

APPROVED FOR RELEASE: 2007/02/09: CIA-RDP82-00850R000100050041-0

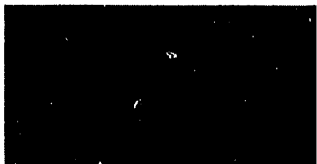
1 OF 1

FOR OFFICIAL USE ONLY

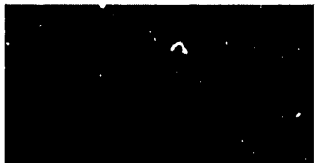
JPRS L/8470

22 May 1979

TRANSLATIONS ON USSR MILITARY AFFAIRS  
(FOUO 13/79)



U S S R



U. S. JOINT PUBLICATIONS RESEARCH SERVICE



FOR OFFICIAL USE ONLY

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

COPYRIGHT LAWS AND REGULATIONS GOVERNING OWNERSHIP OF MATERIALS REPRODUCED HEREIN REQUIRE THAT DISSEMINATION OF THIS PUBLICATION BE RESTRICTED FOR OFFICIAL USE ONLY.

FOR OFFICIAL USE ONLY

JPRS L/8470

22 May 1979

## TRANSLATIONS ON USSR MILITARY AFFAIRS

(FOUO 13/79)

### CONTENTS

PAGE

Comments on Alcoholism and Drug Addiction in U.S. Navy (M. Panin; ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, Dec 78) .....	1
Comments on NATO Defense Against Airborne Attacks (I. Khramov; ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, Dec 78) .....	7
Comments on Western SAM Systems (V. Almazov; ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, Dec 78) .....	15
Comments on Antiaircraft Defense of U.S. and Canada (Yu. Omel'chenko; ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, Dec 78) ..	21
Comments on NATO Joint Armed Forces in Europe (I. Golovnin; ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, Jan 79) .....	27
Comments on U.S. Division-Level Control and Communications (I. Loshchilov; ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, Jan 79) ....	37
Comments on NATO Combat Helicopters (Yu. Kolesnikov; ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, Jan 79) ...	41
Comments on NATO Doctrine on Employing Tactical Aviation (I. Andreyev; ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, Jan 79) .....	42

- a -

[III - USSR - 4 FOUO]

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

COMMENTS ON ALCOHOLISM AND DRUG ADDICTION IN U.S. NAVY

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 12, Dec 78 signed to press 6 Dec 78 pp 13-17

[Article by Col M. Panin: "Drug Addiction and Alcoholism in U.S. Naval Aviation"]

[Text] According to the American press, the U.S. military leadership is seriously disturbed by the state of military discipline and by the increase in drug addiction, drunkenness and the crime rate among Armed Forces personnel.

All these "ailments" are related directly to the profound sociopolitical crisis which has gripped broad layers of the American public at the present time. Meanwhile, the U.S. military leadership still continues to assert that the growth in the crime rate, alcoholism and drug use in the American Army is a result of the U.S. defeat in the war against the people of Vietnam. As a matter of fact, in Vietnam American service personnel showed the whole world their ideological lack of principle and the depth of their moral and ethical decay. But the main reason lies in the very essence of American bourgeois society with its ideals of personal enrichment and profit at any cost; of a society where a power cult, extreme individualism, egotism and cruelty flourish. All base feelings and the most disgusting manifestation of bourgeois morality are stimulated and developed in every possible way during combat training and ideological conditioning of the personnel.

Drug addiction in the U.S. Armed Forces, and especially in the Navy and naval aviation, has acquired such scope that the command element has taken a number of steps aimed at preventing the use of drugs and at identifying persons who abuse or trade in drugs among the personnel.

Judging from foreign press reports, the secretary of the Navy was forced to set up a special group under the Chief of Naval Operations to fight drug addiction and he had to develop an obligatory program for familiarizing all personnel with the destructive effects of drugs on the body. A directive from the secretary to naval officials ordered the elimination of drug addiction. The military chaplains service additionally was included in the struggle against drug addiction.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

But the elimination of drug addiction in the Navy, including in naval aviation, is still unsuccessful. Moreover, the number of drug addicts is growing. While 30 persons were released from the Navy for drug abuse in 1963 and 3,808 in 1969, their number already had risen to 4,000 in 1972. Groups were set up to fight the unidentified drug addicts. The groups consist of noncommissioned officers, medical service officers and chaplains who work in the squadrons and aboard ships to explain the pernicious effect of various drugs on the body.

The essence of these explanations reduces to the fact that a person who has given himself up to using heroin, marijuana, LSD, barbiturates and other compounds gradually loses the ability to control his actions intelligently. He lives in a world of morbid hallucinations and proceeds in his judgements and acts not from reality, but from his own fantastic impressions which appear under the effect of a drug. It is impossible to predict the behavior or reaction of the drug addict. They are not subject to logic. When an order is given to a military drug addict, one cannot be sure that everything will be executed in that way and not vice versa, or whether it will be executed at all. Psychological disorders and serious mental illnesses are a common phenomenon among drug addicts.

Some drugs are distinguished by heightened toxicity. According to American press data, more people die each year in the United States from barbiturate poisoning than from all other poisons together, except carbon monoxide.

The hallucinogen LSD is one of the most dangerous drugs used by U.S. naval personnel. This strong substance drives a person mad and keeps him in that state for an indeterminate time. The effect of LSD shows up even 2 years after use. No one can predict when a relapse will occur. It is believed the chromosomes damaged by LSD can be passed from generation to generation. A negligible dose of this compound is sufficient to cause deep psychological disorder in a person. According to official estimates by American specialists, the contents of an ordinary suitcase with a false bottom would be quite sufficient to place the entire populace of North and South America in a schizophrenic state.

According to the foreign military press, a special danger of drugs is that they not only destroy the physical health and psychology of persons addicted to drugs, but also do enormous harm to society as a whole, with the material and moral damage not being subject to precise determination.

As it is generally known, there is a rigid selection of pilots and landing controllers in naval aviation. All flight training programs categorically reject candidates who have used drugs at any time. The naval aviation command complains, however, that around 60 percent of all drug addicts begin to use drugs even before service in the military and conceal this fact from recruiters and acceptance commissions when enlisting for service.

FOR OFFICIAL USE ONLY

Americans believe that the "average" drug addict in naval aviation usually is among the rank-and-file or a junior officer 20 years old as a rule. But the age group varies from 18 to 23 years. According to a statement by military authorities, "society is experiencing a crisis with the youth and the drug problem."

U.S. judicial entities additionally see a direct link between drug abuse and a growth in the crime rate among military personnel. U.S. law views the dissemination and storage of drugs as a crime. Naval personnel are subject to court martial and a bad conduct discharge for drug abuse.

Groups for fighting drug addiction in the Navy and naval aviation work closely with narcotics divisions in police departments of large cities and counties. As a result of their activities, 3,949 drug users were identified in the Navy in 1976, 7,771 (an increase of 98 percent) in 1968 [sic], and already around 11,700 in 1970 [sic].

Meanwhile, as the American military press notes, some air subunit commanders at times connive with seamen and officers whom they view as "reliable," closing their eyes to the drug trade and drug use by service personnel. A situation in which the most sophisticated weapons systems, including thermonuclear weapons, are in the hands of people stupefied by drugs causes serious unrest among honest Americans. It is easy to imagine how a drug addict controlling an aircraft with a deadly cargo aboard might, under the influence of a morbid imagination, commit actions "on his own initiative" with consequences which are difficult to foresee.

While drug addiction, in the estimate of foreign military specialists, basically touches the youngest portion of naval aviation personnel, drunkenness is the lot of military personnel of all ages and ranks. "We drink from the moment we enlist for service until we retire, from youth to old age." Such are the admissions of some military personnel which have appeared in the American military press. According to data of the Navy's chief medical directorate, however, the "average" alcoholic usually is an officer 30 years old.

Alcohol--the "grandfather" of all drugs--has been declared national problem number one in America. There are over 9 million alcoholics in the United States. Thirty-eight percent of all officers and men of the Navy are confirmed drunkards, while 40 percent of the drunkards usually become chronic alcoholics. It has been estimated that each alcoholic in the Navy has a direct harmful effect on the lives of four other coworkers, that victims in 50 percent of accidents were in a state of intoxication at the moment of death, while 20 percent of all hospital admissions in the Navy involve alcoholism.

In this instance aviation naturally was not left out. An analysis performed by the neuropsychiatric department of the Bethesda Maryland Naval Hospital showed that in the period 1960-1970 22 percent of naval pilots

FOR OFFICIAL USE ONLY

were diagnosed as chronic alcoholics and 54 percent were confirmed drunkards with various forms of psychological disorders. The number of chronic alcoholics in naval aviation is growing with each passing year. The naval aviation command admits that at least one out of every ten aviation personnel is an alcoholic, and officers comprise the basis. Major crimes including murder, rape, robbery and armed assault are committed in a state of drunkenness.

The basic causes for mass alcoholism in U.S. naval aviation are well known. In addition to them, there are a multitude of traditions and customs facilitating an intensification of drunkenness among personnel.

American pilots admit: "In naval aviation we drink during off-duty hours; we drink after a flight well performed, after a bad flight, and after a near collision in the air (to calm the nerves). By tradition, we present our instructor a bottle of his favorite beverage to celebrate our first solo flight. And if we eject safely from a falling aircraft, we give thanks to our 'savior'--the parachute packer--with a bottle of alcohol, which he himself prefers to select. We drink when we receive the 'Golden Wings' emblem; when we 'wash down' a promotion; we drink when we are 'passed over' in promotion (to ease the depression), at official dinners and at change of command ceremonies and appointments of the chief. A night landing with the arresting gear on a carrier is evaluated with a 'medicinal' portion of cognac allocated to the pilot from the 'good aviation doctor's' stocks."

During the dirty war in Indochina the aviation command would issue flight personnel a bottle of whiskey, cognac or vodka as an incentive for a successful combat sortie. Instances were cited in the American press where naval pilots would fly combat sorties in aircraft and helicopters during combat operations against the DRV while they were in a state of drunkenness.

College students who dream of naval service and who train in educational programs for subsequent service with the Navy are obligated to undergo two months of practice aboard naval ships and at air bases during summer vacation. While cruising aboard ships, cadets visit "interesting" bars and taverns in the FRG, Norway, the Netherlands, Belgium and Italy. The young people like to get drunk together with the officer instructors. According to the U.S. military press, the opinion has become firmly entrenched among candidates for flight school that the life of a real naval pilot consists of constant drinking bouts. As a result, after 4 years of "practice," the students arrive at aviation schools already prepared for much unrestrained drunkenness in the officer environment.

Drunkenness leads to frequent fights with the Marines (to "defend the honor" of naval aviation) and leads to automobile accidents and wrecks. The police have to intervene in scandals and brawls begun by drunken pilots both in the United States and abroad.



FOR OFFICIAL USE ONLY

There also are a large number of alcoholics among physicians, chaplains, frogmen, engineers, technicians and mechanics in naval aviation. In 1974 the journal NAVAL AVIATION NEWS published the results of observations of 239 naval aviation officers (there were eight women among them). The observations were conducted for six months. It was determined as a result that almost every third person drank so often that in fact they could be considered alcoholics. It was noted in the U.S. military press that a unique "protective envelope" is created around alcoholics in some naval air units. It exists until the pilot is in a condition to fly and the mechanic can service aviation equipment. Despite the presence of obvious symptoms of chronic alcoholism, preference is given to all kinds of "sparing" diagnoses, with flight personnel sent to hospitals for treatment of secondary ailments. And the higher the rank of the alcoholic or the higher his prestige, the less obvious it is that he is given the correct diagnosis and will receive the appropriate treatment.

A naval staff directive was issued in May 1973 and an instruction of the main naval medical directorate was issued in December 1973. These documents contain statements concerning the abuse of alcoholic beverages and steps to be taken to prevent and treat alcoholism.

