engine be run under a rich mixture to reduce the operating temperature of the engine to something the cooling system can cope with or to avoid knocking, this can significantly reduce fuel efficiency. Often, this comes from the fact that the base engine that is being installed is so large that no space is left for proper cooling.

A disadvantage in gasoline engines is that the compression ratio should be lowered (so as not to exceed maximum compression pressure and to prevent engine knocking) which reduces engine efficiency when operating at low power. This disadvantage does not apply to specifically designed turbocharged diesel engines.

However, for operation at altitude, the power recovery of a turbocharger makes a big difference to total power output of both engine types. This last factor makes turbocharging aircraft engines considerably advantageous—and was the original reason for development of the device.

A main disadvantage of high boost pressures for internal combustion engines is that compressing the inlet air increases its temperature. This increase in *charge temperature* is a limiting factor for petrol engines that can only tolerate a limited increase in charge temperature before detonation occurs. The higher temperature is a volumetric efficiency downgrade for both types of engine. The pumping-effect heating can be alleviated by aftercooling (sometimes called intercooling).

Reliability

As long as the oil supply is clean and the exhaust gas does not become overheated (lean mixtures or retarded spark timing on a gasoline engine) a turbocharger can be very reliable but care of the unit is important. Replacing a turbo that lets go and sheds its blades will be expensive. The use of synthetic oils is recommended in turbo engines.

Diesel engines are usually much kinder to turbos because their exhaust gas temperature is much lower than that of gasoline engines and because most operators allow the engine to idle and do not switch it off immediately after heavy use.

2. Знайдіть у тексті еквівалентні вирази англійською мовою. Вивчіть їх на пам'ять.

1. вихлопний газ	8. паливний інжектор
2. усмоктуване повітря	9. система рідинного охолодження
3. коефіцієнт подачі	10. електричний вентилятор
4. двигун без наддуву	11. паливна економічність
5. турбореактивний двигун	12. високий тиск наддуву
6. зубчаста передача	13. пізнє запалювання
7. камера згорання	

3. Задайте питання до підкреслених слів.

- 1) They have got a car of their own.
- 2) He has a nice , gentle face.
- 3) We have a lot of relatives in Moscow.
- 4) You have got three mistakes in your test.
- 5) Mr. Smith has a large family.

4. Перегляньте текст та оберіть варіант a) TRUE , якщо дане твердження вірне, або варіант b) FALSE , якщо дане твердження не вірне.

1. A key advantage of turbochargers is that they offer a considerable reduce in engine power with only a slight increase in weight.

- a) True
- b) False

2. A turbocharger is an exhaust gas driven supercharger.

- a) True
- b) False

3. A turbocharger also has a turbine that powers the compressor using wasted energy from the exhaust gases.

- a) True
- b) False

4. The term supercharger is very often used when referring to an automatically driven supercharger, which is most often driven from the engine's crankshaft by means of a belt.

- a) True
- b) False

5. The additional fuel is provided by the proper tuning of the fuel injectors or compressor.

- a) True
- b) False

6. The liquid cooling system must be capable of cooling the engine well at slow speeds, with the help of electrical fans or at higher speeds using the air flow generated by the movement of the car.

- a) True
- b) False

7. A main disadvantage of high boost pressures for internal combustion engines is that compressing the inlet air increases its speed.

- a) True
- b) False

5. Can you name the key-words connected with the car structure using this text.

6. Виконайте письмовий переклад до слів “A disadvantage in gasoline...”

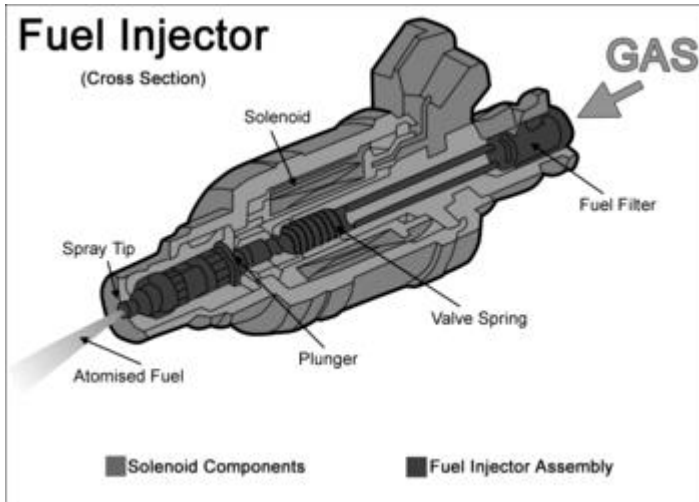
UNIT 9

1. Прочитайте та перекладіть дані слова, використовуючи словник. Випишіть транскрипцію.

1. gasoline	9. solenoid
2. carburetor	10. liquid
3. injection	11. venturi
4. to atomize	12. emulsify
5. nozzle	13. premix
6. emission	14. prone
7. durability	15. ambiguity
8. driveability	16. to malfunction

Text 9

Fuel Injection



Fuel injection is a means of metering fuel into an internal combustion engine. In modern automotive applications, fuel metering is one of several functions performed by an "engine management system".

For gasoline engines, carburetors were the predominant method to meter fuel before the widespread use of electronic fuel injection (EFI). However, a wide variety of injection systems have existed since the earliest usage of the internal combustion engine.

Differences between carburetors and fuel injection include:

- Fuel injection atomizes the fuel by forcibly pumping it through a small nozzle under high pressure, but a carburetor relies on the vacuum created by intake air rushing through it to add the fuel to the airstream.
- A carburetor performs several important functions in one single component: it measures engine load, calculates the amount of fuel needed, and adds the required fuel to the airstream. With fuel injection, these functions are performed by separate subsystems and components.

This means that each subsystem can be specialized and optimized for its particular role, which brings a number of important performance benefits compared to the compromise solution offered by carburetors.

The functional objectives for fuel injection systems can vary. All share the central task of supplying fuel to the combustion process, but it is a design decision how a particular system will be optimized. There are several competing objectives such as:

- power output ,fuel efficiency
- emissions performance, ability to accommodate alternative fuels
- durability, reliability, driveability and smooth operation
- initial cost, maintenance cost
- diagnostic capability, range of environmental operation

Basic function

The process of determining the amount of fuel, and its delivery into the engine, are known as fuel metering. Early injection systems used mechanical methods to meter fuel (non electronic, or mechanical fuel injection). Modern systems are nearly all electronic, and use an electronic solenoid (the injector) to inject the fuel. An electronic engine control unit calculates the mass of fuel to inject.

The fuel injector acts as the fuel-dispensing nozzle. It injects liquid fuel directly into the engine's air stream. In almost all cases this requires an external pump. The pump and injector are only two of several components in a complete fuel injection system.

