

ВОЕННО-КОСМИЧЕСКАЯ АКАДЕМИЯ

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**Вооруженные силы США и стран НАТО.
Военно-специальные тексты на английском
языке для обучения в магистратуре**

Учебное пособие



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UNIT 1

NATO

I. Прочитайте и переведите интернациональные слова.

Organize, organization, military, attack, structure, operation, command, commander, strategy, strategic, tactical, form, ballistic, potential, result, chief, general, civil, official, basis, army, bomb, role, guarantee, political, emblem.

II. Прочитайте и переведите названия.

Albania, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, France, Germany, Greece, Hungary, Iceland, Italy, Lithuania, Luxembourg, the Netherlands, Norway, Portugal, Romania, Spain, Turkey.

III. Запишите и запомните новую лексику.

alliance	союз, альянс
treaty	договор, соглашение
sign	подписать, утвердить
headquarters (HQ)	штаб
agree	соглашаться
supply	снабжение, поступление
weapons	оружие, вооружение
include	включать в себя
council	совет
authority	власть, орган власти
strength	сила, мощь
Allied Tactical Air	Объединённое тактическое

Command	авиационное командование
Commander- in-Chief	главнокомандующий
try	пытаться
attain	достигнуть, добиться
superiority	превосходство
increase	увеличивать, возрастать
capability	способность
offensive	наступление, наступательный
missile	ракета
primary	основной, главный
means	средство, способ

IV. Подберите к английским словам соответствующие русские эквиваленты.

- | | |
|-----------------------|--------------------------------|
| 1. attain superiority | 1. увеличивать |
| 2. primary | 2. главнокомандующий |
| 3. freedom | 3. ракета |
| 4. capability | 4. средство, способ |
| 5. Commander-in-chief | 5. добиваться превосходства |
| 6. sign | 6. главный |
| 7. offensive | 7. наступление, наступательный |
| 8. increase | 8. способность |
| 9. means | 9. подписать, утвердить |
| 10. missile | 10. свобода |

V. Переведите словосочетания:

- a) international military alliance, armed forces, supply of nuclear weapons, political means, the highest authority, strategic offensive forces;
- b) to attain military superiority, to increase combat capabilities, to sign the treaty, to include the Military Committee.

VI. Переведите предложения, обращая внимание на перевод глаголов в страдательном залоге (Passive Voice).

1. The headquarters of NATO is located in Brussels.
2. The NATO Armed forces are commanded by Allied Tactical Air Command.
3. NATO was formed in 1949.
4. The Treaty was signed by 12 countries.
5. The plan of this military operation will be discussed tomorrow.
6. They will be shown a new plan.

VII. Прочитайте и переведите текст.

NATO

NATO, the North Atlantic Treaty Organization, is an international military alliance.

NATO was formed as a result of the North Atlantic Treaty. The Treaty was signed by 12 countries on April 4, 1949, in Washington D.C. The 12 countries were: Belgium, Canada, Denmark, France, Iceland, Italy, Luxemburg, the Netherlands, Norway, Portugal, the United Kingdom and the United States.

In forming NATO, each country agreed to treat an attack on any other country as an attack on itself. The most powerful member of NATO is the United States, because of its large supply of nuclear weapons.

At present moment NATO consists of 28 members: Albania, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, Estonia, France, Germany, Greece, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway,

Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Turkey, the United Kingdom, and the United States.

The main headquarters of NATO is located in Brussels, Belgium.

NATO has a civilian and a military structure. The civilian structure includes the North Atlantic Council, the highest authority in NATO. NATO's military structure includes the Military Committee and the Committee of Military Planning. The NATO Armed forces are commanded by Allied Tactical Air Command. The Commander-in-Chief of NATO Armed forces is an American general. NATO's official languages are English and French.

The strength of NATO Armed Forces is over 5, 5 million men.

NATO tries to attain military superiority all over the world. NATO increases the combat capabilities of the strategic nuclear forces. The basis of the NATO military power are the US strategic offensive forces, which include intercontinental missiles, nuclear submarines, strategic and heavy bombers.

The primary role of NATO is to guarantee the freedom and security of its member countries by political and military means.



The official emblem of NATO

VIII. Ответьте на вопросы к тексту.

1. What is NATO?
2. When was the North Atlantic Treaty signed?
3. What countries does NATO include?
4. What is the most powerful member of NATO?
5. What are the NATO Armed forces commanded by?
6. What is the basis of the NATO military power?

IX. Закончите предложения.

1. NATO is
2. The North Atlantic Treaty was signed by
3. The NATO Armed forces are commanded by
4. The Commander- in-Chief of NATO is
5. The US strategic offensive forces include

X. Переведите предложения.

1. Когда был образован блок НАТО?
2. Сколько стран входит в блок НАТО?
3. Где находится штаб НАТО?
4. Кто управляет Вооружёнными силами НАТО?
5. Что является основой военной мощи НАТО?
6. Какая страна самая мощная в НАТО?
7. В чём заключается главная роль НАТО?

UNIT 2

THE PENTAGON

I. Прочитайте и переведите интернациональные слова.

Department, office, hectare, leader, secretary, cabinet, assistant, minister, national, state, territory, senate, president, commander-in-chief, operation, plan, number, officer.

II. Запишите и запомните новую лексику.

pentagon	пятиугольник
contain	включать в себя
principal	главный, основной
relate to	относиться к чему-либо
appoint	назначать
consent	согласие
Department of the Army (DA)	Министерство сухопутных войск
Department of the Navy (DN)	Министерство ВМС
Department of the Air Force (DAF)	Министерство ВВС
Chief of Staff (COFS)	начальник штаба
Chief of Staff, United States Army (CSUSA)	начальник штаба сухопутных войск
Chief of Naval Operations (CNO)	начальник штаба ВМС
Chief of Staff, United States Air Force (CSUSAF)	начальник штаба ВВС
Joint Chiefs of Staff (JCS)	комитет начальников штабов
Commandant of the Marine Corps	командующий корпусом морской пехоты
Joint Staff (JS)	объединённый штаб
employment	применение, использование
be responsible for smth	быть ответственным за что-либо

assist	помогать
strength	численность, численный состав
equal	равный, одинаковый

III. Расшифруйте и переведите сокращения.

DOD, SecDef, DA, DN, DAF, COFS, CSUSA, CNO, CSUSAF, JCS, JS.

IV. Подберите к английским словам соответствующие русские эквиваленты.

1. assistant	1. безопасность
2. concentric	2. совет
3. security	3. руководство
4. headquarters	4. равный, одинаковый
5. council	5. здание
6. offensive	6. помощник, сотрудник
7. defensive	7. назначать
8. appoint	8. концентрический
9. employment	9. штаб
10. Joint staff	10. оборона, оборонительный
11. equal	11. наступление, наступательный
12. building	12. применение
13. leadership	13. объединённый штаб

V. Переведите словосочетания:

a) military leadership, principal assistant, strategic planning, concentric pentagons, the largest office, three departments, offensive operations, equal number;

b) National Security Council, National Aeronautics and Space Council, North Atlantic Council.

VI. Подберите соответствующие синонимы.

- | | |
|--------------|---------------|
| 1. contain | 1. alliance |
| 2. principal | 2. assist |
| 3. build | 3. choose |
| 4. large | 4. construct |
| 5. union | 5. employ |
| 6. use | 6. primary |
| 7. head | 7. big |
| 8. help | 8. supervise |
| 9. select | 9. consist of |

VII. Заполните пропуски, выбрав правильную форму глагола-сказуемого.

- | | |
|--|--------------|
| 1. The Pentagon in 1941-1943. | |
| 2. The Department of Defense (DOD) by the Secretary of Defense. | is used |
| | is appointed |
| 3. The Secretary of Defense by the President with the consent of the Senate. | is headed |
| | was built |
| 4. The name for the American military leadership. | |

VIII. Переведите предложения, обращая внимание на перевод причастия II (Participle II) в функции определения.

1. The Department of Defense headed by the Secretary of Defense is located in the Pentagon.

2. The Pentagon built in 1941-1943 is situated in Washington, D.C.

3. 400 officers selected from the Army, Navy and Air Force make up the Joint Staff.

4. The name "Pentagon" used for the American military leadership is the symbol of the US military forces.

IX. Прочитайте и переведите текст.

THE PENTAGON

The Pentagon is a five-sided building in Washington, D.C., containing the US Department of Defense and the Headquarters (HQ) of the US Armed Forces.

It was built in 1941-1943 in the form of five concentric pentagons. It covers 14 hectares and is one of the world's largest office buildings.

The name is used for the American military leadership.

The DOD (Department of Defense) is headed by the SecDef (Secretary of Defense). The secretary of Defense as a cabinet member is the principal assistant to the President in all matters relating to the DOD. Appointed by the President with the consent of the Senate, he serves as a member of the National Security Council (NSC), the National Aeronautics and Space Council, and the North Atlantic Council.

Under the DOD are three departments: the DA (Department of the Army), the DN (Department of the Navy) and the DAF (Department of the Air Force), each headed by its Secretary. The military heads of the departments are the chiefs of staff (Chief of Staff, US Army; Chief of Staff, US Air Force; Chief of Naval Operations).

The Joint Chiefs of Staff (JCS) are responsible for strategic planning, employment and training of the Armed Forces.

The JCS consists of a Chairman; the Chief of Staff, United States Army (CSUSA); the Chief of Naval Operations (CNO); the Chief of Staff, United States Air Force (CSUSAF) and the Commandant of the Marine Corps.

To assist the JCS there is a Joint Staff (JS) with the strength of 400 officers, selected in equal number from the Army, Navy, Air Force and Marine Corps.



X. Ответьте на вопросы к тексту.

1. Where is the Pentagon situated?
2. When was the Pentagon built?
3. Who heads the Department of Defense?
4. Who appoints the Secretary of Defense?
5. What departments does the DOD include?
6. What are the principal responsibilities of the SecDef?
7. What are the functions of the JCS?

XI. Переведите предложения.

1. Пентагон – это штаб-квартира Вооружённых сил США.
2. Пентагон был построен в 1941-1943 годах в форме пятиугольника.
3. Министерство обороны США возглавляет министр обороны.
4. Президент назначает министра обороны с согласия Сената.
5. Министерство обороны состоит из трёх министерств: Министерство сухопутных войск, Министерство ВМС и Министерство ВВС.
6. Комитет начальников штабов отвечает за стратегическое планирование, применение и обучение Вооружённых сил США.

UNIT 3

US ARMED FORCES

I. Прочитайте и переведите интернациональные слова.

National, officer, regular, reserve, component, personnel, policy, coordinate, structure, operation, command, tactical, strategic, specify.

II. Запишите и запомните новую лексику.

National Security Council (NSC)	Совет национальной безопасности
Secretary of Defense (SecDef)	министр обороны
Marine Corps (MC)	корпус морской пехоты
Coast Guard (CG)	береговая охрана
enlisted personnel	военнослужащие рядового состава
man	укомплектовывать личным составом
increase	увеличивать, наращивать
emergency	крайняя необходимость
advise	советовать
with respect to	что касается
domestic	внутренний
relate to	относиться, иметь отношение к

general-purpose forces	силы общего назначения
offensive	наступление; наступательный
defensive	оборона; оборонительный
deliver	наносить удар
strike	удар
ground troops	сухопутные войска

III. Подберите к английским словам соответствующие русские эквиваленты.

1. active duty	1. советовать
2. security	2. наступательный
3. equipment	3. внутренний
4. offensive	4. оборонительный
5. component	5. боевая техника
6. establish	6. действительная военная служба
7. divide into	7. основывать
8. advise	8. безопасность
9. defensive	9. подразделять на
10. domestic	10. формирование

IV. Переведите словосочетания:

a) regular components, active duty, security structure, military policy, general-purpose forces, offensive and defensive forces, nuclear strike, ground troops;

b) Commander-in-Chief, National Security Council, Marine Corps, Coast Guard.

V. Переведите предложения, обращая внимание на перевод слов “man” и “order”.

1. Regular units are manned by the professional military.
2. Officers and men must be ready to defend their country.
3. The colonel ordered his men to retreat.
4. Have you read the order of the day?

VI. Заполните пропуски, выбрав правильную форму глагола-сказуемого.

1. The reserve components of the US Armed Forcesto active duty in case of war.
2. The NSC of the President, the Vice President, the Secretary of State and the Secretary of Defense. are designed
are divided
3. The US Armed Forces into strategic, general-purpose forces and reserves. are ordered
is composed
4. The US general-purpose forces to secure the US global political aims.

VII. Прочитайте и переведите текст.

US ARMED FORCES

The US Armed Forces consist of the Army, Navy, Air Force, Marine Corps and Coast Guard, including their regular and reserve components.

The regular components manned by officers and enlisted personnel, who make military their profession, can be increased quickly by large numbers of civilian reserves.

