

MINISTRY OF EDUCATION OF THE REPUBLIC OF BELARUS  
Belarusian National Technical University

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English Language Department № 1

O. F. Korzun

## **ENGLISH FOR MILITARY STUDENTS**

Approved by the Educational and Methodical Association  
of educational institution in the field of construction  
and architecture as manual for students of specialty  
7-07-0732-01 “Construction of buildings and structures”

Minsk  
BNTU  
2023

УДК 811.111(075.8):355

ББК 81.2Англ.я7

К66

**R e v i e w e r s :**

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К66 English for military students : manual for students of specialty  
7-07-0732-01 “Construction of buildings and structures” / O. F. Korzun. –  
Minsk : BNTU, 2023. – 159 p.  
ISBN 978-985-583-908-9.

The manual includes 17 units presented by authentic textual material and a set of tasks for them.

The manual is based on the principle of professional and communicative orientation. The structure and content are determined by the target setting: the formation and development of skills and abilities in reading and translating military technical literature, as well as conducting a conversation on topics close to the students' future specialty.

This manual is intended for the work in the classroom and independent work of students at the Department of Military Engineering.

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**ISBN 978-985-583-908-9**

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## ВВЕДЕНИЕ

Настоящее пособие – составная часть учебно-методического комплекса, предназначенного для обучения студентов военно-технического факультета.

По своим учебным целям и содержанию пособие соответствует требованиям Программы по иностранным языкам для вузов неязыковых специальностей и предназначено для студентов первого курса.

В основу пособия положен принцип профессиональной направленности и коммуникативной ориентации. Цель пособия – формирование и развитие навыков и умений чтения и перевода военно-технической литературы по тематике, близкой к будущей специальности студентов, а также ведение беседы в рамках пройденной тематики.

Пособие включает 17 тематических разделов (Units) и рассчитано приблизительно на 100 часов аудиторных занятий.

Каждый раздел включает в себя пять учебных модулей: “Vocabulary study”, “Reading”, “Speaking”, “Supplementary reading”, “Army Humor”. В рамках модулей осваивается и закрепляется лексический материал, необходимый и достаточный для профессионально-обусловленного иноязычного общения.

Одной из существенных особенностей военно-технического текста является большое количество специальных терминов и сокращений. Для перевода подобных текстов необходимо освоить определенный запас терминов, встречающихся в данной области. Для того, чтобы облегчить довольно трудоемкий процесс перевода терминов по специальным словарям, каждый раздел начинается со списка терминов и неизвестных выражений (“Vocabulary study”), встречающихся в основном тексте модуля “Reading”. Слова располагаются в том же порядке, в котором они встречаются в тексте.

Модули “Vocabulary study” и “Reading” являются основными. Данные модули направлены на развитие лексических навыков и совершенствование навыков чтения и перевода военно-технических текстов, которые рассматриваются как учебные упражнения, так и информационные единицы. Послетекстовые упражнения (“Comprehension check-up”) предусматривают развитие умений оперировать усвоенными лексическими единицами, а также активизацию информации и формирование навыков монологического высказывания по заданной теме или проблеме.

Модуль “Speaking” предусматривает формирование навыков и умений осуществлять как монологическое, так и диалогическое высказывание в разных ситуациях на основе пройденного материала.

Модуль “Supplementary reading” включает в себя два дополнительных текста с различными заданиями к ним.

Модуль “Army Humour” завершает раздел и представляет собой шутку, которая позволяет ознакомить студента с оригинальным языковым материалом.

Дополнительные тексты и шутки служат для дальнейшего совершенствования умений чтения и перевода при минимальном использовании словаря.

Представленный в пособии наглядный материал способствует более эффективному усвоению учебного материала. Пособие может быть использовано для работы в аудитории и для самостоятельной работы студентов.

## UNIT 1

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### THE ARMED FORCES OF BELARUS. ВООРУЖЕННЫЕ СИЛЫ БЕЛАРУСИ

#### 1.1. Vocabulary study

##### *Active vocabulary*

ammunition	боеприпасы, снаряды, патроны, подрывные средства, боезапас
ammunition depot / establishment	артиллерийский склад
blank / dummy ammunition	холостые боеприпасы
live ammunition	боевые патроны
all-out attack	решительное наступление
bitter / savage / sharp / violent attack	жесткая атака
surprise attack	внезапная атака
rank	звание, чин, служебное / социальное положение
senior / high rank	старшее звание
junior / low rank	младшее звание
private /soldier	рядовой
foot soldier	пехотинец
professional soldier (syn: serviceman, regular)	кадровый военный
to distinguish	различить, разглядеть, рассмотреть
Commando	спецназ, диверсионно-десантные войска
Secret Service	служба разведки и контрразведки
intelligence	разведка
counterintelligence	контрразведка
Search and Rescue Service	спасательная служба
staff, headquarters	штаб
brigade	бригада
regiment	полк
company	рота

battalion	батальон
platoon	взвод
squad	отделение
squadron	эскадрилья
Commander-in-Chief (CinC)	главнокомандующий
Department of Defense (DOD)	министерство обороны
secretary of Defense (SECDEF)	министр обороны

### Expressions and Word Combinations

to issue ammunition	снабжать боеприпасами
to blunt attack	сдерживать натиск
to repel / break up / repulse an attack	отражать атаку
to hold the rank of captain	иметь звание капитана
to enlist	завербовываться
to serve	служить

**1. Read the following words and word combinations minding the stress and translate them. Consult the dictionary if necessary.**

To press an attack, to spearhead an attack, surface-to-air missile, intermediate-range missile, submarine chaser, foot soldier, junior rank, air-to-ground missile, live ammunition, full-scale attack, antimissile, ammunition establishment, short-range missile, armaments race, to blunt attack, conventional armaments, midget submarine, anti-aircraft, missile-mock attack, surprise attack.

**2. Match the words from column A with the words from column B to make appropriate word combinations. Use them in the sentences of your own.**

<i>A</i>	<i>B</i>
1. low	a. boots
2. foot	b. attack
3. ammunition	c. plane
4. frontal	d. rank
5. attack	e. missile
6. surface-to-surface	f. soldier
7. to issue	g. ammunition

**3. Match the words on the left with their definitions on the right.**

- |             |                                      |
|-------------|--------------------------------------|
| 1. ally     | a. land controlled by country        |
| 2. conflict | b. injure while fighting             |
| 3. troops   | c. to permit to go free              |
| 4. invade   | d. large groups of soldiers          |
| 5. wound    | e. friendly country                  |
| 6. release  | g. to enter another country by force |

**4. Translate the following phrases into English.**

1. Президент является главнокомандующим Вооруженных сил Республики Беларусь.
2. Высокий моральный дух – неотъемлемая часть наших военнослужащих.
3. Успех любой военной операции в большой степени зависит от дисциплины.
4. Курсанты учатся стрелять при помощи учебных патронов.
5. В нашем взводе 2 отделения.
6. Многие курсанты поступили в университет после прохождения очной службы в Вооруженных силах Республики Беларусь.

**1.2. Reading**

**1. Before reading the text answer the question below.**

What are your associations with the words ARMY, OFFICER, SOLDIER, WAR and PEACE? Fill in the table 1.1 below.

Table 1.1

Associations

	verbs	adjectives	nouns
army			
officer			
soldier			
war			
peace			

## *2. Read the text and be ready for comprehension check-up.*

### ***THE ARMED FORCES OF BELARUS***

The Armed Services exist to conduct operations on behalf of the Nation, if necessary by engaging in battle; and it is that function which distinguishes them from all others, for the consequences of winning or losing are profound, both to the Nation and to the individual. Military effectiveness is the standard by which the Army will be judged in peace and war, and it is defined in terms of fighting power. Within the fighting power, the emphasis is laid on the moral component, which is the ability to get people to fight.

The President is the commander-in-chief (CinC) of the Armed Forces of Belarus. At the top of the Armed Forces of Belarus is the Department of Defense headed by the Secretary of Defense. The Ministry of Defense consists of various departments.

The basic army unit is a squad. Three squads usually form a platoon. Platoons are grouped into companies or batteries. Platoons, companies and batteries are commanded by junior officers – lieutenants, senior lieutenants and captains. Next go battalions and regiments, commanded by senior officers – majors, lieutenant-colonels and colonels. Generals are usually in command of large units or formations which are divisions, army corps and field armies.

The Armed Forces of Belarus consist of the Land Force or the Army, the Air Force and the Air Defense Forces. Each armed service consists of various arms, services and special troops. The main services are the Medical service, the Finance service and Military Justice. The Army consists of such arms as Mechanized Infantry, Armor, Artillery, Air born, Air Defense and Rocket troops. The special troops may include engineer, signal, chemical troops, logistical units and others. In modern combat all arms act in cooperation with each other.

Success in combat conditions depends on good morale, which is linked to, and reinforced by, discipline. Morale is a composite of many factors, including confidence in equipment, good training and sound administration; in those with whom it is being done. Such confidence is itself primarily a product of leadership and comradeship.

High morale cannot be created overnight, but requires the forging in peace of close bonds of professional and personal trust which will with-



stand the stresses imposed by operational conditions. And it requires from soldiers the commitment and self-sacrifice, to put the interests of the team, the task, the unit and the Nation ahead of their own.

### **3. Comprehension check-up.**

#### **A. Decode and translate.**

Scty – mil – cbt – comb – CinC – DOD – SECDEF.

#### **B. Fill in the gaps with active words and word combinations.**

1. Morale ... confidence in equipment, good training and sound administration.
2. At the top of the Armed Forces of Belarus is ... .
3. The special troops may include ..., ..., ... troops, ... units and others.
4. The Armed Services ... to conduct operations on behalf of the Nation.
5. Captain is a ... grade officer.
6. ... is the grade between Major and Colonel.
7. The Armed Forces of Belarus consist of ... . . . .

#### **C. Give the best Russian or English equivalents.**

Военные историки полагают, что этот адмирал является непревзойденным стратегом за всю историю военно-морского флота.

The soldiers waited for the general to launch an attack.

Главкомандующий добивался, чтобы войска были готовы к выполнению задания.

The Secretary of Defense told the commanders that he wanted then to oversee the successful implementation of the standard values throughout the Army.

Было очень сложно убедить командира в технической невозможности начала этой операции.

Military tribunal found the officer guilty of state treason.

#### **D. Say it in English observing grammar rules.**

1. Эта операция может пройти без особых проблем?
2. Почему вы не служили в армии?
3. Какие виды вооруженных сил Беларуси вы знаете?
4. Можно ли выработать высокий моральный дух за один день?

5. Как называется самый младший по званию представитель старшего офицерского состава?

6. Какие вы знаете специальные командования вооруженных сил Беларуси?

**E. Answer the questions using the information from the text and any other additional information.**

1. What is the purpose of the Armed Forces?
2. What can be said about the role of the morale in the Army?
3. What is the structure of the Armed Forces of Belarus?
4. What is the basic army unit called?
5. What is meant by special troops?
6. What do the land operations require of a soldier?

### **1.3. Speaking**

Imagine you are an Army recruiter. You are talking to your friend who might join the Army but is worried about basic training. Tell him about the training you had.

*Some things to talk about:*

- physical training (great shape);
- career opportunity;
- service to country;
- marching drill;
- to stand at attention;
- to take care of;
- to appreciate your mother.

*Use the following discourse organizers:*

that is to say, to illustrate this, for example, let us consider, thus, on the other hand, for this reason, it follows as a result, moreover.

### **1.4. Supplementary reading**

***1. Read the text and be ready to express the main idea of each principle in one sentence.***

#### ***THE VALUES OF THE BELARUSIAN ARMY***

*Selfless Commitment.* Personal commitment is the foundation of military service. You must be prepared to serve whenever and wherever you

are required, and to do your best at all times. This means you must put the needs of the mission, and of your team ahead of your own interests.

*Courage.* Courage creates the strength on which fighting spirit depends. You must have the physical courage to carry on with your task regardless of danger and discomfort, and the moral courage always to do what you know is right.

*Discipline.* The Army must be a disciplined force if it is to be effective. You must therefore obey all lawful orders you are given. The best form of discipline, which the Army expects from you, is self-discipline. Only that will earn you the respect and trust of your comrades, and equip you to cope with the difficult, individual decisions you will have to make during your service. This applies whether on operations or not.

*Integrity.* Integrity involves honesty, sincerity, reliability and unselfishness. It is an essential requirement of both leadership and comradeship. Unless you maintain your integrity, others will not trust you and teamwork will suffer. Integrity sometimes requires you to show moral courage, because your decisions may not always be popular. But it will always earn you respect.

*Loyalty.* The Nation and the Army rely on your commitment and support. You must therefore be loyal to your commanders, your comrades and your duty. If you are not, you will be letting others down.

*Respect for Others.* As a soldier you have the exceptional responsibility of bearing arms, and when necessary of using this controlled lethal force. In addition, you will sometimes have to live and work under extremely difficult conditions. In such circumstances, it is particularly important that you show the greatest respect, tolerance and compassion for others because comradeship and leadership depend on it.

## ***2. Read the text and translate it in a written form.***

You should always remember that you are a soldier. You may be asked to deploy on operations which will be dangerous, to obey orders which could put your life at risk, and to live and work for long periods under extremely challenging conditions. Your comrades, your commanders and ultimately the Nation will depend on your courage, loyalty and commitment. They will rely on you to maintain the highest standards of professionalism and self-discipline at all times. In short they must trust you, and you have to trust them. This two-way obligation forms a covenant between the Army and its soldiers. Both shape a common bond

of identity, loyalty and responsibility for each other which is unwritten but unbreakable, and which has sustained us throughout our history. The values and standards of a soldier are vital for success of operations. The key is to build and maintain that trust which is so essential for the establishment of absolute confidence between members of a team, at whatever level. These values and standards all enable the Army to continue to serve the Nation in the future, as we have always done it.

### **1.5. Army Humour**

#### ***On Fire***

Two crows were watching a jet rushing by and disappearing, jet engines spurting flames from its exhausts.

“Look, how that bird is racing”, one crow said.

“No wonder. You would run like hell too, if your tail was on fire!”

## UNIT 2

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### US NATIONAL SECURITY ORGANIZATION. СИСТЕМА НАЦИОНАЛЬНОЙ БЕЗОПАСНОСТИ США

#### 2.1. Vocabulary study

##### *Active vocabulary*

National Security Organization	система национальной безопасности (обороны)
security (scty)	безопасность; боевое обеспечение; сохранение тайны; охранение
Armed forces	вооруженные силы
Regular components	регулярные части (подразделения)
Reserve	резервные части (подразделения)
Army	сухопутные войска (армия)
Navy	военно-морские силы
Air Force (USAF)	военно-воздушные силы
Marine Corps (USMC)	корпус морской пехоты
Coast Guard (USCG)	береговая охрана
Commander-in-Chief (CinC)	главнокомандующий; командующий (объединенного или специального командования)
National Security Act	закон о национальной обороне
Department of Defense (DOD)	министерство обороны
chain of command	командные инстанции; порядок подчинения
operational direction	оперативное руководство (контроль)
department	министерство; управление
Secretary of Defense (SECDEF)	министр обороны
National Security Council (NSC)	совет национальной обороны
Central Intelligence Agency (CIA)	центральное разведывательное управление (ЦРУ)

intelligence (Intel)	разведка; разведывательный
Joint Chiefs of Staff (JCS)	комитет начальников штабов (армии, ВВС и ВМС)
staff (Stf)	штаб; личный состав штаба
Chief of Staff	начальник штаба
Chief of Naval Operations (CNO)	начальник штаба ВМС
Commandant of the Marine Corps	командующий морской пехотой
warfare	война; боевые действия
combat	бой; боевой
command (comd)	командование; часть; команда; управление; приказание
unified command	объединенное командование
specified command	специальное командование
U.S. European Command	ВС США в Европе
U.S. Atlantic Command	ВС США в зоне Атлантического океана
U.S. Pacific Command	ВС США в зоне Тихого океана
U.S. Southern Command	ВС США в Центральной и Южной Африке
U.S. Alaskan Command	ВС США на Аляске
Continental Air Defense Command (CONAD)	Командование ПВО континентальной части США
U.S. Strike Command (STRICOM)	ударное командование ВС США
Strategic Air Command (SAC)	стратегическое авиационное командование

### *Expressions and Word Combinations*

to provide for unification	объединить
to exercise direction and control	осуществлять руководство и контроль
to be under command	находиться под командованием
to be responsible to	подчиняться

**1. Read the following words and word combinations minding the stress and translate them. Consult the dictionary if necessary.**

Regular components, reserve components, chain of command, department, Marine Corps, Coast Guard, operational direction, Secretary of Defense, Commandant of the Marine Corps, warfare, unified command, specified command, to exercise direction and control, to be under command, Southern Command, Strategic Air Command, Chief of Naval Operations, command, Continental Air Defense Command

**2. Match the words from column A with the words from column B to make appropriate word combinations. Use them in the sentences of your own.**

<i>A</i>	<i>B</i>
1. national	a. corps
2. marine	b. components
3. coast	c. guard
4. regular	d. security
5. air	e. force
6. security	f. council
7. operational	g. forces
8. armed	h. direction

**3. Match the words on the left with their definitions on the right.**

- |                    |   |
|--------------------|---|
| 1. command         | a. the collection of information of military or political value                       |
| 2. security        | b. the combined military. naval, air forces of a nation                               |
| 3. intelligence    | c. fighting between armed forces  |
| 4. Armed Forces    | d. an authoritative order   |
| 5. combat          | e. the state of being free from danger or threat                                      |
| 6. unified command | f. an armed force composed of two or more services operating under a single commander |

#### ***4. Translate the following phrases into English.***

1. В настоящее время боевые действия с привлечением одного рода войск не ведутся.
2. Командующий корпусом морской пехоты присутствует на заседании комитета начальников штабов, когда обсуждаются вопросы, непосредственно касающиеся данного подразделения.
3. В США не существует обязательная военная служба.
4. Штабы сухопутных и военно-воздушных сил США находятся в Вашингтоне.
5. Министру военно-воздушных сил помогает начальник штаба.
6. В случае чрезвычайной ситуации в стране войска Национальной гвардии призываются на службу в кратчайшие сроки.

## **2.2. Reading**

### ***1. Before reading the text answer the question below.***

What do you know about the US Armed Forces and officer training?

### ***2. Read the text and be ready for comprehension check-up.***

#### ***THE US NATIONAL SECURITY ORGANIZATION***

The Armed forces of the United States denote collectively all components, Regular and Reserve, of the US Army (USA), the Air Force (USAF), the Navy (USN), the Marine Corps (USMC) and the Coast Guard (USCG).

The national Security Act of 1947 provides for unification of the three armed services of the United States into the Department of Defense (DOD).

The President is the commander-in-chief (CinC) of the armed forces.

The chain of command for purposes other than the operational direction runs from the President to the Secretary of Defense (SECDEF) and then to the Secretaries of the military departments.

The President is assisted by the National Security Council (NSC), where major decisions relating to national security are formulated and recommended to the President. Under the direction of the Council is the Central Intelligence Agency (CIA) which coordinates the intelligence (intel) activities of the several Government departments and agencies.

The SECDEF, as a cabinet member, exercises direction and control (con) over the three departments of Army, Navy and Air Force.



The Joint Chiefs of Staff (JCS) are the principal military advisers to the President, the NSC, and the SECDEF. They constitute the immediate military staff (mil stf) of the SECDEF. The JCS consist of the Chairman, the Chiefs of Staff of the Army and of the Air Force, and the Chief of Naval Operations (CNO). In addition, when matters which directly concern the USMC are discussed, the Commandant of the Marine Corps attends the meetings of the JCS.

Warfare involving one arm or service only is ended. Future combat (cbt) will consist of coordinated and unified direction of cbt operations by the armed forces as a whole, or by selected elements of these forces such as unified (composed of two or more services) or specified (composed of single Service) commands (comd).

The unified and specified comds currently established are: U.S. European Comd, Atlantic Comd, Pacific Comd, Southern Comd, Alaskan Comd, Continental Air Defense Comd (CONAD), US Strike Command (STRICOM) and Strategic Air Comd (SAC).

The CinC of such a comd reports to the SECDEF through the JCS.

Forces assigned to a unified or specified comd are under the full operation command of a single commander who is also directly responsible to the Joint Chiefs.

### ***3. Comprehension check-up.***

#### **A. Decode and translate.**

US – SAC – CNO – CIA – STRICOM – comd – NSC – DOD – C in C –  
USCG – USMC – USAF – intel – Stf – CONAD – USA – scty – USN –  
SECDEF – con – mil – cbt.

#### **B. Fill in the gaps with active words and word combinations. Translate the sentences into Russian.**

1. The national Security Act ... of the three armed services of the United States and the Department of Defense.

2. The SECDEF, as a cabinet member, ... direction and control over the three departments of Army, Navy and Air Force.

3. Forces assigned to a unified or specified comd ... who is also directly responsible to the Joint Chiefs.

4. The Department of Defense comprises ... .

5. The SAC belongs to ... and is ... .

### **C. Give the best Russian or English equivalents.**

The Department of Defence comprises the Department of the Army, the Department of the Air Force and the Department of the Navy.

Комитет начальников штабов состоит из председателя, начальника штаба сухопутных войск, начальника штаба военно-воздушных сил и начальника штаба военно-морских сил.

The SECDEF is a member of the Cabinet and the NSC.

Центральное разведывательное управление координирует разведывательную деятельность многочисленных правительственных учреждений США.

The SAC belongs to the USAF and is under operational direction of the JCS.

Основными объединенными командованиями вооруженных сил США являются командования ВС США в Европе, в зоне Тихого океана и ударное командование.

### **D. Say it in English observing grammar rules.**

1. Какие виды вооруженных сил США вы знаете?
2. Кто является верховным главнокомандующим вооруженными силами США?
3. Какова структура системы национальной безопасности США?
4. Кто является министром обороны США?
5. Каков состав комитета начальников штабов?
6. Что представляет собой объединенное командование?
7. Какие вы знаете объединенные и специальные командования вооруженных сил США?
8. В состав какого вида вооруженных сил входит корпус морской пехоты?

### **E. Answer the questions using the information from the text and any other additional information.**

1. What are the components of the United States Armed Forces?
2. What elements is the National Security Organization composed of?
3. What agencies assist the President in matters concerning national security?
4. What are the functions performed by the CIA?
5. Whom do the Joint Chiefs of Staff consist of?
6. What is meant by unified and specified commands?

## 2.3. Speaking

Study the diagram (fig. 2.1). Discuss the topic “The United States National Security Organization” in groups of two or three.

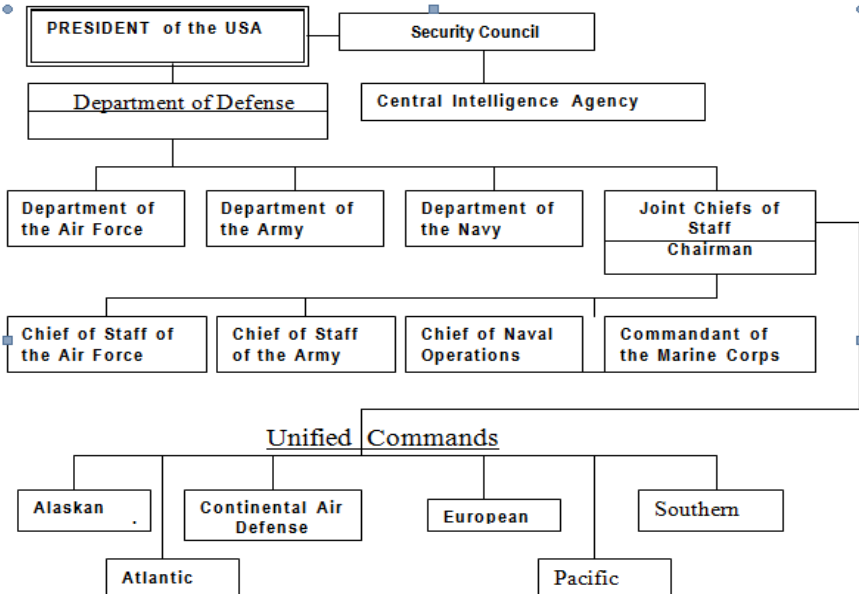


Fig. 2.1. The United States National Security Organization

## 2.4. Supplementary reading

*1. Read the text and find the information about areas of operation of the US Armed Forces.*

### ***LIFE IN THE ARMED FORCES***

In 1973, the United States ended the draft (conscription). Today, all its service personnel are volunteers. All U.S. armed forces operate within the North Atlantic Treaty Organization (NATO) alliance. However, in the 1990's, with the improvement in East-West relations, the United States foreign policy and military emphasis has begun to concentrate on the Pacific and Middle East regions.

The U.S. Navy operates fleets in all the major oceans of the world. The 2nd Fleet is based in the Atlantic, the 3rd in the Pacific, the 6th in the Mediterranean, and the 7th in the western Pacific. It has huge naval bases on both the west and east coasts of the United States, as well as others in Hawaii, Japan, and the Philippines.

Traditionally, the Marine Corps regards the Pacific as its main theatre of operation. However, marines have landed in other parts of the world, such as the Persian Gulf in 1990.

Of the four services, the U.S. Army was most affected in the early 1990's by the improvement in relations, between the United States and the Soviet Union. In 1989, there were more than 200,000 U.S. Army troops based in what was then West Germany. After German reunification in October 1990, it was planned to considerably reduce this force. Numerous smaller U.S. bases throughout the rest of Western Europe were reduced in size. But since 2020's many USA bases have been dislocated in Europe again. Perhaps, they will be closed if the situation in Europe remains stable.

The U.S. Air Force maintains bases throughout the world, and was therefore less affected by the rapid changes in European politics in the early 2000's. The Strategic Air Command is responsible for the Minuteman and Peacekeeper intercontinental ballistic missile (ICBM) launch sites, located in various parts of the United States.

***2. Read the text and be ready to express its main idea. The questions that follow below may help you.***

### ***CONTROL OF THE USA ARMED SERVICES***

The commander-in-chief of the US armed services is the president. Day-to-day control is delegated to the secretary of defense, who is answerable not only to the president but also to the United States Congress. The president appoints a civilian minister as secretary, or head, of each of the four services.

The Navy Department, located in Washington, D.C., is the central executive authority of the Navy. It contains the offices of the secretary of the Navy, together with those of the chief of naval operations, the commandant of the Marine Corps, and their respective staffs.

Army and Air Force headquarters are also in Washington. At Army headquarters are the civilian secretary, and the military chief of staff who acts as his principal adviser. An Army secretariat and staff form a series of subordinate agencies which provide the secretary with specialist advice through the chief of staff.

At the Department of the Air Force, the Air Force secretary is assisted by the chief of staff. They are supported by the Air Staff. Members of this body include the chief scientist, comptroller, inspector general, judge advocate general, surgeon general, chief chaplain, and a scientific advisory board.

*Questions:*

1. Whom is day-to-day control of the US Armed Services delegated to?
2. What is the central executive authority of the Navy?
3. What is the composition and functions of Army and Air Force headquarters?

## **2.5. Army Humour**

### *Americans About Themselves*

A private, suffering from shock and panic started running towards the rear while a battle was under way. After a time he was stopped by an officer who asked him:

“Don’t you know there is a big battle going on up front?”