In contrast to an EFI system, a carburetor directs the induction air through a venturi, which generates a minute difference in air pressure. The minute air pressure differences both emulsify

(premix fuel with air) the fuel, and then acts as the force to push the mixture from the carburetor nozzle into the induction air stream. As more air enters the engine, a greater pressure difference is generated, and more fuel is metered into the engine. A carburetor is a self-contained fuel metering system, and is cost competitive when compared to a complete EFI system. An EFI system requires several peripheral components in addition to the injector(s), in order to duplicate all the functions of a carburetor. A point worth noting during times of fuel metering repair is that EFI systems are prone to diagnostic ambiguity. A single carburetor replacement can accomplish what might require numerous repair attempts to identify which one of the several EFI system components is malfunctioning. On the other hand, EFI systems require little regular maintenance; a carburetor typically requires seasonal and/or altitude adjustments.

2. Знайдіть у тексті еквівалентні вирази англійською мовою. Вивчить їх на пам'ять.

1. паливний інжектор	7. термін служби
2. система керування двигуном	8. загальна характеристика керованості авто
3. процес згорання	9. початкова вартість
4. потужність, що віддається	10. вартість в експлуатації
5. паливний коефіцієнт корисної дії	11. прилад управління двигуном
6. здійснення вибросу	12. налив палива в отвір

3. Compare the objects according to the given model

Model 1: *A lemon – an apple (sour)*

A lemon is sourer than an apple.

An apple is not so sour as a lemon.

An apple is not as sour as a lemon.

1. The Black Sea – the White sea (warm)
2. Oil – water (light)
3. Bulgaria – the USA (small)
4. Butter – milk (cheap)
5. Stone – wood (heavy)
6. Carrots – Cucumbers (useful)
7. India – Japan (large)
8. Meat – vegetables (expensive)
9. Japanese – Spanish (difficult)
10. The Indian Ocean – The Atlantic Ocean (warm)

4. Перегляньте текст та оберіть варіант а) TRUE , якщо дане твердження вірне, або варіант b) FALSE, якщо дане твердження не вірне.

1. For diesel engines, carburetors were the predominant method to meter fuel before the widespread use of electronic fuel injection.

- a) True
- b) False

2. The process of determining the amount of fuel, and its delivery into the engine, are known as fuel metering.

- a) True
- b) False

3. Early injection systems used automatic methods to meter fuel.

- a) True
- b) False

4. Modern systems are nearly all electronic, and use an electronic solenoid (the injector) to inject the fuel.

- a) True
- b) False

5. An electronic engine control unit calculates the mass of fuel to inject.

- a) True
- b) False

5. Can you name the key-words connected with the car structure using this text.

6. Виконайте письмовий переклад починаючи зі слів” Basic Function”.

UNIT 10

1. Прочитайте та перекладіть дані слова, використовуючи словник. Випишіть транскрипцію.

1. consumer	10. deceleration
2. circumstances	11. maintenance
3. semi-manual	12. to dissipate
4. semi-automatic	13. overheat

5. versus	14. to slip
6. to couple	15. procedure
7. torque	16. manoeuver
8. to suffer	17. to obey
9. hydraulic	18. inadvertently

Text 10

Manual Transmissions

Comparison with automatic transmissions

Manual transmissions are typically compared to automatic transmissions, as the two represent the majority of options available to the typical consumer. These comparisons are general guidelines and may not apply in certain circumstances.

Additionally, the recent popularity of semi-manual and semi-automatic transmissions renders many of these points obsolete.

Advantages

Manual transmissions offer better fuel economy than automatics.

Increased fuel economy with a properly operated manual transmission vehicle versus an equivalent automatic transmission vehicle can range from 5 % to about 15 % depending on driving conditions and style of driving -- extra urban or urban (highway or city).

There are several reasons for this:

Mechanical efficiency. The manual transmission couples the engine to the transmission with a rigid clutch instead of a torque converter that introduces significant power losses.

The automatic transmission also suffers parasitic losses by driving the high pressure hydraulic pumps required for its operation.

Driver control. Certain fuel-saving modes of operation simply do not occur in an automatic transmission vehicle, but are accessible to the manual transmission driver.

Fuel cut-off. The torque converter of the automatic transmission is designed for transmitting power from the engine to the wheels. Its ability to transmit power in the reverse direction is limited. During deceleration, if the torque converter's rotation drops beneath its stall speed, the momentum of the car can no longer turn the engine, requiring the engine to be idled.

Manual transmissions usually have only one clutch, whereas automatics have many clutch packs.

Manual transmissions are generally significantly lighter than torque-converter automatics.

Manual transmissions are typically cheaper to build than automatic transmissions.

Manual transmissions generally require less maintenance than automatic transmissions.

Manual transmissions normally do not require active cooling, because not much power is dissipated as heat through the transmission.

The heat issue can be important in certain situations, like climbing long hills in hot weather, particularly if pulling a load. Unless the automatic's torque converter is locked up (which typically only happens in an overdrive gear that would not be engaged when going up a hill) the transmission can overheat. A manual transmission's clutch only generates heat when it slips, which does not happen unless the driver is riding the clutch pedal.

A driver has more direct control over the state of the transmission with a manual than an automatic. This control is important to an experienced, knowledgeable driver who knows the correct procedure for executing a driving manoeuvre, and wants the machine to obey his or her instructions exactly and instantly. Manual transmissions are particularly advantageous for performance driving or driving on steep and winding roads. Note that this advantage applies equally to manual-automatic transmissions, such as tiptronic.

Disadvantages

Manual transmissions require more driver interaction than automatic transmissions.

- A driver may inadvertently shift into the wrong gear with a manual transmission, potentially causing damage to the engine and transmission as well as compromising safety.
- Manual transmissions are more difficult to learn to drive as one needs to develop a feel for properly engaging the clutch.
- The smooth and quick shifts of an automatic transmission are not guaranteed when operating a manual transmission.
- Manual transmissions are slightly harder to start when stopped upward on a hill, but this is overcome with a little experience.
- The clutch disc is a wear item and must be replaced periodically. This is typically a labor intensive process and can be an expensive service.

2. Знайдіть у тексті еквівалентні вирази англійською мовою. Вивчить їх на пам'ять.

1. ручна коробка передач	9. працювати в «холосту»
2. напів-ручна коробка передач	10. рушійна сила автомобіля
3. напів-автоматична коробка передач	11. прискорювальна передача
4. пропонувати кращу економію палива	12. бути залученим
5. механічний коефіцієнт корисної дії (ККД)	13. педаль зчеплення
6. гідротрансформатор	14. крута й звивиста дорога
7. гідронасос	15. диск муфти зчеплення
8. відсічення палива	

3. Перегляньте текст та оберіть варіант a) TRUE , якщо дане твердження вірне, або варіант b) FALSE, якщо дане твердження не вірне.

1. Manual transmissions offer worse fuel economy than automatics.

- a) True
- b) False

2. The automatic transmission also suffers parasitic losses by driving the high pressure hydraulic pumps required for its operation.

- a) True
- b) False

3. Certain fuel-saving modes of operation simply occur in an automatic transmission vehicle.

- a) True
- b) False

4. The torque converter of the automatic transmission is designed for transmitting power from the engine to the carburetor.