The Navy now has five special alcoholic treatment centers, 14 departments in naval hospitals and four dispensaries, i.e., 23 specialized establishments. They are attempting to treat alcoholics of the U.S. Navy using medical, psychological and psychiatric methods for this purpose. The "rehabilitation" of an alcoholic lasts 6-8 weeks. If the patient was from among flight personnel, then in conformity with the instruction of the main naval medical directorate, the physician can authorize him to fly if the result was favorable.

In addition to therapeutic establishments, there also exist various public organizations which fight alcoholism. They arrange lectures and talks and show films about the harm of alcohol. Convalescing alcoholics are brought in to work in such organizations. Along with their basic official duties, they perform the role of "advisers" to the command element on problems of combating alcoholism.

In spite of all these measures, the number of alcoholics in the Navy continues to rise. The foreign press has reported that from the moment special alcohol treatment centers were set up until 1974, 4,350 persons were present in them. Seventy percent of the patients returned to official duties. Former alcoholics still remain chronically ill, however, and great hopes are not placed on them. For this reason they usually are considered second-class persons and are assigned to positions which do not involve heightened responsibility. Many of the convalescing alcoholics end up in treatment centers for a second and a third time. Out of the 70 percent of patients who returned to service after treatment, only eight naval aviators were authorized to fly as copilots.

FOR OFFICIAL USE ONLY

The naval aviation command lately has been disturbed by the fact that the "average" alcoholic is becoming younger with each passing year. Those who became chronic alcoholics at age 30 began to get drunk at age 18-20.

The American military press has emphasized that it is difficult to prevent alcoholism in naval aviation and, in the opinion of experienced physicians and specialists, it is very difficult to treat it. Such illnesses as drug addiction and alcoholism can hardly be eradicated without curing the well-known social diseases of the entire American society. Nevertheless, U.S. military authorities have taken steps to "improve the health" of Armed Forces personnel, including those of naval aviation. The check and selection of new recruits is being conducted more thoroughly. Moral and psychological influence on service personnel and their ideological conditioning are being intensified to ensure that naval aviation continues to be one of the reliable strike detachments of American imperialism.

COPYRIGHT: "Zarubezhnoye voyennoye obozreniye", 1978

6904  
CSO: 1801

FOR OFFICIAL USE ONLY

COMMENTS ON NATO DEFENSE AGAINST AIRBORNE ATTACKS

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 12, Dec 78 signed to press 6 Dec 78 pp 25-31

[Article by Col I. Khramov, Candidate of Military Sciences, Docent: "Ground Forces: Combating Airborne Landings (According to Views of the NATO Command)"]

[Text] Despite certain positive changes for the better in the relaxation of international tension, NATO countries are conducting intensive preparations for a new aggressive war. A considerable place is set aside in the course of these preparations for problems of combating enemy airborne assaults.

The NATO command takes the organization of the struggle against airborne assaults as a complex of measures conducted by commanders in chief (commanders, chiefs) and staffs aimed at the security and defense of important areas (installations) in the rear of friendly forces and destruction of an enemy who is being landed or has landed. The primary measures are considered to be the preparation of local security and defense of areas (installations); planning anti-airborne operations; the organization of coordination; the assignment and training of personnel and weapons employed in combating them (including the creation of mobile groups); reconnaissance and warning; the organization of air defense, patrol service, counter-intelligence and so on.

The primary objective of the aforementioned measures is to detect airborne assaults in time and prevent their landing, but if they still take place, to prevent the performance of their assigned missions.

To achieve this objective troops have to accomplish a number of important missions of both tactical and operational importance. They usually include the timely revelation of enemy intentions on making airborne assaults; notification of all military and civil echelons (command elements of formations, combined units, other units, chiefs of military installations and civil defense entities) about the threat of their employment; destruction of the airborne assault forces during their marshaling for boarding aircraft and

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

helicopters, during the flight to the landing zone or immediately after the landing.

This article examines the organization of the struggle against enemy airborne assaults in the Central European theater of military operations according to views of the NATO command element. As the foreign press emphasizes, responsibility for its organization is placed on the commander in chief of the joint armed forces, who exercises control through commanders of army groups and air force formations as well as through commanders of territorial command elements of the FRG and the Netherlands and of Belgium's internal forces.

It is generally known that the Central European theater of military operations is divided into a zone of combat operations and a communications zone. The boundaries of the Northern and Central army groups lie within the limits of the zone of combat operations. Here the responsibility for defense of rear areas in the army group zones belongs, in addition to the army group commanders, to the commanders of FRG territorial commands "North" and "South" respectively. By requirement of the NATO leadership, they must provide troops of the alliance freedom of operational maneuver by blocking enemy military actions in the rear area of the zone of combat operations and, in exceptional situations, in rear areas of army corps as well.

The zone of combat operations within an army group zone includes forward and rear areas. The forward area in turn is divided into corps and division areas in which the appropriate commanders bear responsibility for combating airborne assaults.

In order to improve the control of units, their logistical support and organization of the most effective defense, combined unit commanders can break large-sized rear areas into subareas, and subareas into sectors, which unite within their boundaries important installations and the troops defending them. Persons responsible for these subareas (sectors) usually are the commander (chiefs) of combined units, units or subunits (installations) located within them.

The communications zone takes in a territory beyond the limits of the zone of combat operations. The main rear services entities and establishments as well as lines of communication are located in it. In the Central European theater it includes the territory of the Netherlands, Belgium and Luxembourg. Commanders of these countries' territorial commands are responsible for the communications zone.

The communications zone may be divided into sectors: one or more base sectors and a forward sector. Each of these sectors in turn is divided into areas and the areas into subareas. The commanders (chiefs) of these sectors, areas and subareas are responsible for combating airborne assaults.

FOR OFFICIAL USE ONLY

As a rule, the staff located in a given area plans the measures for combating enemy airborne assaults. Special entities usually are not set up in army groups and combined units to conduct measures of combating landings, and the entire responsibility rests on the commanders in chief (commanders) and their staffs. The foreign press points out, however, that at times special groups (centers) for planning measures of combating airborne assaults are organized on combined unit staffs.

For example, it is recommended that a group be set up in a division made up of the chief of the operations section, two assistants, the reconnaissance battalion and air defense battalion commanders and an air force representative; and that a center be set up in a corps made up of a staff detachment and three sections (planning, combat operations and control of mobile operations groups). Troops temporarily located in a given area carry out measures only for immediate security of their own units (subunits) and may take part in combating airborne assaults in conformity with instructions of superior headquarters.

The formation (combined unit) plan for combating airborne assaults gives thorough consideration to intelligence on the enemy (political, economic and military aspects) and problems of rear area support. It usually contains data on troop locations; missions and areas or zones of their operations; probable defended installations; measures for coordination of the operations of combined units and other units, and other problems. It determines which installations are to be defended above all, as well as the composition and procedure for employment of troops assigned for security and defense of the installations (including procedures for training and employing local police forces, volunteer detachments and other formations).

Measures for combating airborne assaults usually are tied in closely with the following plans: air defense, system of obstacles, fire support, combating sabotage groups, intelligence and communications, electronic warfare, conducting counterattacks and delivering counterblows.

An important place also is given to coordination, especially among FRG territorial troops and NATO forces. The NATO High Command in the Central European theater works in coordination with the Bundeswehr command element, the army group works with the territorial command ("North" or "South"), the army corps works with the Heimatschutz forces command element, and the division works with the local staff of territorial forces respectively.

The composition of personnel and weapons used for combating airborne assaults usually depends on the expected character and scale of the enemy's attack from the air, the importance of the defended area (installation) and the availability of personnel and weapons as part of the army group and combined units at the given moment. In all instances, however, it is determined by the commanders in chief of formations and commanders of combined units, who can employ regular combined units and other units which are in the reserve, territorial troops and civil defense formations of the FRG, air defense and air force subunits, as well as security entities for these purposes.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

For example, up to one-third of the personnel of rear services units and subunits brought together into tactical groups (brigades) of 4,000-5,000 persons can be used in the corps rear area, figuring a platoon or company per installation. The corps commander can have a division, brigade or regiment as well as special-purpose subunits and local military and semi-military formations as a mobile reserve (mobile operations group). The army group may not assign such a group, usually because of a lack of combined units and other units as part of its reserve. In this instance its mission is accomplished by FRG territorial forces and civil defense formations. In addition, newly arrived and mobilized combined units and troops training to conduct special activities (airborne and amphibious assaults) may be located in the army group's zone. The army group commander may employ a portion of them temporarily.

In the opinion of foreign specialists, to prevent a surprise enemy attack it is necessary to organize reconnaissance and notification about the threat of employment of airborne assaults. Intelligence must uncover the enemy's preparations for landing airborne assaults in good time and determine their landing locations, forces, composition and the possible character of operations. Considering that preparation of airborne forces for a landing in the enemy rear usually is accomplished at a considerable distance from the front line, it is recommended that reconnaissance missions be assigned to personnel and facilities of the higher command element.

Notification is accomplished with the help of long-range and close-range detection and warning systems organized at the theater level. The long-range detection and warning system provides the command element of troops, sectors, areas and subareas with timely information on the threat of an airborne assault landing. It includes aircraft control entities, radio-technical units and subunits of air defense, reconnaissance satellites and so on.

The close-range detection and warning system is set up within the limits of a rear area, subarea and sector, in the communications zone, in front of the FEBA and in the combat operations zone. It is organized for providing troops and installations with timely information on areas and directions of operation by enemy landing forces. This system includes ground and air surveillance stations, radars of AAA units and subunits, instruments mounted at installations and in areas of unit (subunit) locations for transmitting signals, radio intercept stations and patrols equipped with radiotechnical equipment. This system works closely with the long-range detection system, especially with the nearby air force or air defense control entity. Each rear area or installation must have communications with the person responsible for its security, as well as with the police, security forces and civil entities of this area.

Service subunits and the military police provide local security for rear area installations. Defense against enemy attack from any direction is

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

organized, including against an airborne landing. Barbed wire entanglements, minefields, explosives and prepared firing positions represent the minimum which foreign military specialists believe to be necessary for providing this defense.

According to foreign press data, the security and defense system of American installations in the theater presently includes three zones: limited access, limited movement and prohibited. Penetration into them is limited or completely excluded. The secured installations are equipped with various sensors and automatic signalling systems providing visual and aural notification when secured doors are open or even at the appearance of foreign objects (people or vehicles).

The security of rear area installations usually consists of a military police platoon or company (60-300 persons) or personnel of the installation's subunits. Security and defense of the rear area are reinforced at the beginning of combat operations. Each installation is transformed into a center of resistance and its entire ground and air space is covered by fire.

To give assistance to the subunits assigned for installation security, it is recommended that mobile operations groups be set up. Their composition is determined by commanders in chief, commanders and chiefs responsible for combating airborne assaults. They must be located at a place from which they can quickly reach the areas of most probable landing by enemy airborne forces.

When a significant number of personnel and weapons are assigned for defense of a corps rear area, an anti-landing reserve may be set up from combat units and combined units located in this area, in addition to the mobile group.

The NATO theater command plans to make wide use of fire support helicopters and air defense weapons. It is believed that the air defense system set up with the employment of fighter aviation, SAM's, antiaircraft tube artillery and small arms should provide for the destruction of enemy transports and helicopters during their flight to the landing zones and especially when landing the assault force, in addition to performing missions of repulsing enemy air strikes.

A patrol service is set up in rear areas of army groups and combined units, a system of various obstacles is created, and dummy installations and structures are set up. Special steps also are taken along the line of security entities.

Strikes usually are made against bases of airborne troops, airfields and other important enemy installations during the period of preparation for an assault landing. Tactical aviation is used for strikes to a depth up to 1,000 km, and the Pershing missiles are used to a depth up to 600 km. In

FOR OFFICIAL USE ONLY

the opinion of American military specialists, it is advisable to deliver surface nuclear bursts primarily with high yield weapons. Chemical and conventional munitions can be used in addition.