The reserve components in the US Armed Forces are ordered to active duty in case of war or national emergency.

Under the Constitution of the United States, the President is the Commander-in-Chief of the Armed Forces.

At the top of the US security structure is the National Security Council (NSC). The Council is composed of the President, the Vice President, the Secretary of State and the Secretary of Defense. The function of the NSC is to advise the President with respect to domestic, foreign and military policies relating to national security.

The US Armed Forces are divided into strategic, general-purpose forces and reserves.

The strategic forces consist of offensive and defensive forces. The strategic offensive forces are the basis of the US military power and nuclear potential. Their main purpose is to deliver nuclear strikes.

The US general-purpose forces are designed to secure the global political aims of the United States.

The US general-purpose forces include ground troops (the Army), the Air Force and the Navy.

The Army is administrated by the Department of the Army headed by the civilian Secretary of the Army.

VIII. ОТВЕЬТЕ НА ВОПРОСЫ К ТЕКСТУ.

1. What do the US Armed Forces consist of ?
2. What is the difference between the regular and reserve components?
3. Who is the Commander-in-Chief of the US Armed Forces?
4. What is the function of the National Security Council?
5. What is the main purpose of the US strategic forces?
6. What do the US general-purpose forces include?

IX. Переведите предложения.

1. Вооружённые силы США состоят из сухопутных войск, военно-воздушных сил, военно-морских сил, корпуса морской пехоты и береговой охраны.
2. Президент является главнокомандующим Вооружённых сил США.
3. Совет национальной безопасности помогает Президенту во внутренней, внешней и военной политике.
4. Вооружённые силы США подразделяются на стратегические силы, силы общего назначения и их резервы.
5. Силы общего назначения США включают в себя сухопутные войска, ВВС и ВМС.

UNIT 4

US ARMY ORGANIZATION BY UNITS

I. Прочитайте и переведите интернациональные слова.

Organization, army, lieutenant, leader, artillery, section, battalion, division, group, command, administrative, tactical, component, symbol, officer, mission.

II. Запишите и запомните новую лексику.

Table of Organization and Equipment (TOE)	Организационно-штатное расписание и табель имущества
men	рядовой состав

equipment	имущество, материальная часть
as well as	так же, как
squad (sq-d)	отделение
assign	включать в состав
section (sec)	секция
platoon (plat)	взвод
company (coy)	рота
battery (btry)	батарея
battalion (bn)	батальон
brigade (bde)	бригада
regiment (regt)	полк
unit of combined arms and services	общевойсковое соединение
army corps (AC)	армейский корпус
field army	общевойсковая (полевая) армия
army group	группа армий
commissioned officer (CO)	офицер

III. Расшифруйте и переведите сокращения.

TOE, AC, sqd, sec, plat, coy, btry, bn, bde, regt, CO.

IV. Подберите соответствующие синонимы.

- | | |
|------------|-------------|
| 1. small | 1. extra |
| 2. control | 2. symbolic |
| 3. general | 3. like |

4. vary	4. comprise
5. call	5. change
6. include	6. command
7. use	7. little
8. similar	8. friend
9. combine	9. unite
10. typical	10. proper
11. appropriate	11. name
12. additional	12. principal
13. ally	13. utilize

V. Переведите словосочетания.

Military superiority, major equipment, platoon leader, tactical unit of the combined arms and services, army corps, appropriate command, the smallest unit, the strength of a typical division, field army, additional services, auxiliary troops, commissioned officer.

VI. Образуйте степени сравнения прилагательных и наречий.

Large, great, small, good, interesting, bad, difficult, many, little, far, typical, important, much.

VII. Переведите предложения, обращая внимание на перевод причастия II (Participle II).

1. TOE issued by the DA gives the number of men, officers and major equipment in a unit.

2. The number of men assigned to a squad varies from 8 to 11 men.

3. An administrative and tactical unit of infantry larger than a battalion and smaller than a brigade, usually commanded by a colonel, is called a regiment.

4. A division is a major administrative and tactical unit of combined arms and services.

VIII. Прочитайте и переведите текст.

US ARMY ORGANIZATION BY UNITS

The United States Army is the branch of the United States Armed Forces that has primary responsibility for land-based military operations.

The U.S. Army consists of organizations that are termed "units" or "components". Table of Organization and Equipment (TOE) is a document issued by the Department of the Army (DA), gives the number of men, officers and major equipment in a unit. It also provides information on the mission and capabilities of a unit.

The smallest unit is the squad. It is a team, which can be controlled by one man, generally by the use of his voice. The number of men assigned to a squad varies from 8 to 13 men. In artillery, it is called a section.

A platoon consists of the platoon leader and an officer in the grade of lieutenant, and two or more squads. The platoon is the smallest unit to be commanded by a commissioned officer (CO).

A company is usually commanded by a captain. It includes its headquarters, two or more platoons. It is an administrative as well as a tactical unit. In artillery the term "battery" is used instead of "company".

A battalion is a unit consisting of a headquarters and two or more companies, batteries and similar units.

An administrative and tactical unit of infantry, artillery, armor, etc. larger than a battalion and smaller than a brigade, usually commanded by a colonel, is called a regiment.

A brigade is a unit of two or more regiments.

A division is a major administrative and tactical unit of combined arms and services. It is larger than a regiment or brigade but smaller than a corps. The strength of a typical division is 15.000 officers and men. It is an appropriate command of a major general.

Divisions are grouped into army corps, the A.C. into field armies and the field armies into army groups.

An army corps consists of its headquarters, two or more divisions and some additional arms and services. These may be, for example, artillery, armor, army aviation, engineer units and medical units.

A field army consists of its headquarters, two or more ACs, together with auxiliary troops.

IX. Ответьте на вопросы к тексту.

1. What does TOE give?
2. What is the smallest unit of the Army?
3. Who controls a squad?
4. What does a platoon consist of?
5. What does a company include?
6. What does a battalion consist of?
7. What unit is called a regiment?
8. What is a major unit of combined arms and services?
9. What is the strength of a typical division?
10. What large units do you know?

X. Переведите предложения.

1. Организационно-штатное расписание и табель имущества – это главный документ, который определяет количество рядового состава, командного состава и основного оборудования в подразделении.

2. Отделение – это наименьшее подразделение в армии США.
3. Рота является как административным, так и тактическим подразделением.
4. Что является основным тактическим соединением?
5. Армейский корпус состоит из штаба, двух или более дивизий, и нескольких дополнительных соединений.

UNIT 5

GRADES IN THE US ARMED FORCES

I. Прочитайте и переведите интернациональные слова.

Personnel, officer, recruit, administrative, position, permanent, captain, major, President, regular, General, rank, category.

II. Запишите и запомните новую лексику.

personnel	личный состав
enlisted man (EM)	военнослужащий рядового состава
warrant officer (WO)	уорент-офицер
commissioned officer (CO)	офицер
noncommissioned officer (NCO)	унтер-офицер
comprise	содержать, заключать в себе
grade (gr) / rank	воинское звание
Recruit (RCT)	рекрут, новобранец
Private (PVT)	рядовой

Private First Class (PFC)	рядовой 1–го класса
pay grade	категория по денежному содержанию
designate	обозначать что-либо
rank	занимать какое-либо место по званию
company officer (CoyO)	младший офицер
field officer (FO)	старший офицер
general officer (GO)	высший офицер
flag officer	адмирал
Second Lieutenant (2LT)	второй лейтенант
First Lieutenant (1LT)	первый лейтенант
Captain (CPT)	капитан
Major (MAJ)	майор
Lieutenant Colonel (LTC)	подполковник
Colonel (COL)	полковник
Brigadier General (BG)	бригадный генерал
Major General (MG)	генерал-майор
Lieutenant General (LTG)	генерал-лейтенант
General (Gen)	генерал
General of the Army (GA)	генерал армии
United States Army (USA)	сухопутные войска США
United States Air Force (USAF)	ВВС США
United States Marine Corps (USMC)	корпус морской пехоты США

United States Navy (**USN**)

ВМС США

insignia of grade

знаки отличия по воинскому
званию

appointment

назначение на должность

III. Расшифруйте и переведите сокращения.

EM, WO, CO, NCO, RCT, PVT, FO, USMC, USN, CPT, MAJ, LTC, Col, MG, GA.

IV. Подберите к английским словам соответствующие русские эквиваленты.

1. permanent

1. рядовой

2. grade/rank

2. военнослужащий рядового
состава

3. designate

3. постоянный

4. classify

4. общевойсковая (полевая) армия

5. due

5. полк

6. appointment

6. обозначать что-либо

7. Marine Corps

7. воинское звание

8. private

8. группировать, классифицировать

9. field army

9. соответствующий, должный

10. squad

10. назначение на должность

11. enlisted man

11. отделение

12. regiment

12. корпус морской пехоты

V. Переведите словосочетания:

a) field officer, insignia of grade, flag officer, the rank of lieutenant, commissioned officer, technical position, company officer, administrative position;

b) United States Air Force, Enlisted Man, Second Lieutenant, Lieutenant Colonel, United States Navy.

VI. Переведите предложения, обращая внимание на перевод глаголов в страдательном залоге (Passive Voice).

1. The personnel of the US Armed Forces is classed into three main categories.

2. Commissioned Officers are subdivided into company officers, field officers and general officers in the USA, USAF.

3. Commissioned Officers are appointed by the President.

VII. Прочитайте и переведите текст.

GRADES IN THE US ARMED FORCES

The personnel of the US Armed Forces is classified into three main categories: EM (Enlisted Men), WO (Warrant Officers), CO (Commissioned Officers). Enlisted Men group comprises other Grades and NCOs (Noncommissioned Officers). The other Grades include RCTs (Recruits), PVTs (Privates) and PFCs (Privates First Class). Each enlisted man title corresponds to a pay grade, designated as E-1 through E-9, for example, a Corporal is E-4, a Sergeant is E-5.

WOs (Warrant Officers) rank next above Noncommissioned Officers. They usually hold technical and administrative position. Their pay grades are from W-1 to W-5.

COs (Commissioned Officers) are subdivided into company officers, field officers and general officers in the USA (United States Army), USAF (United States Air Force), USMC (United States Marine Corps), and into officers and flag officers in the USN (United States Navy).









The company officers are SLT (Second Lieutenant), FLT (First Lieutenant) and CPT (Captain).

The field officers are MAJ (Major), LTC (Lieutenant Colonel) and COL (Colonel).

The general officers are BG (Brigadier General), MG (Major General), LTG (Lieutenant General), GEN (General) and GA (General of the Army).

Commissioned Officers are appointed by the President and confirmed by the Senate.

US ARMY RANK INSIGNIA

Insignia	US DoD Pay Grade	Title	Abbreviation
ENLISTED MEN			
-	E1	Recruit	RCT
	E2	Private	PVT
	E3	Private First Class	PFC
	E4	Corporal	CPL
	E5	Sergeant	SGT
	E6	Staff Sergeant	SSG
	E7	Sergeant First Class	SFC
	E8	Master Sergeant/ First Sergeant	MSGT/ 1SGT
	E9	Sergeant Major	SGM

WARRANT OFFICERS



W1	Warrant Officer Class 1	WO1
----	----------------------------	-----



W2	Chief Warrant Officer Class 2	CW2
----	----------------------------------	-----



W3	Chief Warrant Officer Class 3	CW3
----	----------------------------------	-----



W4	Chief Warrant Officer Class 4	CW4
----	----------------------------------	-----



W5	Chief Warrant Officer Class 5	CW5
----	----------------------------------	-----

COMMISSIONED OFFICERS



O-1	Second Lieutenant	2LT
-----	-------------------	-----



O-1	First Lieutenant	1LT
-----	------------------	-----



O-2	Captain	CPT
-----	---------	-----



O-3	Major	MAJ
-----	-------	-----







O-4	Lieutenant Colonel	LTC
-----	--------------------	-----



O-5	Colonel	COL
-----	---------	-----



O-6	Brigadier General	BG
-----	-------------------	----

	O-7	Major General	MG
	O-8	Lieutenant General	LTG
	O-9	General	GEN
	O-10	General of the Army	GA

VIII. Ответьте на вопросы к тексту.

1. What categories is the personnel of the US Armed Forces classed?
2. What does enlisted men group comprise?
3. What do the other Grades include?
4. How are commissioned officers subdivided?
5. What are the company officers?
6. What are the general officers?
7. What are the field officers?
8. Who appoints commissioned officers?

IX. Переведите предложения.

1. Личный состав в армии США подразделяется на три категории: военнослужащие рядового состава, уорент-офицеры и офицеры.
2. Уорент-офицеры в армии США обычно занимают технические и хозяйственные должности.
3. Офицеры подразделяются на младших офицеров, старших офицеров и высших офицеров в сухопутных войсках США, ВВС США и морских корпусах США.
4. Офицеры назначаются Президентом и утверждаются Сенатом.