- a) True
- b) False

5. Manual transmissions are typically more expensive to build than automatic transmissions.

- a) True
- b) False

6. Manual transmissions generally require less maintenance than automatic transmissions.

- a) True
- b) False

7. A manual transmissions normally require active cooling, because not much power is dissipated as heat through the transmission.

- a) True
- b) False

8. A manual transmission`s clutch only generates heat when it slips, which does not happen unless the driver is riding the clutch pedal.

- a) True
- b) False

9. A driver has more direct control over the state of the transmission with a manual than an automatic.

- a) True
- b) False

10. Manual transmissions are particularly disadvantageous for performance driving on steep and winding roads.

- a) True
- b) False

4. Put to the following sentences:

- e) the general question**
- f) the alternative question**
- g) the special question**
- h) the disjunctive question**

1. Manual transmissions offer better fuel economy than automatics.
2. Manual transmissions usually have one clutch.
3. A driver has more direct control over the state of the transmission with a manual than an automatic.

5. Can you name the key-words connected with the car structure using this text.

6. Виконайте письмовий переклад починаючи зі слів ” Advantages ”.

UNIT 11

1. Прочитайте та перекладіть дані слова, використовуючи словник. Випишіть транскрипцію.

1. automatic	9. mower
2. gearbox	10. fluid
3. manually	11. clutch
4. to equip	12. breakaway
5. penalties	13. stalling
6. burdensome	14. servo
7. forklift	15. centrifugal
8. lawn	16. governor

Text 11

Automatic Transmission

An **automatic transmission** is an automobile gearbox that can change gear ratios automatically as the car or truck moves, thus freeing the driver from having to shift gears manually.



The automatic transmission selector lever in a Ford Five Hundred car



A cut-away model of a torque converter

(Similar but larger devices are also used for railroad locomotives.)

Most cars sold in the United States since the 1950s have been equipped with an automatic transmission. This has, however, not been the case in Europe and much of the rest of the world.

Automatic transmissions, particularly earlier ones, reduce fuel efficiency and power. Where fuel is expensive and, thus, engines generally smaller, these penalties are more burdensome. In recent years, automatic transmissions have significantly improved in their ability to support high fuel efficiency but manual transmissions are still generally more efficient. (This balance may finally shift with the introduction of practical continuously variable transmissions; see below.)

Most automatic transmissions have a set selection of possible gear ranges, often with a parking pawl feature that will lock the output shaft of the transmission.

However, some simple machines with limited speed ranges and/or fixed engine speeds only use a torque converter to provide a variable gearing of the engine to the wheels. Typical examples include forklift trucks and some modern lawn mowers.

A hydraulic automatic transmission consists of the following parts:

Fluid coupling or torque converter: A hydraulic device connecting the engine and the transmission. It takes the place of a mechanical clutch, allowing the engine to remain running at rest without stalling. A torque converter is a fluid coupling that also provides a variable amount of torque multiplication at low engine speeds, increasing "breakaway" acceleration.

Planetary gearset: A compound planetary set whose bands and clutches are actuated by hydraulic servos controlled by the valve body, providing two or more gear ratios.

Valve body: hydraulic control center that receives pressurised fluid from a *main pump* operated by the fluid

coupling/torque converter. The pressure coming from this pump is regulated and used to run a network of spring-loaded valves, check balls and servo pistons. The valves use the pump pressure and the pressure from a centrifugal governor on the output side (as well as hydraulic signals from the range selector valves and the *throttle valve* or *modulator*) to control which ratio is selected on the gearset; as the car and engine change speed, the difference between the pressures changes, causing different sets of valves to open and close. The hydraulic pressure controlled by these valves drives the various clutch and brake band actuators, thereby controlling the operation of the planetary gearset to select the optimum gear ratio for the current operating conditions. However, in many modern automatic transmissions, the valves are controlled by electro-mechanical servos which are controlled by the Engine Management System or a separate transmission controller.

The multitude of parts, along with the complex design of the valve body, originally made hydraulic automatic transmissions much more complicated (and expensive) to build and repair than manual transmissions. In most cars (except US family, luxury, sport-utility vehicle, and minivan models) they have usually been extra-cost options for this reason. Mass manufacturing and decades of improvement have reduced this cost gap.

2. Знайдіть у тексті еквівалентні вирази англійською мовою. Вивчить їх на пам'ять.

1. автоматична трансмісія	8. прискорення
2. автомобільна коробка передач	9. рушання з місця
3. перемикаєти передачі вручну	10. головний насос
4. проблеми	11. допоміжні поршні

5. газонокосарка	12. селектор діапазонів
6. гідромуфта	13. дросельний клапан
7. гідротрансформатор	14. масове виробництво

3. Доберіть відповідний переклад.

1. gearbox	a) корпус вентиля
2. device	b) коробка передач
3. clutch	c) зчеплення
4. stalling	d) ремонтувати
5. valve body	e) коли автівка «глохне»
6. to repair	f) пристрій

4. Дайте відповіді на наступні запитання.

1. What is an automatic transmission?
2. Is it true that automatic transmission can reduce fuel efficiency and power?
3. What is the function of fluid coupling or torque converter?
4. What is the function of valve body?
5. Which transmission is much more complicated and expensive to build and repair? And why?

5. Can you name the key-words connected with the car structure using this text.

6. Виконайте письмовий переклад починаючи зі слів
” A hydraulic automatic transmission...”.

UNIT 12

1. Прочитайте та перекладіть дані слова, використовуючи словник. Випишіть транскрипцію.

1. a hood	9. dense
2. scoop	10. turbocharger
3. vent	11. supercharger
4. compartment	12. benefit
5. to enhance	13. debris
6. manifold	14. hazard
7. breathe	15. detritus
8. ambient	16. to clog

Text 12

Hood Scoop



A **hood scoop** is an air vent on the hood of an automobile that either allows a flow of air to directly enter the engine compartment, or appears to do so. It may be closed, and thus purely decorative, or serve to enhance performance in several possible ways.

Cool air

One possible use of a hood scoop is to admit outside air into the engine's intake ahead of the air cleaner and carburetor or fuel injection manifold. In most modern automobiles, internal combustion engines "breathe" under-hood air or air ducted from

under the front bumper through plastic and rubber tubing. The high operating temperatures in the engine compartment result in intake air that is 50°F or more hotter than the ambient temperature, and consequently less dense. A hood scoop can provide the engine with cooler, denser outside air, increasing power. A properly designed cold air intake can add 10-20 horsepower (7.5 to 15 kW) to the engine.

Ram air

At higher road speeds, a properly designed hood scoop can increase the speed and pressure with which air enters the engine's intake, creating a resonance supercharging effect that can add an additional 10-15 horsepower (7.5 to 12 kW). Such effects are typically only felt at very high speeds, making ram air primarily useful for racing, not street performance.

Pontiac used the trade name **Ram Air** to describe its engines equipped with functional scoops. Despite the name, most of these systems only provided cool air, with little or no supercharging effect.