On receipt of a warning as to a possible airborne assault landing, commanders in chief of army groups, FRG territorial forces and combined unit commanders estimate the probable attack objective and the possible degree to which the landing force's actions will affect the success of an operation (battle). All troops located in the given area are placed in full combat readiness. Personnel occupy defensive positions and posts according to the allocation of battle tasks. Military police subunits are assigned in addition to reinforce security posts and interior guards and for patrolling. Mobile operations groups are readied for movement to threatened areas.

Fire of all available weapons is opened against the assault transports as soon as they appear and the enemy landing begins. Artillery and mortars concentrate fire against the landing zone, and aircraft and air defense weapons combat the air cover.

If the force is landed in areas inaccessible to the defenders' weapons, separate units must proceed in short periods of time to where they can conduct effective fire. It is believed necessary to make wide use of helicopters (including fire support helicopters) for this purpose.

After the airborne force has landed, it is recommended that it be destroyed by conducting defensive and offensive operations. The former are conducted to deliver maximum losses to the landing force and limit its freedom of action, while the latter pursue a more decisive objective of destroying the landed force in combination with fire and maneuver. Based on this, units and subunits assigned for local cover of installations usually conduct defensive operations, while mobile operations groups conduct offensive operations (with the support of aircraft and artillery).

Western military specialists suggest the use of mass destruction weapons for rapid elimination of an airborne assault force, with observance of measures ensuring the safety of friendly troops. Nuclear strikes should be delivered with low-yield weapons using the most accurate means of delivery to the target. In all instances the enemy assault force either is immediately attacked after landing or steps are taken to contain his actions and then to destroy him with the help of the mobile group and reserves.

It is recommended that forward subunits and units of the airborne force dropped to capture landing zones be attacked immediately by any forces in the vicinity, taking advantage of its initial lack of organization. If these forces are in no condition to defeat the enemy, they must strive to create favorable conditions for the mobile group to deliver attacks (Fig. 1).



FOR OFFICIAL USE ONLY

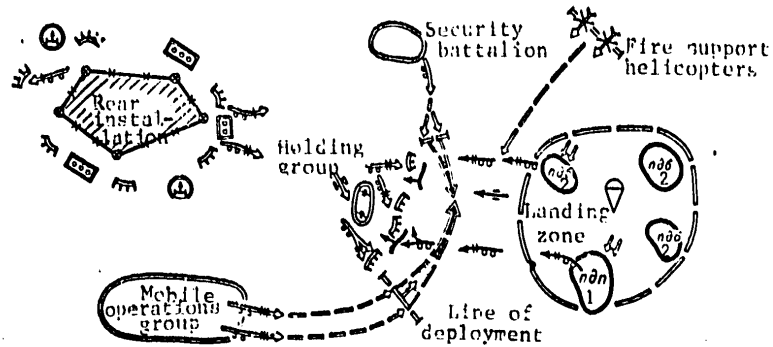


Fig. 1. Organization of combat formation of forces assigned to destroy a landing force far from an installation (variant)

KEY: 1. Airborne regiment      2. Airborne battalion

With the beginning of a drop of airborne force, the mobile operations group usually moves out immediately and attacks it from the move. It is believed that attacks even by insignificant forces, especially tanks supported by artillery and aircraft, and conducted at the moment of the drop, assembly and while the landing force subunits are being made combat ready may result in the enemy giving up further landing in this area.

If an airborne assault force manages to land and assemble, selection of the method of troop actions designed to defeat it is determined by the composition and character of actions of the landing force, the status of friendly troops, weather conditions, terrain relief and other factors.

An attack is organized when the enemy assumes the defensive. A penetration of the defenses is made by the mobile operations group supported by artillery and aircraft on one or more axes in order to split the landing force and destroy it piecemeal.

If the attack fails to destroy the enemy troops which have landed, the mobile group contains the airborne assault force, thus supporting the advance of the senior chief's reserve (Fig. 2).

When the enemy makes a major landing in the rear area of an army group or in a communications zone, troops are brought in to destroy him: above all the personnel and weapons of the air force, mobile tactical groups and air-mobile units and subunits. When a large airborne force which has landed begins to move toward installations in the rear of an army group, the troops assigned for its destruction usually are subdivided into a holding group and an attack group. The former moves to the primary movement routes

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

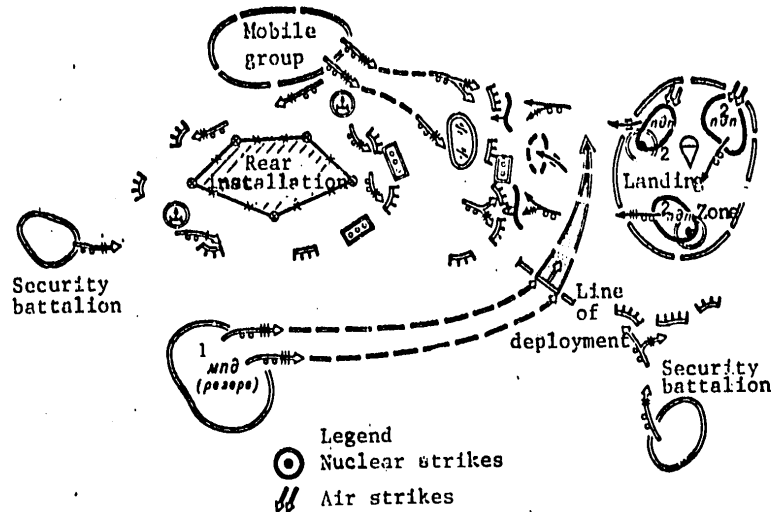


Fig. 2. Diagram of mobile group operations in containing a landing force (variant)

- KEY: 1. Motorized infantry division (reserve)  
2. Airborne regiment

of the airborne force and tries by means of defensive operations to delay its advance, while the latter delivers attacks against the flanks and rear of the force. Sometimes a frontal attack is even used, when the assault force is advancing across a broad front or when the situation does not permit an enveloping maneuver to be made.

In case of a simultaneous enemy attack from the front and operations of a large airborne force in the rear, and in the absence of a sufficient reserve at the disposal of the army group commander, the mission of troops assigned to destroy the landing force is to contain its actions and prevent it from being reinforced by new movements. This will allow time to be gained to prepare for defeat of the landing force by troops moved up from the depth of the theater.

The experience of exercises and maneuvers of the NATO joint armed forces conducted in recent times in the Central European theater shows that the alliance command is working out a large number of different measures aimed at timely identification of the preparation of airborne operations, at their disruption, at reliable security and defense of the most important rear installations, and at the defeat of landing forces during their landing.

COPYRIGHT: "Zarubezhnoye voyennoye obozreniye", 1978

14

6904

CSO: 1801

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

COMMENTS ON WESTERN SAM SYSTEMS

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 12, Dec 78 signed to press 6 Dec 78 pp 39-46

[Article by Engr-Lt Col V. Almazov: "SAM Systems of the Ground Forces of Capitalist States"]

[Text] The aggressive schemes nurtured by the military-political leaders of western powers against countries of the socialist community attach great significance to air defense as a means which to some extent can weaken the might of a retaliatory attack. In the opinion of foreign military specialists, the experience of combat operations in Vietnam and the Near East vividly show the growing role of air defense systems, and particularly of surface-to-air missile [SAM] systems. The improvement of SAM systems in capitalist countries is being conducted along the line of modernizing systems in the inventory and developing new ones.

The western press notes that the United States has achieved greatest success among NATO countries creating new /long and medium range SAM systems/ [in boldface]. The Americans already are testing the "Patriot" system (previous designation of "SAM-D") at the White Sands Range. It differs from all existing systems primarily in the fact that it can fire simultaneously against eight targets flying at different altitudes. The combat capabilities of this SAM system have been increased by use of a phased-array radar and high-speed electronic computer, which permits all necessary operations to be accomplished considerably faster with a large data flow and to coordinate air defense missions with combat operations of friendly aircraft. The system's high mobility is achieved by reducing the overall dimensions of the gear and installing it on semitrailers.

In the estimate of foreign specialists, the "Patriot" SAM system surpasses existing long and medium-range systems fourfold in its fire capabilities. It is also believed that its electronic countercounter measures [ECCM] are ten times better and the effectiveness of destroying maneuvering targets is twice as great. The gear being used for system monitoring allows the system to be operated by operators with less training.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

The SAM system includes a control station, phased-array radar, launchers (four missiles each), four gas-turbine power sources (60 kilowatts each), communications gear and auxiliary maintenance equipment (Fig. 1) [Photo not reproduced]. Five is considered to be the optimum number of launchers in a system. Judging from American press reports, the "Patriot" system will replace the "Hawk" and "Nike-Hercules" SAM systems and will remain with U.S. troops even in the nineties.

At the present time refitting of the U.S. Army with the improved "Hawk" SAM system has been completed. It differs from the base system in modernized radar equipment, more sophisticated computer facilities and a surface-to-air missile which has increased reliability, a new engine and a more powerful warhead. All this permitted an increase in the system's range, an increase in the probability of destroying air targets and a reduction of reaction time in firing against high-speed maneuvering targets in the presence of electronic countermeasures [ECM]. A self-propelled version of the improved "Hawk" has been created in which the launchers and command post are installed on the M727 tracked chassis. The self-propelled chassis also is used to tow the rest of the system's equipment.

European partners of the United States in the aggressive NATO bloc are planning to rearm their troops with the improved "Hawk", organizing production of all necessary equipment at their own plants under a license. In the opinion of western specialists, it will meet requirements placed on this type of weapon up to the end of the eighties.

Primary attention abroad in the last decade, however, has been given to creation of mobile /short-range/ SAM systems and /portable systems/ [in boldface]. This is explained by the fact that combat tactics of air attack weapons have undergone certain changes. For example, aircraft have mastered low and extremely low altitudes (15-150 m) while operating at high speeds (Mach 1.2) using ECM, which led to a sharp reduction in the range of detection of air attack weapons and a reduction in time to prepare data and open fire.

Foreign specialists believe that short-range SAM systems have to meet the following specifications: Destroy air targets flying at a speed of Mach 2 and with an effective reflecting surface of  $0.1 \text{ m}^2$  or more at altitudes from extremely low up to 6 km and at ranges of 7-10 km; have constant readiness to evaluate the air situation and detect air targets even when the system is moving; and have a short reaction time and high probability of hitting targets under various conditions of visibility day or night. In addition, the system has to have identification friend or foe [IFF] gear, a large number of missiles ready for launching, automatic reloading of the launcher, high mobility and low cost, and it must be air-transportable and simple to handle.

FOR OFFICIAL USE ONLY

The short-range systems developed in European states which meet the designated requirements to a sufficient extent include the "Roland" (FRG, France), "Crotale" (France), "Rapier" (Great Britain), "Spada" and "Indigo" (Italy) and the "Skyguard-M" (Switzerland, see table [table not reproduced]). According to a foreign press report, they comprise the basis of air defense weapons for combating an air enemy at low altitudes in the eighties.

Small jamproof pulsed Doppler radars are employed in short-range systems for timely detection of low-flying targets and for providing self-contained operations. They also provide target identification and a determination of their coordinates. The radars are equipped with plan position indicators reflecting the air situation within a radius of 15-18 km and are installed either together with the launcher ("Roland," "Rapier" and "Skyguard-M") or on a separate vehicle or trailer ("Crotale" and "Indigo"). In the defense of fixed installations, these radars also can issue acquisition data to AAA batteries.

An important feature of short-range SAM systems is the use of all-weather fire control systems in them. For example, the "Skyguard-M" system (Fig. 2) [photo not reproduced] was developed as an all-weather system, while the "Roland" SAM system was developed in two versions ("Roland"-1 as a fair-weather system and the "Roland"-2 as an all-weather system). The "Rapier" SAM system was created as a fair-weather system, but subsequently a target tracking and guidance radar for the "Blindfire" missiles was included in it.