UNIT 6

CLASSIFICATION OF GUIDED MISSILES

I. Переведите интернациональные слова.

Rocket, mechanism, command, instrument, tactical, strategic, ballistic, intercontinental, mile, category.

II. Запишите и запомните новую лексику.

guidance	наведение, управление
guide	наводить, управлять
projectile	снаряд
warhead	боеголовка
jet-propelled	реактивный, с реактивным двигателем
battlefield missile	тактическая ракета
intercontinental ballistic missile (ICBM)	межконтинентальная баллистическая ракета
intermediate-range ballistic missile (IRBM)	баллистическая ракета промежуточной дальности
short-range ballistic missile (SRBM)	баллистическая ракета ближнего действия
air-to-air missile (AAM)	ракета класса воздух-воздух
air-to-surface missile (ASM)	ракета класса воздух-земля

surface-to-air missile (SAM)	ракета класса земля-воздух
surface-to-surface missile (SSM)	ракета класса земля-земля
stand-off missile	ракета, запускаемая вне зоны поражения ПВО
launch	запускать
surface target	надводная цель
medium-range ballistic missile (MRBM)	баллистическая ракета средней дальности
attack missile	ударная ракета; ракета для поражения наземных целей
cruise missile	крылатая ракета
antiaircraft missile	зенитная ракета
interceptor	перехватчик
charge	заряд
mph (miles per hour)	миль в час

III. Расшифруйте и переведите сокращения.

ICBM, IRBM, MRBM, SRBM, AAM, ASM, SAM, SSM.

IV. Подберите к английским словам соответствующие русские эквиваленты.

- | | |
|--------------|--------------------------|
| 1. guidance | 1. радиус действия |
| 2. nautical | 2. подразделяться |
| 3. pilotless | 3. общепринятый, обычный |
| 4. launch | 4. перехватчик |

5. antimissile	5. морской
6. conventional	6. наведение, управление
7. subdivide	7. обнаружить цель
8. range	8. противоракетный
9. detect a target	9. беспилотный
10. interceptor	10. запускать

V. Переведите словосочетания.

Guidance mechanisms, ground equipment, guided missiles, to intercept a missile, ballistic missiles, intermediate-range ballistic missiles, antiaircraft missiles, air-launched ballistic missiles, short-range attack missiles, high-altitude launching platforms.

VI. Переведите предложения, обращая внимание на способы выражения отрицания (Negatives).

1. Free rockets contain no guidance mechanisms.
2. The advent of nuclear weapons has not changed the role of infantry on the battlefield.
3. The captain told us nothing.
4. Nobody knew this phenomenon before.
5. Electricity can neither be created nor destroyed.

VII. Прочитайте и переведите текст.

CLASSIFICATION OF GUIDED MISSILES

Missiles are pilotless jet-propelled military projectiles. They consist of a warhead and a motor, usually a jet engine.

All missiles are subdivided into two categories: free rockets which contain no guidance mechanisms and guided missiles that can be directed to a target by commands from outside the missile or by instruments within the missile itself.

According to their combat missions and range all missiles and rockets of the US Armed Forces are divided into battlefield (short-range) missiles, tactical (midrange) missiles and strategic (long-range) missiles.

The conventional classification for missiles is given under two categories: ballistic missiles and non-ballistic missiles.

Ballistic missiles include intercontinental ballistic missiles (ICBM), intermediate-range ballistic missiles (IRBM), medium-range ballistic missiles (MRBM), and short-range ballistic missiles (SRBM). ICBMs have a range of at least 5,000 nautical miles (Minuteman), ballistic missiles with a range of between 1,500 and 3,000 nautical miles are usually described-as IRBMs (Polaris and Poseidon). MRBMs may have a range of between 600 and 1,500 nautical miles. The range of SRBMs may be up to 600 nautical miles.

Non-ballistic missiles include:

Air-to-air missiles (AAM): used as aircraft - to - aircraft weapons.

Air-to-surface missiles (ASM): a larger category, which includes stand-off missiles, antiradiation missiles as well as ordinary ASM missiles.

Surface-to-air missiles (SAM): anti-aircraft missiles from the man-portable Redeye to the anti-missile missiles such as Sprint, Spartan.

Surface-to-surface missiles (SSM) are launched from the ground or a ship towards a surface target. Surface-to-air missiles are launched against attacking bombers. Air-to-surface missiles are air-launched ballistic missiles and short-range attack missiles including the cruise missiles which are powered throughout their flight, at about 600 mph.

Air-to-air missiles are used by aircraft against other aircraft. Equipped with such missiles, interceptors become high-altitude launching platforms capable of attacking a bomber while still out of range of its defensive weapons.

Modern missiles are equipped with warheads containing nuclear charges.

The rocket missile system consists of the missile and the ground equipment which permits to launch the missile and to direct it to the target.

VIII. Ответьте на вопросы к тексту.

1. What are missiles?
2. How are all missiles subdivided?
3. What is the difference between free rockets and guided missiles?
4. How are guided missiles directed to a target?
5. What is the classification of missiles and rockets according to their combat mission?
6. What missiles are included into the category of ballistic missiles?
7. What missiles are included into the category of non-ballistic missiles?
8. What surface-to-air missiles do you know?
9. Where are surface-to-surface missiles launched from?
10. What are modern missiles equipped with?
11. What does the ground equipment permit?

IX. Переведите предложения.

1. Все ракеты подразделяются на два основных класса: неуправляемые ракеты и управляемые ракеты.
2. Управляемые ракеты могут наводиться на цель внешними командами или внутренними системами ракеты.
3. Неуправляемые ракеты не содержат управляемые механизмы.
4. Все управляемые ракеты классифицируются как баллистические и небаллистические ракеты.
5. Баллистические ракеты включают в себя межконтинентальные баллистические ракеты; баллистические ракеты промежуточной дальности; баллистические ракеты средней дальности и баллистические ракеты ближнего действия.

6. Небаллистические ракеты включают в себя ракеты класса воздух-воздух; воздух-земля; земля-воздух; земля-земля.

UNIT 7

AIR DEFENSE

I. Переведите интернациональные слова.

Object, type, effect, active, passive, action, balance, system, identification.

II. Запишите и запомните новую лексику.

denote	означать, значить
measure	мера
prevent	мешать, препятствовать
penetration	вторжение в воздушное пространство
reduce	уменьшать, ослаблять
detection	обнаружение
identification	опознавание
interception	перехват
dispersion	рассредоточение
camouflage	маскировка
general AD	ПВО страны
area AD	ПВО района

point AD	ПВО отдельного объекта
warning	оповещение, предупреждение
sophisticated	сложный
sensor	датчик
Interrogator-responder (IR)	запросчик-ответчик
defense radar	радиолокационная станция ПВО
search radar	поисковая радиолокационная станция
surveillance radar	радиолокационная станция обнаружения
beam	луч
track	сопровождать, вести цель
lock	захватывать цель
pick up	обнаруживать цель
Identification friend or foe (IFF)	радиолокационная станция опознавания самолётов
target present data	текущие координаты цели
path	курс, путь, траектория
target designation	целеуказание, информация о целях
destruction	уничтожение
Electronic countermeasures (ECM)	радиоэлектронное подавление

III. Подберите к английским словам соответствующие русские эквиваленты.

1. measure	1. датчик
2. penetration	2. цель
3. destruction	3. луч
4. search radar	4. мера
5. beam	5. уничтожение
6. track	6. поисковая РЛС
7. lock	7. проникновение
8. sophisticated	8. сопровождать цель
9. path	9. захватывать цель
10. sensor	10. траектория
11. hostile	11. обнаруживать
12. target	12. сложный
13. detect	13. вражеский

IV. Переведите словосочетания:

a) defensive measures, flying object, attacking aircraft, isolated object, electronic means, unknown aircraft;

b) enemy penetration, communication equipment, detection radar;

c) early warning radar system,
search broad-beam radar stations,

tracking narrow beam radar stations,

target present data,

target identification radars,

target speed information,

target designation instructions,

fire control system.

V. Переведите предложения, обращая внимание на перевод инфинитива. (Infinitive).

1. Air defense consists of two types a) active AD to prevent enemy penetration of air space and b) passive AD to reduce the effect of enemy air action.

2. There may be ECM techniques to prevent both radars and communications.

3. Basic to any AD system is the early warning radar system consisting of two different types of defense radars: a) search broad-beam radar stations to detect objects in the air space and b) tracking narrow-beam radar stations to lock on to any object picked up by the detection radars.

VI. Прочитайте и переведите текст.

AIR DEFENSE

The term air defense denotes defensive measures against attack by aircraft or other flying objects. It consists of two types: a) active AD to prevent enemy penetration of air space and b) passive AD to reduce the effect of enemy air action. Active AD includes the detection, identification, interception and destruction of attacking aircraft or missiles. Passive AD includes dispersion, camouflage, evacuation and protective constructions. Active AD of a vast area is termed general AD, while that of a small area or an isolated objective is known as area AD for the former and point AD for the latter.

The effective AD system should provide necessary warning and protection against aerospace attacks. Detection and warning are afforded by sophisticated radar system, sensors, electronic means, interrogator-responder (IR) and communication equipment. Protection is provided by the intricate weapon systems of anti-aircraft, antiballistic missiles and extraterrestrial defense forces.

Basic to any AD system is the early warning radar system consisting of two different types of defense radars: a) search (surveillance) broad-beam radar stations to detect objects in the air space, and b) tracking narrow beam radar stations designed

to lock on to any object picked up by the detection radars. When unknown aircraft is detected it should be identified as friendly or hostile. For this purpose target identification radars are used. They comprise identification friend or foe (IFF) interrogator and IFF responder systems.

Apart from determining target present data, the tracking radar can also produce target speed information by means of the Doppler effect. The target data are then passed on to an electronic computer that records and predicts the path of the target, and transmits target designation instructions to the fire control system.

VII. Ответьте на вопросы к тексту.

1. What does the term air defense denote?
2. What types of activities does AD consist of?
3. What does active AD include?
4. What does passive AD include?
5. What does AD system provide?
6. What means are detection and warning provided by?
7. What means is protection provided by?
8. What types of defense radars do you know?
9. What are search broad-beam radar stations used for?
10. What are tracking narrow-beam radar stations designed for?

VIII. Переведите предложения.

1. Эффективная система ПВО должна обеспечить необходимое предупреждение и защиту от нападения с воздуха.
2. Активная ПВО включает в себя обнаружение, опознавание, перехват и уничтожение целей противника.
3. Пассивная ПВО включает в себя использование защитных сооружений, средств маскировки и рассредоточения.

4. Обнаружение и предупреждение осуществляются сложными радарными системами.

5. Когда неизвестный самолет обнаружен, он должен быть опознан как свой или чужой.

6. Текущие координаты цели передаются на компьютер.

UNIT 8

RADAR AND ITS MILITARY APPLICATIONS (PART I)

I. Прочитайте и переведите интернациональные слова.

Radio, radar, distance, apparatus, position, energy, antenna, object, echo, fact, azimuth, type, component, indicator, system, visual.

II. Запишите и запомните новую лексику.

application	применение
detect	обнаруживать
range	дальность; радиус действия
height	высота
elevation	угол возвышения
accomplish	выполнять
move	двигаться
target	цель
send out	посылать, испускать
accurately	точно

frequency	частота
transmitter	передатчик
beam	луч
directional	направленный
swing	качаться
side	сторона
strike	ударять
cliff	утес
surface	поверхность
echo	отраженный сигнал
through	через, посредством
receiver	приемник
impress	налагать
scope	индикатор, экран
cathode-ray tube	электронно-лучевая трубка
pip	выброс
velocity	скорость
elapse	истекать (о времени)
enable	позволять
determine	определять
resolution	разрешающая способность
essential	необходимый, основной
weak	слабый
returned	возвращенный

pass	проходить
produce	производить
readable	считываемый
timer	таймер, синхронизатор
power-supply unit	блок питания

III. Подберите к английским словам соответствующие русские эквиваленты.

- | | |
|----------------------|----------------------------|
| 1. detect | 1. цель |
| 2. elevation | 2. скорость |
| 3. target | 3. обнаруживать |
| 4. beam | 4. приемник |
| 5. strike | 5. разрешающая способность |
| 6. frequency | 6. блок питания |
| 7. receiver | 7. угол возвышения |
| 8. resolution | 8. ударяться |
| 9. power-supply unit | 9. частота |
| 10. velocity | 10. луч |

IV. Переведите словосочетания:

a) initial letters, distant objects, short pulses, directional antenna, transmitted energy, echo energy, sound waves, constant velocity, elapsed time, different types, essential components, high frequency, weak echoes, directional beam;

b) high power transmitter, high frequency radio wave energy;

c) to detect the presence of objects, to indicate the distance, to determine the range, to send out a series of pulses, to transmit energy, to receive weak echoes.

