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# USSR Report

MILITARY AFFAIRS

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15 October 1982

USSR REPORT  
MILITARY AFFAIRS

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ARMED FORCES

DANGERS OF CARELESS TALK BY SOLDIERS HIGHLIGHTED

PMO51441 Moscow KRASNAYA ZVEZDA in Russian 28 Jul 82 p 2

[Letter from Capt (Reserve) G. Yeletskiy under the rubric "Reader's Opinion":  
"Excessive Talkativeness"]

[Text] Shakhty, Rostovskaya Oblast--I was riding recently in an intercity bus. Two servicemen got on at one of the stops, sat in free seats and began a conversation: who serves where, and what they do. One said that he was serving in the north and named the population center and the military unit and where it was stationed. The other began imparting the same information. They were talking loudly, and almost everyone could hear what they were saying. I went up and said: "Have you forgotten, comrades, about vigilance and about keeping military secrets?"

If that were the only instance, perhaps I would not have written to KRASNAYA ZVEZDA. But here is another example. I was sitting in a cafe and heard a junior sergeant seated at a nearby table say to his civilian comrades: "We are missilemen.... Our unit is in the mountains, not far from...." I had to rebuke him. But he started to grow heated: "It's none of your business, he said.

It pains you to meet a soldier, sergeant or even an officer who forgets the well-known truth that a chatterbox is a God send for a spy.

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ARMED FORCES

'KRASNAYA ZVEZDA' EDITORIAL CALLS FOR VIGILANCE

PM101621 Moscow KRASNAYA ZVEZDA in Russian 7 Aug 82 p 1

[Editorial: "Vigilance--Our Weapon"]

[Text] The 26th CPSU Congress, analyzing the international situation, noted that adventurism and the important tasks for commanders, political workers, party and komсомol organizations of units and ships and military educational institutions is the cultivation and development of this quality in every officer, ensign and warrant officer, sergeant and petty officer, soldier and seaman, in every student.

The unit where Officer V. Sergeyev serves is deeply aware of this. Here in political education and ideological work much attention is devoted to the development of class awareness in personnel and the cultivation of ideological staunchness, political maturity and readiness to fulfill your duty to the motherland with honor. At political studies, in political information sections and at lectures and talks Lenin's behests to servicemen on the need to be always alert and the 26th CPSU Congress demands on the motherland's armed defenders are explained to personnel, facts indicating the aggressive intrigues of the United States and other NATO countries are cited and the imperialist intelligence services' perfidious methods and tactics are exposed. Vigilance and combat readiness are inseparable--this idea runs right through the talks, the wall newspaper, the visual aid agitation. Here great significance is attached to the strengthening of discipline.

Unfortunately in some subunits work to increase vigilance and cultivate this vitally necessary quality in personnel is unsystematic and ill-considered. It still happens quite often that if someone displays carelessness, a kind of vigilance "month" begins; if nothing happens, work in that direction is lukewarm. An on-and-off approach to this important matter damages people's education and cannot be tolerated.

In cultivating vigilance in people, it is important to devote constant attention to practical aspects. High vigilance does not and cannot exist where there is no efficient regulation order, where the real study and care of combat hardware and weapons is not organized, where sentry and watch duties are badly organized and where violations of military discipline are permitted.

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An increasingly active influence must be exerted on increasing vigilance and combat readiness by party political work aimed at cultivating political consciousness and ideological commitment among personnel and implacability toward bourgeois ideology. This work must be particularly active in the year of the 60th anniversary of the USSR's formation, when imperialist ideological saboteurs have stepped up the flow of lies and malicious slander against our system and socialism's achievements.

Our servicemen carry out their honorable duty night and day. For them, there is no higher duty than that of always being on the alert, in constant readiness to defend the motherland.

CSO: 1801/335

ARMED FORCES

'KRASNAYA ZVEZDA' ON MILITARY DISCIPLINE

PM261427 Moscow KRASNAYA ZVEZDA in Russian 21 Aug 82 p 1

[Editorial: "The Strength of Discipline Lies in Consciousness"]

[Text] The Soviet armed forces--offspring of the Great October Socialist Revolution--watch over the most advanced social and state system. The Communist Party undividedly exercises the leading role within them. This naturally determines the nature of discipline in the USSR armed forces.

Whereas in bourgeois armies, which are designed for the defense of the exploitative system, discipline is imposed through cruel class coercion, the ideological stupefaction of the masses of soldiers and seamen, material bribing and the kindling of their basest instincts, in the Soviet army and navy it is based, as is indicated in the disciplinary regulations, on each serviceman's awareness of his military duty and personal responsibility for the defense of his motherland--the USSR. Our discipline is above all a political, moral concept. Its basis is the servicemen's ideological commitment, their selfless devotion to the Soviet motherland and their profound understanding of their patriotic duty and our people's international tasks.

The conscious nature of Soviet military discipline, which gives it special strength, was more than once noted by V. I. Lenin. "The Red Army," he said, "has created unprecedentedly firm discipline not under the lash, but on the basis of the consciousness, devotion and selflessness of the workers and peasants themselves."

Soviet servicemen's boundless devotion to the Communist Party's cause, their high patriotism, consistent internationalism and personal responsibility for the defense of the fatherland and the discipline built on this firm foundation were among the most important sources of the Soviet armed forces' victory of worldwide historical significance in the great patriotic war.