The young man said he did.

“Then what are you doing here?”

The private didn't answer.

“Speak up, man” cried the officer. ”Don't you know who I am?”

“No, sir” muttered the soldier.

“I'm your general”, said the officer.

“Good God” cried the soldier, “Am I that far back?”

## UNIT 3

---

### ARMY. СУХОПУТНЫЕ ВОЙСКА

#### 3.1. Vocabulary study

##### *Active vocabulary*

National Guard (NG)	национальная гвардия
officer (Off)	офицер
enlisted men (EM)	рядовой и сержантский состав
active military duty (service)	действительная служба
troops (Trps)	войска
noncommissioned officer(NCO)	военнослужащий сержантского состава
support (Spt)	поддержка; обеспечение всех видов
supply (Sup)	снабжение
personnel (pers)	личный состав; живая сила
branch	род войск; служба
government issue (GI)	казенный;
uniform	форма одежды; обмундирование
infantry (Inf)	пехота
Armor	бронетанковые войска
Artillery (Arty)	артиллерия
Corps of Engineers (CE)	инженерные войска
Signal Corps (Sig C)	войска связи
Ordnance Corps (Odr Corps)	артиллерийско-техническая служба
Transportation Corps (TC)	транспортные войска
Military Police Corps (MPC)	военная полиция
Women's Army Corps (WAC)	корпус женской вспомогательной службы СВ
Army Medical Service (AMEDS)	медицинская служба СВ
Army Aviation	армейская авиация
mission (mns)	задача; боевая задача

arm	род войск; оружие
service (svc)	служба; обслуживание; обеспечение
Continental Army Command (CONARC)	континентальное командо- вание сухопутных войск
to recruit	вербовать; комплектовать
to induct	призывать; зачислять на службу
to equip	снаряжать; вооружать; оснащать
to train	обучать; проходить подго- товку
combat readiness	боевая готовность
unit	подразделение; часть; соединение
soldier	солдат
specialist	специалист (категория сер- жантского состава)
warrant officer (WO)	юрент-офицер
to commission	присваивать первичное офицерское звание; вводить в бой
identification card	удостоверение личности
identification tag	личный знак
continental US	континентальная часть США

### *Expressions and Word Combinations*

overall administration	общее руководство
branch insignia	знаки различия рода войск
overseas command	войска (командование), дислоцированные за пре- делами метрополии
in an emergency	при чрезвычайных обстоя- тельствах
to call to active duty (service)	призывать на действитель- ную службу

**1. Read the following words and word combinations minding the stress and translate them. Consult the dictionary if necessary.**

In an emergency, overall administration, active military service, enlisted men, Ordnance Corps, supply, Continental U.S., warrant officer, Army Air Defense Command, Women's Army Corps, Transportation Corps, government issue, Continental Army Command, Army Medical Service, Army Aviation, to commission, identification tag, noncommissioned officers, overseas command, branch insignia, to recruit, to induct, service.

**2. Match the words from column A with the words from column B to make appropriate word combinations. Use them in the sentences of your own.**

<i>A</i>	<i>B</i>
1. overall	a. issue
2. identification	b. Army
3. overseas	c. duty
4. government	d. man
5. continental	e. command
6. military	f. administration
7. branch	g. tag
8. enlisted	h. insignia

**3. Match the words on the left with their definitions on the right.**

- |                       |  |
|-----------------------|--|
| 1. uniform            | a. the distinctive clothing worn by members of the same organization                               |
| 2. branch             | b. a military unit typically composed of 2 or 3 squads or sections                                 |
| 3. platoon            | c. the subdivision of the National Armed Forces of a state   |
| 4. enlisted man       | d. defensive covering for the body used in combat  |
| 5. identification tag | e. a member of the Armed Forces below the rank of officer  |
| 6. armor              | f. a metal tag worn around the neck by a serviceman, stamped with his name, serial number and etc. |



#### ***4. Translate the following phrases into English.***

1. Удостоверение личности является основным документом военнослужащего.
2. Подразделения, чьей задачей является бой и боевая поддержка, называются родом войск.
3. Медицинская служба является неотъемлемой частью сухопутных войск США.
4. Все курсанты носят знаки различия рода войск на их военной форме.
5. Бронетанковые войска оказывают поддержку сухопутным войскам во время боевых операций.
6. Генерал-лейтенант командует корпусом морской пехоты в Великобритании.

### **3.2. Reading**

#### ***1. Before reading the text answer the question below.***

Think over the term “Army”. Can you show the difference between the Army and the Armed Forces?

#### ***2. Read the text and be ready for comprehension check-up.***

### ***THE US ARMY***

The Army of the US consists of three components: the Regular Army, the National Guard of the United States, and the Army Reserve.

Members of the Regular Army, both officers (off) and enlisted men (EM), are on active, full-time mil duty. The Regular Army is the permanent, professional force.

The NG is composed of State troops formed and commanded by state officials. However, in time of war or other national emergency when the situation dictates, it is called into active federal mil service.

The Army Reserve consists chiefly of officers and noncommissioned officers (NCO) who are civilians and may be called into active service only in an emergency.

The Department of the Army (DA) headed by the Secretary of the Army (SA), a civilian, is an organizational component of the DOD. The Chief of Staff of the Army is the highest mil assistant or adviser to the

SA. His responsibility includes overall administration, training, and supply (sup) of the Army.

Personnel (pers) of the Army are appointed into a basic or special branch, wear the insignia of branch as a component of their government issue uniform. The basic branches of the Army are represented by Infantry (inf), Armor, Artillery (art), Corps of Engineers (CE), Signal corps (Sig C), Ordnance Corps (Ord Corps), Transportation Corps (TC), Military Police Corps (MPC), Women's Army Corps (WAC). The Army Medical Service (AMEDS) belongs to the special branches. Army Aviation is not an official branch. However, it functions in a manner similar to a branch.

Branches, whose primary mission (msn) is combat and combat support (spt) are referred to as "arms" (Infantry, Armor, Artillery). The CE, the Sig C and the Chemical Corps (Cml C) are known as both arms and technical services. Branches primarily concerned with providing service spt, sup, and administration to the Army are listed as services.

The Regular Army is divided into the Continental Army Command (CONARC), the Army Air Defense Command (AADC), and the overseas commands. The Army overseas commands are for the most part a component of unified commands which operate under the SECDEF and the JCS. These are U.S. Army, Alaska U.S. Army, Europe U.S. Army, Pacific U.S. Army Forces, Southern Command.

The CONARC is responsible for recruiting, inducting, equipping, and training the enlisted pers of the Army, and for organizing, training, equipping and insuring cbt readiness of assigned troops units.

The AADC is the Army component of CONAD.

The pers of the U.S. Army is classified into three main categories: the EM (soldiers, specialists, and NCO's), the warrant officers (WO), and the commissioned officers.

Service pers are issued identification cards as the main document to identify a serviceman, and identification tags to be worn by each member of the Army in the field, when travelling by air, or when outside the continental U.S.

### ***3. Comprehension check-up.***

#### **A. Decode and translate.**

NG – CinC – NSC – CIA – JCS – Off – EM – NCO – Spt – GI – Arty – inf – TC – CE – SigC – Ord Corps – MPC – WAC – AMEDS – CONAD – CONARC – WO – STRICOM – USAF – Sup – pers – SECDEF.

### **B. Give the best Russian or English equivalents.**

Soldier; Corps of Engineers; пехота; артиллерия; enlisted men; non-commissioned officers; национальная гвардия; branch; действительная служба; войска; government issue; личный состав; support; supply; бронетанковые войска; uniform; Signal Corps; Ordnance Corps; боевая задача; род войск; Army Aviation; specialist; warrant officer; удостоверение личности; при чрезвычайных обстоятельствах; overseas command; to call to active service; общее руководство.

### **C. Complete the following sentences using active words and word combinations. Translate them into Russian.**

1. The U.S. Army is ... of the U.S. Armed forces.
2. The Chief of Staff of the Army is responsible for ... of the Army.
3. ... the members of the National Guard and the Army Reserve may be called into active military service.
4. ... are Infantry, Armor, Artillery, Corps of Engineers, Signal Corps and Chemical Corps.
5. The basic functions of the Armed services are: ... .
6. The Army is responsible for ... for combat operations on land.
7. The Navy and the Marine Corps are responsible for preparing forces for ... .
8. ... is responsible for preparing forces for combat operations in the air.

### **D. Say it in English observing grammar rules.**

1. Какую роль играют сухопутные войска в вооруженных силах США?
2. Каковы основные рода войск и службы, входящие в состав регулярной армии?
3. Чем отличается род войск от технической службы?
4. В составе каких объединенных командований, находящихся вне метрополии, имеются части и соединения сухопутных войск?
5. Чем занимается континентальное командование сухопутных войск?
6. Является ли начальник штаба армии членом комитета начальников штабов?
7. Каковы три основные категории личного состава регулярной армии?

8. Кто в настоящее время является начальником штаба сухопутных войск США?

**E. Answer the questions using the information from the text and any other additional information.**

1. What are the three components of the United States Army?
2. Does the National Guard belong to State troops or to federal professional force?
3. When may the members of the Army Reserve be called into active service?
4. What are the responsibilities of the Chief of Staff of the Army?
5. What are the basic and special branches of the Army?
6. What are the major commands of the Regular Army?
7. How is the personnel of the U.S. Army classified?
8. What personal documents are the service personnel issued?

### 3.3. Speaking

Speak on the suggested topic using the following words and word combinations. Topic: "Organization by Branch".

to wear the insignia	TC
a component of government issue uniform	to belong
basic	MPC
inf	WAC
art	mission
CE	combat support
sig C	administration
Ord Corps	to provide

### 3.4. Supplementary reading

*1. Read the text and translate it in a written form.*

#### ***PRESENT ROLE OF THE JCS***

As presently constituted the Joint Chiefs of Staff comprise the Chairman, the Chief of Staff of the Army, the Chief of Naval Operations and the Chief of the Air Force. The Commandant of the Marine Corps

sits with Joint Chiefs, with coequal status, whenever matters directly concerning the Marine Corps are being considered.

The Joint Chiefs of Staff as a body are the principal military advisers to the President, the National Security Council, and the Secretary of Defense. The chief duties of the JCS continue to lie almost exclusively in the field of strategic planning and supervision of the implementation of such plans. Following approval of a strategic plan, or modification, by the Secretary of Defense, acting for the President; the Joint Chiefs of Staff issue broad directives to the Appropriate commanders of the unified or specified combatant forces.

***2. Read the text and be ready to discuss with your partner the missions of the Continental Army Command.***

### ***CONTINENTAL ARMY COMMAND***

There are many missions of the U.S. Continental Army Command. But its prime purpose is to provide organized landpower, units of men and materiel from the active and reserve components, that can carry out the military policies and plans of the government.

The U.S. Continental Army Command includes its headquarters at Fort Monroe, Virginia, the six armies of the continental United States and the Military District of Washington. Its commanding general has very broad responsibilities. He is charged with training, inspections and army schools.

The continental United States Command is divided into six geographical regions, and to each such area is assigned a numbered army. Boundaries of army areas follow state boundary lines. The commanding generals of each of the army areas command all units, posts, camps, and stations of the Army within their respective areas. They have responsibilities as to the Army National Guard and the Army Reserve. They are responsible for the state of readiness and training of troops under their command.

### **3.5. Army Humour**

#### ***Americans About Themselves***

If you think old soldiers just fade away, try getting into your old service uniform.

## UNIT 4

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### INFANTRY. ПЕХОТА

#### 4.1. Vocabulary study

##### *Active vocabulary*

characteristics	характеристика; данные (тактико-технические)
duty	обязанности; служба; дежурство; наряд
to deploy	развертывать
airborne (abn)	воздушно-десантный; перевозимый по воздуху
corps (C)	корпус
direct support	непосредственная поддержка
general support	общая поддержка
to reinforce	усиливать
to destroy	уничтожать
maneuver	маневр
shock effect	ударное действие (воздействие)
terrain	местность
organic means	штатные средства
to attach	придавать; прикреплять
motorized	моторизованный
mechanized	механизированный
close combat	ближний бой
mobility	подвижность; маневренность
unit	подразделение; часть
infantry combat vehicle	боевая машина пехоты
means of transportation	транспортные средства
fire power	огневая мощь
attack (Atk)	наступление; атака; удар
formation (fmn)	соединение; строй; боевой порядок
routes of approach	пути подхода

folds of the ground	складки местности
to overcome	преодолеть
position (pos)	позиция; рубеж; место расположения
to infiltrate	просачиваться

### *Expressions and Word Combinations*

on short notice	по первому требованию
to be on overseas duty	проходить службу за пре- делами метрополии
to furnish support	оказывать поддержку
to close with the enemy	сблизиться с противником
to fight on foot	вести боевые действия в пешем строю
to fight from combat vehicles	вести боевые действия на боевых машинах
to be on a state of alert	находиться в состоянии боевой готовности

**1. Read the following words and word combinations minding the stress and translate them. Consult the dictionary if necessary.**

To be responsible for, to be on overseas duty, a corps, size formation, to be on a high state of alert, within a few hours of the executive order, shock effect, to seize, hold or control ground, in adverse weather, routes of approach, folds of the ground.

**2. Match the words from column A with the words from column B to make appropriate word combinations. Use them in the sentences of your own.**

<i>A</i>	<i>B</i>
1. shock	a. a state of alert
2. organic	b. effect
3. combat	c. on foot
4. fire	d. support
5. to be on	e. overseas duty
6. to furnish	f. power
7. to fight	g. means
8. to be on	h. vehicle

**3. Match the words on the left with their definitions on the right.**

- |                    |   |
|--------------------|---|
| 1. duty            | a. the development or creation of a company, organization, etc.                                   |
| 2. corps           | b. to take aggressive military action against a place or enemy forces with weapons or armed force |
| 3. attack          | c. a subdivision of the National Armed Forces of a state  |
| 4. infantry        | d. a main subdivision of an army in the field, consisting of two or more divisions                |
| 5. warrant officer | e. a member of the Armed Forces ranking next above a noncommissioned officer                      |
| 6. formation       | f. a task or action that one is required to perform as part of one's job                          |

**4. Translate the following phrases into English.**

1. Важная характеристика пехотных подразделений – ведение боевых действий при любых погодных условиях.
2. В пехотном батальоне разведывательный взвод оснащен двумя автомобилями, на которых установлены безоткатные орудия.
3. Основным вооружением нашего взвода являются миномет и 106-мм безоткатное орудие.
4. Штаб батальона оказывает помощь командиру в управлении подразделениями в бою.
5. Мотопехотная рота считается основным боевым подразделением батальона.
6. Нашему подразделению была оказана непосредственная поддержка дружественными войсками.

## **4.2. Reading**

**1. Before reading the text answer the questions below.**

1. Can infantry fight independently? Does it need any support of other arms?
2. Has the role of infantry on the battlefield changed with the development of modern weapons?



## ***2. Read the text and be ready for comprehension check-up.***

### ***CHARACTERISTICS OF INFANTRY***

In general the Army is responsible for preparing “land forces necessary for the effective prosecution of war”.

The capability of today's Army is measured by the fact that the American soldier serves in some 90 countries of the world. Roughly 40 per cent of the Army's troops is on overseas duty. These deployed forces are backed by strat reserves in the Continental United States consisting of two corps of four divisions each. Any part of this Strategic force can move on short notice to any trouble spot in the world.

The primary quick reacting strategic force remains the XVIII Airborne Corps with its two airborne inf divisions and the support elements designed to furnish both direct and general support to a corps-size formation.

Normally each airborne div maintains a reinforced inf battalion on a high state of alert ready to load on aircraft at any time and to be launched within a few hours of the execution order.

Infantry is the basic branch of the US Army trained, equipped and organized to fight on foot in close cbt. Motorized inf units are provided with organic means of transportation. Mechanized infantry units are transported by, and fight from, armed and armoured cbt vehicles.

The basic Inf function both in attack (atk) and in defense is to close with and destroy the en by fire, maneuver and shock effect. The essential characteristics of Inf cbt elements are: the ability to fight on foot in all types of terrain and under all conditions of weather, and the ability to move and fight with any means of mobility provided, either organic or attached. Inf seizes, holds or controls ground by physical occupation or by use of firepower. Inf can maneuver in adverse weather and over terrain impassable to Armor. The ability of Inf to move in small, inconspicuous formations in all types of terrain enables it to take advantage of covered routes of approach and folds in the ground, to overcome strong positions or to infiltrate the en.

## ***3. Comprehension check-up.***

### **A. Decode and translate.**

Mil – Bn – Def – JCS – Fmn – CIA – pos – C – NSC – Atk – con – abn –  
Inf – GI – Arty – CE – Div – Cbt – NCO – en – strat – acft – msn –  
AADC – SAC – STRICOM – CNO – mil – scty.

**B. Give the best Russian or English equivalents.**

Terrain; organic; маневр; батальон; division; mechanized; airborne; корпус; characteristics; процент; to attach; to reinforce; уничтожать; general support; to deploy; ударное действие; просачиваться; to fight on foot; to close with the enemy; пути подхода; means; оборона; attack.

**C. Complete the following sentences using active words and word combinations. Translate them into Russian.**

1. Infantry is an arm of ... combat.
2. Infantry units are trained, equipped and organized to fight ... .
3. The basic Infantry function is to ..., maneuver and shock effect.
4. The United States Army consists of the ... .
5. The basic branches of the Army are Infantry, Armor, Artillery, Corps ..., ... Corps.
6. The Department of Defense includes ..., the Department of the Navy, the Department of the Air Force and the Joint Chiefs of Staff.
7. Motorized inf units ... organic means of transportation.

**D. Say it in English observing grammar rules.**

1. Имеют ли США военные базы (war bases) вне метрополии?
2. В каких странах находятся американские войска?
3. Что составляет стратегический резерв сухопутных войск США?
4. Способна ли пехота вести боевые действия в пешем строю?
5. Является ли пехота видом вооруженных сил?
6. Какая разница между моторизованной частью и механизированной частью?

**E. Answer the questions using the information from the text and any other additional information.**

1. What aggressive actions of the US Army are known to you?
2. Where are the US Army's troops deployed?
3. What per cent of American soldiers is on overseas duty?
4. What was the strategic reserve organized for?
5. What is the function of Infantry?
6. What are the main characteristics of Infantry?

### 4.3. Speaking

Speak on the topic “The Missions of Infantry” using the following words and word combinations:

the arm of close combat  
the main mission  
to close with  
in defense  
to hold its positions

to repulse the enemy attacks  
to fight the enemy  
to use its own weapons  
to be supported by  
as a rule

### 4.4. Supplementary reading

*1. Read the following dialogue and discuss with your groupmates the information concerning the weapons of Infantry.*

#### ***INFANTRY, ITS MISSIONS AND WEAPONS***

*A:* Hello, Sergeant! Why haven't you been at the lecture on the US Infantry?

*S:* I've been on guard duty. Was the lecture interesting?

*A:* Very. Colonel Ivanov spoke about infantry and its weapons. Do you know that infantry is the arm of close combat?

*S:* Yes, I do. And what did he say about its missions?

*A:* The colonel said that its main mission in offensive was to close with the enemy and destroy or capture him. Its main mission in defense, he said, was to hold its positions and to repulse the enemy attacks.

He also said that infantry could fight the enemy using its own weapons. As a rule, it is supported by other arms.

*S:* That's right! And does the US Infantry combine fire and maneuver in action?

*A:* Yes, he told us about it after he had spoken about the missions carried out by infantry. You know, of course, that infantry is, such an arm which can move across any broken country in any weather by day and by night.

*S:* And what about infantry weapons?

*A:* The colonel spoke much about them. First of all he asked us if we had already studied small arms and other weapons of our infantry. Then

he said that the US Infantry was armed with small arms, grenade launchers, hand grenades, recoilless rifles, wire-guided and infrared homing missiles and mortars.

S: What small arms do you know?

A: Small arms of the US Army include pistols, revolvers, rifles, sub-machine guns and machine guns.

As for recoilless rifles there are two types which are used by the US Infantry. They are 106 mm and 99 mm recoilless rifles. The 106 mm recoilless rifle is usually mounted on a jeep that's why it is SP.

After the lecture was over, I asked Colonel Ivanov what missiles were used by the US Infantry for AT and AA protection.

Colonel Ivanov answered that wire-guided missiles were used for AT protection. An infrared homing missile called Redeye is used for AA protection. The colonel also said that new AT wire-guided missiles were adopted regularly in the US Infantry.

S: I see. I am sorry, I was on guard duty and could not be present at the lecture.

***2. Read the text and point out the difference between commissioned and noncommissioned officers.***

### ***GRADE AND RANK***

Each soldier in a military organization holds a place according to his ability and experience. As a trainee, he is a recruit, which is the lowest grade. Later, he may be promoted to higher grades (private, private first class) until he becomes a leader along the chain of command.

Leaders are grouped into two general classes, commissioned and non-commissioned. Second lieutenants and higher grades are appointed by the President, and receive formal commissions authorizing them to serve as officers of the Army. The commissioned grades are: second lieutenant, first lieutenant, captain, major, lieutenant colonel, colonel, brigadier general, major general, lieutenant general, general, and General of the Army. Second lieutenants, first lieutenants, and captains are referred to as company grade officers; majors, lieutenant colonels, and colonels, as field officers; and all grades of generals are warrant officers. Ranking next below commissioned officers are warrant officers. They are normally

selected from noncommissioned officers. Usually they hold positions as technical or administrative supervisors.

Noncommissioned officers are enlisted men appointed by their unit commanders. The Army noncommissioned officer grades: corporal, sergeant, sergeant first class, and master sergeant. Noncommissioned officers are placed in charge of other enlisted personnel.

#### **4.5. Army Humour**

##### *Americans About Themselves*

Trying to rest after a hard day, poor Captain Grank was being peppered with questions by his small son:

"What did you do for the Army today, Daddy?"

"Nothing" shouted the exhausted captain.

"Oh? How did you know when you finished?"

## UNIT 5

### REORGANIZED OBJECTIVE ARMY DIVISION (ROAD). РЕОРГАНИЗОВАННАЯ ОБЩЕВОЙСКОВАЯ ДИВИЗИЯ ЕДИНОЙ СТРУКТУРЫ

#### 5.1. Vocabulary study

##### *Active vocabulary*

reorganized objective army division (ROAD)	реорганизованная общевойсковая дивизия единой структуры
infantry division (Inf div)	пехотная дивизия
armoured division (Armd Div)	бронетанковая дивизия
mechanized division	механизированная дивизия
airborne division (Abn Div)	воздушно-десантная дивизия
air assault (air-mobile) division	аэромобильная дивизия
tables of organization and equipment (TOE)	организационно-штатное расписание и таблицы имущества
division base	штабы и дивизионные части; подразделения (дивизионная основа)
combat maneuver battalion	линейный батальон; боевой батальон
mission (Msn)	боевая задача
self-sufficient	самостоятельный
headquarters (HQ)	штаб; штабной
headquarters company (HQCo)	штабная рота
brigade (Bde)	бригада
company (Co)	рота
command and control elements	органы управления
combat support units	части и подразделения обеспечения боевых действий войск
cavalry squadron (Cav Sq)	разведывательный батальон

aviation battalion (Avn Bn)	батальон армейской авиации
signal battalion (Sig Bn)	батальон связи
engineer battalion (Engr Bn)	саперный (инженерный) батальон
military police company (MPCo)	рота военной полиции
support command (SUPCOM)	командование тыла
administrative support	тыловое обеспечение
logistical support	материально-техническое обеспечение
maintenance battalion (Maint Bn)	ремонтный батальон
supply and transportation battalion (Sup Trans Bn)	батальон снабжения и транспортный
medical battalion (Med Bn)	медицинский батальон
rifle company (rfl Co)	пехотная рота
tank (tk)	танк
composite	смешанный
battery (btry)	батарея
Field Artillery (FA)	полевая артиллерия
artillery howitzer battalion (Arty How Bn)	артиллерийский гаубичный дивизион
missile battalion (Msl Bn)	ракетный батальон
strength	численность, численный состав; сила, мощь
inch (in)	дюйм

### *Expressions and Word Combinations*

to make up (to be made up of)	составлять (иметь в составе)
to be designed for	предназначаться

***1. Read the following words and word combinations minding the stress and translate them. Consult the dictionary if necessary.***

Air assault division, combat maneuver battalion, mission, to provide administrative and logistical support, supply and transportation battalion, self-sufficient, to be made up of, aviation battalion, to be designed for, according to, to be equipped with.

**2. Match the words from column A with the words from column B to make appropriate word combinations. Use them in the sentences of your own.**

<i>A</i>	<i>B</i>
1. reorganized	a. command
2. infantry	b. company
3. air	c. objective army
4. combat maneuver	d. Artillery
5. headquarters	e. support
6. cavalry	f. division
7. support	g. squadron
8. logistical	h. battalion
9. Field	i. assault

**3. Match the words on the left with their definitions on the right.**

- |                              |  |
|------------------------------|--|
| 1. engineer combat battalion | a. a physical attack   |
| 2. tank                      | b. a designation for a battalion-strength combat engineering unit in the U.S. Army, most prevalent during World War II |
| 3. assault                   | c. a heavy armoured fighting vehicle carrying guns and moving on a continuous articulated metal track                  |
| 4. medical brigade           | d. the premises occupied by a military commander and the commander's staff   |
| 5. logistical support        | e. a unit providing command and control for assigned or attached medical units at Corps level                          |
| 6. headquarters              | f. assistance between and within military commands.  |

**4. Translate the following phrases into English.**

1. Существует четыре типа боевых линейных батальонов.
2. Командование тыла дислоцируется в штабе.
3. В каком полку вы служили?



4. Разведывательный батальон предназначен для выполнения различных задач по наземной и воздушной разведке.

5. В состав боевых частей дивизионной основы входят разведывательный батальон, зенитный дивизион и дивизионная артиллерия.

6. Весь личный состав мотопехотного батальона перевозится на бронетранспортерах.

## 5.2. Reading

### *1. Before reading the text answer the questions below.*

1. Have you ever heard of the ROAD?
2. Is it a new structural element of the Army?

### *2. Read the text and be ready for comprehension chek-up.*

#### ***REORGANIZED OBJECTIVE ARMY DIVISION (ROAD)***

According to the US sources the ROAD divisions are designed for various strat and tactical requirements of today's Army. Various types of divisions exist: the armoured div, the mechanized div, the inf division, the abn div and the air assault div. Each div is organized according to Tables of Organization and Equipment (TOE). Divisions are formed by combining a common div base with a number (from six to fifteen) of four kinds of cbt maneuver battalions: infantry, tank, mechanized inf, and abn infantry, the number and type of battalions depending on the type of div and its men.

These battalions are administratively and tactically self- sufficient. All bns are of essentially one combat arm, i.e. armor in the tank bn and infantry in the infantry, mechanized and abn battalions.

The type of div determines the number and type of battalions that make up the brigade. The necessary cbt sup and administrative elements are furnished to the brigade by the div base. The div base contains the elements required for all divs. It includes the command and con elements, cbt and combat support units such as div arty, a cavalry squadron, an aviation bn, a signal bn, an engineer battalion, and a mil police company and a sup command which provides administrative and logistical sup of the div, and includes a maintenance bn, a medical bn, and a supply and transportation bn.