Radars included in the fire control system usually have one receiver and three tracking channels (one for the target and two for the missile). A transponder is installed aboard the missile for tracking it. The narrow radiation pattern of the antennas and short pulse duration used in tracking and missile guidance radars permits obtaining a precise display of target and missile on the scope. Automatic infrared devices are used in the initial leg of flight to place the missile on the line of sight of the target. A great deal of importance was attached to problems of protecting systems against ECM capabilities in creating short-range SAM systems.

The foreign press notes that operation of SAM systems under ECM conditions is ensured by simultaneous use of jamproof radars and optical target tracking capabilities. For this reason the "Roland," "Crotale," "Indigo" and "Skyguard-M" systems are equipped with radar and optical target tracking systems which permit the operator to use a particular tracking system depending on the situation. The operation of shifting from one system to another in the "Crotale" system can be accomplished even while guiding the missile.

The "Roland"-1 and "Chaparral" have only optical target tracking systems. Target tracking is done by the operator with the help of 5X and 10X optical sights. The primary feature of the latter is that they are not subject to the effects of jamming and they have a rather high tracking accuracy. In

FOR OFFICIAL USE ONLY

addition, the absence of target illumination in the missile guidance process provides concealment of the moment the missile is launched.

According to foreign press data, tests of an all-weather version of the "Chaparral", in which the "Blindfire" radar used in the British "Rapier" system has been included, have been underway since mid-1978 at the White Sands missile range. According to American specialists, however, this SAM system is not for the long term and it will be replaced in the mid-eighties by a version of the "Roland"-2 presently being created in the United States under license.

It is believed that giving short-range systems equal or greater mobility than the troops they are covering is one of the primary requirements in developing them. Combat vehicles with good crosscountry capability are being used as the basis for making the system. For example, the French version of the "Roland" is mounted on the AMX-30 tank chassis, the West German version on the "Marder" infantry combat vehicle [ICV] chassis, and the American version on the tracked chassis of the M109 155-mm self-propelled howitzer.

Firing from the move is an important characteristic of short-range SAM systems to provide cover to troops on the march and on the battlefield. The following design solutions have been worked out abroad for this purpose. For example, the chassis of the "Hotchkiss-Brandt" armored vehicle on which the "Crotale" is mounted has a soft, shock-absorbing engine mounting, electric transmission and hydropneumatic wheel suspension. Vibrations affecting the operation of the acquisition radar were eliminated because of this and its operation during movement was assured. The "Roland" system has a radar and launcher stabilization system. The missile launch of short-range systems, however, is done only with the launchers at a halt.

Launchers with several rails and automatic reloading are used in short-range SAM systems to increase their firepower. For example, the "Roland"-2 has two missiles on rails and eight in two revolver-type magazines. Reloading is done automatically within 10 seconds. The "Roland"-2C has four missiles on rails and eight in magazines. Automatic reloading can be done only onto two rails. The "Rapier" and "Crotale" have four missiles each on rails, but reloading is done manually.

Computer facilities for evaluating the air situation and tracking air targets have been employed widely in the systems. One "Crotale" system, which includes a vehicle with an acquisition radar and three launchers, is capable of detecting around 30 air targets simultaneously at ranges up to 18 km, determining the degree of their threat and combating 12 aircraft.

One of the directions of development of the SAM systems is the creation of systems adapted for different regions. For example, the "Shachine" short-range SAM system is being created in France on the basis of the "Crotale" (for Saudi Arabia). The target acquisition radar and launcher with missile

## FOR OFFICIAL USE ONLY

tracking and guidance radar in this system are mounted on two AMX-30 tracked tank chassis. The acquisition radar will be able to support 3-4 launchers. It will have a higher resolution, since its antenna radiation pattern will be reduced from 3.5 to 1.4° in bearing. It is planned to equip the launcher chassis with navigational gear which will automatically process data on the launcher's location. Consideration of these data will permit opening fire immediately after movement is halted. Six SAM's instead of four are accommodated on the launcher. The system's maximum range of fire rose to 10.5 km thanks to installing a new, more powerful engine in the missile as a result of increasing its length by 11 cm. Judging from foreign press reports, Egypt is showing great interest in acquiring such a SAM system with a modernized missile.

A modified version of the "Roland"-2C system intended primarily for defense of fixed installations in a theater of military operations has been developed in France on an order from the Belgian defense ministry. In contrast to the "Roland"-2, the new system (Fig. 3) [Photo not reproduced] consists of a command post (CP) and launcher mounted on trailers or the "Berlier" vehicle chassis with high crosscountry capability. The French jamproof pulsed Doppler radar used in the "Crotale" is being used as the target acquisition radar to be installed in the CP. The CP's can be equipped with detection radars of other types as well, however, if the need arises to increase the number of launchers controlled from one CP. For example, in case the "Siemens" radar (FRG) is used, their number can be increased to eight. Missile guidance is accomplished with the help of a radar on each launcher.

In the opinion of foreign specialists, portable SAM systems are an effective means of air defense for small subunits on the battlefield and on the march. Because of their small size and light weight, they can be used under conditions where employment of another air defense weapon is difficult (forest, mountains, swamps). Western experts regard the American "Red Eye," the British "Blowpipe" and the Swedish RB-70 as the most sophisticated portable SAM systems. As the foreign press states, their combat employment has a number of features.

The "Red Eye" and "Blowpipe" SAM's can be launched from the operator's shoulder or from moving means of transportation (APC's, vehicles). The detection, identification and selection of target is done by the operator of the portable "Red Eye" SAM system visually. The "Red Eye" SAM can hit targets only from the rear hemisphere, since it employs an infrared homing head. The "Blowpipe" SAM system has a command guidance system and "IFF" gear. It is capable of hitting both approaching and departing targets. A missile with a laser guidance system was used for the first time in the RB-70 (Fig. 4) [Photo not reproduced]. The shortcomings of the above systems include the capability of their use only under conditions of good visibility.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

At the present time the "Stinger" portable SAM system has been developed in the United States to replace the "Red Eye" system. It uses a missile with higher speed and range because of the use of a more powerful RDPT [solid fuel rocket engine]. A new infrared homing head permits intercepting targets in an attack from any direction. The system is equipped with an IFF device not only for U.S. aircraft, but also for those of allies in the aggressive NATO bloc. Foreign specialists believe that the "Stinger" can be used for firing against air targets at night as well.

The following primary requirements for ensuring combat readiness are presented in the development of SAM systems of all types: a high level of reliability of elements and systems; a maximum reduction in the number of checks when in the hands of troops; and convenience in servicing and repair. To this end such SAM systems as the "Patriot," "Crotale," "Roland" and "Rapier" are equipped with built-in automatic monitors and their primary components consist of a number of discrete units (modules) which can be easily replaced under field conditions in case of malfunction.

As the foreign press notes, thanks to this approach to the problem of developing electronic hardware, there has been a significant reduction in the overall number of spare parts needed in operating the systems. For example, while there were 30,000 items in the "Nike-Hercules," there are no more than 3,000 in the "Patriot" system. Operating costs dropped threefold and the number of servicing personnel was cut fivefold in the process.

SAM systems pass through a technical maintenance cycle consisting of periodic technical servicing at several levels to ensure their serviceability when being operated. Their scope and complexity rise with an increase in the system's service life. For example, permanent automated monitoring of the status of elements and circuits is carried out from the time the "Crotale" system is placed in operation. A special computer detects a malfunction and the module or element which must be replaced is depicted on its illuminated display. Because of this monitoring the task of servicing and eliminating malfunctions at the tactical subunit level is simplified considerably.

As the foreign press notes, the high level of automation of new SAM systems means that their operation and servicing requires a minimum number of personnel, whose training and preparation have been simplified significantly.

COPYRIGHT: "Zarubezhnoye voyennoye obozreniye", 1978

6904  
CSO: 1801



FOR OFFICIAL USE ONLY

COMMENTS ON ANTI-AIRCRAFT DEFENSE OF U.S. AND CANADA

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 12, Dec 78 signed to press 6 Dec 78 pp 51-56

[Article by Col Yu. Omel'chenko, Candidate of Military Sciences, Docent: "Air Forces: Automated Antiaircraft Defense Control Systems of the United States and Canada"]

[Text] In conducting an aggressive foreign political course and constantly building up the might of its strategic offensive forces, the military leadership of the United States and Canada continues to improve its countries' defense against air attacks. The widespread system of air defense managed by the joint North American Air Defense Command (NORAD)<sup>1</sup>, which was set up in 1957, serves these purposes. It includes the Aerospace Defense Command (ADC) of the U.S. Air Force (its units and subunits comprise around 70 percent of all NORAD forces) and the Canadian Air Force air defense command group. At the present time air defense of the North American continent includes antimissile, antispace and antiaircraft defense.

As reported by the foreign press, the NORAD command performs its functions on the basis of broad use of automated control systems [ACS].

Three basic ACS are used to control personnel and weapons of antiaircraft defense of the North American continent: the 425L (deployed at the NORAD CP), the 416L SAGE (Semiautomatic Ground Environment) and the 416M BUIC (Back-Up Interceptor Control).

The NORAD CP (Cheyenne Mountain, Colorado Springs, Colorado) is a structure with an overall area of over 18,000 m<sup>2</sup> deep within the rocks. The 425L ACS provides for collection, processing, storage and display of air situation data, and it generates control commands for appropriate subunits. As the foreign press reports, the NORAD CP has 17 independent electronic computers, primarily the Philco 2000-212. It is noted that all data for the

1. For more details on NORAD see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 2, 1976, pp 51-59 (Ed.).

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

intercept of air targets can be processed in 11 seconds (with the display of results of the processing on display devices for collective use).

The 416L and 416M ACS are connected directly with the central 425L ACS. In addition the NORAD CP interworks with a number of other systems, from which it receives various data. These ACS include the 465L, which provides control of the U.S. Air Force SAC forces; the 466L, for collection and processing of electronic intelligence [ELINT] data; the 433L, for meteorological observation and weather forecasting; and the 431L, for air traffic control.

The 416L SAGE ACS provides control of weapons of individual air defense regions. There is a total of eight such regions (Fig. 1) [Photo not reproduced].

U.S. Air Force specialists believe that the SAGE ACS allows the exchange of data of an equal level among adjacent centers of control and warning regions, and its transmission over communications channels to subordinate radar acquisition and control posts as well as to active means for destruction of air targets in sufficient time for timely decisionmaking for their employment. The system is semiautomatic, inasmuch as such functions as search, detection, identification and surveillance of targets are performed by the personnel of control centers, while tracing of their flight routes and display of other data is automatic. Control and warning center personnel have the responsibility for designating and activating weapons. Display of results of calculations involving the commitment of active weapons is done with the help of a computer.

Two computers, the AN/FSQ-7 and AN/FSQ-8, are installed in each regional control and warning center. One of them operates while the other is kept as a "warmed-up" reserve and placed in operation with the appearance of malfunctions in the first one.

The AN/FSQ-7 computer is a high-speed, universal, digital, single-address, parallel computer (with a 32-bit word length). The requirement for providing for real-time operation of the computer made it necessary for a high rate of speed in performing complex computational and chiefly logic operations, a large external and immediate access store, the presence of devices operating in parallel and so on.

The immediate access memory of the AN/FSQ-7 is based on ferrite cores. The store cycle time is 6 microseconds, and the average time of command execution is near 10 microseconds.

The external memory includes 12 magnetic drums (each contains 12,288 32-bit words) used for storing the operational program, system status data and other data.

FOR OFFICIAL USE ONLY

The AN/FSQ-8 is identical to the AN/FSQ-7.

Each control and warning center equipped with the SAGE ACS has a large number of operator positions, approximately half of which are engaged in selecting the type of weapon and controlling them, around a fourth are engaged in target tracking, while the remainder are processing the data received.