V. Переведите предложения, обращая внимание на перевод слов «echo» и «range».

1. Sound waves echo from the surface of a cliff.
2. This echo energy is detected by the receiver through its antenna.
3. A receiver receives weak returned echoes.
4. The effective range of the earliest radar sets was about five miles.
5. Nowadays the range may extend to 200-300 nautical miles (nmi).
6. The term radar is the abbreviation of the phrase radio detection and ranging.

VI. Переведите предложения, обращая внимание на перевод глагола в страдательном залоге (Passive Voice).

1. The term radar was formed from the initial letters of the word combination radio detection and ranging.
2. The pulses of radio wave energy are concentrated into a beam by a directional antenna.
3. The echo energy is detected by the receiver through its antenna.
4. This echo energy is impressed on the scope of the cathode-ray tube.

VII. Переведите предложения, обращая внимание на перевод герундия (Gerund).

1. A radar set accomplishes the detection of targets by sending out a series of pulses of radio wave energy from a high power transmitter.
2. The elapsed time between sending and receiving enables us to determine the range within five yards.
3. Radar is a system which operates by radiating electromagnetic energy.
4. Scanning an area and receiving the reflected waves are the main principles of radar operation.

VIII. Прочитайте и переведите текст.

RADAR AND ITS MILITARY APPLICATIONS (PART I)

The term “radar” was formed from the initial letters of the word combination “radio detection and ranging”. The purpose of radar is to detect the presence of distant objects, to indicate their distance from the apparatus, their height or elevation, their position to the right or to the left, and, if moving, their speed in relation to the position of the radar.

A radar set accomplishes the detection of targets by sending out a series of accurately timed and very short pulses of high frequency radio wave energy from a high power transmitter. These pulses only one millionth of a second long are concentrated into a beam by a directional antenna which swings from side to side and up and down.

When the transmitted energy strikes an object, a portion of it is reflected in the same manner as the sound waves echo from the surface of a cliff. This echo energy is detected by the receiver through its antenna and is impressed on the scope of the cathode-ray tube in the form of pips. Radio waves travel at the constant velocity of light, and the elapsed time between sending and receiving enables us to determine the range within five yards. The directional antenna of the receiver enables to determine the azimuth and the elevation with resolution within five degrees.

There are many different types of radar sets. Fundamentally they all consist of six essential components:

1. transmitter – transmits very high frequency in short, powerful pulses;
2. receiver – receives weak returned echoes and sends them to the indicator;
3. antenna system – takes the energy from the transmitter, radiates it in a directional beam, receives the echoes and passes them to the receiver;
4. indicator – produces a visual readable indication of the pips;
5. timer – synchronizes the transmitted pulse and the indicator;
6. power–supply unit.

IX. Ответьте на вопросы к тексту.

1. What does the term “radar” mean?

2. What is the purpose of radar?
3. How does a radar set accomplish the detection of targets?
4. What pulses do radars operate with?
5. What happens when the transmitted energy strikes an object?
6. How is the echo energy detected?
7. In what form is it indicated on the scope of the cathode-ray tube?
8. What enables us to determine the target?
9. What essential components does a radar consist of?

X. Переведите на английский язык.

Первые буквы, короткие импульсы, важные компоненты, высокочастотная радиоволновая энергия, направленная антенна, блок питания, отраженный эхосигнал, электронно-лучевая трубка, разрешающая способность, постоянная скорость, звуковые волны, направленный луч.

UNIT 9

RADAR AND ITS MILITARY APPLICATIONS (PART II)

I. Прочитайте и переведите интернациональные слова.

Original, technology, ballistic, problem, operational, modern, effective, special, battery, technique, pulse, signal, automatic.

II. Запишите и запомните новую лексику.

become	становиться
necessary	необходимый
early	ранний
location	определение местонахождения

warning	оповещение, предупреждение
approach	приближение
aim	цель
purpose	цель
target	цель
provide	обеспечивать
long range	дальнее действие
chain	цепь, сеть, система
include	включать
evaluate	оценивать
air-raid warning	оповещение о воздушном нападении
issue a warning	передавать оповещение
intercept	перехватывать
fighter-interceptor	истребитель–перехватчик
equip	оснащать
aid	помогать, помощь
guide	наводить, управлять
take evasive action	применять маневр уклонения
surface vessel	надводное судно
design	предназначать
gun battery	зенитная батарея
track	сопровождать, вести цель
shell	снаряд

flight	полет
distinguish	определять, проводить различие
recognition	опознавание
identification friend -or- foe (IFF)	опознавание «свой—чужой»
comprise	включать
challenge signal	сигнал запроса
transponder	запросчик-ответчик
reply signal	ответный сигнал

III. Подберите к английским словам соответствующие русские эквиваленты.

1. warning	1. сопровождать цель
2. provide	2. наводить
3. evaluate	3. запросчик-ответчик
4. intercept	4. опознавание «свой— чужой»
5. guide	5.обеспечивать
6. gun battery	6. сигнал запроса
7. track	7. оповещение
8. friend-or-foe identification	8. оценивать
9. challenge signal	9. перехватывать
10. transponder	10. зенитная батарея

IV. Переведите словосочетания:

- a) original use, supersonic aircraft, ballistic missiles, early detection, accurate location, airborne targets;
- b) radar technology, radar equipment, enemy aircraft, enemy targets, surface vessels, surface submarines, gun batteries, challenge signal;
- c) to issue a warning, to take evasive action, to intercept an enemy aircraft, to guide air-to-air missiles, to detect submarines.

V. Переведите предложения, обращая внимание на перевод герундия (Gerund).

1. The target of a radar is locating and intercepting enemy aircraft.
2. Radar is effective for detecting both surface vessels and surface submarines.
3. There are special radar sets designed to locate positions of gun batteries by tracking their shells in flight.
4. The IFF system comprises special equipment for sending a pulse challenge signal.

VI. Переведите предложения, обращая внимание на перевод инфинитива (Infinitive).

1. Enemy aircraft may be provided with radar equipment to detect the approach of a fighter-interceptor.
2. Ships are easy objects to detect.
3. Radar equipment is used to distinguish between friendly and enemy targets.
4. There are special radar sets to locate the positions of gun batteries.
5. To detect the enemy target is very difficult.

VII. Прочитайте и переведите текст.

RADAR AND ITS MILITARY APPLICATIONS (PART II)

Military applications of radar technology became necessary during World War II. Appearance of supersonic aircrafts and ballistic missiles made problem of their early detection and accurate location.

In air defense early warning of the approaching airborne targets is provided by a long-range radar. The radar or a chain of radars are incorporated into an operational air defense system that evaluates the radar data, issues air-raid warnings to the population, and takes action against the enemy aircraft or missiles by directing fighter-interceptors or missiles to intercept them.

Modern fighters are equipped with radars to aid in locating and intercepting the enemy aircraft and guiding their own air-to-air or air-to-ground missiles. Enemy aircraft may also be provided with radar equipment to detect the approach of fighter-interceptors or missiles and take evasive action.

Radar is effective for detecting both surface vessels and surface submarines. Ships are easy objects to detect.

There are also special radar sets designed to locate the positions of firing gun batteries by tracking their shells in flight.

Radar equipment is used to distinguish between friendly and enemy targets. This type of recognition is termed identification Friend or Foe (IFF). The IFF system uses radar technique but comprises special equipment for sending a pulse challenge signal; the transponder (transmitter-responder) receives the challenge signal and automatically sends back a coded reply signal.

VIII. Ответьте на вопросы к тексту.

1. When did the military application of radar technology become necessary?
2. What is early warning of airborne targets provided by?
3. What is the mission of an air defense system?
4. What are modern fighters equipped with?
5. How can special radar sets locate the position of firing gun batteries?

6. What radar equipment is used to distinguish between friendly and enemy targets?

IX. Переведите на английский язык.

Ракета класса «воздух-воздух», ракета класса «воздух-земля», обнаруживать подводные лодки, послать сигнал запроса, передать оповещение, радарное оборудование, применить маневр уклонения, опознавание «свой-чужой», вражеский самолет, зенитные батареи, перехватить самолет противника, обнаружить подводную лодку.

X. Переведите на русский язык со словарем.

Radar operates by radiating electromagnetic energy and detecting the presence and character of the echo returned from reflecting objects. Radar does not depend on energy radiated by the target itself, as does the radiometer, or on the energy reflected from uncontrolled sources, as does an optical camera. The ability to detect a target at great distances and to locate its position with relatively high accuracy are two chief attributes of radar.

UNIT 10

NORAD (PART I)

I. Переведите интернациональные слова.

Continent, attack, element, system, aviation, antiballistic, basic, active, protection, command, control, artillery, radar.

II. Переведите слова, обращая внимание на отрицательный префикс «анти-», «противо-».

Antimissile, antiaircraft, antisatellite, antiballistic, antitank, antipersonnel, antisocial.

III. Запишите и запомните новую лексику.

NORAD	командование ВКО северо-американского континента
hostile	вражеский
effect	осуществлять
establish	создавать
protection	защита
include	включать
joint	совместный
responsible	ответственный
provide	обеспечивать
fighter aviation	истребительная авиация
antimissile missile	противоракета
surveillance	разведка
antiaircraft	зенитный
Navy	ВМФ
picket ship	корабль радиолокационного дозора
radar aircraft	самолет радиолокационного дозора
contribution	вклад
in addition to	в дополнение
fighter-interceptor	истребитель-перехватчик
interceptor missile	ракета-перехватчик

supersonic

сверхзвуковой

armed

вооруженный

IV. Переведите следующие словосочетания:

a) hostile attack, outer space, air attack, joint command, active means, supersonic fighter-interceptors;

b) antimissile missile, antimissile protection system, aerospace defense system, air defense means, ground surveillance radars, US air defense fighter aviation, antiballistic missile defense system, air defense guided missiles.

V. Прочитайте и переведите предложения, обращая внимание на перевод причастий (Participle II).

1. The defense of the North American continent against hostile attack from the air and space is effected by North American Aerospace Defense Command established in 1957.

2. The units of US air defense fighter aviation are equipped with supersonic fighter –interceptors armed with air-to-air or air-to-ground missiles.

3. Interceptor missiles for air defense include Spartan and Sprint used as antimissile missiles in the antiballistic missile defense system.

VI. Прочитайте и переведите текст.

NORAD (PART I)

The defense of North American continent against hostile attack from the air and outer space is effected by North American Aerospace Command (NORAD) established in 1957.

North American aerospace defense includes four basic elements: the system of warning about an air attack, antimissile protection system, aerospace defense system and anti-aircraft defense system.

NORAD is a joint command and it controls all the air defense means of American Air Force, Army and Navy and Canadian Air Force.

The US Air Force is responsible to NORAD for providing active means of fighting against the aerospace enemy such as fighter aviation, antimissile missiles and antisatellite means; and for the ground equipment for air surveillance and direction of all the air defense means. The US Army provides units of its antiaircraft artillery and antiaircraft missiles, US Navy-picket ships and radar aircraft. Canada's contribution to NORAD is fighter aviation and ground surveillance radars.

The units of US air defense fighter aviation are equipped with supersonic fighter-interceptors (F-101, F-106, F-4, "Phantom", and others) armed with air-to-air or air-to-ground missiles such as Falcon, Sidewinder, Sparrow, Bullpup and others.

Interceptor missiles for air defense include Bomarc, Talos, Terrier and such missiles as Spartan and Sprint used as antimissile missiles in the antiballistic missile defense system.

In addition to interceptor missiles the antiaircraft defense weapons also include Nike Hercules, Hawk, Chaparral, Redeye air defense guided missiles and others.

VII. ОТВЕЬТЕ НА ВОПРОСЫ К ТЕКСТУ.

1. What is NORAD?
2. What basic elements does NORAD consist of?
3. What air defense means does NORAD control?
4. What is the US Air Force responsible to NORAD for?
5. What does the US Army provide?
6. What is The Navy responsible to NORAD for?
7. What is Canada's contribution to NORAD?
8. What interceptors are the units of the US air defense fighter aviation equipped with?
9. What antimissile missiles are used in the antiballistic missile defense system?
10. What antiaircraft missiles are used in air defense weapon systems?

VIII. Переведите словосочетания.

Корабль радиолокационного дозора, истребительная авиация, ракета-перехватчик, противоспутниковые средства, система противоракетной обороны, противоракета.

UNIT 11

NORAD (PART II)

I. Прочитайте и переведите интернациональные слова.

Automatic, object, information, orbit, center, flank, distance, form, post, system, territory, plan, organize, mass.