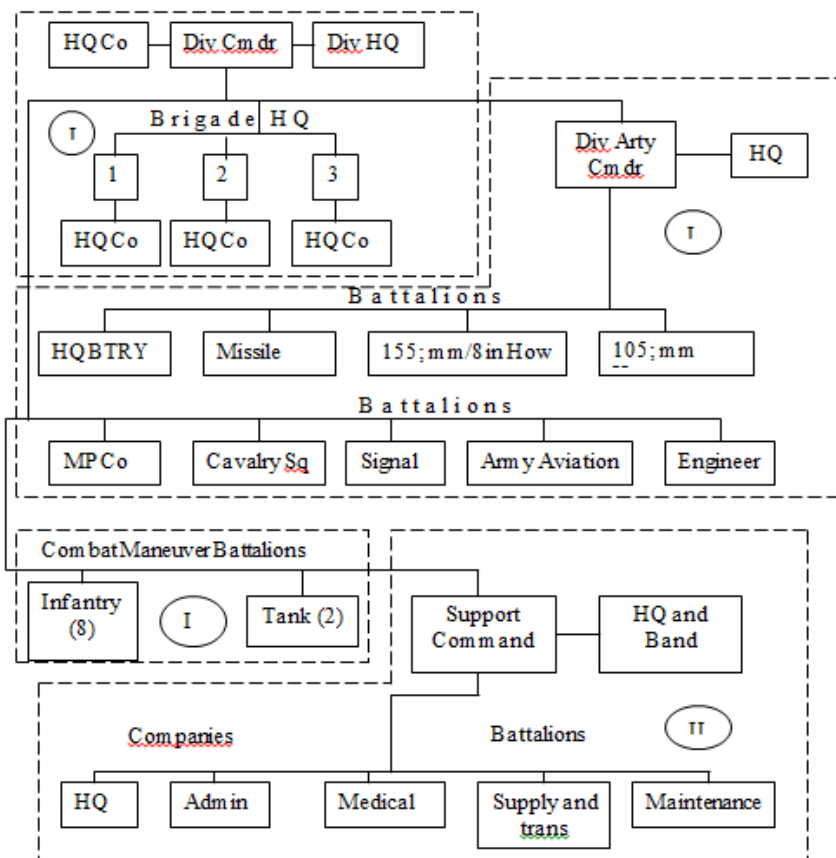


Fig. 5.1. ROAD Organization:

*I* – Combat and Control Elements; *II* – Combat and Combat Support Units;  
*III* – Support Command; *IV* – Combat Maneuver Battalions

The HQ and HQ company, and three rifle companies make up the Inf, airborne Inf and mechanized inf battalions.

The HQ and HQ company, and three tank companies make up the tank bn. Each of the tank companies is equipped with 17 tks.

The div arty is organized with a HQ and HQ battery; three arty howitzer bns, 105 mm; one composite Field Artillery howitzer bn, 155/8 in; and an arty missile bn.

The typical div is reported to have a strength of approximately 15,000 officers and men.

### **3. Comprehension check-up.**

#### **A. Decode and translate.**

HQ – Bde – Inf Div – tk – ROAD – Co – Btry – TOE – FA – Msl Bn –  
fmn – i.e. – mm – in – Cbt – rfl Co – Cav Sqdn – MPSo – SUPCOM –  
Admin Spt – Engr Bn – Med Bn – Arty How Bn – Sup & Trans Bn –  
Def – Atk.

#### **B. Give the best Russian or English equivalents.**

Реорганизованная общевойсковая дивизия единой структуры; mechanized unit; division base; линейный батальон; тактико-технические данные; command and control elements; military police company; штабная рота; разведывательный батальон; части и подразделения обеспечения боевых действий войск; logistical support; administrative support; rifle company; численность; composite artillery battalion; гаубица; ракетный дивизион.

#### **C. Complete the following sentences using active words and word combinations. Translate them into Russian.**

1. The ROAD divisions ... for various tactical requirements of today's Army.
2. These battalions are tactically ... .
3. All battalions are of essentially ... .
4. Divisions are formed by ... a common division base with a number of four kinds of combat maneuver battalions.
5. The necessary combat support is furnished to ... by ... .
6. The division base includes the combat and ... support units.
7. The division artillery is organized with a HQ and ..., three arty howitzer ..., one composite howitzer battalion and an ... missile battalion.
8. Support elements are designed to furnish ... .
9. Infantry combat elements are able to fight on foot in ... .
10. ... and administrative elements are furnished to the brigade by the division base.
11. The division base contains the elements required for all divisions. It includes ... .

#### **D. Say it in English observing grammar rules.**

1. Какие типы дивизий сухопутных войск США вы знаете?
2. Чем отличается механизированная дивизия от бронетанковой дивизии?

3. Сколько линейных батальонов имеется в реорганизованной общевойсковой дивизии единой структуры?

4. Какова организация дивизионной основы?

5. Какие подразделения входят в состав командования тыла?

6. Какие задачи выполняет дивизионная артиллерия?

7. Сколько танков имеется в танковом батальоне?

**E. Answer the questions using the information from the text and any other additional information.**

1. What types of ROAD division do you know?

2. How are ROAD divisions formed?

3. What elements belong to the division artillery?

4. What is the composition of the division base?

5. How many rifle companies make up the infantry battalion?

6. What is the strength of a typical ROAD division?

### 5.3. Speaking

Speak on the topic "Types of Combat Divisions of the USA Army and their Composition" using the following words and word combinations:

armored

airmobile

airborne

mechanized infantry

infantry

strength

mobility

shock power

to be equipped with

means of transportation

assault

to deliver

firepower

### 5.4. Supplementary reading

**1. Read the text carefully and be ready to define the terms "squad", "platoon", "company", "battalion".**

Tables of Organization and Equipment issued by the Department of the Army, establish to each category of Army unit its title, the number and grades of its officers and men, its organic equipment, and its interior organization.

The squad is the smallest and basic military unit under a noncommissioned officer as a leader. The rifle squad in the ROAD infantry division has 10 men.

The platoon consists of the platoon leader, an officer in the grade of lieutenant, and two or more squads.

The company includes its headquarters, two or more platoons, and is an administrative as well as a tactical unit. That is why it can function for short periods as a separate command. In the artillery, the term "battery" is used instead of company, and the "section" corresponds to the squad. In some reconnaissance units the term "troop" is used instead of company.

The infantry battalion is the basic combat unit in the ROAD infantry division. Its balanced ratio of personnel and equipment enables it to accomplish a variety of combat missions with organic means.

***2. Read the text and be ready to speak on the structure of the 1st Cavalry Division.***

***1ST CAVALRY DIVISION (AIRMObILE) (USA)***

This newest formation envisions a massive use of light aircraft and drastic reduction in organic ground transport.

Here is a comparison in men, aircraft, and ground transport between the airmobile division and the ROAD Divisions:

	AIRMObILE	ROAD
Men	15787	15900
Aircraft	454	101
Vehicles	1600	3200

The air mobility concept is practical today because of improvements in helicopter performance and decreased weight of Army equipment.

It is reported that of the 434 aircraft of the 1st Cavalry Division "almost all" are helicopters. It is also reported that one-third of the combat elements of the division are able to move simultaneously in organic aircraft. According to reports one brigade is capable of parachute operations.

Use of aircraft to bring units directly to the battlefield and to remove them provides a capability to redeploy forces quickly to other areas.

The airmobile division is reported to be capable of maneuvering rapidly over areas and conducting raids behind the enemy lines.

In terms of strategic mobility (Air Force air-lift) the airmobile division can be deployed almost twice as rapidly as the ROAD infantry Division. It weighs almost one-third as much as the infantry division.

The airmobile division requires fighter cover, further it needs more close air support to compensate for lack of armor and medium artillery.

#### **4.5. Army Humour**

##### *Americans About Themselves*

The sergeant was bawling out a group of shabby recruits.

"Just look at yourselves," he bellowed. "Your shoes aren't shined, your hair isn't combed, your ties aren't straight; suppose some country suddenly declared war!"

## UNIT 6

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### WEAPONS. PART 1.

### ОРУЖИЕ. ЧАСТЬ 1

#### 6.1. Vocabulary study

##### *Active vocabulary*

individual weapons	индивидуальное оружие
crew-served weapons	групповое оружие
pistol	пистолет
carbine (cbn)	карабин
submachinegun (smg)	автомат
automatic rifle	автоматическая винтовка
rifle (rfl)	винтовка
grenade	граната
grenade launcher	гранатомет
machinegun (mg)	станковый пулемет
rocket launcher (RL)	реактивный гранатомет; пусковая установка
recoilless rifle (RR)	безоткатное орудие
mortar	миномет
antitank	противотанковый
TOW (tube-launched, optically tracked, wire guided) weapon	противотанковый снаряд, управляемый по проводам с помощью оптических средств
feet per second (fps)	футы в секунду
caliber (cal)	калибр
pound (lb)	фунт
cartridge	патрон
self-defense weapon	оружие самообороны
to adopt	принимать на вооружение
semi-automatic	полуавтоматический; самозарядный
to load	заряжать
detachable box magazine	съёмный коробчатый магазин

round	патрон; выстрел; комплект выстрела
small arms (SA)	стрелковое оружие
armour-piercing cartridge	патрон с бронебойной пулей
ball (cartridge)	патрон с обычной пулей
tracer (cartridge)	патрон с трассирующей пулей
incendiary (incd) (cartridge)	патрон с зажигательной пулей
cyclic rate of fire	техническая скоро- стрельность
muzzle velocity	начальная скорость
rounds per minute (r.p.m.)	выстрелов в минуту
range of fire	дальность огня
barrel	ствол
stock	приклад
blank cartridge	холостой патрон
dummy cartridge	учебный патрон
duplex cartridge	патрон с двумя пулями
bullet	пуля
bolt	затвор
receiver	приемник
trigger	спусковой крючок
front sight	мушка
rear sight	прицел
bayonet	штык
vehicle (veh)	транспортное средство; автомобиль
anti-personnel (APers)	противопехотный
accuracy	точность
ounce (oz)	унция
foot (ft)	фут
yard (yd)	ярд
mile (mi)	миля



## *Expressions and Word Combinations*

to be in use	использоваться; применяться
to be provided with	иметь в распоряжении; иметь в наличии
to be armed with	иметь на вооружении
with good accuracy	с высокой точностью
to fire by single shots	стрелять одиночными выстрелами
to fire in bursts	стрелять очередями

**1. Read the following words and word combinations minding the stress and translate them. Consult the dictionary if necessary.**

To be provided with, to be in general use, semi-automatic fire, detachable box magazine, TOW antitank weapons, accuracy of fire, effective self-defense weapon, armored vehicle, individual weapons, rocket launcher, handgun, round, feet per second, in addition, standard weapon, cartridge, rear sight.

**2. Match the words from column A with the words from column B to make appropriate word combinations. Use them in the sentences of your own.**

<i>A</i>	<i>B</i>
1. cyclic	a. shots
2. dummy	b. arms
3. front	c. rate of fire
4. rear	d. launcher
5. single	e. rifle
6. small	f. cartridge
7. rocket	g. sight
8. recoilless	h. sight

**3. Match the words on the left with their definitions on the right.**

- |                       |   |
|-----------------------|---|
| 1. individual weapons | a. for use against lightly armored vehicles, protective shelters, and personnel |
|-----------------------|---|

- |                        |   |
|------------------------|---|
| 2. trigger             | b. weapons which are carried, loaded and fired by one man   |
| 3. tracer cartridge    | c. a small device that releases a spring or catch and so sets off a mechanism, especially in order to fire a gun  |
| 4. vehicle             | d. a thing used for transporting people or goods, especially on land, such as a car, lorry, or cart   |
| 5. cyclic rate of fire | e. the frequency at which a specific weapon can fire or launch its projectiles. This can be influenced by several factors, including operator training level, mechanical limitations, ammunition availability, and weapon condition |
| 6. armor piercing      | f. for designating targets and for incendiary and signaling purposes  |

#### ***4. Translate the following phrases into English.***

1. Огонь из реактивного противотанкового гранатомета можно вести с сошки или с плеча из положений с колена или лежа.
2. Автомат используется для поражения противника в бою автоматическим огнем.
3. Стрелковое оружие применяется, как правило, для ведения огня по пехоте противника.
4. Вы не могли бы подсказать мне, какие виды стрелкового оружия состоят на вооружении мотопехотного взвода армии США?
5. Курсант Савченко прекрасно справился с неполной разборкой автомата.
6. Боевая машина 9Ф52-2 реактивной системы залпового огня «Смерч» стоит на вооружении Российской армии с 1987 года.

## **6.2. Reading**

### ***1. Before reading the text answer the question below.***

Do you know any modern models of AK 74 efficiently used in Belarus at present?

## ***2. Read the text and be ready for comprehension check-up.***

### ***INFANTRY WEAPONS***

Infantry wpns are generally divided into two categories: individual wpns which are carried, loaded and fired by one man, and crew-served wpns which are usually carried, loaded and fired by more than one man.

Personnel of Inf units are provided with many types of individual and crew-served weapons. The individual wpns include pistols, carbines, submachineguns, automatic rifles and rifles. In addition grenades of all types and grenade launchers are available. The Army family of crew-served wpns consists of machineguns, rocket launchers, recoilless rifles and mortars. TOW antitank weapons are also available.

#### ***Individual Weapons***

The standard Army handgun for general use is the old reliable pistol M1911A19 designed by John Browning. With its powerful 0.45 caliber cartridge, it is an effective self-defense wpn.

After World War II, many countries began seeking a wpn which would combine the characteristics of both the rifle and the automatic rifle into one wpn of rifle weight. Belgium developed the first successful model of this type – the 7.62 mm rifle which today is adopted in the armies of more than 50 countries. With the capability of being fired either semi-automatic or full automatic, the M14 rifle is about 39 inches long, weighs about 10 pounds combat loaded and takes a detachable box magazine which holds 20 rounds. The M14 rifle fires 7.62 mm cartridges of various types, including armor-piercing, ball, tracer, incendiary, blank, dummy, and duplex. A new 7.62 mm duplex rifle cartridge with two bullets has been developed and adopted by the army.

The following step in the evolution of small arms was the adoption of the M16A1 caliber 5.56 mm as a standard US Army wpn. This rifle has been in general use in Vietnam where it was battle tested for two years. The M16A1 has a muzzle velocity of 3,250 feet per second, weighs 7.6 lb combat loaded, and is fed from magazine that can hold 20 rounds. The cyclic rate of fire is 700 to 800 rounds per minute. It can fire either in bursts or by single shots.

Some elements of Inf may be armed with carbines which are effective at shorter ranges of fire. The main parts of the carbine are barrel, stock, bolt, receiver, trigger, front and rear sights, magazine, and bayonet.

Development of the rifle grenade gave the rifleman the capability to fire a small but very effective anti-personnel or antitank grenade to 400 meters range, with good accuracy. It weighs 6.15 lb and is 29 in long.

### **3. Comprehension check-up.**

#### **A. Decode and translate.**

Def – veh – Bn – APers – fmn – r.p.m. – ROAD – Btry – Bde – Mil –  
cbn – Co – smg – JCS – rf1 – mg – RR – rkt – lchr – NSC – tk – FA –  
cal – SA – pos – CIA – HQ – Inf Div – CNO – CinC – lb – mm – in –  
TOE – TOW – fps – r.p.m. – oz – APers – mi – rkt lchr – Incd.

#### **B. Give the best Russian or English equivalents.**

Групповое оружие; small arms; infantry weapons; индивидуальное оружие; винтовка; автомат; rocket launcher; TOW weapon; калибр; ball cartridge; заряжать; стрелять очередями; muzzle velocity; range of fire; rate of fire; съёмный коробчатый магазин; холостой патрон; bullet; to be in use; иметь на вооружении; to be provided with; anti-personnel; barrel; безоткатное орудие.

#### **C. Complete the following sentences using active words and word combinations. Translate them into Russian.**

1. Pistols, carbines, submachineguns, automatic rifles and rifles belong to ... .
2. Infantry units are armed with ... including machineguns, rocket launchers, recoilless rifles, mortars and TOW antitank weapons.
3. The main characteristics of small arms include the following data: ... .
4. ... are ball, tracer, armor-piercing, duplex, incendiary, blank and dummy.
5. Hand grenades also belong to the category ... .
6. The main parts of the carbine are ... .

#### **D. Say it in English observing grammar rules.**

1. Какие виды индивидуального и группового оружия вам известны?
2. Чем отличается безоткатное орудие от противотанкового гранатомета?
3. Какова дальность огня и начальная скорость полета пули автоматической винтовки М16А1?

4. Из каких основных частей состоит карабин?
5. От чего зависит скорострельность стрелкового оружия?
6. Как называется оружие, применяемое против бронированных машин и танков?
7. Назовите основные тактико-технические данные противотанкового гранатомета М79.
8. Перечислите известные Вам патроны для стрелкового оружия.

**E. Answer the questions using the information from the text and any other additional information.**

1. What types of weapons are personnel of Inf units provided with?
2. What is the difference between individual weapons and crew-served weapons?
3. What are the main characteristics of the M16A1 rifle?
4. What parts make up a carbine?
5. What crew-served weapons are used by the US Army?
6. How many rounds are held in the box magazine?
7. What weapon is effective at short ranges of fire?
8. What does the term "cyclic rate of fire" mean?

### 6.3. Speaking

Speak on the topic "Infantry Weapons adopted by Belarussian Army" using the following words and word combinations:

to be armed with	to be mounted on a jeep
the following weapons	AT and AA protection
small arms	wire-guided missiles
pistols, revolvers and rifles	an infrared homing missile
submachine guns and machine	to be adopted
guns types of recoilless rifles	

### 6.4. Supplementary reading

**1. Read the text and describe the AK 74.**

#### ***RUSSIAN INFANTRY WEAPONS***

The first AK full-automatic rifle, the AK 74, weighed 10.5 lb loaded with a 30-round box magazine. It was capable of both full and semiau-

tomatic fire. The AK 74 had a cyclic rate of fire of about 600 r.p.m. The standard issue model was provided with a wooden stock; there was also a folding metal stock model of approximately the same weight. Both styles took a bayonet, but this was not permanently attached.

The new AKM replaced both types of AK 74's in the Soviet Army in the 70 th. It was almost two pounds lighter, but appeared in other respects to be similar.

During the years, many different models of AK 74 were developed and adopted , and are still widely used by the Armed Forces.

## ***2. Translate the data given.***

### *Основные данные 7,62-мм автоматической винтовки М 14*

Вес, кг	3,7
Длина, мм	1260
Прицельная дальность, м	1000
Вес пули, г	9,3
Начальная скорость, м/сек	846
Скорострельность, выстр/мин	40-60
Емкость магазина, патронов	20

### *The principal classifications of small arms ammunition are:*

1. Ball – for use in marksmanship training and field firing problems.
2. Tracer – for designating targets and for incendiary and signaling purposes.
3. Armor piercing – for use against lightly armored vehicles, protective shelters, and personnel.
4. Incendiary – for use against inflammable material.
5. Armor – piercing incendiary – for use in place of either the armor; piercing or incendiary cartridges.
6. Duplex – for use against personnel at close ranges. It is similar in appearance to a conventional ball cartridge, but a second bullet is arranged tandemlike behind the first one. Two bullets are fired simultaneously from one case.
7. Blank – for simulated fire.
8. Dummy – for training.

## 6.5. Army Humour

### *Americans About Themselves*

From Alabama comes the story about a Negro veteran who was telling his children stories of his combat experiences.

"Early one spring morning it was especially bad," he was saying. "Bullets were whistling all around us and the place was a shower of fire and lead."

"Gee," cried his son, "Why didn't you hide behind a tree?"

"Hide behind a tree?" exclaimed the soldier. "Why, son, there weren't even enough trees for the officers!"

**WEAPONS. PART 2.**  
**ОРУЖИЕ. ЧАСТЬ 2**

**7.1. Vocabulary study**

*Active vocabulary*

general-purpose (GP)	общего назначения; единый
bipod	сошка; двунога
gas-operated	действующий отводом газов
belt fed	с ленточной подачей
air-cooled	воздушного охлаждения
mount	станок; лафет
target (tgt)	цель
materiel	материальная часть; боевая техника
direct fire	огонь прямой наводкой
fixed round	унитарный патрон (выстрел)
fortification	оборонительное сооружение
crew	расчет; команда; экипаж
to man	укомплектовывать личным составом; входить в расчет экипажа
effective range	дальность действительного огня
gunner	наводчик
close support	непосредственная под- держка; сопровождение
high-angle weapon	оружие навесного огня
assembly	агрегат; механизм; сборка
to disassemble	разбирать



tube	ствол
base plate	опорная плита
smooth- bore	гладкоствольный
projectile	снаряд; мина (для миномета)
high-explosive (HE)	фугасный
high-explosive antitank (HEAT)	кумулятивный противотанковый
smoke	дымовой
illuminating	осветительный
emplacement	огневая точка; огневая позиция; окоп
lethal warhead	боевая часть (боевая головка) большой мощности
stationary target	неподвижная цель
moving target	подвижная цель
design	конструкция; проект; устройство
blowback-operated	действующий силой отдачи
ammunition (Ammo)	боеприпасы
functioning	работа; действие

### *Expressions and Word Combinations*

to man by	укомплектовывать личным составом
to lay smoke	ставить дымовую завесу

***1. Read the following words and word combinations minding the stress and translate them. Consult the dictionary if necessary.***

Gas-operated weapon, belt-fed, air-cooled, suitable target, fixed round, blowback-operated weapon, finned projectiles, to lay smoke, ground emplacement, lethal warhead, to separate into parts, direct fire, NATO cartridge, fortifications, tripod mount, close-support weapon, to disassemble for manhandling, smooth, bore tube, fixed round.

**2. Match the words from column A with the words from column B to make appropriate word combinations. Use them in the sentences of your own.**

<i>A</i>	<i>B</i>
1. direct	a. warhead
2. moving	b. smoke
3. lethal	c. target
4. to lay	d. range
5. effective	e. round
6. fixed	f. support
7. close	g. fire
8. angle	h. weapon

**3. Match the words on the left with their definitions on the right.**

- |                        |   |
|------------------------|---|
| 1. crew-served weapons | a. for use in marksmanship training and field firing problems       |
| 2. ball cartridge      | b. they are usually carried, loaded and fired by more than one man  |
| 3. small arms          | c. a member of the armed forces who operates or specializes in guns |
| 4. bipod               | d. a two-legged stand or support                                    |
| 5. gunner              | e. any firearm of caliber 60 or smaller                             |

**4. Translate the following phrases into English.**

1. Грузоподъемность этого транспортера 500 кг, экипаж – 2 человека.
2. Недавно проводились испытания нового противопехотного оружия. Это проходило на полигоне недалеко от военной части N.
3. На занятии по огневой подготовке курсанты изучали, какими снарядами может вести огонь безоткатное орудие M40.
4. Гранатометы состоят на вооружении пехотных отделений и предназначаются для поражения пулеметных расчетов и живой силы.
5. Гранатомет обслуживается одним человеком. По внешнему виду и конструкции он напоминает дробовое ружье.
6. Стрельба из гранатомета ведется с плеча.

## 7.2. Reading

### **1. Before reading the text answer the question below.**

What are the main operation systems of automatic weapons?

### **2. Read the text and be ready for comprehension check-up.**

#### ***US INFANTRY WEAPONS***

##### *Crew-served weapons*

*Machineguns.* The M249, 5.56 mm, is a light machine gun (LMG), also known as the M249 Squad Automatic Weapon (SAW), which continues to be the manufacturer's designation. The weapon was introduced in 1984 after being judged most effective to address the lack of automatic firepower in small units. The M249 provides infantry squads with a high rate of machine gun fire, combined with the accuracy and portability of a rifle.

The M249 is gas operated and air-cooled, it has a quick-change barrel (allowing the gunner to rapidly replace an overheated or jammed barrel), a folding bipod attached to the front of the gun (an M192 LGM tripod also being available). The SAW can be fed from both linked ammunition and STANAG magazines (such as those used in the M16 and M4), allowing the SAW operator to use them as a source of ammunition in case they run out of belts. The STANAG magazines should only be used in emergencies, however, due to their high malfunction rate.

*Recoilless Rifles.* The M141 Bunker Defeat Munition (BDM), or SMAW-D ("Disposable"), is a single-shot, shoulder-launched weapon designed to defeat hardened structures. The weapon was designed as a modification of the United States Marine Corps Shoulder-launched Multipurpose Assault Weapon (SMAW) and was adopted by the United States Army in 1999.

The SMAW-D operates on the principle of a recoilless rifle, in that the recoil created by launching the projectile is counteracted by a "back-blast" of gases fired from the rear of the weapon. This makes the SMAW-D inherently dangerous, especially in confined, urban areas, as is with all weapons of this design.

The M141 has two configurations: *a carry mode* in which the launcher is 810 mm (32 in) long, and *a ready to fire mode* in which the launcher is extended to its full length of 1,400 mm (55 in).

The warhead is High Explosive, Dual Purpose (HEDP). It is effective against masonry and concrete bunkers as well as lightly armored vehicles. The projectile is capable of penetrating up to 200 mm (8 in) of concrete, 300 mm (12 in) of brick, or 2.1 m (6.9 ft) of sandbags. The warhead is activated by a crush switch in its nose that is able to distinguish between hard and soft targets. On soft targets, such as sandbags, the detonation is delayed until the projectile is buried in the target, producing a devastating effect. The warhead detonates immediately on contact with hard targets.

*Mortars.* Mortars are used against personnel or unarmored vehicles and for laying smoke. The M224 60 mm Lightweight Mortar is a smooth bore, muzzle-loading, high-angle-of-fire weapon used for close-in support of ground troops. It was adopted by the United States military in 1978 and is still in service.

The M224 system is composed of these parts:

- M225 Cannon: 14.4 lb (6.5 kg);
- M170 Bipod: 15.2 lb (6.9 kg);
- M7A1 Baseplate for use in conventional mode: 9.6 lb (4.4 kg) or M8 baseplate for use in handheld mode: 3.6 lb (1.6 kg);
- M64A1 Sight Unit (The M67 Sight Unit is now widely used for the system): 2.5 lb (1.1 kg).

The mount consists of a bipod and a base plate, which is provided with screw type elevating and traversing mechanisms to elevate / traverse the mortar. The M64A1 sight unit is attached to the bipod mount. The mortar can be fired in the conventional mode or the handheld mode. This smooth-bore system can be gravity-fired or fired by using a manual spring-loaded trigger.

Various types of projectiles are available, including high explosive, incendiary, smoke, illuminating and training and some others. While it can fire up to 30 r.p.m. for short periods, normal rate is up to 20 r.p.m.

*TOW Antitank Weapon.* TOW (Tube Launched, Optically Tracked, Wire Guided) is the antitank weapon system developed to kill heavy armor. Weighing about 160 pounds, TOW can be separated into parts that can be carried by troops and fired from a ground emplacement. Or it can be carried by troops on a variety of vehicles. Combining a lethal warhead that is highly accurate at both close and long ranges, TOW will be effective against both stationary and moving targets.