The 416M BUIC ACS was developed as a back-up to the SAGE ACS and is intended for performing the very same functions (in case the SAGE system malfunctions). The B-825 computer is the foundation of the BUIC ACS equipment. BUIC ACS centers have been mothballed since the end of 1973 (except for one located at Tyndall Air Base, used chiefly for training).

A special "Missile-Master" ACS and its mobile version, the "Missile-Monitor,"<sup>2</sup> as well as the new "Missile-Mentor," are used for directly controlling the fire of surface-to-air missiles (SAM's). The "Missile-Minder" ACS is in the development and testing stage. These systems are coupled with the SAGE ACS, but also can operate independently. The following missions are accomplished with their assistance: detection, identification and tracking of air targets in the zone of responsibility; continuous determination of their coordinates; automatic display of the air situation; allocation of targets among SAM systems and fighter aircraft.

The distant line for detection of air targets is supported by 31 radar stations of the DEW line, located on the territory of Alaska, Canada and Greenland (along the 70th parallel of north latitude), and the near line of 23 stations of the "Pine Tree" line (installed along the border of the United States and Canada). A network of supplementary antiaircraft defense radar stations is deployed in border areas of the United States. They work closely with radars of the air traffic control system for civil aircraft. An overall total of over 120 radar stations are deployed on the North American continent. In addition, the EC-121 early warning radar aircraft are used to monitor the air space.

In implementing the concept of a constant build-up of military potential, U.S. ruling circles decided to conduct a number of measures in the next few years to improve the antiaircraft defense control system. The primary measures are as follows: creation of a new JSS (Joint Surveillance Systems) ACS; construction and activation of new regional control centers; acceptance into the inventory of the E-3A radar early warning and control aircraft of the AWACS (Airborne Warning and Control System) to supplement ground-based detection and control facilities; development of a special "Seek Skyhook" system for detecting low-flying targets; activation of an improved 427M ACS at the NORAD CP which, as American specialists believe, will not require modernization during the eighties; and use of new technical solutions in weapons control systems.

2. For more details on "Missile-Monitor" ACS, see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 8, 1975, pp 52-56 (Ed.).

FOR OFFICIAL USE ONLY

As the foreign press reports, the idea of creating the JSS belongs to the Air Force, but the Federal Aviation Administration [FAA] is to participate extensively in implementing it. It is planned that the Air Force and the FAA will make joint use of its radar stations. In peacetime it is supposed to provide surveillance of the air space of the continental United States, Alaska and Canada.

Based on the experience which has been gained, American specialists believe that joint use of control stations and radars of military and civil aviation will expand the possibility for monitoring the air space and increase the level of radar support to both departments. The foreign press has reported that interest has risen in the United States in this regard concerning an improvement in technical outfitting of FAA control points. In particular, the firm of Texas Instruments has developed a microwave control station radar for civil aviation with electronic beam scanning (Fig. 2) [Photo not reproduced].

New regional control centers are to comprise the basis for control of anti-aircraft defense forces and weapons with activation of the JSS system. It is planned to build a total of seven such centers, of which five will be on the territory of the United States (one in Alaska and the others in the northeastern, northwestern, southeastern and southwestern sectors of the continental United States) and two in Canada.

Foreign specialists note that the JSS system being created will replace the SAGE ACS. When new air defense regional control centers begin operating, then the BUIC ACS training center at Tyndall Air Base also will cease functioning in addition to cessation of operation of the SAGE ACS.

According to foreign specialists' estimates, the new system will have a higher level of automation in comparison with existing systems. Data are quoted that while from 75 to 200 persons are required to service the SAGE ACS center, 20 will be sufficient for the new system's automated center.

The AWACS is viewed by the foreign press as a part of the JSS ACS. The E-3A aircraft with a set of the necessary electronic gear comprise the basis of the AWACS.

The E-3A aircraft will be based at airfields near air defense regional control centers, which in peacetime must monitor the air space with the help of ground-based equipment. In case the international situation becomes aggravated and the appropriate command is received, aircraft will lift off, fly predetermined routes, provide ground control entities with supplementary information with the help of their own on-board systems and, should the latter malfunction, perform their functions. A long-range radar, identification system and nine multifunction consoles with scopes displaying the situation and with means of control over all operations are installed aboard the E-3A aircraft for this purpose. The aircraft's crew is up to 17 persons (according to data published in the foreign press, it is planned

FOR OFFICIAL USE ONLY

subsequently to install 16 consoles for operators and additional communications and data processing equipment, which will require the inclusion of around another ten persons in the crew).

Data from the aircraft's navigational gear are fed into the central on-board computer of the AWACS in support of control functions. This allows a determination of the location of air targets and output of the data received to ACS operators in geographic coordinates.<sup>3</sup> The western press notes that the AWACS is not the only means for increasing anti-aircraft defense effectiveness in long-range target detection. In particular, a great deal of attention is given to a study of the possibilities for using an over-the-horizon radar with inclined-reciprocal sounding, which is supposed to detect targets at all altitudes and at very long ranges. American specialists believe that if their technical forecasts are borne out, four such radars oriented toward the four cardinal points will provide surveillance of the entire perimeter of the continental United States.

In conformity with plans for developing anti-aircraft defenses, it is also planned to include space facilities in the new ACS. In particular, under the "Blue Spike" program, U.S. Air Force specialists are studying the possibility for detecting bombers from aboard spacecraft from the infrared emission of their jet engines in a certain sector of the spectrum.

The conduct of a system of measures within the framework of the "Seek Skyhook" program is provided for in the interests of improving capabilities of control systems to intercept low-flying targets. It includes projects for creating tethered balloons for the installation of radars. In the opinion of American specialists, this should increase the range for detecting air targets with the use of relatively inexpensive gear. From their viewpoint, the accommodation of radars on a tethered balloon is advantageous, since this reduces to a minimum interference signals reflected from the earth's surface, which inevitably arise with the operation of a station aboard a flying aircraft, and the cost of such a balloon additionally is no greater than 10 percent of the cost of an aircraft.

The foreign press reports that tests of the "Seek Skyhook" system have succeeded in detecting targets flying at altitudes of 15-150 m at a range up to 230 km, which considerably surpasses their range of detection with the help of ground-based radars.

The U.S. military leadership's plans to modernize anti-aircraft defense control systems have been met with approval of influential circles of the military-industrial complex. A number of large American and Canadian firms have begun developing various pieces of equipment for the new ACS. According to foreign press data, overall expenditures for creating a new control system for anti-aircraft defense of the North American continent will be over \$300 million. Of this amount, Canadian firms figure to receive orders of approximately \$45 million, while the lion's share of \$255 million will go to American companies.

3. Concerning AWACS, see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 6, 1975, pp 58-62; and No 7, pp 55-56 (Ed.).

FOR OFFICIAL USE ONLY

Among the measures aimed at increasing the capabilities of air defense control systems, it is impossible to ignore attempts by militaristic circles of the United States and Canada to continue to build up their military potential through the use of the latest achievements of science and technology.

COPYRIGHT: "Zarubezhnoye voyennoye obozreniye", 1978

6904  
CSO: 1801

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

COMMENTS ON NATO JOINT ARMED FORCES IN EUROPE

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 1, Jan 79 signed to press 8 Jan 79 pp 7-16

[Article by Col I. Golovnin: "General Military Problems: NATO Joint Armed Forces in Europe"]

[Text] The consistent peaceloving policy of the Soviet Union and countries of the socialist community, aimed at strengthening comprehensive cooperation among nations and achieving detente and disarmament, has led to profound changes in international relations and a new alignment of forces in favor of peace and socialism.

On the other hand, the enemies of detente, chiefly in the United States, have begun vast military preparations, taking advantage of the myth of the so-called "Soviet threat." The White House administration lately has taken a course openly toward a revival of the "power" policy in the "cold war" spirit and has stated directly that the chief role belongs to the NATO bloc in achieving U.S. global interests. The United States was the initiator in forcing the arms race and further increasing military expenditures. For example, military appropriations of NATO countries in 1977 comprised \$174.6 billion and, according to estimates by American specialists, they will rise at least 60 percent in the period 1978-1982.

Decisions by the supreme military-political entities of this aggressive bloc made in May 1978 attest to a further build-up in its military might. The "short-term" and "long-term" programs for developing the armed forces approved at the NATO Council session in Washington pursue the chief objective of achieving complete military superiority over Warsaw Pact states.

Relying on war as the primary means for achieving their goals, the imperialist forces of the United States and other NATO countries have created armed forces of five million persons already in peacetime. The largest and most combat effective troop grouping of the NATO countries has been created in Europe. As noted by the foreign press, it presently has over 7,000 American tactical nuclear weapons, more than 3,000 means of delivering them to the targets, up to 70 equivalent divisions, at least 11,000 tanks and 3,000

FOR OFFICIAL USE ONLY

tactical aircraft. Manpower exceeds two million, of which around 70 percent are under the immediate operational control of the supreme commander of NATO Joint Armed Forces in Europe.

The area of responsibility of the supreme (strategic) command includes the entire European theater of war with the exception of the territories of Great Britain, France and Portugal. Subordinate to it are three high commands of NATO Joint Armed Forces in theaters of military operation (Northern Europe, with headquarters in Kolsos, Norway; Central Europe in Brunssum, the Netherlands; and Southern Europe in Naples, Italy), a British Air Force command in the parent country (headquarters at High Wycombe, Great Britain), NATO mobile forces and a joint air defense system. Command elements have been created in each high command in theaters of military operation, to which corresponding groupings of joint ground forces, air forces and naval forces are subordinate.

*/The Northern Europe Theater of Military Operations/* [in boldface] is given a special role in NATO plans despite the fact that in size and combat might, the troop grouping located within its limits is considerably smaller than in the other European theaters of military operation. As the foreign press reports, however, primary attention in numerous exercises by the NATO Armed Forces is given to its reinforcement by moving combined units and other units from the United States, Great Britain, Canada and other countries. It is believed that a rather strong grouping can be created in short periods of time within the limits of this theater of military operation.

As reported in the foreign press, the Northern Europe Theater includes the territories and coastal waters of Norway, Denmark, the West German State of Schleswig-Holstein and the strait area of the Baltic. It is a unique link between NATO's strategic commands in Europe and the Atlantic. It provides an opportunity to monitor the waters of the Baltic straits and lines of communication leading from ports and naval bases of the Arctic into the Atlantic, and so it is viewed as an advantageous area for deploying major air force and naval groupings and for stationing air defense early warning capabilities.

Subordinate to the NATO Commander in Chief in this theater (Fig. 1) [Not reproduced] are Joint Armed Forces commands in Northern and Southern Norway (headquarters at Bodo and Oslo respectively) and in the Baltic straits area (Karup, Denmark). The first two are at the same time Norwegian national commands which, in the estimate of the NATO military leaders, should provide flexibility of command and control in peacetime and their effective troop employment during combat operations.

At the present time these commands chiefly exercise control over general organizational development of the armed forces and operational and combat training of the combined units and other units subordinated to them. They assume direct control of these forces with an aggravation of the situation or when exercises of the Joint Armed Forces are held.



FOR OFFICIAL USE ONLY

According to foreign press data, the overall size of the grouping of NATO Joint Armed Forces in the Northern Europe Theater may be around 100,000 persons.

The ground forces have the FRG 6th Motorized Infantry Division, six motorized infantry brigades (five Danish and one Norwegian), several separate infantry battalions and a separate "Lance" missile battalion.

In the estimate of NATO leaders, the FRG division is the most combat-effective combined unit of the joint ground forces. Organizationally it consists of two motorized infantry brigades and one tank brigade, an artillery regiment, an "Honest John" missile battalion as well as combat support and rear services units and subunits.