II. Запишите и запомните новую лексику.

Regional Operations Control Center – районный центр оперативного управления

SAGE system (semiautomatic ground environment) – система «Сейдж» (полуавтоматическая система наземного управления активными средствами ПВО)

BUIC (Back-uh-Interceptor Control) system – резервная полуавтоматическая система управления перехватчиками «ББЮИК»

NORAD's Combat Operations Center – центр оперативного управления НОРАД

IMEWS (Integrated Missile Early Warning System) – система «ИМБЮС» (космическая система предупреждения о ракетном нападении)

BMEWS (Ballistic Missile Early Warning System) – система дальнего обнаружения баллистических ракет «БИМБЮС»

SPADATS (Space Detection and Tracking System) – система «СПАДАТС»
(система обнаружения и сопровождения космических объектов)

Early warning line – линия дальнего обнаружения

DEW Line (Distant Early Warning Line) – линия (рубеж) дальнего
радиолокационного обнаружения «ДБЮ»

divide	делить
contain	составлять
directly	непосредственно
connect	связывать, соединять
order	отдать приказ
into action	привести в исполнение
immediate	непосредственный
air threat	угроза воздушного нападения
provide	обеспечивать
feed with information	передавать информацию
track	сопровождать цель
stretch	простираться
coast	побережье
flank	фланг
manned	управляемый человеком
cover	покрывать, охватывать
border	граница
extend	расширять

by means	посредством
approach	приближаться, подходить
according to	согласно, в соответствии
sufficient	достаточный
alert	приводить в боеготовность

III. Расшифруйте и переведите сокращения.

SAGE, NORAD, DEW Line, SPADATS, BUIC, IMEWS, BMEWS

IV. Подберите к английским словам соответствующие русские эквиваленты.

- | | |
|------------------------------|--|
| 1. air defense means | 1. полуавтоматическая РЛС |
| 2. early warning lines | 2. средства ПВО |
| 3. organize mass protection | 3. определить воздушную цель |
| 4. detect an airborne target | 4. полуавтоматические системы
управления |
| 5. semiautomatic radar set | 5. линии дальнего обнаружения |
| 6. manned radar stations | 6. организовать массовую защиту
населения |

V. Переведите словосочетания:

- a) air defense means, semiautomatic control systems, manned radar stations, early warning lines;
- b) to detect an airborne target, to track objects, to alert all the active means of air defense, to organize mass protection of the population.

VI. Подберите к английским словам соответствующие синонимы.

- | | |
|----------------|----------------|
| 1. need | 1. data |
| 2. region | 2. extend |
| 3. destroy | 3. frontier |
| 4. directly | 4. want |
| 5. stretch | 5. immediately |
| 6. border | 6. ruin |
| 7. information | 7. territory |

VII. Прочитайте и переведите текст.

NORAD (PART II)

NORAD divides the continent into seven air defense regions, each of them contains all the air defense means needed to detect and destroy an airborne target. They include fighter-interceptors, antiaircraft missiles, guns and radar posts, equipped with radar stations. All these means are directly controlled from the Regional Operations Center by SAGE and BUIC semiautomatic control systems. All Regional Operations Control Centers are connected directly into NORAD's Combat Operations Center which is situated in Cheyenne Mountain near Colorado Springs, Colorado. It can order weapons into action when there appears an immediate air threat.

Early warning about airborne targets and space objects is provided by air surveillance and detection systems. Information is fed into NORAD's Combat Operations Center from IMEWS (Integrated Missile Early Warning System), from BMEWS (Ballistic Missile Early Warning System), from SPADATS (Space Detection and Tracking System) which is tracking all the objects in orbit; from the Regional Operations Control Centers and three early warning lines. The DEW line (Distant Early Warning line) is the most important.

The DEW line stretches across the Northern coast of the continent from the Aleutian and Hawaiian Islands to the center of the Pacific Ocean and from

Newfoundland to Iceland in the center of the Pacific Ocean). This line is equipped with automatic, semiautomatic and manned radar stations. The units of the US Navy cover the flanks of the continent from the sea, extending this line by means of picket ships and radar aircraft. The south of the DEW line along the US-Canada border runs the Pine line which provides detection of airborne targets at a distance up to 400 miles. It is also extended by picket ships and radar aircraft. Along the Gulf of Mexico and the US-Mexico border the third warning line was formed. It consists of ten radar posts detecting airborne targets approaching the territory of the USA from the south.

According to the plans of the US Military Command these lines must provide sufficient time to alert all the active means of the air defense and organize mass protection of the population.

VIII. Закончите предложения, выбрав правильный вариант.

1. The defense of the North American continent against hostile attack from the air and from outer space is effected by

- a) antimissile protection system;
- b) North American Aerospace Defense Command;
- c) Antiaircraft defense system.

2. The US Army is responsible to NORAD for providing

- a) fighter aviation and antimissile missiles;
- b) picket ships and radar aircraft;
- c) antiaircraft artillery and antiaircraft missiles

3. The flanks of the warning lines are extended seaward by

- a) BMEWS;
- b) SPADATS
- c) picket ships and radar aircraft.

4. Fighter-interceptors are armed with

- a) surface-to-air missiles;
- b) surface-to-surface missiles;
- c) air-to-air or air-to-ground missiles.

IX. Переведите предложения.

1. Оборона североамериканского континента от нападения противника с воздуха и из космического пространства осуществляется командованием ВКО североамериканского континента.

2. НОРАД – объединенное командование, которое управляет всеми средствами ВКО, ВВС, сухопутными войсками и ВМС США, а также ВВС Канады.

3. ВКО Северной Америки состоит из четырех основных элементов: системы предупреждения о воздушном нападении, системы противоракетной обороны, системы противокосмической обороны и системы ПВО.

4. НОРАД делит континент на семь районов ПВО.

5. Все средства ПВО района управляются непосредственно из оперативного центра управления района с помощью полуавтоматических систем управления «Сейдж» и «Бьюик».

UNIT 12

SAGE SYSTEM

I. Прочитайте и переведите интернациональные слова.

Situation, computer, radar, electronic, meteorological, status, military, civilian, position, display.

II. Запишите и запомните новую лексику.

processing	обработка данных
evaluation	оценка
direct	управлять
network	сеть
coverage	зона действия

search radar	поисковая РЛС
single	одиночный
air surveillance radar	РЛС обнаружения воздушных целей
height-finder radar	РЛС определения высоты
gap-filler radar	вспомогательная РЛС
airborne early warning	дальнее обнаружение посредством воздушного радиолокационного дозора
flight plan data	данные о плане полета
weapons status	состояние средств ПВО
develop	развивать, разрабатывать
identify	опознавать
huge	огромный
display board	планшет воздушной обстановки
vulnerable	уязвимый
nuclear	ядерный
survivability	устойчивость, живучесть
back-up	резервный
continuously	непрерывно
take over	брать на себя

NADGE (NATO Air Defense Ground Environment system) - наземная полуавтоматическая система управления средствами ПВО стран НАТО «НЕЙДЖ»

III. Подберите к словам из левой колонки соответствующие русские эквиваленты.

- | | |
|----------------------|---------------------------|
| 1. vulnerable | 1. вспомогательная
РЛС |
| 2. identify | 2. определять |
| 3. survivability | 3. данные разведки |
| 4. surveillance data | 4. поисковая РЛС |
| 5. search radar | 5. уязвимый |
| 6. gap-filler radar | 6. устойчивость |

IV. Переведите следующие словосочетания:

- a) surveillance data, air situation, weapon control;
- b) air defense weapon, weapons status information, flight plan data, air situation data.

V. Переведите предложения, обращая внимание на перевод причастий (Participle I, II).

1. SAGE is a complex of electronic computers automatically processing surveillance data from a network of radars.

2. The system operates receiving information about a selected airborne target, identifying it, developing data about its position and automatically calculating interception data.

VI. Прочитайте и переведите текст.

SAGE SYSTEM

For the processing of all the surveillance data, evaluation of air situation and weapon control NORAD uses the SAGE (Semi-Automatic Ground Environment) system. Now there are SAGE Regional Operations Control Centers located on the

North American continent. Five of them are situated on the territory of the USA and two in Canada.

SAGE combines surveillance with weapon control and provides commander the information to direct the air battle. SAGE is a complex of electronic computers automatically processing surveillance data from a network of radars and controls air defense weapons over areas much greater than the coverage of a single long-range search radar. It receives data from air surveillance radars, height-finder radars, gap-filler radars, from airborne and shipborne early warning systems, meteorological data, weapons status information and flight plan data for military and civilian movement within the area of interest.

The system operates receiving information about a detected airborne target, identifying it, developing data about its position and automatically calculating interception data.

In addition the data are projected to huge screens and automatically display boards. They are used to evaluate the information by regional commands.

SAGE control centers are vulnerable to nuclear attack, that's why each air defense region has two back-up interceptor control (BUIC) centers which continuously receive all the air situation data.

In Europe the air defense of NATO countries is provided by the NATO Air Defense Ground Environment system called NADGE.

VII. ОТВЕТЬТЕ НА ВОПРОСЫ К ТЕКСТУ.

1. What is the SAGE system used for?
2. How many SAGE centers are there on the North American continent?
3. What is SAGE?
4. What radars does the SAGE system receive information from?
5. How does the SAGE system operate?
6. What is the purpose of the BUIC centers?
7. What is the air defense of NATO countries provided by?

VIII. Заполните пропуски соответствующими словосочетаниями и переведите предложения.

1. SAGE is a complex of electronic computers automatically processing... from a network of radars.
2. Some radars possess the capability of ... 600 targets automatically.
3. SAGE controls air defense weapons over areas much greater ... of a single radar.
4. SAGE control centers are vulnerable to ...

surveillance data; than the coverage; nuclear attack; tracking and classifying.

IX. Переведите следующие словосочетания:

поисковая РЛС, РЛС обнаружения воздушных целей, РЛС определения высоты, данные о плане полета, состояние средств ПВО, планшет воздушной обстановки.

UNIT 13

ELECTRONIC WARFARE (PART I)

I. Прочитайте и переведите интернациональные слова.

Electronic, system, technique, tactics, basic, radiation, spectrum, ineffective, collection, analysis emission.

II. Запишите и запомните активную лексику.

electronic warfare (**EW**)

радиопротиводействие,

радиовойна

deceive

dezorientirovat'

suppress	подавлять
counter	противостоять
Electronic Support Measures (ESM)	радиоэлектронная разведка
Electronic Countermeasures (ECM)	радиоэлектронное подавление
Electronic Countercountermeasures (ECCM)	борьба с радиоэлектронным подавлением
make use	использовать
release	выпускать
intentionally	преднамеренно
accidentally	случайно
interfere with	вмешиваться
render ineffective	делать неэффективным
dangerous	опасный
enable	позволять, давать возможность
capability	способность
Communication Intelligence (COMINT)	разведка систем связи
exception	исключение
carry out	проводить
in order to	для того, чтобы
Electronic Intelligence (ELINT)	разведка радиоэлектронного вооружения

III. Подберите к английским словосочетаниям соответствующие русские эквиваленты.

Electronic Intelligence	испускать
Communication Intelligence	радиопротиводействие
release	противостоять
interfere with	радиоэлектронная разведка
counter	вмешиваться
Electronic Warfare	разведка радиоэлектронного вооружения

IV. Прочитайте и переведите словосочетания.

Electronic Warfare, to deceive and suppress weapon system, new techniques, three basic aims, electromagnetic radiation, to render ineffective, friendly forces, electromagnetic emissions, to provide information, enemy communications, electromagnetic activities, peace and war time, to evaluate enemy's defenses.

V. Прочитайте и переведите предложения, обращая внимание на перевод инфинитива (Infinitive).

1. New techniques are developed to counter EW tactics of the opposite side.
2. Electronic Intelligence is carried out during peace and war time.
3. One of the basic aims is to enable friendly forces to use this spectrum.

VI. Прочитайте и переведите текст.

ELECTRONIC WARFARE (PART I)

Electronic Warfare (EW) can deceive and suppress hostile weapon system. New techniques are developed to counter the EW tactics of the enemy. These techniques

are termed Electronic Support Measures (ESM), and Electronic Countercountermeasures.

Electronic Warfare has three basic aims:

1. to make use of the electromagnetic radiation released intentionally or accidentally by the enemy;
2. to interfere with the enemy's use of the electromagnetic spectrum to render its use ineffective or make it dangerous for him;
3. to enable friendly forces to use this spectrum.

Collection and analysis of all the enemy's electromagnetic emissions can provide information about his tactics and capabilities. This function of EW is termed ESM and includes Communications Intelligence (COMINT) and Electronic Intelligence (ELINT). ELINT is the most important aspect of ESM, covering all enemy electromagnetic activities with the exception of enemy communications. It is carried out both during peace and war time in order to evaluate the enemy's defenses.

VII. Ответьте на вопросы к тексту.

1. What is the first aim of the EW?
2. What is the second aim of the EW?
3. What is the third aim of the EW?
4. What information can collection and analysis of all the enemy's electromagnetic emissions provide?
5. What do ESM include?
6. What is ELINT?