*Grenade Launchers.* The XM174 grenade launcher, caliber 40 mm, with low velocity, is blowback operated and can fire semiautomatic or automatic. The current design differs from the initial one in that the ammunition box has been replaced by a 12 round magazine. This change eliminated the link, reduced the number of parts, improved functioning, and cut the weight from 38.5 to 36 pounds. The launcher itself weighs 15 lb. Rate of fire is 350 rounds a minute, muzzle velocity is 250 feet a second, the longest range is 375 meters firing the standard 40 mm ammunition.

### **3. Comprehension check-up.**

#### **A. Decode and translate.**

GP – APers – HE – cbn – Ammo – veh – Inc – smg – Co – rfl – Bde – Msl – Bn – fmn – Inf Div – HQ – pos – Ctl – Def – CI – JCS – Btry – tk – ROAD – r.p.m. – FA – NSC – HEAT – mi – tgt – ft – mm – oz – HE – Def – Atk – RR – SA – cal – mg – lb – How – TOW.

#### **B. Give the best Russian or English equivalents.**

The M16A1 has a muzzle velocity of 3,250 feet per second, weighs 7.6 pounds and is fed from magazine that holds 20 rounds.

Гранатомет XM174 весит 13 фунтов и имеет магазин емкостью 12 гранат. Начальная скорость полета гранаты – 250 футов в секунду.

The automatic rifle M16 is capable of being fired either semi-automatic or full automatic.

Из автоматов можно вести одиночный и автоматический огонь.

The main parts of the carbine are barrel, stock, bolt, trigger, front and rear sights, magazine and bayonet.

Основными частями станкового пулемета являются ствол, затвор, прицел, мушка, спусковой крючок.

Mortars fire various types of projectile including high-explosive, incendiary, smoke, illuminating and training.

Боеприпасы стрелкового оружия подразделяются на боевые, трасирующие, зажигательные, бронебойные и учебные.

The M60 machinegun, caliber 7.62 mm, is a gas-operated weapon that fires 600 rounds per minute.

Скорострельность карабина достигает 10 выстрелов в минуту.

**C. Complete the following sentences using active words and word combinations. Translate them into Russian.**

1. The 3.5 in rocket launcher is used primarily ... enemy tanks and armored vehicles. It can be used also ... its secondary role ... personnel, bunkers and other targets of opportunity.

2. The M79 is capable ... delivering a concentration ... fire ... area targets ... a maximum effective range ... 350 meters. Its capability ... firing ... point targets is limited.

3. General purpose machine guns are weapons which are intended to be fired ... bipods as LMGs and ... tripods as MMGs. They are normally belt-fed, but frequently use small ammunition boxes attached ... the gun when used ... the LMG role.

4. The automatic pistol is an individual arm ... use ... ranges ... fifty yards ... the personnel who are armed ... the rifle.

5. The HMG is mounted ... a fixed mount. Fire is normally delivered ... bursts ... 5 ... 50 shots.

**D. Say it in English observing grammar rules.**

1. Каков калибр единого пулемета М60?

2. Сколько человек входит в состав расчета безоткатного орудия М141?

3. Можно ли вести огонь из безоткатных орудий по подвижным целям?

4. Какие боеприпасы применяются для постановки дымов?

5. Зависит ли дальность огня миномета от вида боеприпасов?

6. На каких боевых машинах устанавливаются пулеметы?

7. Какова начальная скорость полета снаряда и дальность действительного огня данного безоткатного орудия ?

**E. Answer the questions using the information from the text and any other additional information.**

1. What targets are suitable for machineguns?

2. What cartridges does the M249 machinegun fire?

3. Is the machinegun gas-operated weapon or blowback-operated weapon?

4. What are the characteristics of the M141 recoilless rifle?

5. What main assemblies are mortars composed of?

6. What does the range of fire of mortars depend on?

7. What types of projectiles are fired from mortars?
8. What does TOW mean?
9. What fire can be delivered from the XM174 grenade launcher?
10. What crew-served weapons are used effectively against heavy armor?

### **7.3. Speaking**

Imagine you've just become a US private (soldier). They say that soon you'll take part in a combat operation and you have got a set of individual weapons. Try to describe what you have got.

### **7.4. Supplementary reading**

#### ***1. Read the text and retell it.***

#### ***SAFETY PRECAUTIONS***

Every weapon should be considered loaded until proven otherwise by examination; never trust your memory or anyone else's memory in this respect.

Never point a firearm at anyone or anything you do not intend to shoot, or in any direction where accidental discharge might do harm.

Never place the finger inside the trigger guard unless ready to fire.

Do not work with a weapon you do not thoroughly understand.

Automatic small arms in the hands of inexperienced or careless persons are largely responsible for the saying "It is always the unloaded weapon that kills." It is a fact that many accidental deaths and injuries are due to a mistaken belief that removing the magazine of a magazine-fed weapon is all that is necessary to unload it. Nothing could be further from the truth. To completely unload a magazine-fed weapon and render it safe to handle, it is necessary not only to remove or empty the magazine, but also to make absolutely certain the chamber is empty. The only way to do this is to inspect the chamber either visually or by feel if it is dark.

#### ***2. Read the text and give the summary of it.***

#### ***SMALL ARMS***

Small arms are mechanisms designed to provide a means of firing ammunition and directing the projectile at a given target. Strictly defined,

the term "small arm" means any firearm of caliber 60 or smaller. Although pistols, revolvers, rifles, carbines, machine guns, and cannon differ in size or caliber, design, and the exact method of operation the basic operating principles of each of these weapons are the same.

The barrel of a weapon is the tube through which the projectile or bullet is fired. It is open at the forward end or muzzle, and may be opened or closed at the breech by means of a removable breech block or bolt.

The breech end of the barrel is enlarged to form a chamber. Into this chamber, a metal cartridge, containing a projectile and a measured quantity of explosive, is inserted. Once loaded and the bolt closed and locked in place, the weapon may propel the projectile through the bore by the rapid burning of the propellant charge in the cartridge.

Small arms are classified as manual, semiautomatic and automatic.

A semiautomatic self-loading weapon unlocks, extracts, ejects, cocks, reloads, and relocks automatically. However, the trigger must be pulled each time a round is to be fired. A fully automatic weapon keeps firing as long as the trigger is held.

There are three primary ways in which the waste power of the cartridge can be used to operate the weapon: gas pressure, recoil, and blowback.

## **7.5. Army Humour**

### *Americans About Themselves*

One of the recruits was marching out of step. The Sergeant approached, and made the point in tones tinged with sarcasm:

"They're all out of step but you."

"Well, Serge, you're in charge. You tell'em."



## UNIT 8

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### US FIELD ARTILLERY. ПОЛЕВАЯ АРТИЛЛЕРИЯ США

#### 8.1. Vocabulary study

##### *Active vocabulary*

field artillery (FA)	полевая артиллерия
direct fire	огонь прямой наводкой; управлять огнем; направ- лять огонь
indirect fire	огонь не прямой наводкой; огонь с закрытых огневых позиций
fire support	огневая поддержка
neutralizing fire	огонь на подавление
destructive fire	огонь на разрушение
counterbattery fire	контрбатареинная борьба
nuclear combat	боевые действия с приме- нением ядерного оружия
nonnuclear combat	боевые действия без при- менения ядерного оружия
weapons system	система оружия
target acquisition	разведка целей
survey (Surv)	топогеодезическая привязка
delivery system	средства доставки оружия к цели

##### *Expressions and Word Combinations*

to deliver indirect fire on ground targets	вести огонь с закрытых огневых позиций по на- земным целям
to give depth to combat by counterbattery fires	обеспечивать подавление батареи на всю глубину боя

capable of independent action	способные вести самостоятельные боевые действия
to attain fire superiority over the enemy	добиться огневого превосходства над противником
to pose a constant threat	представлять постоянную угрозу

**1. Read the following words and word combinations minding the stress and translate them. Consult the dictionary if necessary.**

To deliver indirect fire, under nuclear conditions, to act by fire, primary mission, AA protection; supported arms, to execute a command, to perform duties, to observe safety precautions.

**2. Match the words from column A with the words from column B to make appropriate word combinations. Use them in the sentences of your own.**

<i>A</i>	<i>B</i>
1. field	a. a constant threat
2. counterbattery	b. fire
3. target	c. combat
4. to support	d. fire
5. to pose	e. support
6. fire	f. fire
7. destructive	g. artillery
8. to deliver	h. combat forces
9. direct	i. acquisition
10. neutralizing	j. fire
11. nuclear	k. fire

**3. Match the words on the left with their definitions on the right.**

- |                       |  |
|-----------------------|--|
| 1. target acquisition | a. a region where a battle is being (or has been) fought   |
| 2. indirect fire      | b. the detection and identification of the location of a target in sufficient detail to permit the effective employment of lethal and non-lethal means |

- |                    |   |
|--------------------|---|
| 3. major           | c. aiming and firing a projectile without relying on a direct line of sight between the gun and its target, as in the case of direct fire |
| 4. to support      | d. grade between captain and lieutenant-colonel   |
| 5. field of battle | e. give assistance to, especially financially   |

**4. Translate the following phrases into English.**

1. По взглядам военных специалистов артиллерия является основным родом войск, осуществляющим огневую поддержку наземных сил и со средствами воздушного нападения противника.

2. Самоходная гаубица предназначена для общей поддержки сухопутных войск.

3. Для стрельбы неуправляемыми ракетами «Литтл Джон» применялись два типа пусковых установок: облегченная и самоходная.

4. Противник понес серьезные потери в бою.

5. Благодаря поддержке артиллерии танки прорвали передовой край обороны врага.

6. Холостыми называются выстрелы, предназначенные для производства салютов и имитации боевой стрельбы во время учений и маневров.

## 8.2. Reading

**1. Before reading the text answer the question below.**

Do you think the organization of US Field Artillery is quite different from that in Belarus?

**2. Read the text and be ready for comprehension check-up.**

### ***US FIELD ARTILLERY***

*General*

According to the U.S. views arty is the principal Army agency for delivering indirect fire on ground tgts. Arty operations are those cbt ops of arty units, trained, equipped, and organized to support other cbt forces by

providing neutralizing and destructive fires. The arty is prepared to fire under either nuclear or nonnuclear conditions.

### *Mission of Artillery*

The msnns of artillery are:

1. To support the ground-gaining arms by fire, give depth to cbt by counterbattery fires, atk hostile reserves, restrict movement, and disrupt command systems and other installations.

The arty is a supporting arm. It acts by fire alone and is not capable of independent action. AA protection is another primary msn of the arty.

2. In nonnuclear cbt, to support maneuver elements by destroying or neutralizing those tgts most dangerous to the supported arms.

3. In nuclear cbt, to attain fire superiority over the enemy's nuclear arty and to destroy other major tgts which threaten the accomplishment of the force msn.

### *Artillery Weapons System*

The arty wpns system consists of wpns and those elements necessary to obtain the desired effect on the tgt. These elements are tgt acquisition; survey; meteorology; communications; air and ground transportation; and logistics. Fire support is the result of the effective application of the arty wpns system.

## **3. Comprehension check-up.**

### **A. Decode and translate.**

Wpn – Msn – En – FA – Trps – Inf – Cbn – Cal – Mort – tgt – Spt –  
MP – Equip – Pers – Surv – Arty – ammo – rpm – atk – Ichr – in –  
Dept – AT – AA – APers – Brg – fmn – arty – cbt.

### **B. Translate the dialogue.**

– В какой части вы  
служите?

– Где находятся артил-  
лерийские позиции ваше-  
го дивизиона?

– Вы видели позиции  
ракетных установок?

– In the artillery battalion attached to  
the 3rd Brigade.

– They are on the separate hill which is  
about 3–3,5 kms south of the inhabited  
locality of N.

– No, I haven't, but I have heard that  
the rockets were concentrated in the area  
of wood "Green".

– Кто сказал вам об этом?

– Знаете ли вы, когда должно начаться наступление?

– Major Irving has. He commands the 155mm howitzer battalion.

– No, I don't.

**C. Complete the following sentences using active words and word combinations. Translate them into Russian.**

1. Artillery is one of the most important ... .
2. Tactical missions of artillery depend on ... .
3. Artillery fire is more powerful than ... .
4. On approaching the strongly fortified enemy positions ... .
5. It is more important to ... .
6. The concentrations of fire and barrages are ... .
7. Under nuclear, nonnuclear, chemical and biological conditions of combat, artillery ... .
8. AA protection is provided by air defense artillery for ... .
9. There are howitzers of different calibers in ... .
10. Neutralizing and destructive fires help to ... .

**D. Say it in English observing grammar rules.**

1. Какие задачи выполняет полевая артиллерия в условиях ведения боевых действий с применением неядерного оружия?
2. Может ли артиллерия вести самостоятельные боевые действия?
3. Какие цели может поражать полевая артиллерия?
4. Имеется ли в составе артиллерийских подразделений личный состав, подготовленный для ведения разведки целей, топографической привязки, подготовки метеоданных, обеспечения связи и материально-технического обеспечения?
5. Какие основные средства состоят на вооружении артиллерийских частей и подразделений?
6. Гаубицы каких калибров состоят на вооружении механизированных дивизий?
7. Сколько пусковых установок имеется в этом дивизионе?
8. Сможет ли ваша артиллерия остановить продвижение войск противника?

**E. Answer the questions using the information from the text and any other additional information.**

1. What is the definition of artillery in the US Army?
2. What are the US Artillery units trained, equipped, and organized for?
3. What is the general mission of artillery in combat?
4. What does the term artillery weapons system imply?
5. How does the artillery act in combat?
6. Is the artillery capable of independent action or not?

### **8.3. Speaking**

Speak on the topic "Field Artillery" using the following words and word combinations:

the main mission	direct support
to support infantry	general support and reinforcement
to deliver indirect fire	to cover the deployment
to provide support for	and movement of
neutralizing and destructive	the attacking troops
fires	to break through the enemy FEBA
under all conditions of combat	objectives in the enemy rear

### **8.4. Supplementary reading**

***1. Read the text and define the role of artillery.***

Artillery has no independent role in combat. It is employed in conformity with the plan of the commander of troops who uses his power to destroy the enemy and his defenses, to disorganize his command and to neutralize his fire power.

As the role of the artillery is to support the other arms, its action is governed by their requirements. Artillery officers of all ranks have to keep themselves informed of the general situation and plans of commanders whom they are supporting.

The artillery frequently has to rely on reconnaissance aircraft or on other special means for information of the situation of the forward troops. The other arms must supply constant information to the artillery as to their movements and the obstacles which they encounter.

The division artillery is controlled by the Division Artillery Commander, who commands all artillery in the division, both organic and attached.

***2. Translate the text in a written form.***

***PHOTO FIRING OF TANK GUNS***

A recent field experiment conducted in the Friedberg Training Area in West Germany demonstrated the use of a camera to evaluate the efficiency of tank crews.

The camera, mounted coaxially to the tank gun, was activated by the tank commander when he saw the target, and began to record gun movements at the rate of one picture per second. When the gunner fired the cannon, a recorder indicated his action on the corresponding photograph.

An observer riding with the tank crew could determine, with the aid of the photo record and a stopwatch, how many seconds it took the tank commander to see his target, how many seconds elapsed between acquisition of the target and the simulated firing of the first shot, and how accurately the gunner laid on the target.

**8.5. Army Humour**

***Americans About Themselves***

Gunnery Instructor, "How to hit a target around the corner in street fighting?"

Artillery Cadet, "I guess it is necessary to put the gun on its side."

Gunnery Instructor, "Why?"

Artillery Cadet, "But you've told us that the shell trajectory is curved."

## UNIT 9

---

### FIELD ARTILLERY CHARACTERISTICS ТАКТИКО-ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ ПОЛЕВОЙ АРТИЛЛЕРИИ

#### 9.1. Vocabulary study

##### *Active vocabulary*

cannon	артиллерийское орудие
missile (msl)	ракета; реактивный снаряд; снаряд; пуля
light artillery (LArty)	легкая артиллерия
medium artillery (MArty)	артиллерия средних калибров
heavy artillery (HvArty)	тяжелая артиллерия
very heavy artillery	артиллерия большой мощности
payload	полезная нагрузка
rocket (Rkt)	ракета; реактивный снаряд
towed	возимый; прицепной; буксируемый
carriage (carr)	лафет; орудийный станок; шасси
prime mover	тягач
self- propelled (SP)	самоходный
aerial transportation	переброска по воздуху
capabilities	боевые возможности
to shift fire	переносить огонь по фронту
to mass fire	вести массированный огонь
to adjust fire	корректировать; пристреливать
limitations	недостатки
vulnerability	уязвимость



## *Expressions and Word Combinations*

to provide a propelling force to the payload	создавать тяговые усилия для перемещения ракеты
to aim the rocket by orienting the launcher	придавать направление и дальность полета ракет пусковой установкой
to subject the course to correction or alteration	изменять или корректировать траекторию полета

***1. Read the following words and word combinations minding the stress and translate them. Consult the dictionary if necessary.***

To classify as, according to caliber, to aim the rocket, method of transport, mounted on a carriage, aerial, transport by road, displacing to new positions, conditions of visibility and weather, series of targets, to expose weapons to enemy observation, by shock and surprise.

***2. Match the words from column A with the words from column B to make appropriate word combinations. Use them in the sentences of your own.***

<i>A</i>	<i>B</i>
1. light	a. the rocket
2. medium	b. fire
3. heavy	c. artillery
4. very heavy	d. a propelling force
5. aerial	e. fire
6. to shift	f. artillery
7. to mass	g. fire
8. to adjust	h. artillery
9. to provide	i. transportation
10. to aim	j. artillery

**3. Match the words on the left with their definitions on the right.**

- |                    |   |
|--------------------|---|
| 1. heavy artillery | a. an explosive warhead carried by an aircraft or missile         |
| 2. payload         | b. guns and howitzers of 155 mm caliber and larger                |
| 3. vulnerability   | c. a large, heavy piece of artillery, typically mounted on wheels |
| 4. cannon          | d. moving or able to move without external propulsion or agency   |
| 5. self-propelled  | e. a weakness or some area where you are exposed or at risk       |

**4. Translate the following phrases into English.**

1. Артиллерия имеет свои слабые места.
2. Эта пусковая установка значительно мощнее предыдущей модели.
3. Артиллерия может вести огонь при любых условиях боя.
4. Дивизионная артиллерия обладает штатными средствами доставки боеприпасов к цели.
5. Я не уверен в количестве гаубиц, которые имеются в составе нашего дивизиона.
6. Курсант Савченко был вчера в наряде и пропустил занятие по огневой подготовке.

## **9.2. Reading**

**1. Before reading the text answer the question below.**

Are modern artillery weapons vulnerable to any other types of materiel?

**2. Read the text and be ready for comprehension check-up.**

### **FIELD ARTILLERY CHARACTERISTICS**

#### *Classifications*

*I. By Weapon*

Artillery weapons are classified as cannon or missiles.

A. Cannon are classified according to caliber as light, medium, heavy, and very heavy:

1. Light – 120 mm and less.
2. Medium – greater than 120 mm, but not to exceed 160 mm.
3. Heavy – greater than 160 mm, but not to exceed 210 mm.
4. Very heavy – greater than 210 mm.

B. Missiles are wpns which utilize a reaction motor to provide a propelling force to the payload. Artillery missiles are classified according to type as rockets and guided missiles (GM):

1. A rocket is aimed by orienting the launchers, it cannot be further guided once it is fired.

2. A guided missile's course is subjected to correction or alteration while in flight.

## *II. By Transport*

A. Artillery wpns are further classified according to their method of transport:

1. Towed-cannons and launchers which are mounted on a carriage designed to be moved as a trailed (transported) load by a prime mover. A towed carriage contains no power source.

2. Self-propelled (SP)-cannons and launchers which are permanently installed on vehicles which provide automotive power for the vehicle and the wpn.

B. An artillery wpn is also classified according to the method of transportation which can be used to deliver it to a cbt area as transported by road, rail, or ship.

Wpns that can be moved by aerial transportation are classified as follows:

1. Helicopter transportable.
2. Air transportable.

## *Capabilities and Limitation*

### *I. Capabilities*

The arty is capable of:

1. Shifting the fire of its wpns rapidly within a large area and on a wide front without displacing.

2. Massing the fires of many wpns on one or series of targets.
3. Directing fire on tgts without exposing the wpns to direct enemy observation or direct counterbattery fires.
4. Accurately firing ammunition appropriate for the tgt under all conditions of visibility, wea and terrain from wpns emplaced laterally and in depth throughout the zone of action.
5. Placing fire on tgts in defilade.
6. Delivering fires accurately with or without adjustment. The latter method improves the effect of fires by shock and surprise.
7. Displacing rapidly to new positions and employing arty units to concentrate greater firepower in important sectors.

## *II. Limitations*

The arty is limited in that:

1. It cannot effectively execute its primary msn when required to engage in close cbt with enemy ground forces.
2. Its effectiveness is reduced and its vulnerability is increased during displacements.
3. It is vulnerable to en air atk and nuclear fire.

### **3. Comprehension check-up.**

#### **A. Decode and translate.**

Mov – SA – Mbl – FA – Rkt – LArty – Tgt – SP- msn – MArty – Msl – Carr – HvArty – GM – GP – RR – Sup – wpn- en – Spt – Tac – How – RR – Rkt Lchr – Pers – MFld – Tk – DOD – Mort – MG – mi – mil – Maint – MP – Inf – fps – Div – CNO.

#### **B. Give the best Russian or English equivalents.**

Cannon; ракета; carriage; управляемый снаряд; towed gun; самоходная реактивная установка; тягач; very heavy artillery; to shift fire; корректировать огонь; ограничения; capabilities; medium artillery; переброска по воздуху; уязвимость; to aim the rocket.

#### **C. Complete the following sentences using active words and word combinations. Translate them into Russian.**

1. Artillery is ... .
2. It fights combining fire and maneuver but it is not capable of ... .
3. The artillery is prepared to fire under ... conditions.

4. It is best suited for ... of enemy armor, fortifications and troops.
5. To accomplish its mission the artillery employs two types of weapons: ... .

**D. Say it in English observing grammar rules.**

1. Как классифицируется полевая артиллерия армии США?
2. Какова классификация ствольной артиллерии?
3. Чем отличается ствольная артиллерия от реактивной артиллерии?
4. Какие термины употребляются для обозначения управляемых снарядов?
5. Каким образом осуществляется наведение на цель неуправляемых снарядов?
6. В чем отличие возимой артиллерии от самоходной?
7. Какие способы переброски артиллерии по воздуху вы знаете?
8. Каковы боевые возможности полевой артиллерии?
9. Уязвима ли полевая артиллерия от нападения с воздуха?

**E. Answer the questions using the information from the text and any other additional information.**

1. What is the classification of the US Artillery?
2. What is the basic difference between cannons and missiles?
3. How do they classify cannon according to caliber?
4. What kind of motor is used to propel a missile?
5. How does a rocket differ from a guided missile?
6. What term is used to define cannons and launchers permanently installed on vehicles provided with automotive power?
7. What are the capabilities of the Field Artillery?
8. What is the Artillery limited in?

### **9.3. Speaking**

Study the picture (fig. 9.1) and try to make a story of your own. Use as many new words and expressions as you can.

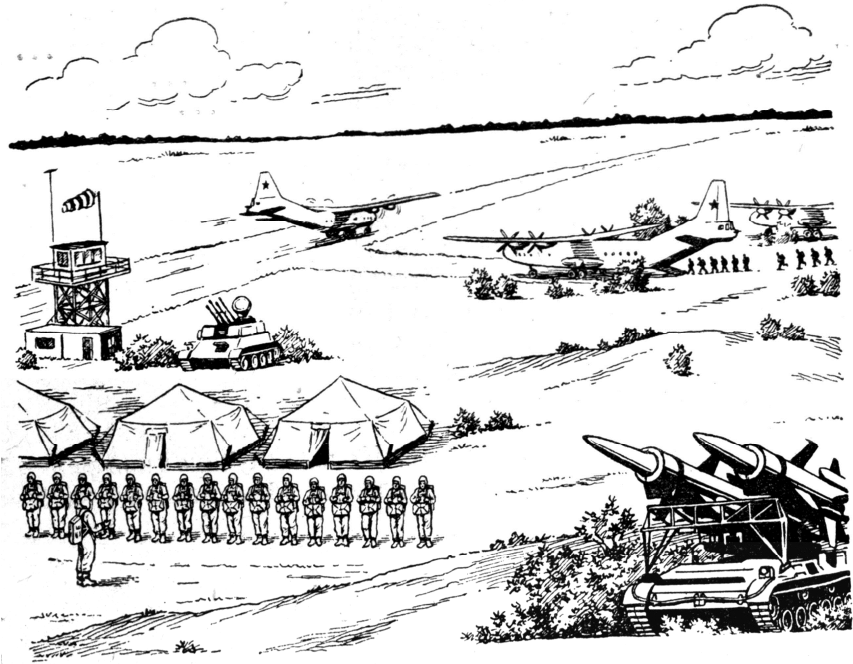


Fig. 9.1. On exercise

## 9.4. Supplementary reading

*1. Read the text and be ready to discuss it with your partners.*

### ***M119 HOWITZER***

The M119 howitzer is the US designation for the L118 light gun, a lightweight British 105 mm howitzer also used by the United States Army. It can be easily airlifted by helicopter, or dropped by parachute. It does not need a recoil pit.

The howitzer was designed and produced by the British Royal Ordnance Factories as the L118 light gun. The L118 entered service with the British Army in 1976 and is used by parachute and commando field artillery regiments. It saw combat during the Falklands War, where the 30 guns in action fired up to 400 rounds per gun per day, mostly at

"charge super" – i. e., the most powerful propellant charge available. The L119 is the L118 reconfigured to fire NATO-standard 105 mm semi-fixed ammunition.

The M119 is currently fielded with all Regular Army and National Guard infantry brigade combat teams, including those in the 10th Mountain, 82nd Airborne, and 101st Airborne divisions, and the 173rd Airborne Brigade Combat Team.

In April 2009, the M119A2 howitzer was fielded by the 4th Infantry Combat Brigade of the 3rd Infantry Division to provide better support in operations in Afghanistan and Iraq. It was the only brigade in the division equipped with it, as the other three brigades were "heavy" brigades and therefore equipped with the M109A6 Paladin.

Alpha Battery of the 1st Battalion, 320th Field Artillery Regiment, 101st Airborne Division received their first upgraded M119A3 howitzers in July 2013, and became the first unit to operate it in theater when they were deployed to northeast Afghanistan in early February 2014. The digitally upgraded M119A3 includes software and hardware component upgrades, GPS for navigation, a digital gunner's display, and digital communication between each gun and the fire direction center to speed up the process of receiving firing data and firing shells. Firing platoons were also equipped with larger, also digital M777A2 howitzers, and the M119A3 was more admired for being faster, lighter, and easier to change azimuth of fire. The A3-model retains manual capabilities of the A2-model, so occasions where digital capabilities were lost allowed crews to easily transition back to the analogue mode of operation and continue their missions.

## ***2. Translate the text in a written form.***

### ***M252 MORTAR***

The M252 81 mm medium weight mortar is a British-designed smooth bore, muzzle-loading, high-angle-of-fire weapon used for long-range indirect fire support to light infantry, air assault, and airborne units across the entire front of a battalion zone of influence. In the U.S. Army and U.S. Marine Corps, it is normally deployed in the mortar platoon of an infantry battalion.