In addition to these regular combined units and other units, which are in constant combat readiness, reserve forces and irregular formations which are the basis for activating new combat units may be assigned to the NATO Joint Ground Forces in the theater. For example, as the foreign press reports, several motorized infantry brigades may be activated in addition in Denmark when mobilization measures are conducted and over ten infantry brigades may be activated in Norway's Ground Forces. Headquarters of the reserve brigades already are functioning in peacetime.

It is planned to accomplish the mobilization deployment of West German forces on the basis of the "Schleswig-Holstein" territorial command. As noted in the western military press, this allows the activation of an infantry division in a period of a few hours and its transfer to the command of the Joint Armed Forces in Schleswig-Holstein, Jutland and Fuenen Island.

Weapons and combat equipment of ground forces of NATO countries in the theater primarily consist of models of American, British, West German and some Swedish production.

The Air Force is represented by Norwegian, Danish and West German units and subunits, with the primary missions being support of combat operations of ground forces and organization of air defense.

NATO's Joint Air Forces in Northern and Southern Norway consist only of Norwegian Air Force subunits in peacetime. According to foreign press data, the Norwegian Air Force has three fighter-bomber squadrons, a reconnaissance squadron, air defense fighter squadron, two transport squadrons, a "Nike-Hercules" missile battalion (36 launchers) and separate helicopter squadrons. The greater part of these personnel and weapons is assigned to NATO. Thus at the present time they have over 90 warplanes. In the next few years it is planned to replace the obsolete F-104G aircraft with the latest F-16 fighters of American production.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

The Danish Air Force in the Baltic strait area has three fighter-bomber squadrons, a reconnaissance squadron, two air defense fighter squadrons, a transport squadron and one battalion each of "Nike-Hercules" and "Hawk" missiles. The Danish Air Force, which is intended for transfer to NATO, has a total of around 100 warplanes, 36 "Nike-Hercules" launchers and 24 "Hawk" launchers.

The FRG Air Force in this area includes two fighter-bomber squadrons, two reconnaissance and two "Hawk" battalions. The overall total of warplanes is over 70.

There is a total of around 260 warplanes and over 140 SAM launchers in the NATO Joint Air Forces in the Northern European Theater.

Naval forces are represented primarily by light forces (up to and including destroyers), naval aviation and coastal artillery. They are intended chiefly to blockade the Baltic straits, to provide beach defenses and protect sea lines of communication.

The navies of Norway and Denmark have an overall total of 21 diesel submarines, several guided missile frigates and over 100 ships of other classes including around 40 guided missile craft.

As reported in the foreign press, the West German Navy is the most up-to-date in technical outfitting. It has over 180 warships and small combatants, including over 20 diesel submarines, several destroyers, up to 60 mine-sweepers and around 40 guided missile and torpedo boats. Naval aviation consists of the following squadrons: tactical fighters and reconnaissance aircraft (four), coastal patrol aircraft (three), communications aircraft and helicopters, transport aircraft and so on.

The /Central European Theater/ [in boldface] (Fig. 2) [Not reproduced] is one of the primary theaters in Europe. A powerful strike force of NATO Armed Forces has been created within its limits already in peacetime, numbering over 700,000 personnel, 23 divisions, 7 separate brigades and regiments, over 6,000 tanks, up to 2,000 field artillery pieces and over 1,700 warplanes, of which around half are nuclear weapons platforms.

In the estimate of foreign military specialists, this grouping is the most combat-effective and is maintained in constant readiness for combat operations. If one considers that there are around 80 percent of American tactical nuclear weapons and just as many delivery platforms within the limits of this theater, it is obvious what role is given the high command of NATO Joint Armed Forces in this theater in fulfilling the aggressive schemes of imperialism.

As reported in the foreign press, the Joint Ground Forces organizationally are placed into two large groupings: Northern and Central army groups (NORTHAG and CENTAG).

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

NORTHAG (headquarters at Muenchen-Gladbach, FRG) has 12 divisions (five tank and seven motorized infantry), including four West German, four British, two Belgian and two Dutch. Its primary strike force is made up of West German divisions, which are superior to the combined units of other countries transferred to NORTHAG in size and saturation with armored equipment, artillery and antitank weapons.

CENTAG (headquarters at Seckenheim, FRG) has 11 divisions (of which five are tank divisions) and four separate brigades, including four American divisions and three American brigades, seven West German divisions and a Canadian brigade. Two armored and two mechanized American divisions and three West German tank divisions comprise the basis of CENTAG's strike force.

In the estimate of foreign military specialists, the large grouping of NATO Ground Forces created and in constant combat readiness in the Central European Theater will be reinforced significantly at the moment the situation becomes aggravated by the movement of combined units and units from other areas, primarily the United States. A great deal of attention is given to working out problems of rapid troop movement from the American continent to Europe (chiefly to the FRG) in annual exercises such as "Reforger" and others.

The combined units and units have the "Pershing" 1A, "Lance" and "Honest John" operational-tactical and tactical missiles; self-propelled 203.2-mm and 155-mm howitzers capable of employing nuclear munitions; contemporary medium tanks of various modifications (M60, "Leopard," "Chieftain"); light tanks, infantry combat vehicles and armored personnel carriers; the "Tow," "Milan" and "Hot" antitank guided missiles [ATGM's] and others.

The armored and mechanized combined units of the U.S. Ground Forces are saturated with tanks, artillery, antitank weapons and APC's to the greatest extent. For example, the armored division has 351 tanks, 66 atomic artillery pieces, 225 "Tow" and "Dragon" ATGM launchers and around 700 APC's. In addition, each division has 42 helicopters equipped with ATGM's.

As reported in the foreign press, NATO's military leaders intend to achieve a further increase in firepower and striking power in the next few years, as well as in capabilities of ground forces to combat enemy tanks and airborne assault forces. Deliveries of the latest missile and artillery systems, tanks, ATGM's and other weapons are planned to the combined units and units for this purpose.

The NATO Joint Air Forces (headquarters of the command element is at Ramstein, FRG) have the 2d and 4th Joint Air Strike Command [JASC], intended for operational coordination with NORTHAG and CENTAG respectively.

According to foreign press data, the 2d JASC includes the British Air Force command in the FRG, the tactical air commands of Belgium and the Netherlands,

the 3d Air Support Division and 4th Air Defense Division from the FRG Air Force Air Strike Command and the 32d Tactical Fighter Squadron (United States). The 2d JASC has a total of around 600 warplanes, including up to 200 nuclear weapons platforms, 36 "Pershing" IA launchers (FRG Air Force) and approximately 500 "Nike-Hercules," "Hawk," "Bloodhound" and "Rapier" SAM launchers. It is planned to replace the obsolete F-104G, G.91 and certain other types of aircraft with the new "Tornado" aircraft (FRG and U.K. air forces) and the F-16 (Belgian and the Netherlands air forces), which can be armed not only with conventional weapons, but with nuclear weapons as well.

According to foreign press data, the 4th JASC includes the 3d and 17th air forces of the U.S. Air Force, the 1st Air Support Division and 2d Air Defense Division of the FRG Air Force Air Strike Command as well as the Canadian 1st Air Group. There is a total of over 750 warplanes in the aircraft inventory, of which around half are nuclear weapons platforms. In addition, the 4th JASC has 36 "Pershing" IA operational-tactical missile launchers and over 140 SAM launchers. Air units and subunits have contemporary F-111E, F-15, F-4E, F-4C and F-4D warplanes, which make up over 70 percent of the command's total aircraft inventory.

As foreign military specialists believe, NATO's Joint Air Forces in the theater will work closely with the British Air Force command in the home country in performing the missions assigned them. With an aggravation in the situation, the British Air Force command is made operationally subordinate to the supreme commander of NATO's Joint Armed Forces in Europe. As with the Joint Ground Forces, NATO's air grouping in the theater will be reinforced primarily by movements of combat aircraft from the United States and Canada and also several units from Great Britain.

Western military specialists believe that the /Southern Europe Theater/ [in boldface] also is of great strategic importance. It is the southern flank of the North Atlantic Alliance and its link with other aggressive blocs, primarily CENTO. Therefore, in the overall chain of militaristic preparations, the NATO command even in peacetime keeps major groupings of ground, air and naval forces in this theater which have the purpose not only of threatening the southern flank of Warsaw Pact countries and controlling the Black Sea straits, but also exerting pressure on countries of the Near East and Africa.

The Southern Europe Theater includes the territories of Italy, Greece and Turkey; water areas of the Mediterranean and the Sea of Marmara; the Black Sea straits area and the southern part of the Black Sea. The theater's ground area is over 1.2 million km<sup>2</sup> and the population of NATO countries located here is around 100 million persons.

According to foreign press reports, the national armed forces deployed in this zone number around one million persons, the largest of which are ground forces, comprising over 70 percent of military personnel. A large

number of the combined units are intended for transfer to various commands of the bloc (Fig. 3) [Not reproduced].

Joint ground, air and naval forces assigned from the United States, Great Britain, Italy and Turkey as well as naval strike forces are operationally subordinate to the Commander in Chief of NATO's Joint Armed Forces in the Southern Europe Theater (headquarters at Naples, Italy). Greece has held a special place in NATO's military structure from August 1974 on. It declared it was leaving the bloc's military organization, but at the present time it has announced readiness to return to active work within the framework of the military organization on the condition that its Armed Forces must have independent commands (ground, naval and air forces) with their direct subordination to the Commander in Chief of NATO Joint Armed Forces in the Southern Europe Theater.

As noted in the foreign press, the Joint Ground Forces have around 30 divisions, up to 40 brigades and several separate regiments assigned by Italy, Greece, Turkey and the United States. These forces are brought together into two ground force commands: in the southern part of the theater (territory of Italy, with headquarters at Verona) and in the southeastern part of the theater (territory of Greece and Turkey, with headquarters at Izmir, Turkey).\*

The Joint Ground Forces in the southern part of the theater have four Italian divisions (three mechanized and one armored), over ten Italian brigades and a U.S. Southern Europe tactical group. This grouping has 12 "Lance" missile launchers.

The Joint Ground Forces in the southeastern part of the theater nominally include one Greek Field Army and three Turkish field armies, which have 28 Greek and Turkish divisions, as well as up to 25 separate brigades and over ten "Honest John" and atomic artillery battalions. Until decision of the question about creation of independent NATO commands (the 7th JASC and the Joint Ground Forces command in the central part of the Southern Europe Theater) on the territory of Greece, the Greek Armed Forces are under national subordination. They are directly subordinate to the Commander in Chief in the theater during the period in which joint exercises are conducted within the framework of the bloc.

Greece's Ground Forces number 11 divisions (including one armored division) and two separate armored brigades. All of them are brought together organizationally into four army corps, which make up the 1st Field Army (headquarters at Larisa). These combined units primarily have American combat equipment and weapons, including nuclear weapons delivery means ("Honest

\*Until the question is decided concerning the creation of independent NATO commands on the territory of Greece, its representatives are not participating in the work of headquarters of this command or the 6th JASC, which are headed by Turkish generals, and Greek forces have been removed from subordination to these military control entities.

FOR OFFICIAL USE ONLY

John" missiles and 203.2-mm howitzers). The 17 divisions and up to 20 separate brigades (regiments) of the Turkish Armed Forces are part of four field armies, three of which have been transferred to the NATO Joint Ground Forces. All of them also are outfitted with American combat equipment and weaponry.

The NATO Air Forces (headquarters of the command element at Naples, Italy) organizationally are brought together in the 5th and 6th JASC, which include American, Italian, Greek and Turkish air squadrons transferred to NATO. The overall number of warplanes is around 1,000, of which over 180 are nuclear weapons platforms.

The 5th JASC (headquarters at Vicenza, Italy) is intended for joint operations with Joint Ground Forces in the southern part of the theater and for screening the territory of Italy. It includes the Italian Air Force at full strength, the U.S. Air Force 40th Tactical Air Group and three "Nike-Hercules" battalions. There is a total of over 300 warplanes and up to 110 SAM launchers in the 5th JASC.