Intercooler scoops

Some engines with turbochargers or superchargers are also equipped with top mounted intercoolers to reduce the temperature and increase the density of the high-pressure air produced by the compressor. Channeling outside air to the intercooler (which is a heat exchanger similar to a radiator) increases its effectiveness, providing a slight improvement in power.

Hood scoop problems

A functional scoop presents several possible problems in addition to its benefits:

- The scoop opening increases audible engine noise. This is of concern in areas where local law regulates the maximum permissible noise levels of vehicles.
- An open scoop may admit debris or water directly into the engine, which is a hazard. If the air cleaner element is in place, it will generally prevent debris from entering the engine, although such detritus can quickly clog the air filter. Many scoops for vehicles intended for street use have drainage channels to prevent water from entering the engine, although the channels may be overwhelmed in heavy rain.
- The cooling effect of the scoop's intake air may complicate engine warm-up and pollution control. During the early days of automotive emissions controls, it was customary for stock air-intake systems to have flaps that would only allow the engine to breath cool, outside air at or near full throttle.

Because of these limitations, some scoops are designed so that they can be closed by the driver (using a cabin-mounted lever) or so that they remain shut until opened by engine vacuum.

Both functional and non-functional hood scoops slightly increase the drag coefficient of a car.

2. Знайдіть у тексті еквівалентні вирази англійською мовою. Вивчить їх на пам'ять.

1. повітрязабірник	9. збільшувати концентрацію
2. суто декоративний	10. чутний шум двигуна
3. впускати зовнішнє повітря	11. максимально дозволений рівень шуму

4. повітря направлене з під	12. запобігати попаданню сміття в двигун
5. оточуюча, зовнішня температура	13. засмічувати повітряний фільтр
6. менш стислий	14. осушений канал
7. додавати кінських сил	15. встановлений в салоні важіль
8. встановлений вгорі	16. коефіцієнт опору

Helpful Prompts

Неозначені займенники

*У залежності від першого елемента неозначені займенники **some, any, no** застосовують в стверджувальних, питальних чи заперечних реченнях. Ці слова завжди узгоджуються з дієсловом в однині.*

+	?	-
something- щось	anything- щось	nothing- ніщо/нічого
someone- хтось	anyone- хтось	no one- ніхто/нікого
somebody- хтось	anybody- хтось	nobody- ніхто/нікого

3. Перекладіть дані речення використовуючи таблицю.

1. Is there anything on the table?

-No, there is nothing on the table.

2. Is there anybody at home?

-No, there is nobody at home.

3. Can you see anything / anybody here?

-Yes, I can see something / somebody.

4. Дайте відповіді на наступні запитання.

1. What is a hood scoop?

2. What can provide a hood scoop for engine?

3. What is the difference between cool air system and ram air system?

4. What is the function of intercooler scoop?

5. Name all possible hood scoop problems.

6. Виконайте письмовий переклад будь-яких 4-х абзаців.

UNIT 13

1. Прочитайте та перекладіть дані слова, використовуючи словник. Випишіть транскрипцію.

1. spoiler	8. traction
2. aerodynamic	9. slippage
3. tire	10. trunk

4. surface	11. splitter
5. primarily	12. exception
6. benefit	13. notable
7. to disrupt	14. friction

Text 13

Spoiler (automotive) & Spinner (wheel)



A **spoiler** is an aerodynamic device attached to an automobile to decrease lift, decrease drag, or increase the amount of force pushing the vehicle's tires to the road surface (also called downforce). Spoilers are often fitted to race and high-performance sports cars, although they have become common on passenger vehicles, as well. Some spoilers are added to cars primarily for styling purposes and have either little aerodynamic benefit or even make the aerodynamics worse.

Operation

Spoilers generally work by disrupting the airflow going over a car. This disruption has two primary effects:

1. reducing the amount of lift naturally generated by the shape of the car, and
2. increasing the amount of positive pressure downward through the vehicle

The result of these two effects is the same: increasing the force between the tire and the road surface, thereby increasing traction. This increase in traction allows a vehicle in motion to brake, turn, and accelerate more aggressively without tire slippage. Additionally, this is accompanied by an increase in aerodynamic drag.

Types of spoilers

Although the most recognizable spoiler is the **wing spoiler**, there are actually many different types of spoilers.

- A **wing spoiler** is an airfoil suspended above the body of the vehicle.
- A **lid spoiler** (commonly **trunk lid spoiler**, **lip spoiler**, or **boot lid spoiler**) is often a ridge of plastic or metal attached directly to the top of the trunk lid.
- A **roof spoiler** is a small ridge of plastic or metal attached to the very back of the roof, usually just above the rear window.
- A **splitter** is a spoiler attached to the front bumper, very close to the road surface.
- A **spinner** is an automotive accessory, popular with the hip-hop community.

Spinners are wheel covers which spin independently of the wheel itself when the brakes are applied. This is achieved by using a roller bearing. Typically, the spinners are attached onto existing custom wheels, but there are a couple of exceptions; Dub Spinners and Omega Spinners are the most notable. Being an attachment to the car's rim, spinners operate by using a roller bearing to isolate the spinner from the wheel, allowing it to turn while the wheel is at rest. The spinner's own momentum helps it overcome what little friction is transmitted through the bearing. When the car is in motion, the small amount of friction transmitted through the bearing gets the spinner in motion.

2. Знайдіть у тексті еквівалентні вирази англійською мовою. Вивчить їх на пам'ять.

1. аеродинамічний пристрій	6. пробуксовка шин
2. зменшувати підйомну силу	7. заднє скло
3. зменшувати опір	8. прикріплювати до переднього бампера

4. високоякісні спортивні машини	9. роликовий підшипник
5. збільшувати тертя	10. відокремлювати спіннер від колеса

3. Перекладіть англійською мовою слова і речення. Користуйтесь граматичним матеріалом 7ого юніту: “Degrees of Comparison” (ступені Порівняння Прикметників)

Дешевий-дешевший-найдешевший

Великий / малий-більший / менший – найбільший/ найменший

Вродливий- вродливіший – найвродливіший

Гарний-кращий-найкращий

Багато – більше – найбільший

Мало – менше –найменше

Ця кімната така ж велика, як і та. Ця кімната більше за ту.

Це найбільша кімната. Вона така ж вродлива, як і сестра.

Вона вродливіша за її сестру. Вона найвродливіша.

4. Перегляньте текст та оберіть варіант a) TRUE , якщо дане твердження вірне, або варіант b) FALSE , якщо дане твердження не вірне.

1. A **spoiler** is an aerodynamic device attached to an automobile to increase lift & to decrease drag.

- a) True
- b) False

2. Spoilers are fitted to race and high-performance sports cars only.

- a) True
- b) False

3. Spoilers generally work by disrupting the airflow going over a car.

- a) True
- b) False

4. This increase in traction allows a vehicle in motion to brake, turn, and accelerate more aggressively without tire slippage.