The M252 system weighs 91 lb (41 kg) completely assembled and is composed of the M253 cannon (35 lb, 16 kg), M177 mount (27 lb, 12 kg), M3A1 baseplate (29 lb, 13 kg), and the M64A1 sight unit (2.5 lb, 1.1 kg). The mount consists of a base plate and a bipod, which is provided with screw type elevating and traversing mechanisms to elevate/traverse the mortar. The M64A1 sight unit (also used on the M224) is attached to the bipod mount. The M252 is a gravity-fired smoothbore system. Attached to the muzzle of the weapon is the Blast Attenuation Device (BAD), used to reduce the blast effects on the mortar crew. To increase cooling efficiency, the breech end is finned; though first-hand accounts attest that the level of cooling is negligible. The cannon also has a crew-removable breech plug and firing pin.

High explosive rounds fired by the M252 weigh 10 lb (4.5 kg) and can have an effective kill radius of 35 m (115 ft).

In 2017, the Marines revealed they were developing precision-guided rounds for the 81 mm mortar, similar to efforts for the 120 mm Expeditionary Fire Support System but in a man-portable system.

## **9.5. Army Humour**

### *Americans About Themselves*

Private Johnson returned from his leave with a big bump on his head.

"Where did you get that bump from?" his bunkmate asked.

"I was hit by a guided muscle," he replied...



## UNIT 10

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### ARTILLERY ORGANIZATION AND MATERIEL. СТРУКТУРА И БОЕВАЯ ТЕХНИКА АРТИЛЛЕРИИ

#### 10.1. Vocabulary study

##### *Active vocabulary*

barrel assembly	ствол в сборе
breech mechanism	запирающий механизм
screw breechblock	поршневой затвор
wedge breechblock	клиновой затвор
cradle	люлька
breech ring	казенник
recoil mechanism	противооткатный механизм
top carriage	верхний станок лафета
traversing mechanism	поворотный механизм
elevating mechanism	подъемный механизм
trough	желоб; лоток
depress	опускать; придавать орудию угол склонения
shield	щит; щитовое прикрытие
axle	ось
brakes	тормоза
split trails	раздвижные станины
box trail	моностанина
spade	сошник
free-flight	неуправляемый в полете
solid propellant	твердое топливо; ракетное твердое топливо
firing table	таблица стрельбы
deflection	отклонение; угломер; поправка угломера
launching beam	пусковая направляющая
azimuth	азимут

elevation	вертикальная наводка; придание углов возвыше- ния; угол места
thrust	тяга (двигателя)
guidance	наведение
fin	стабилизатор
spin	вращение
burnout time	время выгорания топлива

### *Expressions and Word Combinations*

conventional artillery pieces	обычные артиллерийские орудия; ствольная артил- лерия
check the movement	останавливать движение
to make lateral changes	придавать определенное направление по горизон- тали
to depress the barrel	придавать стволу угол склонения
to impart spin	придавать вращение
to orient the Rkt Lchr	устанавливать пусковую установку или направляю- щую в определенном на- правлении и придавать ей необходимый угол возвышения
sighting and laying equipment	прицельные приспособле- ния и механизм наводки

***1. Read the following words and word combinations minding the stress and translate them. Consult the dictionary if necessary.***

Guidance, free-flight rocket, for loading and firing, to cushion the shock, rearward movement, to move in traverse, capable of carrying atomic warheads, solid propellant rocket, to move in elevation, projectiles.

**2. Match the words from column A with the words from column B to make appropriate word combinations. Use them in the sentences of your own.**

<i>A</i>	<i>B</i>
1. barrel	a. beam
2. breech	b. trails
3. screw	c. spin
4. wedge	d. the barrel
5. split	e. assembly
6. solid	f. propellant
7. launching	g. breechblock
8. burnout	h. mechanism
9. to make	i. time
10. to depress	j. lateral changes
11. to impart	k. breechblock

**3. Match the words on the left with their definitions on the right.**

- |              |  |
|--------------|--|
| 1. aircraft  | a. a military organization consisting of officers and enlisted personnel or of officers alone      |
| 2. objective | b. a vehicle for traveling through the air   |
| 3. corps     | c. designate or set (something) aside for a specific purpose                                       |
| 4. to assign | d. a device for slowing or stopping a moving vehicle, typically by applying pressure to the wheels |
| 5. brake     | e. a strategic position to be attained or a purpose to be achieved by a military operation         |

**4. Translate the following phrases into English.**

1. На прошлом занятии по тактике мы проходили боевое предназначение артиллерийских частей и подразделений.

2. Из данного орудия можно стрелять кумулятивными противотанковыми снарядами.

3. Никто не ожидал, что главный удар противника будет нанесен в районе пункта N.

4. Самоходная гаубица М109 была принята на вооружение армии США в 60-е годы.

5. М109 претерпела многочисленные модификации с течением времени и все еще успешно используется артиллеристами.

## 10.2. Reading

### ***1. Before reading the text answer the question below.***

When did The US Army FA use an offensive rocket missile *Honest John*?

### ***2. Read the text and be ready for comprehension check-up.***

## ***ARTILLERY ORGANIZATION AND MATERIEL***

### *General*

The general organizational objective of the arty is to provide, at all times and under all conditions, an organization for cbt which can most effectively and economically support the cbt forces. The organization includes wpns, associated materiel, pers, and logistical spt. The US FA is organized into batteries and battalions. Batteries are the smallest administrative and tactical units while artillery battalions are primarily tactical units. The organization of arty units and HQ is shown in detail in appropriate TOE:

1. Division Artillery consists of a div arty HQ and HQ battery, other units organic to div arty, and units attached to the div and placed under the command of the div arty commander.

2. Corps arty consists of a HQ and HQ battery, other units organic to corps arty are assigned or attached to the corps arty and not further attached to div.

3. Army arty consists of units assigned or attached to the army and retained under command of the army arty commander.

### *Artillery materiel*

Conventional field arty pieces are divided into guns, howitzers, and mortars.

Essentially, guns and hows consist of the barrel assembly with the breech mechanism and the carriages. The barrel assembly consists of the barrel or tube and the breech ring assembly.

The breech mechanism incorporates the firing mechanism and permits opening and dosing of the rear of the barrel for loading and firing.

There are two types of breech blocks: a screw breechblock and a wedge breechblock.

The cradle is the trough-shaped part of the carriage that supports the recoiling parts.

The recoil mechanism is required to cushion the shock created by firing and to gradually check the rearward movement of the recoiling parts to avoid displacement of the carriage.

The top carriage includes all those parts which move in traverse, but not in elevation. It supports the cradle and the stationary parts of the elevating mechanism. The traversing mechanism is designed for making lateral changes in the direction of the barrel: the elevating mechanism for elevating or depressing the barrel to a desired angle. Besides, the carriage has the shield, the axle, the wheels, the brakes, the split or box trails, and the spades.

### ***3. Comprehension check-up.***

#### **A. Decode and translate.**

Maint – SMG – Co – Ammo – Brg – CO – JS – NSC – FA – SECDEF –  
Btry – rkt – Msl – lchr – Def- Engr Co – Dep – JCS – SECNAV –  
FA Bn – Obs – Obj – Obsn – GS – in – cal – DS – Spt – msn –  
Svc Btry – Cam – How – rpm – AT – Abn – Hq Btry – Ftn – wpn.

#### **B. Give the best Russian or English equivalents.**

Recoil; shield; станина; recoil mechanism; отклонение по направлению; вращение вокруг продольной оси; burnout time; fin; сошник; brakes; axle; направляющая пусковой установки; solid propellant; тяга; elevation; прицельные приспособления; trough-breech ring; затвор.

#### **C. Complete the following sentences using active words and word combinations. Translate them into Russian.**

1. Conventional artillery pieces are ... .
2. The main parts of ... are the barrel assembly with the breech mechanism and the carriage.
3. ... permits opening and closing of the rear of the barrel for loading and firing.

4. The recoil mechanism is required to cushion the shock ... displacement of the carriage.

5. Air defense artillery units that are equipped ... weapons capable ... neutralizing or destroying surface targets.

#### **D. Say it in English observing grammar rules.**

1. Каково боевое предназначение артиллерийских частей и подразделений?

2. Как подразделяется артиллерия по организационной принадлежности?

3. Что называется материальной частью артиллерии и по каким признакам она классифицируется?

4. Из каких основных частей состоит артиллерийское орудие?

5. Для чего предназначается запирающий механизм гаубицы?

6. Какие основные виды затворов вы знаете?

7. Каково назначение и устройство противооткатного устройства, подъемного и поворотного механизмов, а также станин?

8. Каким образом стабилизируется полет ракеты после схода с направляющей?

9. Какова горизонтальная дальность стрельбы этих ракет?

#### **E. Answer the questions using the information from the text and any other additional information.**

1. What is the general organizational objective of the artillery?

2. What is the composition of the division artillery?

3. How are US FA pieces subdivided?

4. What are the main components of guns and hows?

5. What is the breech mechanism used for?

6. What is the purpose of a recoil mechanism?

7. What mechanisms are required for elevating or depressing the gun barrel?

### **10.3. Speaking**

Study the picture (fig. 10.1). Translate the terms using the dictionary. Try to explain in English or in Russian how this howitzer works.

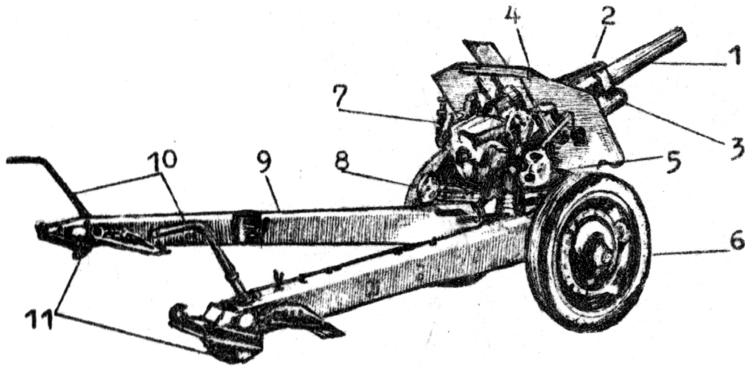


Fig. 10.1. 122 mm howitzer:

1 – barrel; 2 – counterrecoil mechanism; 3 – recoil brake; 4 – shield; 5 – elevating handwheel; 6 – wheel; 7 – panoramic sight (telescope); 8 – traversing handwheel; 9 – trail; 10 – handspike; 11 – spade

#### 10.4. Supplementary reading

*1. Read the text. In groups of 2 or 3 discuss the information you've learnt from the text.*

#### ***SELF-PROPELLED 155 MM HOWITZER, M109***

The M109 is an American self-propelled howitzer, first introduced in the early 1960s to replace the M44. It has been upgraded a number of times, most recently to the M109A7. The M109 family is the most common Western indirect-fire support weapon of maneuver brigades of armored and mechanized infantry divisions.

The M109 has a crew of four: the section chief / commander, the driver, the gunner, and the ammunition handler / loader. The chief or gunner aims the cannon left or right (deflection) and up and down (quadrant).

It is an aluminum-armored, self-propelled, tracked combat vehicle, carrying the 155 mm howitzer, M126. Weighing 52,000 lbs., the vehicle has excellent cross country mobility, top speed being 35 m.p.h., cruising range 220 mi.

It is powered by an 8-cylinder diesel engine. Tube has a bore evacuator to keep fumes out of the cab, and a muzzle brake to reduce recoil. Cab traverse is 360 degrees, and howitzer elevation is minus 3 to plus

75 degrees. Power-assist is given the crew for elevating the tube, traversing the turret and ramming the projectile.

## ***2. Read the text and summarize it.***

### ***M320 GRENADE LAUNCHER MODULE***

M320 Grenade Launcher Module (GLM) is the U.S. military's designation for a new single-shot 40 mm grenade launcher system to replace the M203 for the U.S. Army, while other services initially kept using the older M203. The M320 uses the same High-Low Propulsion System as the M203.

#### *History*

In 2004, the Army announced a requirement for a commercial off-the-shelf 40 mm grenade launcher. It had to be more reliable, ergonomic, accurate, and safer than the M203. It had to be able to fire all 40 mm low-velocity grenades, but be loaded from the breech to accept future longer projectiles. Heckler & Koch's submission was selected in May 2005. The M320 entered production in November 2008.

The weapon was officially fielded in July 2009 at Fort Bragg by the 1st Brigade Combat Team, 82nd Airborne Division. In June 2017, Bravo Company, 2nd Combat Engineer Battalion became the first U.S. Marine Corps unit to be issued the M320. Following initial experiments, the Marines expect to issue 7,000 launchers between 2019 and 2022.

#### *Overview*

The M320 has three major parts: a grenade launcher with rifled barrel, Day / Night Sight (DNS) and a hand held Laser Range Finder (LRF). The M320 can be used in two ways. It can be attached to the M16 assault rifle, CAR-15 carbine, M4 carbine, HK416, or other types of rifles, attaching under the barrel forward of the magazine, or it can be used dismounted with a stock attached as a stand-alone model. A grenadier carrying an M320 with an M4 and three dozen 40 mm grenades will have a total weapon load of 38 lb (17 kg).

The Day / Night Sight allows the grenadier to effectively engage the enemy in the dark.



## 10.5. Army Humour

### *Americans About Themselves*

Two green missilemen were watching rocket launching for the first time. One of them commented knowingly, "The rocket is stabilized by spin, that is turning around its axes."

"What a sharp eye you're got!", the other man exclaimed. "How could you make it out with such a speed of the rocket?"

**ARTILLERY AMMUNITION.  
БОЕПРИПАСЫ АРТИЛЛЕРИИ****11.1. Vocabulary study***Active vocabulary*

artillery round	артиллерийский выстрел
propelling charge	боевой метательный заряд; боевой заряд
primer	капсюль; средство воспла- менения; запал
fuze	взрыватель; снарядная трубка
explode	взрывать; подрывать
fixed ammunition (Fxd Ammo)	боеприпасы унитарного заряжания; унитарные патроны
semifixed ammunition	боеприпасы раздельно- гильзового заряжания
separate-loading ammunition	боеприпасы раздельного заряжания
cartridge case	гильза
service ammunition (Svc Ammo)	боевые патроны; боевые выстрелы
practice ammunition	практические боеприпасы
blank ammunition	холостые боеприпасы
drill ammunition	учебные боеприпасы
filler	снаряжение снаряда
chemical (gas) ammunition (Cml Ammo)	химические боеприпасы
inert	неснаряженный
low-explosive ammunition	шрапнель
simulated combat conditions	условия, приближенные к боевым
marking	маркировка

ammunition lot number	номер партии боеприпасов
laser range finder (LRF)	лазерный дальномер

### *Expressions and Word Combinations*

to initiate the burning of the charge	воспламенять снаряд
dependent on	в зависимости от
fixed charge	постоянный заряд
in one operation	в один прием
loose fit	неплотное крепление; свободная посадка (снаряда в гильзе)
fire for effect	огонь на поражение
simulated fire	имитационная стрельба
handling and loading	обращение и заряжание

**1. Read the following words and word combinations minding the stress and translate them. Consult the dictionary if necessary.**

Simulated combat, to drive the projectile out of the weapon, to fire the weapon once, to initiate burning, to load in one operation, to fire for effect, inert ammunition, training in handling ammunitions, simulated fire, marking, ambidextrous safety.

**2. Match the words from column A with the words from column B to make appropriate word combinations. Use them in the sentences of your own.**

<i>A</i>	<i>B</i>
1. simulated	a. ammunition
2. artillery	b. round
3. propelling	c. ammunition
4. fixed	d. fire
5. semifixed	e. ammunition
6. blank	f. charge
7. drill	g. the burning of the charge
8. simulated	h. ammunition
9. to initiate	i. combat
10. fixed	j. charge

**3. Match the words on the left with their definitions on the right.**

- |                         |  |
|-------------------------|--|
| 1. blank ammunition     | a. all ammunition, used in wpns of caliber greater than 0,60 in  |
| 2. fire for effect      | b. ammunition in which the projectile, propelling charge, and primer are loaded separately rather than as a unit                             |
| 3. separate-loading     | c. fire which is delivered after the mean point of impact or burst is within the desired distance of the target or adjusting / ranging point |
| 4. artillery ammunition | d. the chemical and / or device responsible for initiating the propellant combustion that will push the projectiles out of the gun barrel    |
| 5. primer               | e. it is provided for simulated fire   |

**4. Translate the following phrases into English.**

1. Самоходная пусковая установка монтируется на шасси гусеничного трактора.

2. Ракетный комплекс был взят на вооружение в начале 2000-х, но и в настоящее время подвергается доработке.

3. Практические выстрелы содержат боевой заряд и средства воспламенения и могут быть использованы для ведения стрельбы.

4. Артиллерия обладает большой мощностью огня и дальностью стрельбы, способностью к широкому маневру и открытию внезапного и точного огня.

5. Современная артиллерия может выполнять разнообразные огневые задачи и играет важную роль в общевойсковом бою.

## **11.2. Reading**

**1. Before reading the text answer the question below.**

What is ammunition painted and marked for?

## ***2. Read the text and be ready for comprehension check-up.***

### ***ARTILLERY AMMUNITION***

#### ***Definitions and Classification***

Ammunition is materiel intended to be expended in cbt conditions. Arty Ammo includes all ammunition, used in wpns of caliber greater than 0,60 in. A round or complete round of Arty Ammo comprises all of the components necessary to fire the wpn once. This includes the following:

First, a projectile; second, a propelling charge to drive the projectile out of the wpn; third, a primer to initiate the burning of the propelling charge; and fourth, a fuze assembled to the projectile to explode it at the time and under the conditions desired. Dependent on the manner in which these components are assembled for firing, complete rounds of Arty Ammo are known as fixed, semifixed, and separate-loading.

In fixed ammo the propelling charge is fixed, that is not adjustable, and the components are loaded into the wpn in one operation. Semifixed ammo is characterized by the loose fit of the cartridge case over the projectile so that the propelling charge may be accessible for adjustment. In separate loading ammo its components – projectile, propelling charge and primer – are loaded into the wpn separately.

Ammunition is classified according to use as service, practice, blank, or drill. It may also be classified according to type of filler as explosive, chemical, or inert.

Service ammo is fired for effect in combat.

Dependent upon type of projectile, it may be high-explosive, high-explosive-antitank, armor-piercing, low-explosive (shrapnel), chemical (gas or smoke), illuminating, canister or inert.

Practice ammo is fired for effect in simulated cbt and is provided for training in marksmanship.

Blank ammo is provided for simulated fire. It has no projectile.

Drill or dummy ammo is used for training in handling and loading. It is completely inert.

#### ***Identification***

Ammo and ammo components are completely identified by the painting and marking (including an ammo lot number) on the ammo items and on all original packing containers.

### **3. Comprehension check-up.**

#### **A. Decode and translate.**

Atk – Hq – Pos – OP – Veh – Cml – Inf – CE – Svc – Wpn – Msn –  
fnn – Cml Ammo – Apers-Svc Ammo – Cam-Fxd Ammo – Hq Btry –  
Obs – Obj – Obsn – CO – GP – fps – Frag – Dep – Div – DS – Ctl –  
CinC – Bt – Armd – AT – Spt – Aslt – AP – AA-Abn Trps.

#### **B. Give the best Russian or English equivalents.**

Projectile; орудие; service ammunition; гильза; fuse; капсюль; inert; снаряжение снаряда; fire for effect; постоянный заряд; marking; артиллерийский дивизион; simulated fire; холостые боеприпасы; semi-fixed ammunition; боевой снаряд.

#### **C. Complete the following sentences using active words and word combinations. Translate them into Russian.**

1. An artillery round includes all the components necessary ... . It is made up of: ... .
2. Fixed ammunition contains a fixed propelling charge, that is, ... .
3. In separate-loading ammunition-projectile, propelling charge and primer are loaded into the weapon ... .
4. Service ammo is fired for ... .
5. Drill or ... is used for training in handling and loading.

#### **D. Say it in English observing grammar rules.**

1. Что называется артиллерийским выстрелом применительно к боеприпасам?
2. Из каких элементов состоит артиллерийский выстрел и каково назначение каждого из этих элементов?
3. Чем отличаются боеприпасы унитарного заряжания от боеприпасов раздельно-гильзового заряжания?
4. Как подразделяются артиллерийские боеприпасы по способу применения?
5. Каково боевое предназначение, общее устройство и принцип действия шрапнели и зажигательного снаряда?
6. Как маркируются снаряды в армии США?
7. Для чего проставляется на боеприпасах номер партии боеприпасов?

8. Что представляет собой система цветовой маркировки артиллерийских боеприпасов, принятая в армии США?

**E. Answer the questions using the information from the text and any other additional information.**

1. What is Arty Ammo intended for?
2. What are the components of an artillery round necessary to fire the weapon once?
3. How are complete rounds classified dependent on the manner of their assembly?
4. What is the difference between fixed and separate-loading ammunition?
5. How is ammunition classified according to use and type of filler?
6. What methods are used for identification of Arty Ammo?
7. What are primers and fuzes intended for?
8. What is blank ammunition used for?
9. What type of ammunition is used for training in marksmanship?

### 11.3. Speaking

Study the table 11.1 and speak on the topic "The system of Painting and Marking Colors of Artillery Rounds".

Table 11.1

Artillery Marking System

Type of Shell	Shell Color	Color Bands on Body	Marking (letters and figures)
High-explosive	Olive drab		Yellow
Armor-piercing with HE	Olive drab		Yellow
Without HE	Black		White
Chemical	Grey		Same color as band
Non-persistent toxic gas		1 green band	

Type of Shell	Shell Color	Color Bands on Body	Marking (letters and figures)
Persistent toxic gas		2 green bands	
Persistent harassing agent		2 red bands	
Smoke		1 yellow band	
Practice	Blue		White
Dummy or drill (Inert)	Black		White

#### 11.4. Supplementary reading

*1. Read the text and show the difference between the two grenade launchers: M320 and M203.*

#### ***THE M320 WITH ELECTRONIC TARGETING SYSTEM MOUNTED ON THE M4 CARBINE***

The M320 is one of two 40 mm grenade launchers capable of firing Pike Missile (developed by Raytheon) without modification – the other being the FN EGLM (Enhanced Grenade Launching Module).

The M320 is based on the earlier Heckler & Koch AG-C, but with some Army-specific modifications. It includes a folding foregrip and shorter barrel for a more compact package. The sights had to be reconfigured to shoot accurately with the slightly different ballistics from the shorter barrel length. The system was supposed to be lighter than the M203 (it is actually slightly heavier) and does not require specific mounting hardware. Breech loading allows the grenadier to load a shell while keeping the sight on target. It weighs 3.57 lb (1.62 kg) in its base configuration, 3.89 lb (1.76 kg) with the LRF and electronic sight, and 4.8 lb (2.2 kg) with the stock attached. The sights on the M320 are located to the side of the launcher, avoiding the problems that the M203 had with its sight design, which were mounted on top of the launcher and could interfere with the rifle's sights, so they had to be attached separately.



This meant two separate operations had to be performed when adding the grenade launcher to the weapon, and since the sights were not integral to the M203, they had to be rezeroed every time the launcher was reattached to the rifle. The LRF helps eliminate range estimation errors common in shots greater than 100 meters, thus increasing first round hit probability.

The M320 can fire all NATO high-explosive, smoke, and illumination grenades. Its breech opens to the side, allowing it to fire a variety of newer rounds. The M320 operates in double-action mode, with an ambidextrous safety. In case of misfire, the M320 operator merely has to pull the trigger again. The M203 used a single-action mode, which cocks the weapon as the barrel is opened. The M203 operator has to open the barrel by unlocking it and pushing forward to cock the weapon and then reclose the barrel, then pull the trigger again. The problem with this is that in opening the barrel, the grenade is designed to eject and the operator must ensure that it does not fall to the ground.

## *2. Read the text and retell it.*

### ***WEAPONS FOR ARMOR***

The weapons carried by the early tanks were exclusively antipersonnel: machine guns and light guns suitable for use against field fortifications at short range. Today, the main armament not only of the tank of small armored units is the high muzzle velocity, suitable mainly as an antitank weapon. However, possession by Infantry of portable hollow-charge anti-tank weapons makes tanks still vulnerable to small groups of enemy infantrymen. The weapons which are suitable against small groups of enemy infantry at close range are the tank-mounted machine gun, and the weapons of the attached armored infantry.

The coaxial machine gun can be employed in the anti-personnel role. However, doing so means rotating a 105 mm gun in the direction of the target, and thus decreasing the availability of the tank's main armament in respect to its main targets, enemy armor. The 50 cal. anti-aircraft machine gun can also be used against personnel, if it is mounted in an autonomous cupola (turret).

As for the weapons of the accompanying infantry, they are fully available only if this infantry is dismounted. This means that the protec-

tion of the tanks against the enemy would be obtained at the cost of dismounting a platoon of infantry and thus slowing down the movement of tanks.

The accompanying infantry might be mounted on armored carriers equipped with turrets mounting machine guns. Such armament while useful in itself, could hardly be expected to perform the mission of providing anti-personnel fire in an armored advance, since the normal place of the carriers is behind the tanks and not in front of them.

## **11.5. Army Humour**

### *Americans About Themselves*

An artillery gunner, home on leave, was sitting with his cat before the fire. His wife had to go and visit some relations and warned him to keep an eye on the fire. She went out. The gunner fell asleep. Two hours passed. The fire died. The wife returned. She took one look at her husband snoring before the dead fire, and screamed, "Fire!" The husband leaped to attention, tore open the door of the oven, rammed in the cat, slammed the door, and reported, "Number One Gun Ready!"

**ARMOR.  
БРОНЕТАНКОВЫЕ ВОЙСКА**

**12.1. Vocabulary study**

*Active vocabulary*

armor	бронетанковые войска; танки; броня; бронированный; броневой; бронетанковый; танковый
combined arms	общевойсковой
light-gun tank (Ltk)	легкий танк
medium-gun tank (Mtk)	средний танк
heavy-gun tank (Hvtk)	тяжелый танк
self-propelled artillery mount (SP)	самоходная артиллерийская установка
armored personnel carrier	бронетранспортер
combat tank (cbt tk)	боевой танк
special tank (Sp tk)	специальный танк
armored cavalry units	разведывательные танковые части и подразделения
communication system	система связи
logistics system	система материального и технического (тылового) обеспечения
amphibious tank (AMTK)	плавающий танк
flame-throwing tank	огнеметный танк
mine-clearing tank	танк-тральщик
bridge-laying tank	танк-мостоукладчик
offensive	наступление; наступательный
mounted combat	бой на боевых машинах
dismounted combat	бой в спешенных боевых порядках
armor protection	броневая защита
cross-country capacity	проходимость

fuel distance	запас хода
shock effect	ударная сила
coordination	взаимодействие, координация
delaying action	сдерживающие действия
environment	обстановка, среда; условия ведения боевых действий
effect	поражающий фактор
blast	ударная волна
thermal effect	тепловое излучение
penetration	прорыв
envelopment	охват
exploitation	развитие успеха
mobile defense	мобильная оборона
counterguerilla operation	операция против партизан
antiairborne operation	борьба с воздушными десантами

### *Expressions and Word Combinations*

combined arms force (unit)	общевоисковое соединение
to engage in combat	вести боевые действия
to accomplish a mission (task)	выполнять боевую задачу
economy of force	экономия сил и средств
to repel assault	отразить атаку
responsiveness to command	способность быстро реагировать на полученные команды

***1. Read the following words and word combinations minding the stress and translate them. Consult the dictionary if necessary.***

Ground warfare, responsiveness to command, antiairborne operations, nuclear environment, dismounted combat, delaying action, logistics system, economy of force, coordination, self-propelled artillery mount, penetration, mobile defense, envelopment, exploitations, mounted combat, flame-throwing tank, to repel assault, thermal effect, nuclear burst, counterguerilla operations.