The 6th JASC (headquarters at Izmir, Turkey) presently includes only the Turkish Air Force and the U.S. Air Force 39th Tactical Air Group. The Turkish Air Force, consisting of the 1st and 2d tactical air armies, numbers around 350 warplanes (chiefly of American production). In addition, it has two air defense divisions (72 SAM launchers).

The Greek Air Force temporarily is a separate air formation (28th Air Strike Command) and numbers around 300 warplanes, the basis of which are American tactical fighters and reconnaissance aircraft. Several squadrons are equipped with the French "Mirage" F.1 fighters.

The NATO Joint Naval Forces (command element headquarters at Naples, Italy). In peacetime the command of the Joint Naval Forces does not have its own personnel and weapons, except for functioning control entities. The ships and subunits of the naval forces of Italy, Greece, Turkey as well as of Great Britain and the United States intended for transfer to it continue to remain at the disposal of the national commands (a total of up to 280 ships of primary classes and around 100 aircraft). It is planned to make them operationally subordinate to the bloc command with the appearance of a crisis situation or at the outbreak of war, as well as for the period of conducting exercises and maneuvers of the NATO Joint Armed Forces and Joint Naval Forces.

According to foreign press reports, the Joint Naval Forces are intended for supporting combat operations of naval strike forces of NATO in the Mediterranean, for supporting ground forces on maritime axes, and also for defending sea lines of communication and blockading the Dardanelles, Bosphorus and Gibraltar straits.

FOR OFFICIAL USE ONLY

A command element of the bloc's Joint Coastal Aviation in the Mediterranean was set up in the Southern Europe Theater in 1968, intended chiefly for surveillance of ships of Warsaw Pact countries. It has up to 50 aircraft of various types assigned by air forces of the United States, Great Britain, Italy and Turkey.

A decision was made in 1970 to set up an operational combined unit of NATO Naval Forces in the Mediterranean for "on call" operations. It includes four to six ships from the United States, Great Britain, Italy and Turkey (at the present time Greece does not assign any). It is intended for conducting combat operations in those parts of the Mediterranean where there is no need for interference by the U.S. Sixth Fleet.

NATO's naval strike forces are formed on the basis of combined units of the U.S. Sixth Fleet, which in peacetime is under national subordination and is transferred to the Joint Naval Forces in case of an aggravation of the international situation and the appearance of a crisis. As noted in the foreign press, the Sixth Fleet constantly has up to 50 ships and auxiliary vessels, including two carriers (basing 160-180 warplanes, of which up to 50 percent can be nuclear weapons platforms).

This fleet also includes Marine subunits (around 2,000 persons) located on amphibious warfare ships. As reported in the foreign press, its overall size approaches 25,000 persons. In addition, it is planned to include separate guided missile ships of the Italian and British navies in the naval strike forces.

As the foreign press reports, forces of the American Sixth Fleet, including carrier task forces, submarine forces and amphibious warfare forces with Marines, usually head for the area of the eastern Mediterranean, i.e., nearer the borders of Warsaw Pact countries and the Near East, in a period of an abrupt aggravation in the international situation.

/The British Air Force command in the home country/ [in boldface] was set up in April 1975 on the basis of an air strike command. It received the statute as a high command in the theater and was made operationally subordinate to the Supreme Commander of NATO Joint Armed Forces in Europe. It has over 300 warplanes and around 60 "Bloodhound" and "Rapier" SAM launchers.

The /NATO mobile forces/ [in boldface] play a role of no small importance in the structure of NATO's Joint Armed Forces in Europe. They include subunits of Ground Forces and tactical aviation which even in peacetime are operationally subordinate to the Supreme Command of the bloc's Joint Armed Forces in Europe. They are intended primarily for reinforcing troop groupings on the northern and southern flanks of the bloc in case the threat of a limited armed conflict breaking out in the Northern or Southern Europe Theaters appears or when it begins.

FOR OFFICIAL USE ONLY

As reported in the foreign press, the mobile ground forces include seven battalions (American, British, West German, Canadian, Belgian, Italian and Luxembourg) as well as combat support and service support subunits. Their overall size is around 8,000 persons. The mobile ground forces have their own headquarters (Seckenheim, FRG) and are headed by a commander in the rank of major general.

The mobile air forces include seven tactical air squadrons from the air forces of the United States, Great Britain, FRG, Canada, Italy, Belgium and the Netherlands. The aircraft inventory numbers over 120 warplanes, of which several tactical fighters can be nuclear weapons platforms. In contrast to the mobile ground forces, they do not have their own headquarters and, in conformity with instructions of the Supreme Commander, are moved in a crisis situation to the area of combat operations and become subordinate to the commander of the bloc's Joint Air Forces in this area.

/NATO's Joint Air Defense System in Europe/ [in boldface] is a uniform complex of national air defense systems of bloc member countries, interconnected by the performance of common missions in peace and war under the direction of the Supreme Commander. It includes various types of radars, units and subunits of fighter aviation and SAM's, as well as control entities, the majority of which are equipped with the "Nadge" automated system. Air defense personnel and weapons are kept constantly in a high degree of combat readiness even in peacetime. A continuous watch by radars, control entities, fighter-interceptors and SAM complexes has been organized in all European theaters.

Organizationally this system consists of air defense zones, regions and sectors, which encompass territories of bloc member countries in all European theaters. A total of four zones have been set up: Northern (operations center in Kolsos, Norway), Central (Brunssom, the Netherlands), Southern (Naples, Italy) and Atlantic (Stanmore, U.K.). The boundaries of the first three zones coincide with those of the Northern Europe, Central Europe and Southern Europe theaters respectively.

According to foreign press reports, this system has a total of 84 radar posts, over 550 fighters and around 1,600 SAM launchers.

To keep the NATO Joint Armed Forces in Europe in high combat readiness, the bloc command element constantly and purposefully works on problems of training staffs and troops, which bears a clearly expressed aggressive direction. Each year there are over 180 different major exercises of branches of the Armed Forces and joint exercises. The largest of them are the "Autumn Forge" fall maneuvers, which associate over 30 different exercises in all European theaters.

All this indicates that the NATO Joint Armed Forces in Europe, a powerful strike force of U.S. imperialism and other bloc countries, is preparing to unleash aggression against countries of the socialist community and represents a constant threat to peace and security on the European continent.

COPYRIGHT: "Zarubezhnoye voyennoye obozreniye", 1979

6904  
CSO: 1801

36  
FOR OFFICIAL USE ONLY



FOR OFFICIAL USE ONLY

COMMENTS ON U.S. DIVISION-LEVEL CONTROL AND COMMUNICATIONS

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 1, Jan 79 signed to press 8 Jan 79 pp 29-34

[Article by Engr-Col I. Loshchilov, candidate of technical sciences: "Ground Forces: Organization of Control and Communications in the U.S. Division"]

[Excerpts] By increasing the mobility, firepower and striking power of the modern division, American military leaders are attempting to convert it into a highly mobile combined unit capable of conducting prolonged combat operations in any parts of the world where U.S. imperialistic interests are concerned. Successful operations of the combined units are made directly dependent on a precisely organized system of control which, in the opinion of American strategists, must possess rapid adaptability to a specific composition of forces, a capability for operational deployment in poorly prepared areas, and high survivability. The nomenclature, make-up and working procedures of command posts are being clarified and the system of communications is being improved in the U.S. Armed Forces to satisfy these requirements.

The concept of the division's /control system/ [in boldface] includes the commander and staff, communications system, the authorized organizational structure of control entities, their operating procedures and decision-making processes. Its chief purpose is to provide smooth operation of all combat arms and services in performing their combat missions.

The primary elements of the control system are the main, forward and rear division command posts.\* Functions are rather precisely divided among them: The forward CP exercises immediate control of troops in the primary zone, the forward CP engages in planning and coordinating combat operations at the division level, and the rear CP provides control in the rear area.

\*Previously the U.S. Army command planned to set up four command posts: two forward (tactical), an auxiliary and a rear command post. For more detail about this see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 2, 1977, pp 31-37--Ed.

FOR OFFICIAL USE ONLY

Judging from the latest reports of the foreign press, an alternate CP is not set up in the American division as an independent control entity. By decision of the combined unit commander, its role will be performed by one of the subordinate CP's of the headquarters of artillery or brigades.

According to views of American military specialists, the organization of a reliable /communications system/ [in boldface] is given much attention in modern warfare. It consists of two components: a command component, providing direct communications among control entities; and an area component, organized on a territorial principle.

The command communications system has higher mobility and so is the primary system for the division. Its elements include command communications centers, direct multichannel lines connecting these centers, radio nets for various purposes and a messenger service. These elements are deployed by resources of the division's signal battalion and by organic signal subunits of units and subunits.

Command communications centers are organized near division control points, near the artillery staff and in the primary and rear areas. A standard center has a communications center, messenger service, code section, radio transmission center, control center and separate communications facilities. All elements of the communications center are connected through a terminal room, which usually also exercises technical monitoring functions.

A communications center consisting of a central telegraph station and terminal gear permits switching around 30 subscriber lines of printer communications and provides for an exchange of information over 11 duplex telegraph channels. It also includes a message processing center where messages are enciphered and delivery to addressees arranged.

The radio transmission center includes conventional short-wave and tropospheric scatter radios and, if terrain conditions permit, radio-relay stations as well, which are the primary means for organizing the division's multichannel communications. As a rule, it is sited at least 1 km from the communications center.

The control center monitors the operation of both individual equipment and the entire communications system as a whole. In conformity with existing instructions, a communications check is made periodically every 30 minutes or immediately after a fire (nuclear) strike.

A central telephone station also is set up at the communications center, permitting the switching of 100 local and 20 main lines: a radio-wire station providing for entry of remote subscribers with VHF radios into the local telephone network and means of wire communications for intra-communications center connection. All communications gear is installed inside 1½ to 2½ ton vehicles. The overall amount of transport equipment at a division communications center reaches 20 and, counting the tactical operations control center communications gear, the total is 25.

FOR OFFICIAL USE ONLY

Multichannel radio-relay and wire communications lines are an important component of the command communications system. They link the division main and forward command posts with subordinate staffs and are used for communications of control entities located in the forward area with rear services. To supplement the division's organic communications capabilities, corps resources are used to set up multichannel communications with the division main CP, the rear area command and other subordinate commands (at the commander's choosing). In addition, the commander and division artillery officer are included in the corps radioteletype net, which provides an enciphered exchange of information among the staffs and permits the division to communicate with adjacent and superior staffs.

Radio nets represent the primary form in which mobile communications are organized. The following are set up in the division for conducting combat operations: command radio net (VHF), which provides enciphered radiotelephone communications between the division commander and commanders of subordinate units over short distances; intelligence net (VHF), which includes the division main, forward and rear command posts, brigade CP's, reconnaissance battalion, and control entities of division artillery; division commander's radio net (HF with single sideband modulation) providing communications between the division commander and commanders of subordinate units over long distances; operations radio net (radioteletype), intended for operational control of division units; intelligence net (radioteletype), intended for control of the division's intelligence activities; rear radio net (radioteletype), used for administrative and logistical support activities.

In addition to the above, a number of special radio nets are deployed for controlling units and subunits of various combat arms and services. An overall total of up to 30 radio nets may be operating simultaneously in the division, created chiefly by VHF means of radio communications.