VIII. Переведите словосочетания.

Радиовойна, дезориентировать и подавлять, радиоэлектронная разведка, три главные цели, использовать радиомагнитное излучение, радиомагнитный спектр, обеспечить информацию, тактика и возможности, система связи противника, в мирное и военное время, оценить систему обороны противника, разведка систем связи.

UNIT 14

ELECTRONIC WARFARE (PART II)

I. Прочитайте и переведите интернациональные слова.

Tactics, spectrum, emission, opposite, basic, electromagnetic, function, aspect, activity, communication, parameters, navigational, repetition, pulse, data, special, scan, attack, mask.

II. Запишите и запомните активную лексику:

particular	особый
measure	измерять
frequency	частота
mode	тип
width	ширина
develop	разрабатывать
band	диапазон
compare	сравнивать
threat	угроза
obtain	получать
store	хранить
determine	определять
exact	точный
deny	не допускать
seek	производить поиск

false	ложный
overload	перегружать
degrade	портить
spot jamming	прицельные (узкополосные) помехи
barrage jamming	заградительные помехи
deceptive jamming	маскирующие (имитирующие) помехи
radar return	радиолокационное отражение
passive jamming	пассивные помехи
chaff	дипольные отражатели (полосы металлизированной бумаги)
decoy missile	ракета-ловушка

III. Расшифруйте и переведите сокращения.

ELINT, ECM, EW, ECCM, ESM, COMINT

IV. Подберите к английским словосочетаниям русские эквиваленты.

- | | |
|-----------------------|-------------------------------|
| 1. spot jamming | 1. радиолокационное отражение |
| 2. decoy missile | 2. радиовойна |
| 3. deceptive jamming | 3. маскирующие помехи |
| 4. barrage jamming | 4. ракета-ловушка |
| 5. Electronic Warfare | 5. маскирующие помехи |
| 6. radar return | 6. заградительные помехи |

V. Прочитайте и переведите словосочетания.

Transmission frequency, pulse repetition frequency, frequency band, control and guidance technique, to degrade the system, real-time analysis, enemy navigational system, enemy radars and defenses, to mask the radar signals, main types of electronic countermeasures, attacking aircraft, to identify and locate the threat.

VI. Прочитайте и переведите предложения, обращая внимание на инфинитив (Infinitive).

1. New techniques are developed to counter EW tactics of the opposite side.
2. Special ELINT systems are developed to scan each frequency band continuously.
3. ELINT is used to obtain data on enemy navigational systems.
4. Spot jamming and barrage jamming serve to mask the radar returns from the attacking aircraft.
5. Deceptive jamming is used to deceive the radars about the aircraft echoes.

VII. Прочитайте и переведите текст.

ELECTRONIC WARFARE (PART II)

Every radar has particular measurable parameters such as transmission frequency, power, mode, pulse width and pulse repetition frequency. The data of these parameters are collected, analyzed and stored. Special ELINT systems are developed which scan each frequency band continuously, perform a real-time analysis of each intercepted signal and compare it with others in order to identify and locate the threat.

ELINT is also used to obtain data on enemy navigational systems. The control and guidance techniques are used for each weapon system and ECCM are employed. ELINT information is used for direction finding, or determining the exact location of enemy radars and defenses in order to guide weapons to these targets.

ECM are a means of interfering with the enemy's electromagnetic activity. They may be used to deny him the information he seeks or to give him the false

information, or to overload his computing capacity with much false data to degrade his system. There are three main types of electronic countermeasures which are employed by attacking aircraft:

1. spot jamming and barrage jamming which serve to mask the radar returns from attacking aircrafts;
2. deceptive jamming which is used to deceive the radars about the aircraft echoes;
3. passive jamming which includes chaff or decoy missiles such as American Quail missile.

The aims of ECCM are to make enemy ECM useless or less effective.

VIII. Ответьте на вопросы к тексту.

1. What are measurable radar parameters?
2. What can special ELINT systems do?
3. What is also ELINT used for?
4. What is ELINT information used for?
5. What are ECM?
6. What types of jamming do you know?
7. What are the aims of Electronic Countercountermeasures?

IX. Переведите словосочетания на русский язык.

Особые измерительные параметры, частота передачи, частота повторения импульса, непрерывно сканировать каждый частотный диапазон, проводить анализ каждого перехваченного сигнала, идентифицировать угрозу и определить ее местонахождение, получить данные по системе навигации противника, навести оружие на цель, истребитель, дезориентировать радары, дипольные отражатели и ракеты-ловушки, сделать радиоэлектронное подавление противника неэффективным.

UNIT 15

MISSILES AND ROCKETS

I. Прочитайте и переведите интернациональные слова.

Gas, reaction, vacuum, component, motor, aerodynamic, trajectory, automatically, military, classification, construction, strategic, tactical, role, process, principle, operation, limited.

II. Запишите и запомните активную лексику.

projectile	снаряд
force	сила
eject	выпускать, выбрасывать
body	корпус
flight	полет
equal	равный
while	пока; в то время, как
exert	производить
release	выпускать, освобождать
push forward	продвигаться вперед
booster	ускоритель
fuel	топливо
burn (burnt)	гореть
oxygen	кислород
carry	переносить

medium	среда
altitude	высота
frame	рама, каркас
fluid	жидкость
reentry	вход в плотные слои атмосферы
warhead	боеголовка
fuze	взрыватель
guidance	наведение
control surface	орган управления
apply	применять
alter	изменять
launch	запускать
steering	наведение
install	устанавливать
conventional warhead	боеголовка с обычным зарядом
winged missile	крылатые ракеты
launcher	пусковая установка

III. Подберите к английским словам соответствующие русские эквиваленты.

- | | |
|-------------------|-----------------------|
| 1. launcher | 1. каркас |
| 2. winged missile | 2. снаряд |
| 3. steering | 3. пусковая установка |

4. control surface	4. взрыватель
5. projectile	5. крылатая ракета
6. frame	6. наведение
7. fuze	7. орган управления

IV. Прочитайте и переведите словосочетания.

Opposite direction, gaseous medium, fluid medium, main components, steering mechanisms, guided missiles, supersonic speed, nuclear warhead, conventional warhead, combat missions, aerodynamic control surfaces, military missile classification.

V. Прочитайте и переведите предложения, обращая внимание на парные союзы.

1. The missile can be operated either automatically or by means of radio signal from the ground.
2. In many cases heat plays an important role either starting or accelerating the process.
3. Electricity can neither be created nor destroyed.
4. Many substances exist either in a solid, liquid or gaseous state.
5. Both jet and rocket devices are quite similar in the principle of operation.

VI. Прочитайте и переведите текст.

MISSILES AND ROCKETS

Missiles and rockets are projectiles which move by force of gases ejected from their bodies during flight. According to Newton's 3-rd law of motion, action and reaction are equal and opposite. While the rocket exerts a force to release gases, the gases exert an equal force in the opposite direction to push the rocket forward. Fuel doesn't burn without oxygen. The rocket carries oxygen on board and it is independent of its medium. It operates in the air at any altitude in water, in any gaseous or fluid medium, in space or in vacuum.

Any rocket or a missile consists of five main components:

- 1) the frame (hull);
- 2) the reentry body and the warhead with fuzes;
- 3) the control and guidance equipment;
- 4) the rocket engine (motor, booster);
- 5) aerodynamic control surfaces (jet controls).

The term “rocket” is generally applied to the weapon which trajectory cannot be altered after launching.

A missile can be guided in flight by a steering mechanism installed in its body and operated either automatically or by means of radio signals from the ground. Rockets are sometimes called “non-guided” or “unguided” missiles as compared with guided missiles.

Missiles are capable of flying at supersonic speeds. With their nuclear or conventional warheads they can destroy any target.

There are several ways of military missile classification. According to the type of frame construction rockets and missiles are divided into the winged and unwinged groups.

According to their combat missions missiles can be classified as strategic missiles, tactical missiles, air space defense missiles and antisubmarine missiles.

According to the location of the missile launcher and target the missiles and rockets are divided into several classes: surface-to-surface, surface-to-air, air-to-air, air-to-surface missiles.

VII. ОТВЕТЬТЕ НА ВОПРОСЫ К ТЕКСТУ.

1. What are missiles and rockets?
2. How do they move?
3. What are the main components of any rocket?
4. What does the term “rocket” mean?
5. What does the term “missile” mean?
6. What is the classification of missiles and rockets according to the type of frame construction?
7. What is the classification of missiles and rockets according to their combat mission?

8. How are missiles and rockets divided according to the relative location of the missile launcher and the target?

VIII. Переведите словосочетания.

Ракеты класса «воздух-воздух», ракеты класса «воздух-земля», ракеты класса «земля-воздух», ракеты класса «земля-земля», управляемые ракеты, тактические ракеты, стратегические ракеты, баллистические ракеты, крылатые ракеты, зенитные ракеты.

UNIT 16

KINDS OF GUIDANCE SYSTEM

I. Прочитайте и переведите интернациональные слова.

System, series, base, operate, signal, radiate, illuminate, reflect, parabolic, radiation, calculate.

II. Запишите и запомните новую лексику.

depend on	зависеть от
beam	луч
beam-rider system	система наведения по лучу
employ	использовать
ground-based radar	наземная РЛС
single	одиночный
keep (kept)	удерживать
narrow	узкий

widely	широко
reduce	уменьшать
widen	расширять
allow	позволять
command guidance system	система командного наведения
tracking radar	РЛС сопровождения
calculate	вычислять
decoder	дешифратор
operate	обслуживать, приводить в действие
the only	единственный
advantage	преимущество
home	наводить(ся)
homing system	система наведения
semiactive	полуактивный
close in	сближаться
attract	привлекать
heat	тепло
noise	шум
ground tracking radar	наземная РЛС сопровождения
pick up	улавливать
aerial	антенна
aerodynamic control surface	воздушный руль

III. Подберите к английским словам соответствующие русские эквиваленты.

advantage	РЛС сопровождения
reduce	сближаться
increase	преимущество
homing	уменьшать
close in	улавливать
pick up	увеличивать
tracking radar	самонаведение

IV. Прочитайте и переведите словосочетания.

Beam-rider system, surface-to-air missiles, ground-based radar, command-guidance system, missile control surface, ground tracking radar, directional parabolic aerial, aerodynamic control surface.

V. Переведите предложения, обращая внимание на страдательный залог (Passive Voice).

1. The use of a guidance system depends on the class of missile which is guided and controlled.

2. The beam-rider system is widely used because it allows a series of missiles to be guided up the same beam.

3. A computer calculates the commands which are transmitted to the missile to intercept the target.

4. The homing system is employed with missiles which close in on the targets without control from the ground station.

5. A powerful radar transmitter is used to illuminate the target.

VI. Прочитайте и переведите текст.

KINDS OF GUIDANCE SYSTEM

The use of a guidance system depends on the class of missile which is guided and controlled. The beam-rider system of control is used for surface-to-surface missiles. It employs a single ground-based radar which is automatically tracking the target keeping it in the narrow beam.

The beam-rider system is widely used because it allows to guide up a series of missiles by the same beam. But its accuracy is reduced because of the widening of the beam as the range increases.

The command guidance system is also used for surface-to-air missiles. It uses two ground radars, one of which automatically tracks the target and the other tracks the missile.

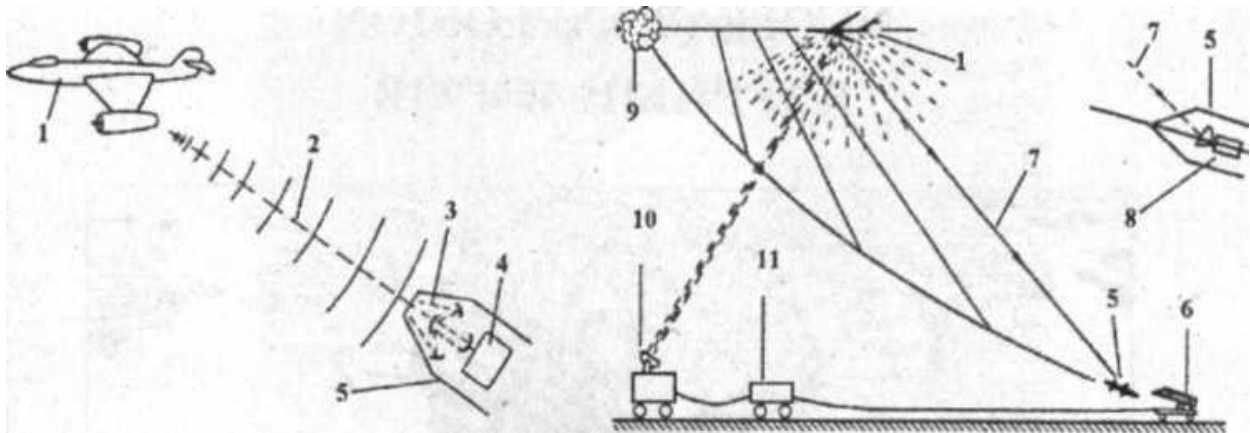
The data from these tracking radars are fed into a computer on the ground, which calculates the commands to be transmitted to the missile to intercept the target. The only equipment in the missile is a radio receiver (a decoder for the command signals) and servomechanisms needed to operate the missile control surfaces. The great advantage of this system is that most of the electronic equipment is on the ground.