**2. Match the words from column A with the words from column B to make appropriate word combinations. Use them in the sentences of your own.**

<i>A</i>	<i>B</i>
1. self-propelled	a. action
2. armored cavalry	b. artillery
3. logistics	c. warfare
4. mine-clearing	d. capacity
5. ground	e. assault
6. mounted	f. units
7. cross-country	g. a mission
8. delaying	h. system
9. to accomplish	i. tank
10. to repel	j. combat

**3. Match the words on the left with their definitions on the right.**

- |                       |   |
|-----------------------|---|
| 1. tank               | a. a person who is trained to thwart enemy guerrilla operations                                       |
| 2. self-propelled gun | b. a heavy armoured fighting vehicle carrying guns and moving on a continuous articulated metal track |
| 3. envelopment        | c. drive or force (an attack or attacker) back or away  |
| 4. to repel           | d. mounted on or fired from a moving vehicle  |
| 5. counterguerrilla   | e. an attack on an enemy's flank  |

**4. Translate the following phrases into English.**

1. После окончания университета я стану специалистом по многоцелевым гусеничным и колесным машинам.

2. В США бронетанковые войска считаются наступательным родом войск, сочетающим подвижность, огневую мощь и ударную силу.

3. Во взаимодействии с другими родами войск бронетанковые войска придают действиям сухопутных войск маневренный и решительный характер.

4. Какое звание у командира танкового батальона?

5. Танковая рота является основным боевым подразделением танкового батальона.

## 12.2. Reading

*1. Before reading the text answer the question below.*

Do Armor units fight as combined arms forces?

*2. Read the text and be ready for comprehension check-up.*

### ***THE ARMOR***

Armor is a combined arms force designed to conduct mounted combat employing armor-protected vehicles, light-gun, medium-gun and heavy-gun tanks, self-propelled artillery mounts and armored personnel carriers as a principal means of accomplishing a ground combat mission. Armor operates normally within a force structure that may include combat and special tanks, mechanized infantry, engineers, armored cavalry, and Army aviation, supported on the battlefield by a flexible communication system, and a mobile logistics system. Special tanks are amphibious, flame-throwing, mine-clearing, bridge-laying and others.

Armor conducts decisive, highly mobile, ground warfare, primarily offensive in nature and is characterized by a predominance of mounted combat through the use of both ground and air vehicles.

Armor units fight normally as combined arms forces of two or more arms, each complementing the other and employing its own special capabilities.

The capabilities of the armor are based on the recently developed family of battle and special vehicles. The basic characteristics of the modern tank are great firepower, which depends upon its armament; mobility, which depends upon its speed, cross country capacity and fuel distance and heavy armor protection and shock effect.

Missions of the armor troops are the following:

1. Tank units close with and destroy enemy forces, using fire, maneuver, and shock effect in coordination with other arms.

2. Armored cavalry units perform reconnaissance and provide security for the units to which they are organic, assigned, or attached, and engage in offensive, defensive, and delaying action as an economy or force unit.

3. Mechanized inf units close with the enemy by means of fire and maneuver to destroy or capture him or to repel his aslt by fire, close cbt, counterattack either in mounted or dismounted cbt.

4. Units of SP guns, hows and mortars are widely employed for general and close spt of the tank, armored cav or mechanized inf units to which they are organic, assigned or attached.

Armored vehicles are particularly suited to a nuclear environment because their armor protection reduces significantly the effects on pers of blast and radiation from a nuclear burst and, even at close ranges to such a burst, shields pers from thermal effects. Armor's basic characteristics of mobile firepower, mobility, armor protection, shock effect, and responsiveness to command provide it with an optimum capability for accomplishing the following tasks: deep penetration, wide envelopment, exploitation, mobile def, destruction of en armor formations, recon and scety, counterguerilla and anti-airborne ops, close spt of inf, economy of force.

### ***3. Comprehension check-up.***

#### **A. Decode and translate.**

APC – SP – SA – tgt – Ltk – Ammo – Mtk – HQ – Msl Bn – spt –  
HEAT – TOW – mi – Hvtk – AMTK – How – Mg – def Armd Div –  
r.p.m. – Sp tk – Recon – cbt tk – ops – RR – rfl – lb – Atk – cal – in –  
fmn – Apers – JCS – recon – RL – CIA – cbn – ROAD – HQ Btry –  
MP – G – pers.

#### **B. Translate the following sentences. Pay special attention to the meaning of the term “Armor”.**

Armor is a combined arms force.

Armor operates normally within a force structure that may include combat and special tanks, mechanized infantry, artillery, engineers, armored cavalry and Army aviation.

Armor units fight normally as combined arms forces of two or more arms.

The basic characteristics of the modern tank are great firepower, mobility, cross-country capacity, heavy armor protection and shock effect.

Tank units close with and destroy enemy forces in coordination with other arms.

TOW is the antitank weapon system being developed to kill heavy armor.

Armored cavalry units perform reconnaissance and provide security to units to which they are organic, assigned or attached, and engage in offensive, defensive, and delaying action as an economy of force unit.

Armor's basic characteristics provide it with an optimum capability for accomplishing the following tasks: deep penetration, exploitation, destruction of enemy armor formations, close support of infantry, economy of force.

**C. Complete the following sentences using active words and word combinations. Translate them into Russian.**

1. ... operates normally within a force structure.
2. Armor conducts ... .
3. Firepower of the tank ... upon its armament.
4. Special tks are ... .
5. Armor is a ... designed to ... mounted cbt.
6. Armor's basic characteristics ... it ... an optimum capability for accomplishing different tasks.

**D. Say it in English.**

1. – Вы сказали, что бронетанковая дивизия является общевойсковым соединением?

– Да, в ее составе имеются части и подразделения боевых и специальных танков, мотопехоты, артиллерии, подразделения инженерных войск, связи, армейской авиации.

2. – Какие боевые машины имелись на вооружении бронетанковых войск США в 70–80 годы?

– Бронетанковые войска США были вооружены легкими, средними и тяжелыми танками M41, M60 и M103, самоходными 155 мм гаубицами M41 и плавающим гусеничным бронетранспортером M113. Я назвал основные боевые машины.

3. – Ты знаешь, какие танки используются в настоящее время?

– Основным боевым танком армии США является M1 Abrams, названный в честь генерала Абрамса.

**E. Answer the questions using the information from the text and any other additional information.**

1. What does the term Armor mean?
2. What arms are represented in the Armor?
3. What are the missions of the tank units?



4. What are the tasks of the armored cavalry units?
5. What tasks may mechanized infantry be assigned?
6. What is the designation of SP Arty?
7. What kind of warfare is the Armor engaged in?

### 12.3. Speaking

Study the chart (fig. 12.1). Using the text (paragraph 12.2) and the chart describe the organization of US armored division.

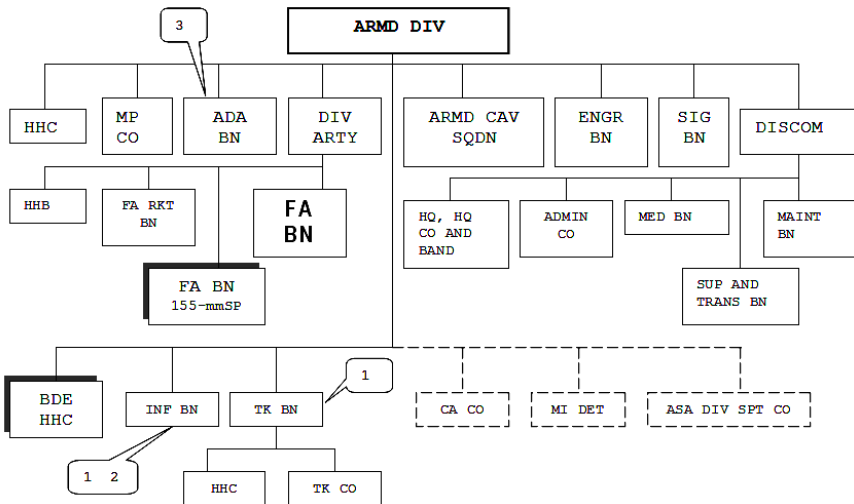


Fig. 12.1. Armored Division:

- 1 – number and type of battalions vary based on mission and operational environment;  
 2 – mechanized Infantry; 3 – towed in Airborne Division;  
 ----- indicates normal attachments

### 12.4. Supplementary reading

**1. Read the texts and then show the difference between the light-gun and medium-gun tanks.**

#### **THE LIGHT-GUN TANK**

The light-gun tank is the smallest of the tank family and is designed primarily for missions requiring speed and maneuverability. It is lightly

armored for protection against small arms fire and shell fragments. The frontal armor provides protection against light antitank weapons. Its main gun can be successfully employed against lightly armored or unarmored vehicles, ground-mounted crew-served weapons and personnel. The principal employment of the light-gun tank is in armored cavalry units for performance of reconnaissance and security missions.

### ***MEDIUM-GUN TANK***

The medium-gun tank is the primary combat tank of the armored and infantry divisions and of separate tank units. Although it cannot operate at as fast a speed as the light-gun tank, it does possess good speed both on roads and cross-country. Its maneuverability, particularly cross-country, is excellent. The tank is provided with armor protection which enables it to operate successfully while being subjected to small arms and artillery fire of all types, and to withstand the fire of medium anti-tank weapons delivered against the frontal armor. The medium-gun tank is employed alone or with infantry support to attack, counterattack, exploit, pursue or defend.

## **12.5. Army Humour**

### ***Americans About Themselves***

The draft officer looked up at the man standing before him and said, "I guess the armored forces are the place for you, John Hopkins."

"No, sir," said the draftee firmly. "Anything but the armor, if you don't mind."

"What's your prejudice against that arm of the service, my boy?" said the officer.

"Mister," said the man, "when it comes to retreating, I don't want to be bothered by a tank."

## UNIT 13

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### THE MAIN BATTLE TANK M1 ABRAMS. ОСНОВНОЙ БОЕВОЙ ТАНК М1 АБРАМС

#### 13.1. Vocabulary study

##### *Active vocabulary*

multifuel turbine engine	многотопливный газотурбинный двигатель
composite armor	композитная броня
computer fire control system	компьютерная система управления огнем
blow-out compartment	продувочный отсек
NBC (nuclear, biological, chemical) protection	ядерная, биологическая, химическая защита
full-tracked	гусеничный
primary armament	основное вооружение
cruising (operational) range	запас хода; радиус действия
water fording kit	комплект приспособлений для преодоления водных рубежей
driver (dvr)	механик; водитель
coaxial	спаренный
short ton (t)	американская (короткая) тонна (равна 907,18474 кг)
armor-piercing discarding sabot	бронебойный подкалиберный снаряд с отделяющимся поддоном
infrared	инфракрасный
hull	корпус
turret	башня
power train	силовая передача
suspension	подвеска
crew compartment	отделение экипажа
driving compartment	отделение управления (механика; водителя)

fighting compartment	боевое отделение
engine compartment	моторное отделение
transmission compartment	трансмиссионное отделение
diesel engine	дизельный двигатель
torsion bar	торсионный вал; торсион
cross-drive transmission (xmsn)	силовая передача кросс-драйв; поперечная силовая передача
differential	дифференциал
steering unit	механизм поворота; бортовой фрикцион
running gear	ходовая часть
compensating idler wheel	натяжное устройство; ленивец
caterpillar track	гусеничная цепь; гусеница
drive sprocket	ведущее колесо
support roller	поддерживающий каток
road wheel	опорный каток
driving controls	рычаги управления
instruments	контрольно-измерительные приборы
collective protector	фильтровентиляционная установка; групповое средство защиты
horse power (HP)	лошадиная сила

### *Expressions and Word Combinations*

low-silhouette vehicle	боевая машина с низким силуэтом
to span a ditch	преодолеть ров
to clear a vertical obstacle	преодолеть вертикальную стену
hydraulic power control	гидравлический привод

**1. Read the following words and word combinations minding the stress and translate them. Consult the dictionary if necessary.**

Infrared fire control system, to be organic to, manual control, full-tracked, cruising range, water fording kit, primary armament, to be equipped with, ditch, armor-piercing discarding sabot, night fighting, auxiliary equipment, cross-drive transmission, interphone equipment, radiation laden dust, combination gun-launcher, compensating idler wheel.

**2. Match the words from column A with the words from column B to make appropriate word combinations. Use them in the sentences of your own.**

<i>A</i>	<i>B</i>
1. discarding	a. compartment
2. transmission	b. a vertical obstacle
3. support	c. sabot
4. interphone	d. roller
5. driving	e. a ditch
6. collective	f. protector
7. horse	g. controls
8. to span	h. power
9. to clear	i. equipment

**3. Match the words on the left with their definitions on the right.**

- |                         |   |
|-------------------------|---|
| 1. transmission         | a. a machine with moving parts that converts power into motion  |
| 2. fighting compartment | b. the mechanism by which power is transmitted from an engine to the axle in a motor vehicle  |
| 3. full-tracked vehicle | c. a portion of a fighting vehicle in which the occupants service and fire the principal armament, occupying a part of the hull and all of the turret, if any             |
| 4. horse power          | d. a unit of power equal in the U.S. to 746 watts and nearly equivalent to the English gravitational unit of the same name that equals 550 foot-pounds of work per second |

5. engine

e. a vehicle (as a tank) that is entirely supported, driven, and steered by a caterpillar tread

**4. Translate the following phrases into English.**

1. Массовое производство танков в США началось в первые годы Второй мировой войны.

2. В силовом отделении танка М103 находится 12-цилиндровый двигатель воздушного охлаждения и гидромеханическая трансмиссия «Кросс драйв».

3. По мнению американских специалистов, действия бронетанковых войск будут наиболее эффективными при массированном использовании танков.

4. При разработке новых образцов танков стремятся улучшить вооружение, сократить вес, повысить запас хода и обеспечить защиту от воздействия современного оружия.

### **13.2. Reading**

**1. Before reading the text answer the question below.**

The M1 Abrams is a medium battle tank, isn't it?

**2. Read the text and be ready for comprehension check-up.**

#### ***THE M1 ABRAMS***

The M1 Abrams is a third-generation American main battle tank designed by Chrysler Defense and named after General Creighton Abrams. Conceived for modern armored ground warfare and now one of the heaviest tanks in service at nearly 68 short tons (almost 62 metric tons), it introduced several innovative features, including a multifuel turbine engine, sophisticated Chobham composite armor, a computer fire control system, separate ammunition storage in a blow-out compartment, and NBC protection for crew safety. Initial models of the M1 were armed with a licensed-produced 105 mm Royal Ordnance L7 gun, while later variants feature a licensed Rheinmetall 120 mm L/44.

The M1 Abrams was developed from the failure of the MBT-70 project to replace the obsolescent M60 Patton tank. There are three main

operational Abrams versions, the M1, M1A1, and M1A2, each having improvements in armament, protection, and electronics. Extensive improvements have been implemented to the latest M1A2C and D versions such as improved composite armor, better optics, digital systems and ammunition.

The M1 Abrams entered service in 1980 and currently serves as the main battle tank of the United States Army and Marine Corps. The export version is used by the armies of Egypt, Kuwait, Saudi Arabia, Australia, Poland, and Iraq. The Abrams was first used in combat in the Persian Gulf War and has seen combat in both the War in Afghanistan and Iraq War under U.S. service.

### ***3. Comprehension check-up.***

#### **A. Decode and translate.**

Armd – tk – SA – AP – SP – Msn – FA – HEP – dvr HP – xmsn – t –  
Ammo – RL – Btry – Engr Bn – How – HEAT – TOW – Co – APC – tgt –  
cal – in – ft – cbn – lb – ROAD – Inf Div – MP – HQ – DS – GS – i.e. –  
mg – mort – msl – JCS – rfl – atk – def – mi – cbt – mil – wea – wpn.

#### **B. Give the best Russian or English equivalents.**

To command and control; группа управления роты; to increase the capability; ставить задачу; to be under the supervision; производить техническое обслуживание и войсковой ремонт штатных транспортных средств; vehicle evacuation; вести наступательный бой; air control team; секция мостовых танков; to include organically; to be in augmentation.

#### **C. Fill in the gaps with appropriate prepositions or adverbs and translate the text about characteristics of tanks.**

All tanks are characterized ... mobility, armor-protected fire-power, and shock action. Mobility is the ability ... the tank to negotiate various types ... terrain and to move rapidly ... place ... place ... the battlefield. How well a tank moves ... the ground depends largely ... its power plant, its suspension system, and its crew. Armor-protected firepower is the ability ... the tank to shoot rapidly and accurately ... any direction, ... a multiplicity ... weapons, and, ... the same time, furnish adequate armor protection ... the crew men. The speed and accuracy ... fire depend ...

the gun-ammunition combination, turret and gun controls, fire control system, and skill ... the tank crew. Shock action is obtained ... properly employing mobility and firepower.

#### **D. Say it in English.**

1. Назовите основные тактико-технические данные среднего танка М60.

Боевой вес среднего танка М60 около 52 т, запас хода 400 км. Максимальная скорость танка 48 км/ч. Он может преодолевать склоны крутизной до 60 %, вертикальную стену высотой до 90 см, рвы шириной до 2,5 м и водные преграды глубиной до 1,2 м без специального оборудования.

2. Каков боекомплект танка М60?

Боекомплект танка М60: 57 пушечных унитарных выстрелов и 7000 пулеметных патронов.

3. Какой двигатель и какая силовая передача установлены на танке М60?

На танке установлен дизельный двигатель воздушного охлаждения мощностью до 750 л.с. и гидромеханическая трансмиссия «Кросс-Драйв».

4. Приспособлен ли танк М60 к ночным действиям?

Танк М60 оснащен инфракрасной системой управления огнем, что позволяет ему вести бой в любое время суток.

5. Когда точно производили танки М60?

Производство началось в 1959 году, а последнюю версию – модифицированный танк М60А3 – перестали выпукать в 1990 году.

#### **E. Answer the questions using the information from the text and any other additional information.**

1. How are tanks classified according to their armaments?

2. What types and models of combat tanks is the US Army equipped with?

3. What are the specifications of the The M1 Abrams?

4. What compartments is the tank hull divided into?

5. Who makes up the crew of the tank?

6. What armament is used for the The M1 Abrams tank?

7. Does the tank armor offer any protection to the crew against the effects of nuclear bursts?



### 13.3. Speaking

Using the picture (fig. 13.1) and tabulated data (table 13.1) speak on the topic "U.S. Army M1A2 Abrams".



Fig. 13.1. M1A2 Abrams

Table 13.1

#### The Abrams

Characteristic	Description
Type	Main battle tank
Place of origin	United States
In service	1980–present
<b><i>Production history</i></b>	
Designer	Chrysler Defense (now General Dynamics Land Systems)
Designed	1972–1975
Produced	1979–present
<b><i>Specifications</i></b>	
Mass	M1A2 SEP v2: 71.2 short tons (64.6 t); M1A2 SEP v3: 73.6 short tons (66.8 t)
Length	Gun forward: 32.04 ft (9.77 m); hull length: 26.02 ft (7.93 m)
Width	12 ft (3.66 m)

Characteristic	Description
Height	8 ft (2.44 m)
Crew	4 (commander / machine gunner, gunner, loader, driver)
Armor	composite armor
Main armament	M1A2: 120 mm L/44 M256A1 smoothbore gun (42 rounds)
Secondary armament	1×.50 caliber (12.7 mm) M2HB heavy machine gun with 900 rounds 2×7.62 mm (.308 in) M240 machine guns with 10,400 rounds (1 pintle-mounted, 1 coaxial)
Suspension	high-hardness-steel torsion bars with rotary shock absorbers
Transmission	Allison DDA X-1100-3B
Ground clearance	M1A2: .43 m (1 ft 5 in)
Engine	Honeywell AGT1500C multi-fuel turbine engine 1,500 shp (1,120 kW)
Power / weight	From 26.9 hp/t (20.05 kW/t) to 23.8 hp/t (17.74 kW/t)
Fuel capacity	504.4 US gallons (1,909 L)
Operational range	M1A2, road: 265 mi (426 km); cross country: 93–124 mi (150–200 km)
Maximum speed	M1A2, road: 42 mph (67 km/h) (governed); off-road: 25 mph (40 km/h)

### 13.4. Supplementary reading

*1. Read the texts and give the summary of them.*

#### ***TRANSPORT VEHICLES***

The term "vehicle", as used in the Army, includes all wheeled, track-laying, combined wheeled and track-laying equipment, and chassis powered by a self-contained power unit; trailers and semitrailers towed by vehicles; and bicycles.

Military transport vehicles are divided into two general categories: administrative and tactical. Administrative vehicles are commercial vehicles having the minimum of modifications to adapt them to military service; in some instances, no modification whatsoever is made. Administrative vehicles are primarily used at posts, camps, and stations, and to fulfill requirements for vehicles that operate chiefly on prepared roads. Tactical vehicles are primarily used as TOE equipment of tactical organizations and, in most instances, are specially built to army specifications.

So far as automotive design principles are concerned, combat vehicles are, in all respects, subject to the same limitations as those of a more conventional type.

Tanks and armored cars are usually built on a hull fabricated of armor plate. Scout cars are usually conventional basic design with armored bodies.

### ***THE M60 MEDIUM TANK***

The M60 is an American second generation main battle tank . It was officially standardized in March 1959. The M60 full-tracked medium tk is a heavily armored, low-silhouette cbt veh, mounting 105 mm gun as a primary armament. It weighs some 52.5 tons loaded, has a cruising range of 310 miles, and a top speed of 30 mph. It can climb a 60 per cent slope, clear a 56 inch vertical obs, span a 102 inch ditch, and cross 48 inches of water without a water fording kit. The crew for this veh includes a commander, a driver, a loader, and a gunner.

Although developed from the M48 Patton, the M60 tank series was never officially christened as a Patton tank. The US Army considered it a "product-improved descendant" of the Patton tank's design. The M60 tank series became America's primary main battle tank during the Cold War. Over 15,000 M60s were built by Chrysler. Hull production ended in 1983, but 5,400 older models were converted to the M60A3 variant ending in 1990.

The M60 underwent many updates over its service life. The interior layout, based on the design of the M48, provided ample room for updates and improvements, extending the vehicle's service life for over four decades. It was widely used by the US and its Cold War allies and remains in service throughout the world, despite having been superseded by the M1 Abrams in the US military. The tank's hull was the basis for a

wide variety of prototype, utility and support vehicles such as armored recovery vehicles, bridge layers and combat engineering vehicles.

### **13.5. Army Humour**

#### *Americans About Themselves*

The instructor in tactics discussed in great details how to deal with antitank defense tasks. Then he asked one of the soldiers:

"Suppose you were in a foxhole and no artillery supported you. Suppose you saw an enemy tank. What steps would you take if it were coming towards you?"

The soldier answered, "Long ones."

**INTERNAL COMBUSTION ENGINE.  
ДВИГАТЕЛЬ ВНУТРЕННЕГО СГОРАНИЯ****14.1. Vocabulary study***Active vocabulary*

internal combustion (IC) engine	двигатель внутреннего сгорания
power plant	силовая установка
multifuel engine	многотопливный двигатель
gasoline engine	карбюраторный (бензиновый) двигатель
fuel system	система питания
ignition system	система зажигания
cooling system	система охлаждения
lubricating system	система смазки
cylinder	цилиндр
piston	поршень
reciprocating motion	возвратно-поступательное движение
rotary motion	вращательное движение
stroke	такт; ход поршня
top dead center (TDC)	верхняя мертвая точка (ВМТ)
bottom dead center (BDC)	нижняя мертвая точка (НМТ)
crankshaft	коленчатый вал
flywheel	маховик
cycle of operation	рабочий цикл
intake stroke	такт впуска
compression stroke	такт сжатия
power stroke	рабочий ход
exhaust stroke	такт выхлопа
valve	клапан
carburetor	карбюратор
spark plug	запальная свеча

connecting rod (conrod)	шатун
firing order	порядок (последовательность) зажигания в цилиндрах
power output	эффективная мощность (двигателя)

### *Expressions and Word Combinations*

to inject fuel into cylinders	впрыскивать топливо в цилиндры
to generate heat	выделять (генерировать) тепло

**1. Read the following words and word combinations minding the stress and translate them. Consult the dictionary if necessary.**

Economy of force, exhaust valve, water fording kit, cycle of operation, reciprocating motion, connecting rod, assault, to generate heat, to be armed with, firing order, bottom dead center, intake valve, spark plug, ignition system, up-and-down movement, 2-stroke-cycle engine, products of burning, fuel, gas and air mixture, flywheel, to inject fuel into cylinders, to be organic to, to furnish fire support.

**2. Match the words from column A with the words from column B to make appropriate word combinations. Use them in the sentences of your own.**

<i>A</i>	<i>B</i>
1. power	a. system
2. top	b. motion
3. reciprocating	c. dead center
4. multifuel	d. engine
5. fuel	e. plant
6. spark	f. output
7. power	g. rod
8. connecting	h. plug

**3. Match the words on the left with their definitions on the right.**

- |                         |  |
|-------------------------|--|
| 1. spark plug           | a. a machine with moving parts that converts power into motion   |
| 2. power stroke         | b. a device for firing the explosive mixture in an internal combustion engine  |
| 3. reciprocating motion | c. the stage of the cycle of an internal combustion engine in which the piston is driven outward by the expansion of gases |
| 4. exhaust stroke       | d. a repetitive up-and-down or back-and-forth linear motion  |
| 5. engine               | e. the stroke of a piston in a four-stroke cycle that pushes the burnt gases out as exhaust                                |

**4. Translate the following phrases into English.**

1. Машина приводится в движение двигателем внутреннего сгорания, электрическим двигателем или реактивным.

2. В настоящее время количество машин с электродвигателем увеличивается изо дня в день.

3. Первый автомобиль, ставший серийной моделью, был запатентован в январе 1886 года.

4. Карл Бенц по праву считается изобретателем автомобиля.

5. В 1936 году началось производство легковых автомобилей с дизельным мотором. Первой моделью стал Mercedes-Bens 260 D.

## **14.2. Reading**

**1. Before reading the text answer the question below.**

Do you know how many cylinders are used in modern engines?

**2. Read the text and be ready for comprehension check-up.**

### **INTERNAL COMBUSTION ENGINE**

The power plant consists of the engine (diesel or gasoline), and attached fuel, ignition, cooling and lubricating systems.

The IC engine is most widely used in transportation today. In the forms of diesel, gasoline and multifuel engines it provides the power for moving combat vehicles, cars, trucks, trains, ships and airplanes. In each case burning takes place inside the cylinder to produce power; that is why it is called internal combustion engine.