- a) True
- b) False

5. A **wing spoiler** is a spoiler attached to the front bumper.

- a) True
- b) False

6. A **lid spoiler** is often a ridge of plastic or metal attached directly to the top of the trunk lid.

- a) True
- b) False

7. A **splitter** is an airfoil suspended above the body of the vehicle.

- a) True
- b) False

8. A roof spoiler is automotive accessory.

- a) True
- b) False

9. Spinners are wheel covers which spin independently of the wheel itself when the brakes are applied.

- a) True
- b) False

5. Can you name the key-words connected with the car structure using this text.

6. Виконайте письмовий переклад тексту.

Part 2 *Picture Dictionary*

Public Transportation

*Task: Перекладіть дані слова за допомогою словника.
Складіть міні-діалоги використовуючи нові слова.*



1. bus stop	5. fare
2. route	6. transfer
3. schedule	7. passenger
4. bus	8. bus driver



9. subway	13. train station
10. track	14. ticket
11. token	15. platform
12. fare card	16. conductor
	17. train



18. taxi / cab	21. meter
19. taxi stand	22. taxi license
20. taxi driver	23. ferry

Task: Talk about how you and your friends come to university.

I take the bus to university.

You take the train.

We take the subway.

He drives to school.

She walks to school.

They ride bikes.

Prepositions of Motion (Прикметники руху)

TASK: Перекладіть речення на українську мову.

Grammar point: into, out of, on, off

We say, get **into** a taxi or a car.

(

But we say, get **on** a bus, a train, or a plane.

(

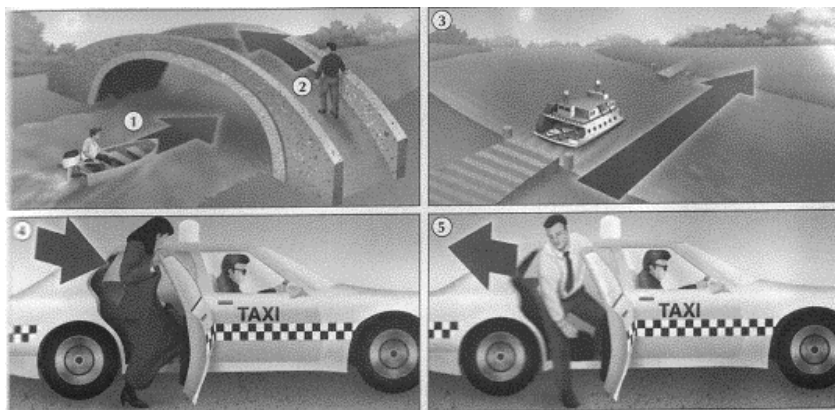
We say, get **out of** a taxi or a car.

(

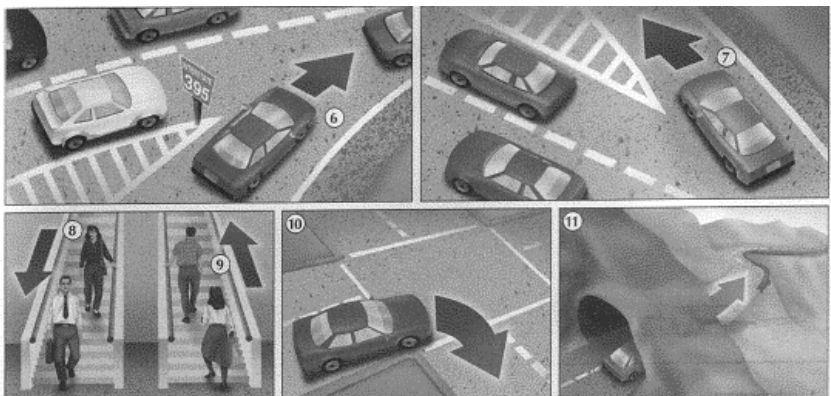
But we say, get **off** a bus, a train, or a plane.

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TASK: Перекладіть словосполучення та опишіть малюнки, використовуючи їх.



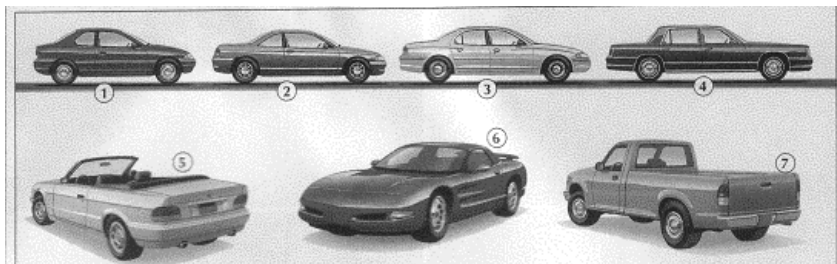
1. under the bridge
2. over the bridge
3. across the water
4. into the taxi
5. out of the taxi



6. onto the high way	9. up the stairs
7. off the highway	10. around the corner
8. down the stairs	11. through the tunnel

Cars and Trucks

Task: З'ясуйте переклад даних слів. Розкажіть чим відрізняються авто на першому малюнку від тих, що на другому.



1. subcompact	5. convertible
2. compact	6. sports car
3. midsize car	7. pickup truck
4. full-size car	

Task: Опишіть цілі використання кожної автівки



8. station wagon	13. tow truck
9. SUV (sports utility vehicle)	14. moving van
10. minivan	15. tractor trailer / semi
11. camper	16. cab
12. dump truck	17. trailer

Share your answers.

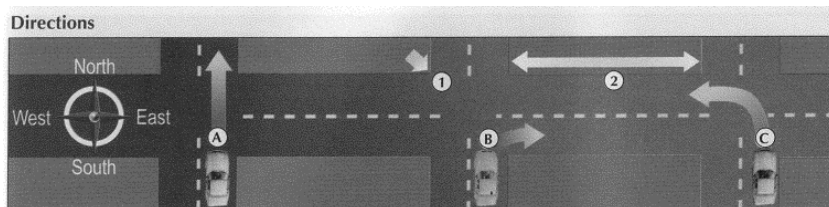
- 1.** What is your favorite kind of car?
- 2.** What kind of car is good for a big family?
 - for a single person?

Directions and Traffic Signs

(напрямки та дорожні знаки)

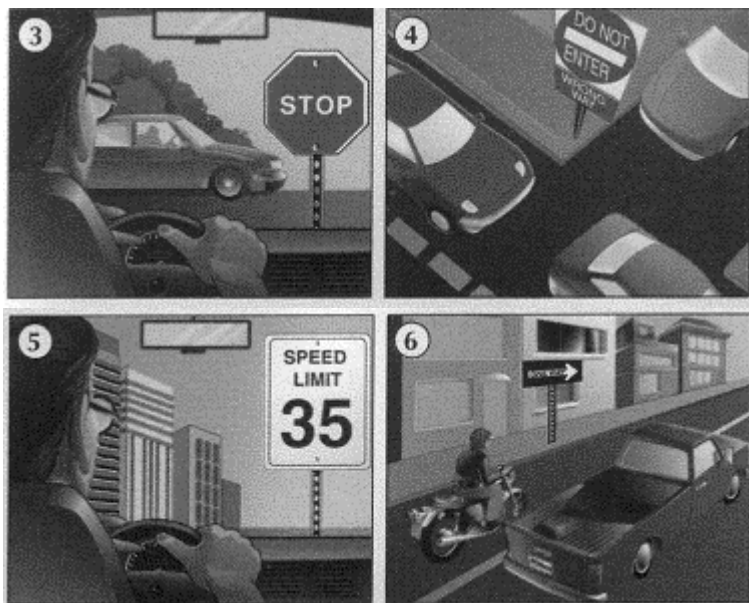
Task: Прослідкуйте за напрямком руху автівок ABC.