According to American press data, the MSA, or Mobile Subscribe Access system is supposed to be a fundamentally new component of the perspective division communications system. Its primary elements will be communications centers operating on the principle of switching channels (provides a direct hook-up of subscribers and is intended for organizing telephone communications) and reports (to be used for exchanging documented data). It is planned to have a total of six mobile switching centers in the division, and 300 telephone subscribers and 50 lines for documented data transmission can be switched to each of them. Access to the MSA system will be accomplished with the help of special terminal devices. There are 275 subscribers in the division which are to be equipped with them. Documented data will be transmitted by field facsimile apparatus which transmits one page of a document in 30 seconds (contemporary telegraph equipment operates at a speed of 60 words per minute) and higher speed terminal devices capable of transmitting a page of 240 words in 12 seconds.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

- Use of the automatic switching centers and high-speed terminal gear will permit a substantial reduction in the number of communications channels and rejection of the use of numerous radio nets. In their place it is planned to have a single control net formed with the help of the "Synchars" VHF gear. It is also planned to eliminate unreliable HF radiotelegraph nets. Communications upward will be provided by single-channel (from brigade to division) and multichannel (from division to corps) mobile satellite communications terminals. Use of the MSA system and tactical satellite communications makes the presence of multichannel lines between division control entities superfluous, which in turn will increase their speed of deployment and provide continuity of communications with a move of the CP's.

In the next few years it is planned to equip division control entities with gear of automated control systems [ACS]: the TOC tactical operations ACS, the TACFIRE field artillery ACS and a series of TCS (Tactical Computer System) standardized automated troop facilities. In the opinion of American military specialists, the possible make-up of the division main CP may appear as shown in the sketch [not reproduced] with the introduction of the new communications facilities and control automation.

The basis of the tactical operations control center will be five M820 transportable vans which accommodate staff operations personnel. In addition to conventional equipment, they will have terminal gear for displaying textual and graphic data, data documentation facilities and small computers for performing operational calculations. The latter will be tied in with the division main computer center, accommodated in two vehicles. Automatic data processing gear will be concentrated in one of them and communications gear of the tactical operations control center with external subscribers will be on the other. This gear will include a signal processor, two high-speed terminal devices for transmitting textual messages, three sets of the "Synchars" gear for organizing VHF radio nets, a 30-channel automatic switchboard for wire communications lines, a four-channel access unit allowing mobile subscribers to enter the local enciphered telephone net, and other facilities. It is also planned to have two equipment vans in the tactical operations control center: one to support the operation of the message center (it is equipped with switching gear and facilities for transmitting textual data) and one for organizing communications between the heads of the tactical operations control center and subordinate troops (it will include radiotelephone communications and message transmission facilities).

- On the whole, in the opinion of American military specialists, the number of equipment vans with communications facilities can be cut by more than half at the main CP, with the time of its deployment reduced accordingly and survivability of the division control system increased.

COPYRIGHT: "Zarubezhnoye voyennoye obozreniye", 1979

6904  
CSO: 1801

40  
FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

COMMENTS ON NATO COMBAT HELICOPTERS

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 1, Jan 79 signed to press 8 Jan 79 pp 39-46

[Article by Lt Col Yu. Kolesnikov: "NATO Combat Helicopters"]

[Excerpts] Development of fire support helicopters is one of the elements of the arms race in the United States and a number of other countries of the aggressive NATO imperialist bloc. In the opinion of foreign military specialists, the experience of combat operations during U.S. aggression in Southeast Asia and that of Israel in the Near East showed that helicopters with modern aviation machineguns, cannon and missile weaponry aboard are a powerful means of direct air support to troops on the battlefield. They regard the high effectiveness in combating tanks and other armored equipment to be an especially valuable quality of combat helicopters. This then led to the appearance of helicopters intended chiefly for combating tanks in the inventory of armies of a number of capitalist states.

As noted by the foreign press, specialized antitank helicopters have better speed and maneuver characteristics, increased survivability (achieved by redundancy and protection of vital on-board systems) and certain other advantages in comparison with multipurpose helicopters. Their fuselages are made to ensure the working convenience of crew members and their small sizes hinder detection by the enemy.

Data are given below concerning some of the combat helicopters in the inventory and being developed in NATO countries (from foreign press materials).

The far from complete data given above on development of combat helicopters in NATO countries show that the military leaders of these countries give combat helicopters, and especially antitank helicopters, no small role in their aggressive schemes aimed primarily against the USSR and other states of the socialist community.

COPYRIGHT: "Zarubezhnoye voyennoye obozreniye", 1979

6904  
CSO: 1801

41

FOR OFFICIAL USE ONLY

COMMENTS ON NATO DOCTRINE ON EMPLOYING TACTICAL AVIATION

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 1, Jan 79 signed to press 8 Jan 79 pp 49-52

[Article by Engr-Col (Res) L. Andreyev: "Air Forces: NATO 'Doctrine' on Employment of Tactical Aviation"]

[Text] In recent years NATO has been conducting active development of uniform regulations and manuals for the Armed Forces of this aggressive bloc, elaborating common views on principles of troop combat employment, the organization of their logistical support and so on.

According to information published in the foreign press, all these measures are being conducted on the initiative of the United States, which thus is seeking to reinforce its control over allied armed forces in the Alliance. In particular, NATO adopted uniform provisions in 1976 concerning operations by tactical aviation in modern warfare. The document in which they have been generalized is called "doctrine" in the foreign press. U.S. and FRG military specialists made the greatest contribution to its elaboration. They took as the basis the aggressive goals of the NATO bloc and experience of conducting local wars, exercises and maneuvers of the bloc's Joint Armed Forces with consideration of the present status and prospects for development of aviation equipment and weaponry.

As the foreign press reports, the document (abbreviated designation ATP-33) clarifies and systematizes certain concepts and terms, formulates the functions of NATO Joint Air Forces, classifies types of tactical air operations planned for accomplishment in European theaters of military operations, and defines principles of combat employment of aviation as well as the requirements placed on it.

The foreign press does not provide a complete presentation of the content of the "doctrine," especially the part concerning employment of tactical nuclear weapons. Even the information which became known to a wide range of readers, however, indicates that the "doctrine" is permeated with a spirit of expansionistic aspirations, calls for a build-up in combat might of the air forces and is aimed at preparing aviation of the NATO member

FOR OFFICIAL USE ONLY

countries for performing various missions (using conventional and nuclear weapons) in European theaters, and chiefly in the Central European Theater. NATO military leaders emphasized that as new models of weaponry come into air units and experience is gained in employing aviation, certain provisions of the document will change or be supplemented.

That part of the "doctrine" which was covered most fully in the pages of the western press presented the following basic issues.

**/Functions of NATO Joint Air Forces/** [in boldface]. Judging from comments by foreign military specialists, they include: winning and maintaining air supremacy, conducting independent combat operations against enemy ground and naval forces in limited areas, and air support of friendly forces. Based on this, aviation is intended to perform the following types of so-called air operations:\* offensive, air defense, tactical reconnaissance, movement of troops and cargoes, and tactical air support. Their classification is given in the table [on next page].

Offensive air operations include: counterair operations, air interdiction operations, and close air support.

The chief objective of counterair operations is to achieve air superiority on a specific axis or in a specific area by inflicting on the enemy the greatest possible loss in warplanes and disabling his bases and control entities. The "doctrine" emphasizes that the mission of winning air superiority must be given primary attention, since success of all other operations depends on its accomplishment.

Judging from contents of the ATP-33 document, the NATO command is placing chief reliance on offensive operations, i.e., on those which are preplanned and which can be accomplished by delivering strikes (using conventional or nuclear weapons) against airfields and SAM positions as well as by conducting aerial combat. But the "doctrine" does not preclude defensive air operations when the enemy has the initiative. These are not highlighted in particular, but are viewed together with offensive operations.

Air interdiction operations include delivery of attacks both against previously known targets and against those which are discovered during performance of the operation and which require immediate destruction (nuclear attack capabilities and reserves).

Close air support primarily destroys enemy tanks and weapons on the battlefield. Here aviation operates in close coordination with the ground forces. Close air support can be planned or on call, when it becomes necessary to destroy targets revealed in the process of combat operations.

\*According to terminology accepted in NATO, the word "operation" is taken to mean not only combat operations, but also the missions assigned to the Air Force.

4  
FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

## Classification of Air Operations Accepted in NATO

Types of Air Operations	Component Elements
Offensive	Counter air operations Air interdiction operations Close air support
Air defense	Active air defense operations Passive air defense measures
Tactical aerial reconnaissance	Not subdivided
Tactical air movements of troops and cargoes	Airborne operations Air logistic support Special missions Aeromedical evacuation missions
Tactical air support	Electronic warfare Aerial refuelling Search and rescue operations Special air operations Airborne control and warning operations Mining operations

Operations to perform air defense missions. Here the NATO military specialists identify active operations by air defense forces and weapons to destroy enemy air targets and so-called passive measures aimed at improving the air defense system. In their views, air defense may be organized for screening an area, an important installation or troop combat formations.

Fighter aircraft within the air defense system must intercept air targets, perform combat patrol, accompany strike groups of aircraft or screen troops on the march, while air defense weapons must destroy air targets in their zone of coverage.

Tactical air reconnaissance operations supplement other methods of obtaining information on the enemy and are a component of tactical reconnaissance. In the "doctrine" these operations are not subdivided into elements, but it only states that they may be accomplished by various flying craft and on-board equipment.

44

FOR OFFICIAL USE ONLY



FOR OFFICIAL USE ONLY

Operations for tactical air movements of troops and cargoes include airborne operations, air logistic support, special operations and aeromedical evacuation operations. During an airborne landing personnel and equipment are dropped from aircraft on parachutes or are placed on the ground from helicopters and aircraft after landing.

According to the "doctrine," tactical air support operations include electronic warfare, aerial refuelling, search and rescue, special missions, long-range radar detection, warning and control, and laying minefields from aircraft and helicopters. The content of these operations is not revealed in the foreign press.

**/Principles of tactical employment of aviation/** [in boldface], according to reports of the foreign press, are viewed in this "doctrine" in more detail than in other NATO documents. The primary ones include: air superiority, flexibility, concentration of forces, their rational expenditure, close coordination, reliability of control of flying craft at all altitudes, offensive spirit, safety and concealment, surprise, and preplanning of operations. As the foreign press notes, proper consideration of these principles will assure optimum employment of aircraft weaponry. To carry these principles out in practice, it is necessary to assign the combat mission to the crews clearly, assign proper forces and personnel, choose a method of operation precisely and create favorable conditions for its accomplishment.

**/Requirements placed on aviation/** [in boldface]. To implement the aforementioned principles in the best manner, the following requirements are placed on the NATO Joint Air Force, as stated in the "doctrine":

- Capability of subunits, units and combined units as well as support systems to supplement each other and closely interwork;
- Readiness to conduct combat operations for a lengthy time and maintain great combat intensity;
- Capability of performing missions under conditions of heavy ECM (in this situation commanders must be able to divine the enemy's plans to deprive him of an opportunity of employing his forces by surprise);
- High survivability of all Air Force elements, including supply and control systems;
- All-weather capability which, as foreign specialists believe, will make it possible to exert constant pressure on the enemy and maneuver friendly forces under bad weather conditions;
- Sufficiently high combat readiness to avoid any unexpected occurrences during enemy surprise attacks and to react quickly to changes in the situation;
- High level of personnel training, which must be aimed at studying uniform methods and techniques of performing combat operations and at practicing coordination by subunits of air forces of various NATO countries;

FOR OFFICIAL USE ONLY

--Reliability and continuity of operation of communications lines.

In addition to this, the "doctrine" provides a description of aviation equipment and defines its capabilities. The employment of tactical nuclear weapons is covered briefly in conclusion.

According to foreign press reports, the "doctrine" sets forth for the first time general provisions on preparing and employing aviation under present-day conditions as applied to the European theater of war. It is a guidance document for air forces of NATO countries and all their activities are arranged in conformity with it. As emphasized by the West German journal TRUPPENPRAXIS, the "doctrine's" provisions are considered in improving Air Force organizational structure, in making up air units and subunits, in supplying them with combat equipment and weapons as well as in organizing exercises and maneuvers and planning the employment of aviation in modern warfare.

COPYRIGHT: "Zarubezhnoye voyennoye obozreniye", 1979

6904  
CSO: 1801

END

46

FOR OFFICIAL USE ONLY