The up-and-down movement of the piston in the cylinder is called reciprocating motion. This reciprocating motion must be changed to rotary motion so that the wheels of the vehicle can be made to rotate.

Each movement of the piston from top to bottom or from bottom to top is called a stroke. When the piston is at the top of a stroke, it is said to be at top dead center (TDC). When the piston is at the bottom of a stroke, it is said to be at bottom dead center (BDC).

Four strokes of the piston, with two revolutions of the crankshaft are necessary in order to complete a cycle of operation in the 4-stroke-cycle engine. In the 2-stroke-cycle engine, the entire cycle takes place in two piston strokes.

The four strokes are continuously repeated as the engine runs.

On the intake stroke the intake valve opens when the piston moves downward, allowing the mixture of gasoline vapor and air coming from the carburetor to enter the cylinder.

On the compression stroke the piston moves upward after the intake and exhaust valves close, preventing the escape of gas, and compressing the mixture of gas and air.

During the power stroke an electric spark comes through the spark plugs and ignites the mixture, causing the explosion which forces the piston down. It is this stroke which gives the engine its power. The power is passed into a connecting rod from the pistons to a crankshaft, which causes the shaft and flywheel to turn.

On the exhaust stroke, the exhaust valve opens and the piston moves up pushing out the burned gases. In order to provide proper operation and power, from 4 to 12 cylinders are used in alternate firing order.

The diesel engine has the same four strokes as does the gas engine, the main differences being lack of spark plugs, generation of greater heat, permitting use of heavier, cheaper fuels. On the intake stroke only air enters the cylinder. On the compression stroke, the upward moving piston compresses the air and causes a much greater pressure than is developed in the engine. On the fuel injection stroke this pressure generates sufficient heat so that when, at the top of the compression stroke, a spray



of oil is injected into the cylinder it immediately burns and produces an explosion, providing the power to push the piston down with great force. On the exhaust stroke the products of the burning are forced out of the open exhaust valve by piston.

The speed and the power output of diesel engines are controlled by the quantity of fuel injected into the cylinder. This is opposed to the common gasoline engine, which controls speed and power output by limiting the amount of air admitted to the carburetor. The difference is that the diesel engine controls the quantity of fuel, whereas the gasoline engine regulates quantity of air.

### ***3. Comprehension check-up.***

#### **A. Decode and translate.**

Inf – HP – SP – cal – mi – TDC – conrod – HEP – IC – RA – BDC – kg – HEAT – ROAD – dvr – cbn – msl – atk – tk – HArty – Recon – Ammo – lb – i.e. – MP – CIA – JCS – TOW – HQ Btry – Armd – Cav – tgt – smg – rfl Co – DS – SA – xmsn – GP – APC – How Bn – oz.

#### **B. Give the best Russian or English equivalents.**

To command and control; группа управления роты; to increase the capability; ставить задачу; to be under the supervision; производить техническое обслуживание и войсковой ремонт штатных транспортных средств; vehicle evacuation; вести наступательный бой; air control team; секция мостовых танков; to include organically; РЛС малого радиуса действия; to be in argumentation.

#### **C. Fill in the gaps with appropriate prepositions. Translate the sentences into Russian.**

After a mixture ... fuel and air is admitted ... a cylinder and compressed, the next step ... the cycle ... operation is the ignition ... the compressed charge ... the proper time. This effect is efficiently obtained ... means ... an electric spark is produced when electricity is forced to jump across the gap between the electrodes ... a spark plug installed ... the combustion chamber. An electrical ignition system furnishes these sparks periodically ... each cylinder ... a predetermined position ... piston travel. The source ... high-voltage sparks is produced ... the magneto.

#### **D. Say it in English.**

1. Какое звание у командира танкового батальона? Это звание временное или постоянное?
2. Сколько танков в танковой роте?
3. Сколько боевых батальонов входит в состав бронетанковой дивизии?
4. Какова численность мотопехотного батальона?
5. В чем основные особенности организации новой дивизии?
6. Какие части и подразделения входят в состав мотопехотной дивизии?

#### **E. Answer the questions using the information from the text and any other additional information.**

1. What is the principle of operation of the IC engine?
2. What parts and systems does the power plant consist of?
3. How is reciprocation motion converted to rotary motion?
4. How many strokes are necessary to complete a cycle in the 2-stroke engine?
5. What takes place in the cylinder on the power (intake, compression, exhaust) stroke?
6. What are the advantages of the diesel engine?

### **14.3. Speaking**

Study the picture (fig. 14.1). Describe the four-stroke internal combustion engine or the complete cycle of operation for all the cylinders at some position of the crankshaft (for example, 0–180°).

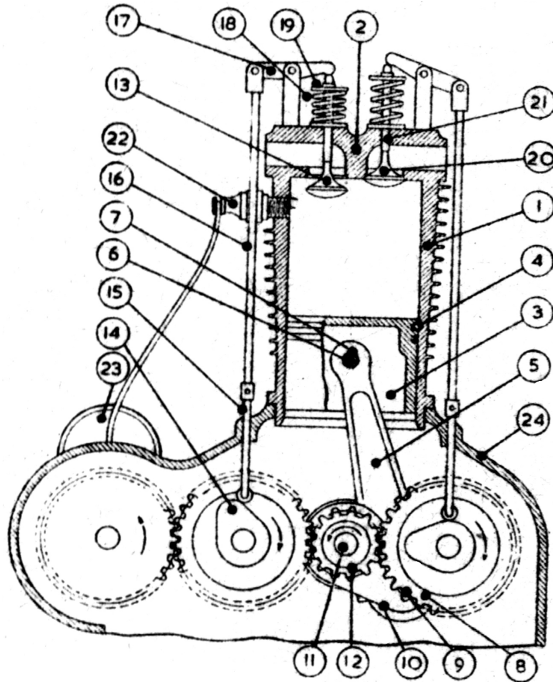


Fig. 14.1. A Four-Stroke Internal Combustion Engine:

1 – cylinder; 2 – cylinder head; 3 – piston; 4 – piston rings; 5 – connecting rod;  
 6 – gudgeon pin; 7 – small-end bearing; 8 – big-end bearing; 9 – crankpin; 10 – crank;  
 11 – crankshaft; 12 – main bearing; 13 – exhaust valve; 14 – cam; 15 – tappet; 16 – push  
 rod; 17 – valve rocker; 18 – valve spring; 19 – spring cap; 20 – inlet valve; 21 – valve  
 guide; 22 – sparking plug; 23 – magneto; 24 – crankcase

#### 4.4. Supplementary reading

*1. Read the text and retell it.*

#### **ENGINE CYLINDER CONFIGURATIONS**

Once upon a time, the more cylinders a car had, the greater its performance but that's no longer true. The development of powerful fuel injection systems and turbochargers means that cars with fewer cylinders are able to compete with larger engines. Here, we take a look at the common engine cylinder configurations, and on which sort of cars they're likely to be found.

### *Twin-Cylinder*

Twin-cylinder engines are very rare, because they offer a low power output and capacity. However, some manufacturers are now using turbochargers to make small, eco-friendly twin-cylinder engines. The Fiat TwinAir is a great example of this, and can be found on cars such as the Fiat 500 TwinAir and the Fiat Panda Aria.

### *Three-Cylinder*

Three-cylinder engines are used on small cars, although the introduction of turbochargers has meant they've started appearing on larger family hatchbacks, such as the Ford Focus. Three-cylinder engines produce a distinctive burbling noise and are known for their shuddering vibration, which is a result of the odd number of cylinders affecting the engine's balance.

### *Four-Cylinder*

Easily the most common configuration, four-cylinder engines are found on a large majority of small to mid-range cars, and are almost always set up in an inline layout. Four cylinders offer a good amount of engine output, and can be made very powerful with the introduction of a turbocharger.

### *Five-Cylinder*

Five-cylinder engines are very rare, and suffer a similar vibration feel to that of a three-cylinder engine. Volvo is one manufacturer which regularly uses five-cylinder engines, because the vibration effect is offset by the car's comfort and refinement.

### *Six-Cylinder*

Six-cylinder engines are found on high-end performance and sports cars, and are commonly set up in a V or straight engine layout. Historically, six-cylinder engines weren't considered all that powerful, but now, thanks to the turbocharger, they're fitted to some of the world's most powerful cars.

### *Eight-Cylinders*

Cars fitted with eight or more cylinders usually fall into the supercar bracket, given their massive capacity and power output. They're normal-

ly set up in a V formation, hence being referred to as V8, V10 or V12. Until recently, V12 was the largest engine available, but that all changed with the arrival of the super-quick Bugatti Veyron, which boasts sixteen cylinders.

**2. Read the text and translate it in a written form.**

### ***ENGINE MEASUREMENTS***

1. *Bore and Stroke.* The size of an engine cylinder is usually indicated in terms of bore and stroke. Bore is the diameter of the cylinder. Stroke is the distance the piston moves in the cylinder, or the distance between top dead center and bottom dead center.

2. *Piston displacement.* Piston displacement is the volume of space that the piston displaces as it moves from bottom dead center to top dead center, that is, the number of cubic inches the piston displaces as it moves from bottom dead center to top dead center.

3. *Compression ratio.* The compression ratio of an engine is the volume in one cylinder with the piston at bottom dead center divided by the volume with the piston at top dead center. This figure indicates the actual amount that the air drawn into the cylinder will be compressed.

4. *Power.* Power is the rate of work. Engines are rated in terms of the amount of work they can do per minute. The work capacity of engines is measured in horsepower. A horsepower is a definite amount of power. Actually, it is the amount of power that an average horse was found to develop when working hard in tests made many years ago at the time steam engines were developed. It was found that an average horse could lift a weight of 200 lb a distance of 165 ft in 1 min.

## **14.5. Army Humour**

### ***Americans About Themselves***

Private Beadecker, a driver from a truck unit, on a trip out of the garrison town, was busily engaged with a shovel in the mud beside his truck when an MP hailed him.

"Stuck in the mud?"

"Oh, no," exclaimed the driver cheerily, "my motor just died and I'm digging a grave for it."

## UNIT 15

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### MILITARY ARMOURED CAR. ВОЕННЫЙ БРОНИРОВАННЫЙ АВТОМОБИЛЬ

#### 15.1. Vocabulary study

##### *Active vocabulary*

military armoured car	военный бронированный автомобиль
armoured fighting vehicle (AFV)	бронированная боевая машина
reconnaissance	разведка
internal security	внутренняя безопасность
armed escort	вооруженное сопровождение
iron shield	железный щит
tracked combat vehicles	боевая гусеничная машина
pursuit	преследование
flanking maneuvers	ракетная дивизия
off-road vehicle	внедорожник
insurgents	повстанцы
rioter	бунтовщик
civilian-type vehicles	гражданский автомобиль
improvised armour	импровизированная броня
to adapt	приспосабливаться
opposing fire	оборонительный огонь
Armoured Security Vehicle	бронированная машина охраны
by virtue	в соответствии
autocannon (automatic cannon or machine cannon)	автопушка

##### *Expressions and Word Combinations*

to be vulnerable to enemy fire	быть уязвимым под действием врага противника
ground support operations	действия по поддержке наземных войск
to turn on the spot	поворачиваться на месте

**1. Read the following words and word combinations minding the stress and translate them. Consult the dictionary if necessary.**

To be organized into, to be vulnerable to enemy fire, outbreak of hostilities, to be composed of, to launch an attack, to conduct combat operations, to be designed to do a particular type of job, to carry out specialized missions, in cooperation with, to provide air transport, troop carrier operations, to be made up of.

**2. Match the words from column A with the words from column B to make appropriate word combinations. Use them in the sentences of your own.**

<i>A</i>	<i>B</i>
1. tracked	a. wheels
2. automotive	b. combat vehicles
3. off-road	c. support operations
4. opposing	d. Force
5. air	e. division
6. armoured	f. fire
7. infantry	g. reconnaissance
8. ground	h. car

**3. Match the words on the left with their definitions on the right.**

- |                     |   |
|---------------------|---|
| 1. armed escort     | a. military observation of a region to locate the enemy or ascertain strategic features   |
| 2. reconnaissance   | b. a fully automatic gun that is capable of rapid-firing large-caliber (20 mm / .79 in or more) armour-piercing, explosive or incendiary shells, as opposed to the smaller-caliber kinetic projectiles (bullets) fired by a machine gun |
| 3. autocannon       | c. someone who takes part in a brawl or a violent disturbance   |
| 4. rioter           | d. a vehicle that is designed to travel over rough ground   |
| 5. off-road vehicle | e. an escort carrying weapons; (now especially) a person or group of people carrying firearms and employed to escort and protect someone important or famous  |

#### ***4. Translate the following phrases into English.***

1. История автомобильной промышленности насчитывает более 100 лет.
2. Автомобильная промышленность часто расценивается как главный двигатель индустриального роста двадцатого столетия.
3. Методы производства автомобилей, от их кустарного изготовления до массового производства, всегда имели большое влияние на организацию и технологию других отраслей промышленности.
4. Современные автомобили состоят из более 1200 деталей.
5. Использование автомобилей приносит комфорт, скорость и удобство в современную жизнь человека.
6. Современная стратегия автомобильной промышленности состоит в том, чтобы сделать транспортные средства более эффективными и экологически безопасными.

### **15.2. Reading**

#### ***1. Before reading the text answer the question below.***

Is there any difference between a military armoured car and an armoured fighting vehicle?

#### ***2. Read the text and be ready for comprehension check-up.***

### ***A MILITARY ARMoured CAR***

#### ***History***

The first modern AFVs were armed cars, dating back virtually to the invention of the motor car. The British inventor F. R. Simms designed and built the Motor Scout in 1898 (fig. 15.1). It was the first armed, petrol-engine powered vehicle ever built. It consisted of a De Dion-Bouton quadricycle with a Maxim machine gun mounted on the front bar. An iron shield offered some protection for the driver from the front, but it lacked all-around protective armour.

The armoured car was the first modern fully armoured fighting vehicle. The first of these was the Simms' Motor War Car, also designed by Simms and built by Vickers, Sons & Maxim in 1899. The vehicle had Vickers armour 6 mm thick and was powered by a four-cylinder 3.3-litre 16 hp engine giving it a maximum speed of around 9 miles per hour



(14 kilometres per hour). The armament, consisting of two Maxim guns, was carried in two turrets with 360° traverse.



Fig. 15.1. F. R. Simms' Motor Scout, built in 1898 as an armed car

Another early armoured car of the period was the French Charron, Girardot et Voigt 1902, presented on 8 March 1902 (fig. 15.2). The vehicle was equipped with a Hotchkiss machine gun, and with 7 mm armour for the gunner. Armoured cars were first used in large numbers on both sides during World War I as scouting vehicles.

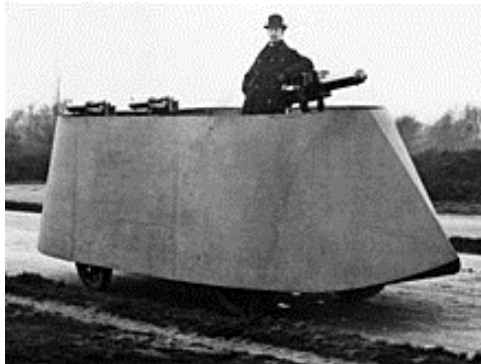


Fig. 15.2. F. R. Simms' 1902 Motor War Car, the first armoured car

During World War II, most armoured cars were engineered for reconnaissance and passive observation, while others were devoted to communication tasks. Some equipped with heavier armament could even

substitute for tracked combat vehicles in favorable conditions, such as pursuit or flanking maneuvers. Since World War II the traditional functions of the armored car have been occasionally combined with that of the armored personnel carrier, resulting in such multipurpose designs as the Cadillac Gage Commando. Postwar advances in recoil control technology have also made it possible for a few armored cars, including the AMX-10RC and EE-9 Cascavel, to carry large cannon capable of threatening many tanks.

### *Military use*

A military armoured car is a lightweight wheeled armoured fighting vehicle, historically employed for reconnaissance, internal security, armed escort, and other subordinate battlefield tasks. A military armored car is a type of armored fighting vehicle having wheels (from four to ten large, off-road wheels) instead of tracks, and usually light armor. Armored cars are typically less expensive and on roads have better speed and range than tracked military vehicles. They do however have less mobility as they have less off-road capabilities because of the higher ground pressure. They also have less obstacle climbing capabilities than tracked vehicles. Wheels are more vulnerable to enemy fire than tracks, they have in most cases less armor than comparable tracked vehicles. As a result, they are not intended for heavy fighting; their normal use is for reconnaissance, command, control, and communications, or for use against lightly armed insurgents or rioters. Only some are intended to enter close combat, often accompanying convoys to protect soft-skinned vehicles. Light armored cars, such as the British Ferret are armed with just a machine gun. Heavier vehicles are armed with autocannon or a small tank gun. The heaviest armored cars, such as the German, World War II era or the modern, US M1128 Mobile Gun System, mount the same guns that arm medium tanks.

Armored cars are popular for peacekeeping or internal security duties. Their appearance is less confrontational and threatening than tanks, and their size and maneuverability is said to be more compatible with tight urban spaces designed for wheeled vehicles. However they do have a larger turning radius compared to tracked vehicles which can turn on the spot and their tires are vulnerable and are less capable in climbing and crushing obstacles. The threatening appearance of a tank is often enough to keep an opponent from attacking, whereas a less threatening vehicle such as an armored car is more likely to be attacked.

Many modern forces now have their dedicated armored car designs, to exploit the advantages noted above. Examples would be the M1117 Armored Security Vehicle of the USA or Alvis Saladin of the post-World War II era in the United Kingdom. Alternatively, civilian vehicles may be modified into improvised armored cars. Many militias and irregular forces adapt civilian vehicles into AFVs (armored fighting vehicles) and troop carriers, and in some regional conflicts these "technicals" are the only combat vehicles present.

### ***3. Comprehension check-up.***

#### **A. Decode and translate.**

Inf – HP – SP – cal – mi – TDC – HEP – IC – RA – BDC – kg – HEAT – ROAD – dvr – cbn – msl – atk – tk – HArty – Recon – Ammo – lb – i.e. – MP – CIA – JCS – HQ Btry – Armd – Cav – tgt – smg – rfl Co – DS – SA – GP – APC – How Bn – strat – AF – CO – Tgt – AFVs.

#### **B. Give the best Russian or English equivalents.**

Many modern forces now have their dedicated armored car designs, to exploit the advantages noted above.

Огромный рост количества транспортных средств приводит к загрязнению окружающей среды.

Armored cars are popular for peacekeeping or internal security duties.

Методы производства автомобилей, от их кустарного изготовления до массового производства, всегда имели большое влияние на организацию и технологию других отраслей промышленности.

Henry Ford had an engine running by 1893 but it was 1896 before he built his first car.

Автомобильная промышленность является важным и динамичным сектором промышленности практически любой экономически развитой страны.

Ford had sold his first car, which he called a Quadracycle, to build another one.

#### **C. Fill in the gaps with active words and word combinations. Translate the sentences into Russian.**

1. A military armored car is a type of ... having wheels instead of tracks.

2. The heaviest armored cars mount the same guns that arm ... .

3. Most armored cars were engineered for reconnaissance and ... .
4. Wheels are more ... to enemy fire than tracks.
5. Ransom E. Olds was the first mass producer of gasoline ... automobiles in the United States.
6. By the end of the century Ransom Olds had produced a great ... of electric cars.
7. Many militias and irregular forces ... civilian vehicles into AFVs and troop carriers,

**D. Say it in English observing grammar rules.**

1. Сколько лет насчитывает история создания первого транспортного средства?
2. Почему электромобили становятся все более популярными?
3. Из каких основных компонентов состоит двигатель внутреннего сгорания?
4. Когда впервые были использованы бронированные машины в разведывательных целях?
5. Какие специальные задачи выполняют бронированные автомобили?
6. Какова организация моторизованной пехотной дивизии?
7. Произошли ли какие-либо изменения за последнее время в использовании так называемых «техничек»?

**E. Answer the questions using the information from the text and any other additional information.**

1. Who designed and built the the first AFV?
2. What is a military armoured car?
3. What protected the driver from the front in the first Motor Scout?
4. When were armoured cars first used in large numbers?
5. Wheels are more vulnerable to enemy fire than tracks, aren't they?
6. What for were most armored cars engineered during World War II?
7. Could armored cars substitute for tracked combat vehicles in favorable conditions?
8. Are armored cars intended for heavy fighting?
9. What are light armored cars armed with? What about heavier vehicles?
10. Why are the armored cars more popular for peacekeeping or internal security duties than tanks?

### 15.3. Speaking

Work in pairs, think of some questions to show the difference between a military armoured car and an armoured fighting vehicle. Make up the dialogues using the word combinations below:

to have better speed and range  
mobility  
off-road capabilities  
because of the higher ground  
pressure

obstacle climbing capabilities  
vulnerable to enemy fire  
to be intended for heavy fighting  
reconnaissance

### 15.4. Supplementary reading

*1. Read the text carefully and summarize it.*

#### ***M2 BRADLEY***

The *M2 Bradley* (fig. 15.3), or *Bradley IFV*, is an American infantry fighting vehicle that is a member of the Bradley Fighting Vehicle family.



Fig. 15.3. A M2A3 Bradley during a training exercise at Fort Irwin National Training Center, February 2013

The Bradley is designed for reconnaissance and to transport a squad of infantry, providing them protection from small arms fire, while also providing firepower to both suppress and eliminate most threats to friendly infantry. It is designed to be highly maneuverable and to be fast

enough to keep up with heavy armor during an advance. The M2 holds a crew of three: a commander, a gunner and a driver, as well as six fully equipped soldiers.

### *Design*

The Bradley IFV was developed to serve as both an Armored personnel carrier (APC), and a tank-killer. Design began in 1963 and entered production in 1981. One specific design requirement was that it should be as fast as the new M1 Abrams main battle tank so that they could maintain formations while moving, something which the older M113 armored personnel carrier could not do, as it had been designed to complement the older M60 Patton.

### *Armament*

The Bradley is equipped with the M242 25 mm autocannon as its main weapon. The M242 has a single barrel with an integrated dual-feed mechanism and remote feed selection. The gun has 300 ready rounds in two ready boxes, with another 600 rounds in storage. The two ready boxes allow a selectable mix of rounds, such as the M791 APDS-T (Armor-Piercing Discarding Sabot (with) Tracer), and M792 HEI-T (High Explosive Incendiary (with) Tracer) rounds. The 25 mm automatic gun is primarily used for clearing bunkers and firing on lightly armored vehicles. While the 25 mm automatic gun is not the weapon of choice for engaging tanks, vehicle commanders, crews, and Army Infantry Center personnel reported isolated instances in which the 25 mm automatic gun had killed tanks.

Subsequent ammunition developments resulted in the M919 APFSDS-T (Armor-Piercing Fin Stabilized Discarding Sabot with Tracer) round, which contains a finned depleted-uranium penetrator similar in concept to armor-piercing munitions used in modern tanks.

It is also armed with an M240C machine gun mounted coaxially to the M242, with 2,200 rounds of 7.62 mm ammunition. For engaging heavier targets (such as when acting in an anti-tank fashion), the Bradley has a TOW missile system on board. M2 infantry Bradleys also have firing ports for a number of M231 Firing Port Weapons or FPWs, providing a button-up firing position to replace the top-side gunners on the old ACAV, though the M231 is rarely employed. Initial variants carried six, but the side ports were plated over with the new armor used on the A2 and A3 variants, leaving only the two rear-facing mounts in the loading ramp.

### *Countermeasures*

The use of aluminum armor and the storage of large quantities of ammunition in the vehicle initially raised questions about its combat survivability. Spaced laminate belts and high hardness steel skirts have been added to later versions to improve armor protection, although this increased overall weight to 33 tons.

All versions are also equipped with two four-barreled smoke grenade launchers on the front of the turret for creating defensive smoke screens, which can also be loaded with chaff and flares.

In December 2018, the Army revealed it would be installing Iron Fist, an Israeli made active protection system, on M2 Bradleys of one armored brigade as a near-term solution to enhance protection against anti-tank rockets and missiles.

### *Chassis*

The Bradley has a welded aluminum unit or monocoque structure to which the armor is attached, mostly on the outside. The suspension is by torsion bars and cranks. Six small rubber rimmed, divided road wheels on each side straddle the location flanges sticking up from the tread. These were originally of aluminum, but were changed to steel as vehicle weight increased. The steel treads sit on flat hard rubber tires.

### *Mobility*

The Bradley is highly capable in cross-country open terrain, in accordance with one of the main design objectives of keeping pace with the M1 Abrams main battle tank. Whereas the M113 would float without much preparation, the Bradley was initially designed to float by deploying a flotation curtain around the vehicle. This caused some drownings due to failures during its first trials. Armor upgrades have negated this capability.

## ***2. Read the text and translate it in a written form.***

### ***M2A4***

After the Iraq War, the Army began researching engineering change proposals (ECPs) for the M2 Bradley to buy back space, weight, power, and cooling capacity reduced by the addition of armor and electronics

hastily added during combat. ECP1 will work to restore mobility and allow the vehicle to handle more weight. As weight increased, the Bradley got lower on its suspension, which reduced ground clearance. This decreased mobility on rough terrain and left it more vulnerable. The effort will install lighter tracks, shock absorbers, a new suspension support system, and heavy weight torsion bars. ECP2 will restore automotive power with a larger engine, a new transmission, and a smart-power management system for better electrical power distribution to accept future networked tactical radio and battle command systems. The first Bradleys upgraded with ECP1 were fielded in mid-2015, and the first upgraded with ECP2 began fielding in 2018. Vehicles that receive both the ECP1 and ECP2 upgrade will be designated A4.

## **15.5. Army Humour**

### *Americans About Themselves*

"How often did you jump with parachute?", a paratrooper was asked by the inspector.

"One time", replied the man.

"But your record shows 24 jumps?"

"It's partially correct, sir. I jumped myself only once. All the other times I was kicked out of the plane."



## UNIT 16

### ENGINEER TROOPS: MISSIONS AND EQUIPMENT. ИНЖЕНЕРНЫЕ ВОЙСКА: ЗАДАЧИ И ОБОРУДОВАНИЕ

#### 16.1. Vocabulary study

##### *Active vocabulary*

impede	мешать; препятствовать
block	задерживать; заграждать; загораживать; препятствие (для движения)
canalize	вынуждать совершать маневр в определенном направлении
breaching	продельвание проходов (в заграждениях); преодо- ление (заграждений)
passage	проход; преодоление (препятствий)
obstacle (Obs)	препятствие
barrier	заграждение
river crossing	форсирование водных преград
depot (Dep)	депо; склад; ремонтная база; склад запасных частей
utilities	хозяйственно-бытовое оборудование; сооружения и установки; внутреннее оборудование
maintenance (Maint)	техническое обслужива- ние; содержание
airstrip	взлетно-посадочная полоса
Engineer Amphibious Support	инженерно-десантное командование
Command (EASC)	высадка морского десанта
assault landing operations	

barbed wire entanglement	проволочное ограждение
minefield (MFlD)	минное поле
antitank ditch	противотанковый ров
tool and equipment set	комплект инструмента и имущества
carpenter set	комплект плотничьего инструмента
pioneer set	комплект шанцевого инструмента
demolition set	комплект подрывного имущества
combat platoon	саперный взвод
mine laying	укладка мин
mine clearing	разминирование
mine detector	миноискатель
Heavy Construction Equipment	тяжелое строительное оборудование
crane-shovel	экскаватор-кран
truck- mounted air compressors	воздушные компрессоры на автомашинах
road grader	дорожный грейдер
bulldozer	бульдозер
electric welding equipment	электросварочная аппаратура
entrenching machine	траншекопатель
earthworks	земляные работы
floating bridge	наплавной мост
pontoon bridge (Pon Brg)	понтонный мост
assault floating bridge	штурмовой наплавной мост
landing raft	десантный паром
assault boat (Aslt Bt)	штурмовая лодка; десантный катер
infantry support raft	пехотный паром
treadway bridge (TdwY Brg)	колейный мост
bridging trucks	автомобили для перевозки мостового оборудования

## *Expressions and Word Combinations*

inland waterways	внутренние водные пути
to render support	оказывать поддержку; организовывать обеспечение
to activate a unit	формировать часть

**1. Read the following words and word combinations minding the stress and translate them. Consult the dictionary if necessary.**

To render support, to increase the effectiveness of friendly forces, to canalize the maneuver of enemy forces, land combat, in cooperation with other units, to perform functions, to be supplied with, to be trained in the use of, truck, mounted air compressors, high-speed rubber-tired tractors, to be powered by.