Прокоментуйте їх рух, використовуючи таблицю.



A. go straight	B. turn right	C. turn left
	1. corner	2. block

Task: Опишіть значення кожного знаку.



3. stop	5. speed limit
4. do not enter / wrong way	6. one way



7. U-turn ok	9. right turn only
8. no outlet / dead end	10. pedestrian crossing



11. railroad crossing	12. no parking
------------------------------	-----------------------



13. school crossing	14. handicapped parking
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Share your answers.

1. Which traffic signs are the same in your country?
2. Do pedestrians have the right-of-way in your city?
3. What is the speed limit in front of your university?
- your home?

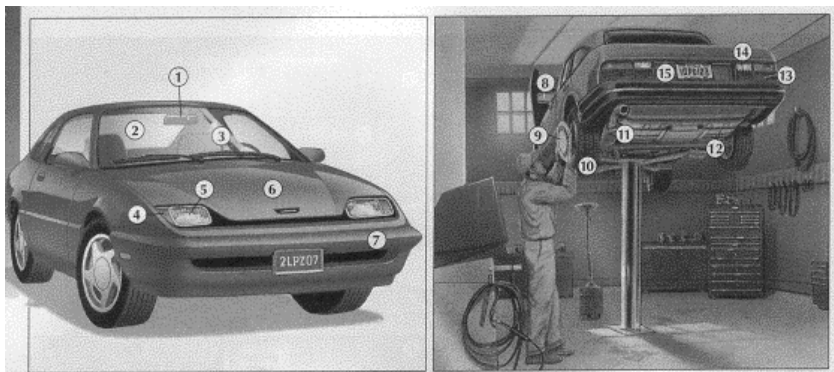
right-of-way: the right to go first

yield: to give another person or car the right-of-way

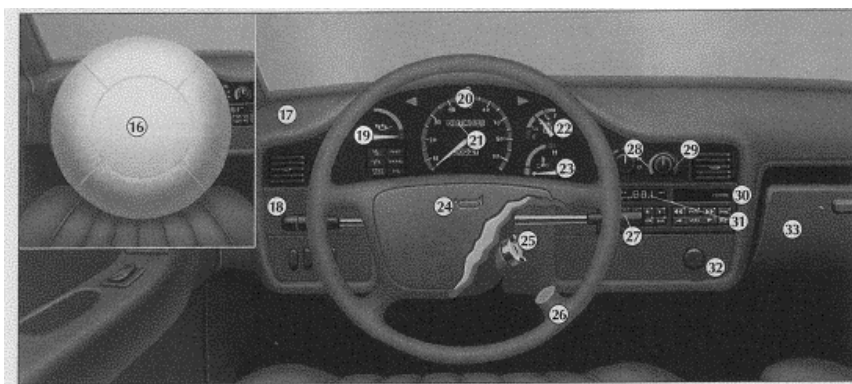
Parts of a Car and Car Maintenance

Part 1

Task: Work in small groups. Without using a dictionary, see how many parts of a car you can translate in Ukrainian. Exchange lists with another group.



1. rearview mirror		7. bumper	
2. windshield		8. side view mirror	
3. windshield wipers		9. hubcap	
4. turn signal		10. tire	
5. headlight		11. muffler	
6. hood		12. gas tank	
13. brake light	14. taillight		15. license plate



16. air bag	25. ignition
17. dashboard	26. steering wheel
18. turn signal	27. gearshift
19. oil gauge	28. air conditioning

20. speedometer	29. heater
21. odometer	30. tape deck
22. gas gauge	31. radio
23. temperature gauge	32. cigarette lighter
24. horn	33. glove compartment

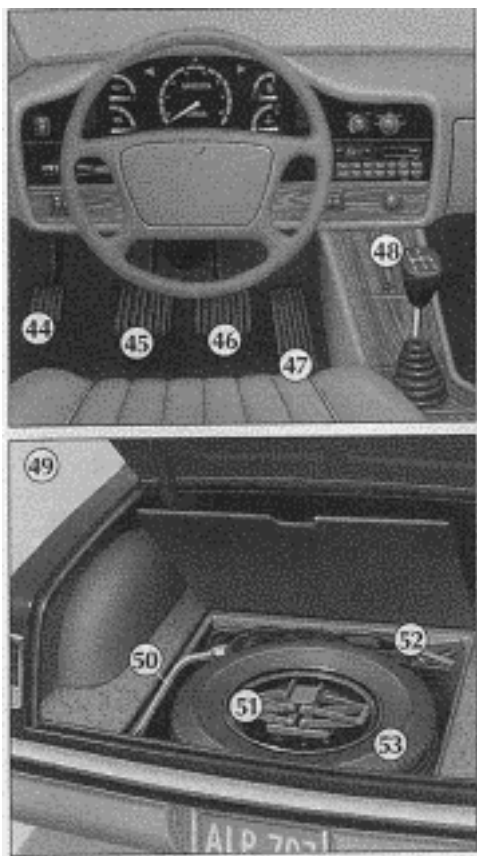
Task: З'ясуйте переклад всіх частин автівки, користуючись словником.

Parts of a Car and Car Maintenance

Part 2

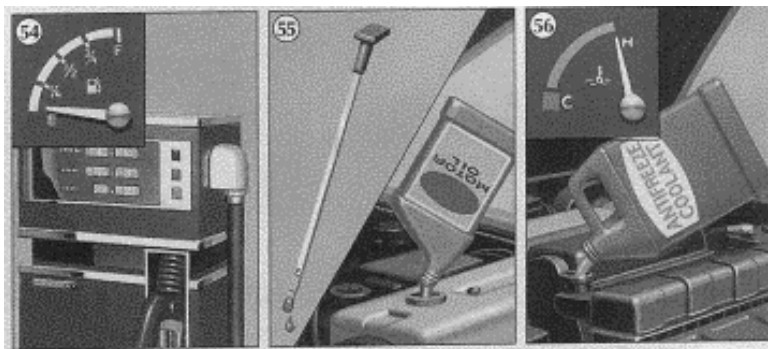


34. lock	39. child safety seat
35. front seat	40. fuel injection system
36. seat belt	41. engine
37. shoulder harness	42. radiator
38. backseat	43. battery



44. emergency brake	49. trunk
45. clutch	50. lug wrench
46. brake pedal	51. jack
47. accelerator / gas pedal	52. jumper cable
48. stick shift	53. spare tire

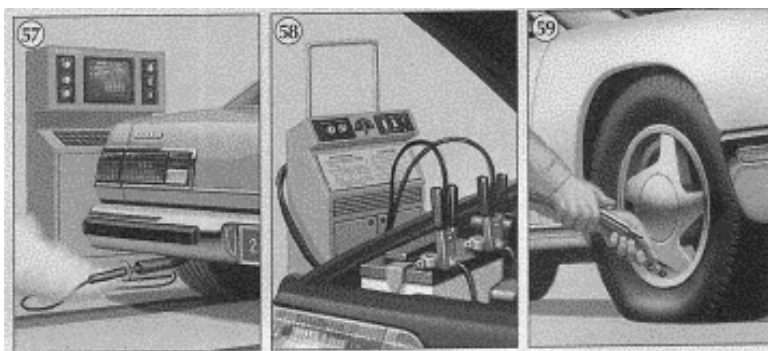
Task: Уявіть, що ви потрапили до автосервісу, поясніть які послуги вам потрібно надати, в супроводі міні-ситуації.