The homing system is employed now with the missiles which close in on the targets without control from the ground station. Homing can be passive where missile is attracted by the source of energy in the target, for example, heat, electromagnetic waves or noise radiated from the aircraft engines or equipment.

A semiactive homing system uses radiation from the target which is “illuminated” by the ground tracking radar. The energy reflected by the target is picked up by a directional parabolic aerial in the nose of the missile and, according to the direction from which the radiation is coming, the aerodynamic control surfaces are moved so that the missile automatically homes on the target.

Look at the pictures and match the parts of guidance systems with the numbers under the picture.

Kinds of guidance system



Passive Homing

Система пассивного самонаведения

Semiactive Homing

Система полуактивного
самонаведения

1- **target** цель; 2- **target radiation** излучение цели; 3- **seeker sensitive receiver** чувствительный приемник головки самонаведения; 4- **homing guidance system** система самонаведения; 5- **guided missile** управляемая ракета; 6- **launcher** пусковая установка; 7- **tracking radar radiation reflected from target** отраженный от цели луч РЛС сопровождения; 8- **seeker** головка самонаведения; 9- **impact point** точка встречи; 10- **tracking radar** радиолокационная станция сопровождения цели; 11- **computer** ЭВМ

VII. Ответьте на вопросы к тексту.

1. What does the use of the guidance system depend on?
2. Where is the beam-rider system used?
3. What radar does this system employ?
4. Where is the command guidance system used?
5. What is the homing system used for?

VIII. Переведите словосочетания.

Система наведения по лучу, ракеты класса «земля-воздух», РЛС наземного базирования, автоматическое выслеживание цели, широко используются, данные от РЛС слежения, передаются на компьютер, воздушный руль, большое преимущество этой системы, направленная параболическая антенна.

UNIT 17

MISSILE SYSTEM

I. Прочитайте и переведите интернациональные слова.

Mobility, modern, normal, lethal, combine, army, final, battery, unique, diameter, kilometer, administrative, battalion, brigade, section, service, function, rocket, motor.

II. Запишите и запомните новую лексику.

fire power	огневая мощь
flexibility	гибкость, маневренность
common	обычный
killer	средство поражения
armour	бронетанковые войска
accomplish	выполнять, достигать
solid propellant	твёрдотопливный
lethal	смертельный
explosive	взрывчатый

maintenance	техническое обслуживание и ремонт
allocate	назначать, распределять
infantry	пехота

III. Подберите к английским словосочетаниям соответствующие русские эквиваленты.

1. modern warfare	1. ракетный комплекс
2. air defense “Killer”	2. обнаружение целей
3. missile system	3. слежение за целями противника
4. detection of targets	4. уничтожение целей противника
5. tracking of hostile targets	5. современная война
6. destruction of hostile targets	6. зенитное средство поражения
7. identification of targets	7. уникальный тип РЛС
8. unique type of radar	8. блок с аппаратурой наведения
9. guidance unit	9. свой или чужой
10. friendly or hostile	10. опознавание целей
11. solid-propellant rocket motor	11. убойная фугасная боеголовка
12. lethal high-explosive warhead	12. твердотопливный ракетный двигатель

IV. Прочитайте и переведите словосочетания.

Air defense missile system, air defense artillery brigade, solid propellant rocket motor, lethal high explosive warhead, supply and maintenance function.

V. Прочитайте и переведите предложения, обращая внимание на глагол в страдательном залоге (Passive Voice).

1. The Hawk missile system was developed to operate effectively with the field Army.

2. It is armed with a lethal, high explosive war head.

3. Hawk battalions are normally allocated by field Army to the air defense artillery brigade.

4. The firing section is equipped with one launcher of Hawk.

VI. Переведите текст.

MISSILE SYSTEM

Fire power, accuracy, mobility and flexibility are the common characteristics of modern warfare. The army combines all of these into Hawk – its air defense “Killer”.

The Hawk missile system was developed to operate effectively with the field Army. Compact and flexible, it can move anywhere at any time with its Armour and Infantry.

Air defense missile system must perform four basic functions: detection of targets, identification (determination: if the target is friendly or hostile), the tracking of hostile targets and finally the destruction or “killing” hostile targets. Hawk can do all of this and more.

Equipment in the Hawk battery for accomplishing these four functions includes a unique type of radar and guidance system. The Hawk missile is approximately 17 feet long, 14 inches in diameter, weighs 1,295 pounds at launch and has a solid propellant rocket motor. It is armed with a lethal, high-explosive warhead.

Hawk successfully destroys targets from less than 100 feet altitude to over 50,000 feet and has a range capability of 30 kilometers.

The Hawk battalion, numbering about 500 men, is both tactical and operational/tactical unit. It consists of a Headquarters, Headquarters Battery and three firing batteries fully mobile and capable of moving when and where the field Army requires.

Headquarters and Headquarters Battery provide the normal command and control, administrative, supply and maintenance functions for the battalion.

Hawk battalions are normally allocated by the field Army to the corps and the air defense artillery brigade.

Each firing platoon consists of three firing sections and a service section. The firing section is equipped with one launcher of Hawk.

VII. Ответьте на вопросы к тексту.

1. What are the common characteristics of modern warfare?
2. What is Hawk?
3. What was the Hawk missile system developed for?
4. What function must air defense missile systems perform?
5. How long is the Hawk missile?
6. What is the diameter of the Hawk missile?
7. What is its weight?
8. What motor has the Hawk missile?
9. What warhead is it armed with?
10. What is the strength of the Hawk battalion?
11. What does the Hawk battalion consist of?
12. What are Hawk battalions normally allocated to?

VIII. Заполните пропуски соответствующими словами.

1. Surface-to-surface ballistic missiles use... rocket motors.
2. The main characteristics of air defense missiles are... accuracy, mobility and....
3. These four functions are... , and destruction of hostile targets.
4. Air defense missiles were ... to operate effectively with the field Army.

5. The Hawk battery can... detection, identification, tracking and destruction of hostile targets.

6. Headquarters and headquarters battery provide ... function for the battalion, too.

fire power, maintenance, flexibility, perform, detection, identification, tracking, solid-propellant, developed, accomplish.

IX. Переведите словосочетания.

Огневая мощь, точность, мобильность, маневренность; современное военное дело; ракетный комплекс; основные функции; отслеживание вражеских целей; уникальный тип РЛС; приблизительно 17 футов в длину; твердотопливный ракетный двигатель; высоковозрывчатая боеголовка; уничтожает цели с высоты менее 100 футов.

П Р И Л О Ж Е Н И Я

Приложение 1

ТЕКСТЫ ДЛЯ САМОСТОЯТЕЛЬНОГО ПЕРЕВОДА СО СЛОВАРЕМ

№ I

The NATO school

The NATO school is located in Oberammergau in Germany, about 90 km southwest of Munich.

The NATO school is NATO's primary training and education centre and the only one of its kind in the world.

The mission of NATO school is to conduct courses, training and seminars in support of NATO's current and developing strategy and policy. This includes cooperation, dialogue, and information exchange, including education and training, with military and civilian personnel from non-NATO nations.

Every year the NATO school has about 7,000 students from 52 countries. Most students are from NATO countries but some students from Partner countries. About 1,000 students are from the USA.

There are 42 different courses at the school, but not everyone can do all the courses. Some courses are classified and some courses are for NATO flag officers only. A few courses are for NCOs and about ten percent of the students are NCOs. Not all students are military. The United Nations and others organizations like the Red Cross also send students to the NATO school.

There are 110 instructors at the school. Most instructors are military but sometimes journalists and other civilians teach classes. About 25 percent of the school's instructors are American. Most classes begin at 08.00 and end at about 17.00. Most work is done in the classroom and in small groups called syndicates.

Примечание:

current – настоящий; современный

№ II

3d Armored Cavalry Regiment

The 3d ACR today is one of the largest and most powerful tactical units in the US Army. It is a combined arms unit capable of operating independently of other units over wide geographical areas. It is a highly mobile force that can conduct reconnaissance, security, offensive and defensive operations. When the Regiment is at its full strength, it can field over 320 armored vehicles, over 80 aircraft and more than 5200 soldiers. The main force of the Regiment is the three armored cavalry squadrons: the 1st Tiger Squadron, the 2d Sabre Squadron and the 3d Thunder Squadron.

Within each squadron, each troop is designated by a letter of the alphabet and by tradition the troop adopts a name based on its letter. For example, A Troop is Apache troop and B Troop is Bandit. The 4th Longknife Air Cavalry Squadron is organized and equipped to conduct highly mobile reconnaissance and screening operations. The Squadron provides the Regiment's air assets and its Table of organization and equipment (TOE) includes scout, transport and attack helicopters.

Примечание:

reconnaissance - разведка

squadron - артиллеристский дивизион; эскадрон

designate - определять; называть

screening operations - операции маскировки

air assets - воздушная поддержка

scout - самолёт-разведчик

№ III

The British Armed Forces

The British Armed Forces consist of the Army, Royal Navy and the Air Force.

The Army is an organized force fighting on land.

In Britain, until the mid-17th century the army consisted of soldiers who joined the army only for the duration campaigns. In 1644, a regular standing army was organized under Cromwell.

The Commander-in-Chief of the British Armed Forces is the British monarch, Queen Elizabeth II.

The Ministry of Defense is the Government department and the highest level of military headquarters. The Department is controlled by the Secretary of State.

The policy of the UK Armed Forces is to protect the UK overseas territories; promote Britain's security interests and support international peacekeeping efforts.

The British Army has modern equipment, for example, Challenger II main battle tanks and Apache attack helicopters.

The United Kingdom has also the largest Air Force and Navy in the European Union. It has the most advanced aircraft in the world such as the Eurofighter Typhoon;

F-35 Lightning II multirole combat aircraft and C-17 Globemaster III transport aircraft.

Royal Navy is the British Navy, whose origin dates from the fleet of warships created by King Alfred to defend England against Vikings in the 9th century.

The British Royal Navy possesses an array of ships, such as ballistic missile submarines, guided missile destroyers and nuclear powered attack submarines.

The Commander of the Royal Navy is the First Lord of the Admiralty.

Примечание:

for the duration campaign – на время войны

peacekeeping efforts – миротворческие усилия

possess an array of ships – иметь флот кораблей

№ IV

From the history of electronic warfare

The first reported attempt at EW was during the Russian-Japanese War at the battle of Tsushima in May 1905. Japanese reconnaissance ships trailed the Russian fleet and transmitted the information about its movements and combat formations back to the Japanese High Command. The commander of the Russian cruiser Ural asked permission to use his onboard radio transmitters to suppress the Japanese broadcasts but his request was turned down. The Japanese HQ was informed of Russian ship

positions continuously. Some Russian commanders decided on their own initiative to jam these transmissions, but their efforts were too late to avoid the defeat.

The birth of electronic warfare is usually associated with the episode of World War I when in May 1916 Admiral Jackson of the Royal Navy used coastal radio direction finders to detect the movement of the German fleet. This information was used to direct the British fleet against the enemy.

EW made great progress after World War I and at the beginning of World War II the battle of Beams was in progress.

In World War II specialized EW equipment was developed. The Germans introduced radio guidance techniques for their bombers during night raids on English cities. Before the raid beams from two German propaganda radio stations on the continent suddenly narrowed down to 3 degrees and intersected over the target area. Under the cover of darkness the bombers simply followed these beams and drop their bombs at the beam intersection. The British developed a deceptive ECM called Bromide to degrade the German technique. They transmitted false beams which altered the intersection point, so the German aircrafts dropped their bombs in the English Channel. When the Germans installed complex gun-laying radars, the British began to equip their aircrafts with noise jammers and passive ECM equipment.

During the War each side won in EW or lost it with the appearance of a new countermeasure.

Now EW is a fast growing factor in military operations which is demonstrating its influence on battlefield decisions. Electronic Warfare is spreading to defensive and offensive satellite operations in space.

№ V

Homing

Many military targets such as ships, factories, aircrafts and guided missiles are warmer than their surrounding and may be detected by missile guidance equipment because of the large amount of heat they emit. Homing guidance equipment is usually located in the nose of the missile and detects heat radiation from distant objects, which are in its field of view, and transforms it by optical and electronic processes into voltage signals.

These signals are used by the autopilot as signals from radar guidance equipment to control the flight path of the missile. As any system of guidance the homing system has its advantages and disadvantages: the principle advantage is that the accuracy increases as the missile approaches the target and the principal disadvantage is its limited range.