**2. Match the words from column A with the words from column B to make appropriate word combinations. Use them in the sentences of your own.**

<i>A</i>	<i>B</i>
1. mine	a. the enemy
2. assault	b. tasks
3. landing	c. support
4. infantry	d. bridge
5. treadway	e. raft
6. to perform	f. support raft
7. to render	g. floating bridge
8. to canalize	h. clearing
9. mine	i. laying

**3. Match the words on the left with their definitions on the right.**

- |                    |   |
|--------------------|---|
| 1. floating bridge | a. an area planted with explosive mines   |
| 2. mine laying     | b. a wire or strand of wires having small pieces of sharply pointed wire twisted around it at short intervals, used chiefly for fencing in livestock, keeping out trespassers, etc. |

- |                |   |
|----------------|---|
| 3. barbed wire | c. a structure built over a series of pontoons, that allows people or vehicles to cross an obstacle such as a river or canal or railway, etc. |
| 4. ditch       | d. the activity of laying explosive mines   |
| 5. minefield   | e. a narrow channel dug at the side of a road or field, to hold or carry away water   |

**4. Translate the following phrases into English.**

1. Инженерными заграждениями называются инженерные средства и сооружения, устанавливаемые или устраиваемые на местности перед боем или в его ходе для замедления или остановки продвижения войск противника.

2. Минные поля и минные ловушки не только затрудняют продвижение противника, но и наносят ему потери.

3. Степень оборудования взводного района обороны в инженерном отношении зависит главным образом от наличия времени.

4. Саперный танк является универсальной инженерной машиной, которая способна выполнять военно-инженерные работы под огнем противника.

5. Инженерными войсками разработан миноискатель, смонтированный на автомобиле, который автоматически останавливается при обнаружении мины.

## 16.2. Reading

**1. Before reading the text answer the question below.**

Do you know what modern engineer equipment the engr cbt co is provided with?

**2. Read the text and be ready for comprehension chek-up.**

### **ARMY ENGINEERS.**

#### **ENGINEER TROOPS: MISSIONS AND EQUIPMENT**

The msn of the Corps of Engineers (CE) is to render support that will increase the effectiveness of friendly forces, and impede, block, or canalize the maneuver en forces.

### *Specific Missions*

(1) Engineer units participate in all forms of land cbt, including advance, atk, pursuit, def retrograde movements, amphibious (amph) and denial operations (ops).

In these ops they perform various specialized tasks, alone or in cooperation with other units, such as the destruction, breaching, or passage of obstacles (obs); the creation of obs and barriers; river crossings, and some others. Also in an emergency they may engage in infantry type cbt.

(2) All types of general construction, such as depots, warehouses, and hospitals, with their necessary utilities.

(3) Construction, reconstruction and maintenance of roads and bridges; the construction, reconstruction and maintenance of mil railroads, ports, pipelines, and airbases; the construction and maintenance of airstrips and heliports for army aviation; and the maintenance of inland waterways.

(4) Water service.

(5) Topographic, mapping, and geodetic services.

(6) Demolitions.

(7) Camouflage.

(8) Engineer supply and maintenance of engineer equip.

The CE activated a special unit – Engineer Amphibious Support Command (EASC) – which is designed to furnish specialized sup to Army forces engaged in assault landing operations.

To perform numerous functions ranging from the destruction of all types of obs (barbed wire, minefield, AT ditches, etc.) up to the construction of roads, bridges, air bases, fortifications as well as anti-personnel (apers) and antitank (at) obstacles the engineer troops are being supplied and trained in the use of specialized equip which includes:

1. Tool and Equipment Sets for operating Sqds and Plats such as the carpenter set, containing pneumatic saws, hammers, chisels, and similar tools, the pioneer set with axes, picks, machetes, and similar tools, and the demolition set, which includes explosives and accessories. In addition, the cbt plat is equipped with mine laying and mine clearing devices (mine detectors).

2. The Heavy Construction Equip includes entrenching machines, truck-mounted air compressors, crane shovels, bulldozers, road graders, trailer-mounted electric welding equip, and high-speed, rubber-tired tractors.

3. Stream-Crossing Equip incorporates various means such as floating bridges, pontoon bridges, light and heavy aslt floating bridges, landing rafts, etc. used by the cbt engineers in river-crossing ops.

In addition to aslt boats, outboard motors, and inf support rafts the bridge platoon is equipped with a treadway bridge capable of supporting divisional loads. The bridging equipment is transported primarily on heavy mil bridging trucks.

### **3. Comprehension check-up.**

#### **A. Decode and translate.**

CE – Obs – Maint – Dep – Cam – EASC – Engr – HEAT – msn – cbt – ops – Trps – yd – rpm – GP – in – ammo – lb – mi – lchr – atk – amph – abn – Def – MFld – fmn – Apers – Pon – Brg – AsltBt – Tdwy Brg – at.

#### **B. Give the best Russian or English equivalents.**

- |   |   |
|---|---|
| 1. Каково оснащение саперного батальона?                              | 1. The engr bn contains the wpns, const equip, handtools, powertools, bridging, and other specialized equip that will enable it to accomplish day-to-day engr msns in spt of the div. |
| 2. Какой тяжелой строительной техникой располагает саперный батальон? | 2. The bn hv const equip includes truck-mounted air compressors, crane-shovels, dozers, scoolloaders, road graders, and trailer-mounted electric welding equipment.                   |
| 3. Имеет ли батальон траншекопатели?                                  | 3. The bn has no standard entrenching mashines but may be reinforced with this equip by the next higher command echelon.  |

#### **C. Fill in the gaps with the words given below. Translate the sentences.**

1. The HQ co and the brg co contain... and ... with ... and specialists to appropriately supplement the engr cbt cos for specific tasks.

2. In the offence, the tasks of the brg co may consist of erecting ..., constructing bridges and rafts of ... and ..., and operating ... equipped with ... .

3. The ... are used to cross short gaps in a minimum of time with a minimum of exposure of ... to enemy fire.

4. The term ... is applied to engr units which are not ... to disvisions but which work closely with them in support of combat operations.

*Words:* organic; outboard motors; armored vehicle launched bridges; engineer construction equipment; operators; mobile floating assault bridge / ferry units; assault stream crossing equipment; non-divisional engineer combat units; assault boats; light tactical raft / bridge sections.

#### **D. Say it in English observing grammar rules.**

1. Какие задачи выполняют инженерные войска в наступлении?
2. Как осуществляется взаимодействие инженерных войск с другими родами войск?
3. Какие подразделения инженерных войск предназначены для непосредственной поддержки пехоты в бою?
4. Кто оказывает помощь пехотным подразделениям в проделывании проходов в заграждениях, преодолении препятствий и форсировании водных преград?
5. Какие специальные задачи выполняют части и подразделения инженерных войск?
6. Используются ли подразделения саперного батальона пехотной дивизии для строительства дорог, мостов и аэродромов?
7. Какие инструменты входят в комплект шанцевого инструмента саперного взвода?
8. Какие типы миноискателей состоят на вооружении армии США?
9. Для выполнения каких работ предназначаются бульдозеры, дорожные грейдеры и экскаваторы-краны?
10. Какие переправочные средства используют инженерные войска?

#### **E. Answer the questions using the information from the text and any other additional information.**

1. What is the mission of the Corps of Engineers in the US Army?
2. What forms of land combat do the engineer units participate in?
3. What are the specialized tasks performed by engineer units?
4. What construction and maintenance works are usually carried out by the engineer troop units?

5. What types of obstacles should be destroyed by the combat engineers on the battlefield?
6. What are the construction missions of the combat engineers?
7. What does the specialized equipment of the engineer troops include?
8. What is the equipment of the combat platoon?
9. What equipment is considered as the heavy construction equipment?
10. What are the various means used by the combat engineers in river-crossing operations?
11. What does the bridge platoon equipment incorporate?

### **16.3. Speaking**

Imagine that you are giving a lecture to the second-year cadets at Minsk High Command College. The topic of the lecture is "Obstacles". Try to show the difference between natural obstacle and artificial obstacle; protective minefield and defensive minefield; tactical obstacle and protective obstacle. You may use the following words:

abates	concrete obstacle
triple concertina fence	antitank hedgehog
escarp	double apron fence
log obstacle	booby trap
flooding	four-strand fence
spirals of loose wire	

### **16.4. Supplementary reading**

***1. Read the texts and translate them without a dictionary.***

#### ***A MILITARY ENGINEERING VEHICLE***

A military engineering vehicle is a vehicle built for construction work or for the transportation of combat engineers on the battlefield. These vehicles may be modified civilian equipment (such as the armoured bulldozers that many nations field) or purpose-built military vehicles (such as the AVRE – Armoured (also known as Assault) Vehicle Road Engineers). The first appearance of such vehicles coincided with the appearance of the first tanks, these vehicles were modified Mark V tanks for bridging and mine clearance. Modern military engineering vehicles are



expected to fulfill numerous roles, as such they undertake numerous forms, examples of roles include: bulldozers, cranes, graders, excavators, dump trucks, breaching vehicles, bridging vehicles, military ferries, amphibious crossing vehicles, and Combat engineer section carriers.

### ***CIVILIAN AND MILITARIZED HEAVY EQUIPMENT***

Military engineering can employ a wide variety of heavy equipment in the same or similar ways to how this equipment is used outside the military. Bulldozers, cranes, graders, excavators, dump trucks, loaders, and backhoes all see extensive use by military engineers.

Military engineers may also use civilian heavy equipment which was modified for military applications. Typically, this involves adding armour for protection from battlefield hazards such as artillery, unexploded ordnance, mines, and small arms fire. Often this protection is provided by armour plates and steel jackets. Some examples of armoured civilian heavy equipment are the IDF Caterpillar D9, American D7 TPK, Canadian D6 armoured bulldozer, cranes, graders, excavators, and M35 2-1/2 ton cargo truck.

Militarized heavy equipment may also take on the form of traditional civilian equipment designed and built to unique military specifications. These vehicles typically sacrifice some depth of capability from civilian models in order to gain greater speed and independence from prime movers. Examples of this type of vehicle include high speed backhoes such as the Australian Army's High Mobility Engineering Vehicle (HMEV) or the Canadian Army's Multi-Purpose Engineer Vehicle (MPEV).

### ***COMBAT ENGINEER SECTION CARRIERS***

Another type of CEVs (fig. 16.1) are armoured fighting vehicles which are used to transport sappers (combat engineers) and can be fitted with a bulldozer's blade and other mine-breaching devices. They are often used as APCs because of their carrying ability and heavy protection. They are usually armed with machine guns and grenade launchers and usually tracked to provide enough tractive force to push blades and rakes. Some examples are the U.S. M113 APC, IDF Puma, Nagmachon, Husky, and U.S. M1132 ESV (a Stryker variant) (fig. 16.2).



Fig. 16.1. IDF Namer CEV (is used both to carry section of sappers and to operate combat engineering devices)



Fig. 16.2. M1132 Engineer Squad Vehicle (ESV) (issued to combat engineer squads in the US Army Stryker Brigade Combat Teams)

## 16.5. Army Humour

### *Americans About Themselves*

During field exercises an infantry unit had to move across a river. But the unit commander saw that the only bridge had a sign put on by umpires "Bridge Destroyed".

There was no crossing equipment at the commander's disposal. Soon the umpire saw the unit marching over bridge. Two men were carrying a sign which read, "We are swimming."

## FORTIFICATIONS. ОБОРОНИТЕЛЬНЫЕ СООРУЖЕНИЯ

### 17.1. Vocabulary study

#### *Active vocabulary*

field fortifications (Fld Frtns)	полевые оборонительные сооружения
permanent fortifications	долговременные оборонительные сооружения
hasty	поспешный; ускоренной постройки
locality	местность района обороны
fox hole	стрелковая ячейка
deliberate	заблаговременно подготовленный
standard trench	окоп полного профиля
fire position	огневая позиция
log emplacement	дерево-земляное огневое сооружение (ДЗОС)
Command post (CP)	командный пункт
observation post (OP)	наблюдательный пункт
shelter	убежище; укрытие
dugout	блиндаж
slit	щель
communication trench	ход сообщения
terrain feature	местный предмет
concertina	проволочная спираль
hedgehog	«еж»
booby trap	мина; ловушка
slashing	лесной завал
road block	заграждение на дороге
concrete	бетон
pill box	пулеметный дот
blockhouse	блокгауз
bunker	бункер; дот

gun turret	бронеколпак
dragon-teeth (SI)	бетонные надолбы
concrete block	бетонная надолба
steel-rail obstacle	металлическая надолба
escarp	эскарп
counterscarp	контрэскарп
natural obstacles	естественные препятствия
artificial obstacles	искусственные препятствия
steep slope	крутой склон
tactical obstacle	тактическое препятствие
protective obstacle	заграждение, затрудняю- щее внезапное нападение.

### *Expressions and Word Combinations*

to be subdivided into	подразделяться на
in contact with the enemy	в соприкосновении с противником
to divert movement	вынуждать изменить направление движения

**1. Read the following words and word combinations minding the stress and translate them. Consult the dictionary if necessary.**

To be subdivided into, to increase the defensive strength, to make contact with the enemy, out of presence of the enemy, as a result of, communication trench, to hold under fire, to divert movement of troops, mine-clearing line charges, mine plough vehicles, mine roller vehicles, field-deployable apparatus.

**2. Match the words from column A with the words from column B to make appropriate word combinations. Use them in the sentences of your own.**

<i>A</i>	<i>B</i>
1. Standard	a. position
2. Fire	b. trench
3. Log	c. emplacement
4. Command	d. post

5. Gun	e. trench
6. Steep	f. feature
7. Protective	g. turret
8. Terrain	h. slope
9. Communication	i. obstacle

**3. Match the words on the left with their definitions on the right.**

- |               |  |
|---------------|--|
| 1. obstacle   | a. the disguising of military personnel, equipment, and installations by painting or covering them to make them blend in with their surroundings |
| 2. trench     | b. a thing that blocks one's way or prevents or hinders progress   |
| 3. pillbox    | c. a long, narrow ditch  |
| 4. fox hole   | d. a small, partly underground concrete fort used as an outpost  |
| 5. camouflage | e. a pit dug usually hastily for individual cover from enemy fire  |

**4. Translate the following phrases into English.**

1. Современные приемы введения противника в заблуждение относительно типов и количества полевых фортификационных сооружений весьма разнообразны.

2. Маскировка – очень древний вид обеспечения боевых действий. История войн дает много наглядных примеров успешного применения приемов маскировки воюющими сторонами, в том числе и в сочетании с фортификацией.

3. Маскировочное окрашивание – это изменение цвета поверхности вооружения, техники, реальных и ложных сооружений, участков местности, масок и макетов с помощью красок и местных материалов.

4. Маскировка способствует достижению внезапности действий войск, сохранению их боеготовности и повышению живучести объектов.

5. По тактическому назначению мины бывают противопехотные, противотанковые, противовоздушные (противовертолетные), морские, мины-ловушки.

6. Использование мин активно началось еще в XIX веке, но в тот период применялись импровизированные мины, заряженные порохом.

## 17.2. Reading

*1. Before reading the text answer the question below.*

Do you know what is considered as a natural obstacle?

*2. Read the text and be ready for comprehension check-up.*

### **FORTIFICATIONS**

All Ftns may be subdivided into field and permanent fortifications.

Fld Ftns are works constructed in Cbt Opns to increase natural defensive strength of a locality. They are of two general classes:

A. Hasty, constructed when in contact or about to make contact with the en and consisting generally of fox holes, open wpn emplacements, and simple obs if the situation permits.

B. Deliberate, constructed out of presence of the En or developed gradually from hasty Ftns as a result of long occupation by the troops which are to defend them and consisting generally of standard trenches, covered emplacements, obs's, etc.

Among Fld Ftns the main are:

a) fire positions, fox holes, rifle trenches, and log emplacements for heavier wpns (MsIs, Morts, and Arty);

b) CPs and OPs;

c) shelters, dugouts and slits;

d) communication trenches;

e) Tac apers and at Obs's (barbed wire, concertinas, hedgehogs, mines, booby traps, tank ditches, slashings, road blocks, etc.), the chief purpose of which is to hold the attacking forces under the effective fire of the def.

Permanent Ftns are the duty of Engr Trps. They are always of a more powerful nature than field and may form a continuous def line.

The main types of permanent Ftns are:

a) concrete, ferro-concrete and armored wpn emplacements (pill-boxes, blockhouses, bunkers);

- b) gun turrets;
- c) ATOB's such as dragon-teeth or concrete blocks, steel-rail obstacles, escarps and counterscarps, etc.;
- d) well protected CPs and Sig Comm installations;
- e) underground shelters and bomb-proof shelters.

Obs are classified as natural or artificial. A natural obs is any terrain feature that stops, delays, or diverts movement of pers or vehicles. Examples of such obs are: swamps, mud, snow, sand, short gaps, inland water barriers, and steep slopes. Artificial obs are those built by man for the purpose of stopping, impeding or canalizing en mil movement.

From the tact view-point obs are either tactical or protective.

### **3. Comprehension check-up.**

#### **A. Decode and translate.**

EN – Cal – Fld – Ftns – mi – m – CP – C0 – OP – Co – en – wpn –  
 AT Obs – Pos – MFld – SA – APers – Tac – Cam – lchr – def – Brg –  
 Pon – Aslt – How – DOD – GP – lb – bt – Tips – CE – mil – tac.

#### **B. Give the best Russian or English equivalents.**

- |  |   |
|--|---|
| <p>1. Какие дополнительные меры защиты принимают войска в обороне в условиях применения тяжелого оружия?</p> | <p>1. Digging-in is still the soldier's best safeguard as deep foxholes decrease appreciably the ranges at which heavy weapon shells are lethal. In a sustained defense troops may also construct dugouts and other shelters.</p>     |
| <p>2. Какое значение придается маскировке?</p>   | <p>2. Camouflage and greater use of natural concealment are musts in organization of the ground. Until a target is definitely located it will not draw fire, except in special instances where key terrain features are occupied.</p> |
| <p>3. А какое подвижности войск?</p>   | <p>3. Mobility is also a protective measure, especially when the missile is delivered by aircraft.</p>  |

**C. Fill in the gaps with active words and word combinations. Translate the sentences into Russian.**

1. ... fortifications are those constructed when out of contact with the enemy.
2. Standard trenches are usually ... by communication trenches.
3. ... obstacles are any man-made objects designed to stop, divert or slow down enemy movement.
4. The main purpose of protective obstacles is ... .
5. All ftn may be subdivided into: ... .
6. The purpose of defensive minefields is ... or ... penetration into or between positions of co, bn, or bde defense areas and to strengthen the defense in accordance with a tactical plan.

**D. Say it in English observing grammar rules.**

1. Чем отличаются полевые оборонительные сооружения от долговременных оборонительных сооружений?
2. Относится ли стрелковая ячейка к поспешно или заблаговременно подготовленным оборонительным сооружениям?
3. Где расположен командный пункт нашей части?
4. Какие убежища подготовлены для личного состава вашего подразделения?
5. Как оборудованы огневые позиции для тяжелого оружия?
6. Где располагаются на местности тактические противопехотные и противотанковые препятствия?
7. Какова классификация препятствий с тактической точки зрения?
8. Какова общая протяженность окопов и ходов сообщений?
9. Какие типы мин использовались при постановке минного поля?

**E. Answer the questions using the information from the text and any other additional information.**

1. What is the general classification of fortifications?
2. What are the field fortifications constructed for?
3. What is the difference between hasty and deliberate fortifications?
4. When and what for are positions employed?
5. What is the purpose of antipersonnel and antitank obstacles?
6. Who is responsible for constructing permanent fortifications?
7. What are the main types of permanent fortifications?
8. How are obstacles classified?



9. What is the classification of obstacles from the tactical point of view?
10. What are the main types of antitank artificial obstacles?

### 17.3. Speaking

Study the table 17.1. Classify Engineer units using your active vocabulary and the tabulated data.

Table 17.1

Engineer Unit Classification

Classification	Divisional	Nondivisional	Construction	Intelligence, mapping and geodetic	Maintenance and supply
Category I	Mech Div Engr Bn; Armd Div Engr Bn; Inf Div Engr Bn; Abn Div Engr Bn; Airmobile Div Engr Bn	Engr Amph Spt Command; Engr Cbt Bn; Army Engr Cbt Co; US MSLCOMD; Air Transportable			
Category II		HHC, Engr Bde; HHC, Engr Cbt Gp; Lt Equip Co; Panel Brg Co; Float Brg Co; Dump Truck Co	HHC, Engr Const Gp; Const Bn; Pipeline Equip Co; Const Spt Co	Topo Bn, Army; Topo Co, Corps	SUPPT Co; Water Sup Co; Engr Maint Co (DC)
Category III			Dump Truck Co; Port Const Co	Cam Bn; Base Topo Bn	M&S Gp; Depot Bn; Depot Co; Hv MT Co

## 17.4. Supplementary reading

*1. Read the text and explain what the term "armoured engineering vehicle" means.*

### ***ARMOURED ENGINEERING VEHICLE***

Typically based on the platform of a main battle tank, these vehicles go by different names depending upon the country of use or manufacture. In the US the term "combat engineer vehicle (CEV)" is used, in the UK the terms "Armoured Vehicle Royal Engineers (AVRE)" or Armoured Repair and Recovery Vehicle (ARRV) are used, while in Canada and other commonwealth nations the term "armoured engineer vehicle (AEV)" is used. There is no set template for what such a vehicle will look like, yet likely features include a large dozer blade or mine ploughs, a large caliber demolition cannon, augers, winches, excavator arms and cranes or lifting booms.

These vehicles are designed to directly conduct obstacle breaching operations and to conduct other earth-moving and engineering work on the battlefield. Good examples of this type of vehicle include the UK Trojan AVRE, the Russian IMR, and the US M728 Combat Engineer Vehicle. Although the term "armoured engineer vehicle" is used specifically to describe these multi-purpose tank based engineering vehicles, that term is also used more generically in British and Commonwealth militaries to describe all heavy tank based engineering vehicles used in the support of mechanized forces. Thus, "armoured engineer vehicle" used generically would refer to AEV, AVLB, Assault Breachers, and so on.

*2. Read the texts and translate them in a written form.*

### ***BREACHING VEHICLE***

These vehicles are equipped with mechanical or other means for the breaching of man-made obstacles. Common types of breaching vehicles include mechanical flails, mine plough vehicles, and mine roller vehicles. In some cases, these vehicles will also mount Mine-clearing line charges. Breaching vehicles may be either converted armoured fighting vehicles or purpose built vehicles. In larger militaries, converted AFV

are likely to be used as assault breachers while the breached obstacle is still covered by enemy observation and fire, and then purpose built breaching vehicles will create additional lanes for following forces.

Good examples of breaching vehicles include the USMC M1 Assault Breacher Vehicle, the UK Aardvark JSFU, and the Singaporean Trailblazer.



Fig. 17.1. ST Engineering Bionix Trailblazer Counter-Mine Vehicle

### ***BRIDGING VEHICLES***

Several types of military bridging vehicles have been developed. An armoured vehicle-launched bridge (AVLB) is typically a modified tank hull converted to carry a bridge into battle in order to support crossing ditches, small waterways, or other gap obstacles.

Another type of bridging vehicle is the truck launched bridge. The Soviet TMM bridging truck could carry and launch a 10-meter bridge that could be daisy-chained with other TMM bridges to cross larger obstacles. More recent developments have seen the conversion of AVLB and truck launched bridge with launching systems that can be mounted on either tank or truck for bridges that are capable of supporting heavy main battle tanks.

Earlier examples of bridging vehicles include a type in which a converted tank hull is the bridge. On these vehicles, the hull deck comprises the main portion of the tread way while ramps extend from the front and rear of the vehicle to allow other vehicles to climb over the bridging ve-

hicle and cross obstacles. An example of this type of armoured bridging vehicle was the Churchill Ark used in the Second World War.



Fig. 17.2. U.S. Army M104 Wolverine Heavy Assault Bridge

### ***MILITARY FERRIES AND AMPHIBIOUS CROSSING VEHICLES***

This field-deployable apparatus, known as EFA, used by the engineers of the French Army, may either be used as a bridge (deployed in a series), or as a ferry

One of the major tasks of military engineering is crossing major rivers. Several military engineering vehicles have been developed in various nations to achieve this task. One of the more common types is the amphibious ferry such as the M3 Amphibious Rig. These vehicles are self-propelled on land, they can transform into raft type ferries when in the water, and often multiple vehicles can connect to form larger rafts or floating bridges. Other types of military ferries are able to load while still on land and transport other vehicles cross country and over water.

In addition to amphibious crossing vehicles, military engineers may also employ several types of boats. Military assault boats are small boats propelled by oars or an outboard motor and used to ferry dismantled infantry across water.

## 17.5. Army Humour

### *Americans About Themselves*

When the battery commander visited the site of one of his battery guns, he saw the gun crew crawling in the shrubbery searching for something.

He asked "What's the idea of crawling about like that?"

The gun commander reported "We camouflaged the gun this morning, sir, and now we can't find it."

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Учебное издание

**КОРЗУН** Ольга Фёдоровна

**АНГЛИЙСКИЙ ДЛЯ СТУДЕНТОВ  
ВОЕННО-ТЕХНИЧЕСКОГО ФАКУЛЬТЕТА**

Пособие

для студентов специальности

7-07-0732-01 «Строительство зданий и сооружений»

*На английском языке*

Редактор *Е. И. Бенищевич*

Компьютерная верстка *Н. А. Школьниковой*

Подписано в печать 13.06.2023. Формат 60×84 <sup>1</sup>/<sub>16</sub>. Бумага офсетная. Ризография.

Усл. печ. л. 9,30. Уч.-изд. л. 7,27. Тираж 200. Заказ 448.

Издатель и полиграфическое исполнение: Белорусский национальный технический университет.

Свидетельство о государственной регистрации издателя, изготовителя, распространителя печатных изданий № 1/173 от 12.02.2014. Пр. Независимости, 65. 220013, г. Минск.