54. The car needs **gas**.

55. The car needs **oil**.

56. The radiator needs **coolant**.



57. The car needs a **smog check**.

58. The battery needs **recharging**.

59. The tires need **air**.

Note: Standard transmission cars have a clutch;
automatic transmission cars do not.

Part 3 Dialogues

AT THE GAS STATION НА БЕНЗОКОЛОНЦІ

Task: Прочитайте діалог, не дивлячись у переклад.

Спробуйте зрозуміти про що йдеться.

Attendant: What can I do for you?	-Що я можу зробити для вас?
Lev Shkolnik: Fill it up, please.	–Повний бак, будь ласка.
A: I guess your car takes unleaded gas.	-Здається, ваше авто потребує пальне без домішки свинцю.
L.S.: That's correct. (attendant finishes pumping the gas)	– Так це вірно. (Працівник бензоколонки закінчує заливати бензобак)
L.S.: How much gas did it take?	–Скільки бензину він вмістив?
A: Eight gallons.	-Вісім галлонів.
L.S.: Would you check the oil, please. (Attendant checks the oil)	–Чи не могли б ви перевірити масло. (Перевіряє масло)
A: It's below the full mark.	–Нижче потрібної відмітки.
L.S.: Please fill it up.	–Будь ласка, підлийте.

L.S.: Will you wash the windshield for me?	-Чи не могли б ви вимити вітрове скло для мене?
A: Okay. Should I check the tires too?	-Добре. Шини теж перевірити?
L.S.: Please ,do. (Attendant fills the tires with air)	-Так, будь ласка. (Працівник підкачує шини)
L.S.: How much do I owe you?	-Скільки я вам винен?
A: 11 dollars even.	-Рівно 11 долларів.
L.S.: (pays for service)One more thing. What's the best way for me to get to interstate highway 87?	-(Клієнт платить за послуги) І ще одне. Як легше потрапити на міжштатне шосе 87?
A: No problem, sir. (Explains the way to be taken)	-Це просто, сер. (Пояснює, як потрібно їхати)
L.S.: Thank you. Next week I'll come again for a tune-up. I need a major one.	-Дякую. Наступного тижня я знову приїду відрегулювати машину. Думаю, там чимало роботи.
A: Our mechanic will be more than happy to help you. If possible, try to make an appointment with our mechanic.	-Наш механік буде радий допомогти вам. Якщо можливо, спробуйте домовитись з нашим механіком щодо зустрічі.

L.S.: Of course, I'll try.	–Звісно, я спробую.
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Task: Складіть свій діалог на прикладі діалогу
“ AT THE GAS STATION “, використовуючи слова
дані нижче .

USEFUL WORDS

КОРИСНІ СЛОВА

steering wheel	кермо
wheel	колесо
engine	двигун
body	корпус
brake	гальма
front seat	переднє сидіння
back seat	заднє сидіння
flat tire	спущена шина
headlight	фара
(windshield)wiper	двірник
speed	швидкість
honk	гудок
pump	насос
bumper	бампер
shock absorber	амортизатор
fender	крило
muffler	глушник
tank	бак
trunk	багажник
traffic lights	світлофор
traffic sign	дорожній знак

Dialogue 2

ASKING FOR DIRECTIONS ЯК ЗАПИТАТИ ДОРОГУ

Task: Прочитайте діалог.

-Pardon me, sir. Could you tell me how to get to the bus terminal (post-office, city hall, library etc.)?	-Вибачте, сэр. Чи не могли б ви мені підказати, як потрапити на автобусную станцію (на пошту, в муніципалітет, в бібліотеку и т.д.)
-Turn left (right) at the corner.	-Поверните ліворуч (праворуч) на наступному розі.
-Thank you.	-Дякую.
-You are welcome.	-Прошу.

-I beg your pardon. Where's the nearest subway station (bus stop)?	-Вибачте. Де найблища станція метро (зупинка автобуса)?
-It's right down the street.	-В кінці вулиці.
-It's three blocks from here.	-Три квартали звідси.
-It's at the second corner	-Через квартал.
-It's at the next corner.	-На найближчому розі.

-What's the best way of getting to your place?	-Як найкраще до вас доїхати?
-Take the subway. Get off at Lincoln Center, turn right and walk two blocks.	-Їдьте на метро. Вийдіть на зупинці "Лінкольн-центр", зверніть праворуч і пройдіть два квартали.

-Good afternoon. I'd like to ask you how to get to Brooklyn College?	Доброго дня. Я б хотів запитати вас як я можу дістатися до Бруклін-коледжу?
-Where are you starting from?	Звідки ви їдете?
- At Jackson Heights.	-З Джексон-Хайтс.
-Roosevelt Avenue?	Тобто з Рузвельт авеню?
-That's correct.	Саме так.
-Take train number 7, get off at Times Square and transfer there to train number 2. Get off at the last stop.	Сідайте на потяг номер 7, їдете до Таймс-сквер, і пересідаєте на потяг номер 2. Виходите на останній зупинці.
-Is Brooklyn College within walking distance from there?	Звідти можна дістатися до Бруклін-коледжу пішки?
-Yes, it is.	Так
-Thank you.	Дякую.
-You are welcome.	Немає за що.

Task: Визначте дорогу до яких місць ви будете пояснювати вашому партнеру

Dialogue 3

BUYING A CAR

ПРИДБАННЯ АВТО

Task: Прочитайте діалог. Оберіть свою модель автівки і розрекламуйте її, на прикладі даного діалогу.