Target discrimination and selection (the ability to pick out one specific target because of its distinguishing feature and not be influenced by a number of other targets in the vicinity) is achieved by special detection and amplification equipment which may be of different types.

№ VI

Crotale

The Crotale system is one of the most sophisticated weapons of the anti-aircraft missile system. It is the most effective weapon system and is highly mobile as well. The system is designed to protect fixed objects of tactical and strategic importance such as airfields, bridges, etc.

The Crotale consists of four armoured, wheeled vehicles of which three serve as weapon carriers and one as surveillance and command and control vehicle.

The equipment is contained in the command control vehicle (the heart of the system) and includes Pulse Doppler surveillance radar, integrated IFF system, fire control computers, threat evaluation and the necessary equipment to transfer the information to three missile-equipped sub-units. They can be situated over a radius of 1.8 mi (3 km). The reaction time of Crotale is 6 sec. Emphasis is placed on high automation to reduce manpower requirements. The radar and associated equipment such as trackers and command transmitters are highly ECM resistant. A large choice of frequencies is available.

Up to 12 targets can be tracked simultaneously and the threat evaluation can bring one, two, or all three firing sections into action.

Each firing section vehicle is fitted with four containerized ready to fire missiles. The command and control can fire 12 missiles in 11 sec on 6 different tracks. One firing section can launch 2 missiles at the same target in less than three seconds. The launcher rails are reloaded manually.

The targets are tracked by the command and control equipment. The commands to the missile are transmitted via semi-active radar links from the firing section vehicle. The Crotale missiles are relatively sophisticated. They house a transponder to ease the tracking problem and to enhance ECM resistance. They reach a speed of Mach 2.5. The maximal combat range is 5 mi (8km), minimal range is less than 1.25 (2km). An IR proximity fuze is used to explode 33lb (15 kg) of HE which propels the casing fragments with high velocity in a lethal radius of 24 ft (8m).

№ VII

SAM-D ('PATRIOT') Air Defense System

SAM-D (SURFACE-TO-AIR MISSILE DEVELOPMENT) is a weapon system designed against high performance aircrafts and short-range missiles. The system is highly mobile, it can be mounted on tracked or wheeled vehicles and can detect, identify, track and destroy multiply air targets.

Four missiles, each in a protective canister that also serves as a launching tube, are carried on a large wheeled trailer. A similar trailer carries a phased-array radar and a third trailer carries communications and control facilities. Combination of these vehicles makes up a "fire unit". SAM-D can be deployed as a battery to provide circular defense coverage or as a fire section to provide coverage over the sector. A fire section consists of one control group and two launcher groups. Each group contains four missiles. Every SAM-D battery includes four fire sections, so they have 32 missiles in total.

The missile system operates in a real time through combination of a phased-array radar and a digital computer with processing techniques which enable to include all the functions of the air defense system into a single radar.

SAM-D engages target simultaneously with its radar while the computer can perform all functions while keeping track of multiple targets. The weapon system is less vulnerable than present anti-aircraft missiles to electronic countermeasures, maneuver tactics and anti-radiation missiles.

Примечание:

phased-array radar -- фазированная антенная РЛС

№ VIII

Nike Hercules air defense guided missile system

Nike Hercules surface-to-air missile has a range of more than 75 miles and travels at supersonic speed up to ceiling of more than 150.000 ft. It is US primary high altitude air defense weapon. It is the second generation missile and is successfully tested against high performance aircrafts at a variety of altitudes. It can also intercept short-range ballistic missiles, including other Nike Hercules. It uses solid propellant, two stage propulsion system, command guidance and nuclear or conventional warhead. It weighs 10.000 lbs at launch, is 41 ft long, 31,5 inches in diameter. Ground equipment includes radars for low-power acquisition, high-power acquisition and missile tracking. The system is provided with electronic data processing equipment and remote-controlled launchers. The system is impervious to electronic jamming.

The first battery became operational in 1958. The system is constantly modernized. It is now deployed around key areas in the USA and overseas. Each battery can make multiply operational launches during an engagement and is able to work as part of defense network or independently.

ГРАММАТИЧЕСКИЙ СПРАВОЧНИК В ТАБЛИЦАХ

ТАБЛИЦА № 1. ЧИСЛИТЕЛЬНЫЕ (NUMERALS)

	Количественные Cardinal	Порядковые Ordinal
1	one	first
2	two	second
3	three	third
4	four	four th
5	five	fif th
6	six	six th
7	seven	seven th
8	eight	eigh th
9	nine	nin th
10	ten	tent h
11	eleven	eleven th
12	twelve	twelf th
13	thirteen	thirte nth
14	fourteen	fourteen th
15	fifteen	fifteen th
16	sixteen	sixteen th
17	seventeen	seventeen th
18	eighteen	eighteen th
19	nineteen	nineteen th
20	twenty	twenti eth

30	thirty	thirtieth
40	forty	fortieth
50	fifty	fiftieth
60	sixty	sixtieth
70	seventy	seventieth
80	eighty	eightieth
90	ninety	ninetieth
100	a (one) hundred	hundredth
1,000	a (one) thousand	thousandth
1,000,000	a (one) million	millionth

1. Порядковые числительные обычно употребляются с определенным артиклем:

the first — первый

the second — второй

2. Числительные hundred, thousand, million множественного числа не имеют:

two hundred, three hundred — двести, триста

five thousand — пять тысяч

eight million — восемь миллионов

3. Тысячи отделяются запятой: 3, 578 (three thousand five hundred and seventy-eight) — три тысячи пятьсот семьдесят восемь

4. Десятичные дроби отделяются точкой (point):

9.5 (nine point five) — девять и пять десятых

6.75 (six point seventy-five) — шесть целых семьдесят пять сотых

0.1 (zero point one) — ноль целых одна десятая

5. Дроби читаются следующим образом:

1/3 — one-third; 3 2/7 — three and two-sevenths; 5 1/2 — five and a half

**ТАБЛИЦА № 2. СТЕПЕНИ СРАВНЕНИЯ ПРИЛАГАТЕЛЬНЫХ
И НАРЕЧИЙ (DEGREES OF COMPARISON)**

Основа	Сравнительная степень	Превосходная степень
I. Одно- и двусложные прилагательные		
	<u>суффикс -er</u>	<u>суффикс -est</u>
young	younger	(the) youngest
late	later	(the) latest
big	bigger	(the) biggest
easy	easier	(the) easiest
narrow	narrower	(the) narrowest
clever	cleverer	(the) cleverest

II. Двусложные и многосложные прилагательные		
difficult	<u>more</u> difficult	(the) <u>most</u> difficult
simple	<u>more</u> simple	(the) <u>most</u> simple
III. Исключения.		
good (well)	better	(the) best
bad (badly)	worse	(the) worst
many, much	more	(the) most
little	less	(the) least
far	farther / further	(the) farthest, furthest
old	older / elder	(the) oldest / eldest

ТАБЛИЦА № 3. ОСНОВНЫЕ МОДАЛЬНЫЕ ГЛАГОЛЫ (MODAL VERBS)

	НАСТОЯЩЕЕ ВРЕМЯ	ПРОШЕДШЕЕ ВРЕМЯ	БУДУЩЕЕ ВРЕМЯ
CAN / BE ABLE TO - способность к совершению действия	can am /is/are able to	could was/were able to	_____ shall /will be able to
	I can speak English He is able to translate this text	He could read fast He was able to solve this problem	We shall be able to do it without his help
MAY / BE ALLOWED TO - позволение, разрешение	may am /is/are allowed to	might was/were allowed to	_____ shall /will be allowed to
	May I come in? He is allowed to make the report	They might go to Moscow.	He will be allowed to take part in the conference.
MUST - должен HAVE TO - приходится BE TO - должен по плану	must have to / has to am to / is to / are to	_____ had to was to / were to	_____ shall have to will have to will be to
	You must keep off the grass. I have to get up at 6 a.m.	He had to do all the work himself. I was to be at the airport at 4 a.m., so	The aircraft will have to follow the trajectory.

	He is to pass the exam at 5 p.m.	I had to take a taxi.	
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ТАБЛИЦА № 4. СТРАДАТЕЛЬНЫЙ ЗАЛОГ (PASSIVE VOICE)

Обозначает действие, которое совершается над предметом или лицом.

be+ V3

Вид Время	Indefinite (Simple)	Continuous (Progressive)	Perfect
Present	I am asked He/she/it is asked We/you/they are asked	I am being asked He/she/it is being asked We /you/they are being asked	I/we/you/they have been asked He/she/it has been asked
Past	I/he/she/it was asked We/you/they were asked	I/he/she/it was being asked We /you/they were being asked	I/he/she/it/we/you/ they had been asked
Future	I/we shall be asked He/she/it/you/they will be asked	_____	I/we shall have been asked He/she/it/you/they will have been asked

ТАБЛИЦА № 5. ИНФИНИТИВ (INFINITIVE)

Формы инфинитива

	Active	Passive
Indefinite	to ask	to be asked
Continuous	to be asking	_____
Perfect	to have asked	to have been asked
Perfect Continuous	to have been asking	_____

Употребление		Перевод
1. подлежащее	To walk is useful.	Ходить пешком полезно. Ходьба полезна.
2. часть сказуемого	Our aim is to study well.	Наша цель - хорошо учиться .
3. дополнение	She decided to help me.	Она решила помочь мне.
4. определение	The desire to find the solution was very strong.	Желание найти решение было очень сильным.
	He was the first to prove it.	Он был первым, кто доказал это.
	The method to be used is not new.	Метод, который нужно использовать , не новый.
5. обстоятельство	She went to London to study English.	Она поехала в Лондон изучать английский язык.
	Hydrogen reacts with oxygen to form water.	Водород взаимодействует с кислородом, образуя воду.

ТАБЛИЦА № 6. ПРИЧАСТИЕ (PARTICIPLE)

Формы причастий (Participle)

залог вид	Active	Passive
Indefinite	asking	asked/ written
Continuous	_____	being asked /written
Perfect	having asked	having been asked/written

Употребление Participle I, II

Функция	Пример	Перевод
1. Часть сказуемого	He is writing a test. The door is locked .	Он пишет тест. Дверь закрыта на ключ.
2. Определение	boiling water selected stories	кипящая вода избранные рассказы
3. обстоятельство	(While) Translating texts we often use dictionaries.	Переводя тексты, мы часто пользуемся словарями.

ТАБЛИЦА № 7. ГЕРУНДИЙ (GERUND)

Формы герундия

	Active	Passive
Indefinite	asking	being asked
Perfect	having asked	having been asked

Употребление		Перевод
1. подлежащее	Walking is useful.	Ходьба полезна (ходить полезно).
2. часть сказуемого	Our task is learning English.	Наша задача - изучать английский язык (изучение английского языка).
3. дополнение	She likes singing .	Ей нравится пение (петь).
4. определение	The boiling point of water is 100 degrees Celsius. (point of boiling)	Точка кипения воды - 100 градусов Цельсия
	His working place is always in order.	Его рабочее место всегда в порядке.
	There are many ways of solving this problem.	Есть много способов решения этой задачи (решить эту задачу).
5. обстоятельство	He left without saying "good-bye".	Он ушел, не попрощавшись .
	She went to London for studying English.	Она поехала в Лондон изучать английский язык.

**ТАБЛИЦА № 8. НАИБОЛЕЕ УПОТРЕБИМЫЕ НЕПРАВИЛЬНЫЕ
ГЛАГОЛЫ В ВОЕННО-СПЕЦИАЛЬНЫХ ТЕКСТАХ (IRREGULAR
VERBS)**

Indefinite	Past Indefinite	Participle II	Перевод
arise	arose	arisen	подниматься
be	was, were	been	быть
bear	bore	borne, born	переносить
become	became	become	становиться
begin	began	begun	начинать(ся)
break	broke	broken	ломать
bring	brought	brought	приносить
build	built	built	строить
burn	burnt	burnt	жечь
come	came	come	приходить
cut	cut	cut	резать
do	did	done	делать
fall	fell	fallen	падать
feed	fed	fed	кормить
feel	felt	felt	чувствовать
fight	fought	fought	сражаться
find	found	found	находить
fly	flew	flown	летать
get	got	got	получать
give	gave	given	давать
go	went	gone	идти
have	had	had	иметь

hit	hit	hit	ударить
hold	held	held	держать
keep	kept	kept	хранить
know	knew	known	знать
leave	left	left	покидать
let	let	let	позволять
make	made	made	делать
mean	meant	meant	означать
meet	met	met	встречать
put	put	put	ставить
rise	rose	risen	подниматься
say	said	said	говорить
see	saw	seen	видеть
send	sent	sent	посылать
shoot	shot	shot	стрелять
show	showed	shown	показывать
shut	shut	shut	закрывать
stand	stood	stood	стоять
strike	struck	struck	ударять, бить
take	took	taken	брать
win	won	won	побеждать