Customer: Good morning.	- Доброго ранку.
Dealer: Good morning, sir. May I help you?	- Доброго ранку. Вам підказати щось?
C: I want to buy a new car.	- Я хочу придбати нову машину.
D: Do you have anything special in mind?	Ви вже маєте щось певне на меті?
C: It shouldn't be either an expensive car or a big one.	Машина має бути не дорога і не велика.
D: I see. What about a Honda? It's a good and rather inexpensive car. One of these cars is to the right of you.	Зрозуміло. Як що до Хонди? Це хороше і досить не дороге авто. Одна з них зараз праворуч від вас.
C: How much is it?	Скільки вона коштує?
D: 6900 dollars.	6900 доларів.
C: I've got a large family. Therefore I'm looking for a mid-sized car.	В мене велика сім'я. Тому я шукаю авто середнього розміру.
D: If you are interested in a family car, the new Oldsmobile Delta 88 would be a good buy.	Якщо вас цікавить машина для всієї сім'ї, новий Oldsmobile Delta 88 буде гарним придбанням.
C: May I see it?	Чи можу я глянути на неї?
D: It's right this way. It's a very popular model. Let's take a look. Here we are. This car will get you an excellent gas	Сюди, будь ласка. Це дуже популярна модель. Давайте поглянемо. Ось ми й прийшли. На цьому авто ви

mileage. Do you like the color?	зекономите на пальному. Вам подобається колір?
C: Yes, dark blue is my favorite color. What special features does the car have?	Так, темно-синій мій улюблений колір. Які особливості має це авто?
D: It has air conditioning, vinyl seat covers, and a radio.	В неї є кондиціонер, вінілові покриття сидінь, радіо.
C: Is it economical to run?	Чи економно буде їздити на ній?
D: Absolutely. It uses lighter material in the body, and it has a new type of carburetor. Therefore your gas consumption will be cut down. Will you take a test drive to see how the car runs?	Звісно. Її корпус зроблено з легкого матеріалу і в неї карбюратор нового типу. Тому споживання пального буде знижено. Бажаєте сісти за кермо, щоб спробувати яка вона в дії?
C: Okay. (They get in, and the customer starts driving).	Так, хочу. (Вони сідають у авто, і покупець керує автомобілем)
Several minutes later.	Кількома хвилинами потому.
C: I like the car. It's comfortable. The steering and the brakes work well. What about a trade-in?	Мені подобається. Вона зручна. Рульове управління та гальма працюють добре. Як щодо обміну (старої машини на нову з доплатою.)
D: I can estimate your old car. If you wish, I can ask my assistant to drive it around the block. He could check out your car. He'll tell me what he thinks about a trade-in.	Я можу підрахувати вартість вашої старої машини. Якщо бажаєте, я можу попросити мого помічника поїздити на ній навколо кварталу. Він може її перевірити. Він скаже мені, що він думає про обмін.
C: All right. There are the keys. My car is only four years	Добре. Ось ключі. Моєму авто тільки 4 роки.

old. I've not been in a single accident. I've taken good care of the car.	Я жодного разу не потрапляв на ній у аварію. Я добре доглядав за нею.
D: Well, Let's go back to my office.	Гаразд, повернемось до офісу.
C: Let's see what kind of deal I can expect. My decision depends on the price and the trade-in. As soon as you can give me your ultimate price, I'll talk it over with my family. I definitely need a new car.	Давайте поглянемо на яку угоду я можу розраховувати. Моє рішення залежить від ціни та обміну. Як тільки ви назвете мені остаточну ціну, я обговорю її з моєю сім'єю. Мені точно необхідна нова машина.

Dialogue 4

Task: Розіграйте даний діалог.

A: Can you drive?	Ти вмієш водити авто?
B: Oh, yes.	Так.
A: How long have you been driving?	Як давно ти за кермом?
B: Since I was seventeen. About ten years.	З 17-ти років. Біля 10 років.
A: Have you got a car?	В тебе є авто?
B: Yes, I have. It's a Renault.	Так. В мене Рено.
A: How long have you had it?	Як давно вона в тебе?
B: About a year.	Десять років.
A: How much did you pay for it?	За скільки ти її купив?
B: Well, I got it second-hand, and I think I paid about six thousand dollars.	Я придбав його, як уживане авто і здається я заплатив біля 6000 доларів.

A: How many kilometers has it done?	Скільки кілометрів вона проїхала?
B: Ooph! I'm not sure.	Ой! Я не впевнений.
A: About how many?	Ну приблизно?
B: About forty thousand kilometers, I'd say.	Десь 40 тисяч, я б сказав.
A: Have you ever had an accident?	Чи колись потрапляв в аварію?
B: Not in this car, no, but I had one in the car I had before.	Ні, на цьому авто ні, але одного разу потрапив в аварію на попередній машині.
A: What happened?	Що трапилось?
B: Well, the roads were wet because it had been raining, and I skidded into another car.	Ну, дороги були мокрі, тому що дощило, і мене занесло на іншу машину.
A: Whose fault was it?	Хто був винний?
B: Oh, it was my fault. I was going too fast.	О, то була моя вина. Я їхав дуже швидко.

Dialogue 5

THE DRIVING TEST ІСПИТ НА ВОДІННЯ

B = Bob

J = Jill

Task: Прочитайте діалог, та пригадайте, як ви вперше здавали іспит на водіння. Складіть свій варіант діалогу.

B: Well? Did you?	Ну що здав?
J: No.	Ні.

B: Oh no! That`s the fourth time! What went wrong?	О, ні! Це 4-ий раз! Що було не так?
J: Everything. I didn`t do a thing right. In the lesson before, I did it perfectly. The instructor said if I drove like that in the test, I`d pass.	Все. Я нічого не зробила вірно. На попередньому занятті, я робила все ідеально. Інструктор сказав, якби я так водила на іспиті, то здала би.
B: So what happened?	Ну то що ж сталося?
J: Oh it`s the usual thing. I just get so nervous. And the examiner was horrible. He really put me off, right from the start.	О, певна річ. Я була дуже знервована. Екзаменатор був жахливий. Він дійсно мені не сподобався з самого початку.
B: How? What did he do?	Як це? Що він робив?
J: Well, he was so rude and sarcastic, so I was shaking like a leaf before we even started.	Ну, він був такий грубий і дошкульний, тому я тремтіла як листок, навіть перед тим як ми почали.
B: How was he sarcastic?	Яким чином він дошкульяв?
J: Just to show you how nervous I was, right, I forgot to take the handbrake off when we started...	Уяви собі, я був такий знервований, що забула відпустити ручні гальма перед тим, як рушити....
B: ... oh, no...о, ні....
J: Alright, I know. And we were going down the road, and he says “ Don`t you think it`s about time you took the handbrake off? We seem to be moving now, and I can smell it burning”.	Так, я розумію. Ми збиралися їхати вниз по дорозі, і він каже: « Чи не вважаєш ти, що саме час відпустити ручне гальмо? Здається ми маємо рушати зараз, а я відчуваю щось горить».
B: (laughs)	(сміються)
J: Well I didn`t think it was very funny.	Ну я не вважаю, що це було смішно.

B: Sorry.	Вибач.
B: Never mind. You`ll get it, of course you will.	Не зважай. Ти здаси, неодмінно.
J: I know, but what annoys me is that I know I can do all these things, really well, but not in the actual test.	Я знаю, але ось що мене дратує так це те, що я знаю що можу робити всі ці речі дійсно добре, але не на самому іспиті.

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