Today, now that the means of armed struggle have advanced a long way in their development and military matters are becoming steadily more complex, now that weapons have largely become collective and units' actions are dynamically developed over huge areas, incomparably higher demands are made on the state of servicemen's discipline and their level of consciousness. The irresponsible, careless, undisciplined attitude of even one man can nullify the

labor of a whole subunit and thwart the fulfillment of a combat task. So the further strengthening of discipline is one of the main tasks for commanders, political workers and party and komsomol organizations in units and ships.

The conscious nature of Soviet military discipline make it necessary to persistently improve servicemen's ideological tempering, to explain in depth to them the CPSU's domestic and foreign policy expressed in the 26th Party Congress decisions, the noble aims and tasks of the Soviet armed forces and the requirements of the military oath, Soviet laws and military regulations and to cultivate in personnel high moral, political and combat qualities and conscious obedience to commanders. Life and practice indicate convincingly that there are no gross misdemeanors of incidents in those units and on those ships where there is active political education and ideological work and where people are educated in the spirit of heroic army and navy traditions, the high ideals of the party and people, ardent Soviet patriotism and personal responsibility for the country's security and the defense of socialism.

Work to strengthen conscious military discipline is comprehensively thought out, planned and purposeful in the guards aviation regiment where guards Lt Col A. Nagornyak is secretary of the party committee. The commander, his political deputy and the other officers devote great attention to improving the quality and effectiveness of the political education of personnel and systematically speak on topics of ideological, military, moral and legal education actually in the subunits where tasks of combat training and the strengthening of discipline are resolved. Not one serviceman should remain outside constant political influence--that demand of the party and its central committee is persistently implemented here.

But discipline is formed not only through words, explanations and persuasion. It is developed and cultivated no less by firm regulation order in the unit or on the ship; the exemplary fulfillment of combat duty and patrol and internal duties; efficient organization of combat and political training; correct relationships between servicemen; strict observance of the daily routine and sensible recreation for personnel. To establish and maintain regulation order among troops is a crucial task for commanders at all levels.

Moreover high military discipline is achieved through day-to-day exactingness on the part of commanders and chiefs toward their subordinates, respect for their personal dignity, constant concern for them and the skillful combination and correct application of measures of persuasion and coercion. The interests of the defense of the motherland make it incumbent on a commander not to allow any misdemeanor by a subordinate to go uncorrected. Success is achieved by the officer who develops and maintains in his subordinates an awareness of military honor and military duty, who encourages the worthy and deals strictly with the negligent.

Commanders must devote special attention to studying servicemen's individual qualities, maintaining regulation relations between them, rallying the military collective, exposing the causes of misdemeanors by subordinates in good time and averting them, and creating an implacable attitude toward violations

of discipline. Here the commander must use the forces of the community in every way in combating instances of drunkenness, nonregulation relations and irresponsibility in service.

The cultivation of conscious discipline in servicemen and the maintenance of regulation order in subunits and units is the concern of every party and komsomol organization and all communists and komsomol members. Here the main thing, Marshal of the Soviet Union D. F. Ustinov, USSR defense minister, noted in his report at the Sixth All-Army Conference of Primary Party Organization Secretaries, is to ensure irreproachable personal examples are set by communists and komsomol members in fulfilling military duty and observing the demands of military discipline.

In moving toward a noteworthy event--the 60th anniversary of the USSR's formation--servicemen in the Soviet armed forces are pertinaciously, persistently improving their combat skill and striving to scale new, greater heights in training and service. And there is no truer path to the attainment of these heights than strong, conscious discipline, high organization and strict observance of the demands of the oath and regulations--the unshakable laws of military service.

CSO: 1801/335

ARMED FORCES

BRIEFS

RUSSIAN LANGUAGE TEXTBOOK FOR SERVICEMEN--Moscow KRASNAYA ZVEZDA in Russian 4 August 1982 carries on page 2 a 500-word unattributed feature on books recently published by the Military Literature Publishing House. These include: "The Russian language. A study aid for soldiers who have no knowledge or a poor knowledge of Russian. By N. V. Levtskaya, L. N. Luganskaya and K. I. Lavrova, 1982, 416 pages, print run 100,000 copies, price 75 kopeks. "The aid is intended for soldiers who have no knowledge or a poor knowledge of Russian. The purpose of the book is to mold in soldiers speech skills and abilities helping them to master equipment more rapidly and to take an active part in the life of their troop subunit." [Editorial Report] [PM091311 Moscow KRASNAYA ZVEZDA in Russian 4 Aug 82 p 2]

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LOGISTICAL SERVICES AND SPECIAL TROOPS

BRIEFS

MILITARY CONSTRUCTION WORK REVIEWED--Moscow KRASNAYA ZVEZDA in Russian 5 August 1982 front-pages a 1,000-word unattributed report entitled "Shock Labor for the Glorious Jubilee" on a USSR Defense Ministry and Soviet army and navy main political directorate review of the results of socialist competition among military construction workers in the first 6 months of 1982. After noting the "best results," the article names the collectives of construction organizations in the Moscow, Leningrad, Kiev, Volga, Urals and Carpathian military districts who "failed to cope" with their targets and certain North Kazakhstan and Siberian military district collectives whose use of potential and reserves was "especially poor." A number of shortcomings are listed and measures to improve work are outlined. [Editorial Report] [PM130731 Moscow KRASNAYA ZVEZDA in Russian 5 Aug 82, p 1]

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PERCEPTIONS, VIEWS, COMMENTS

TABLE OF CONTENTS OF 'ZARUBEZHNOYE VOYENNOYE OBOZRENIYE,' MAY 1982

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 5, May 82 (signed to press 6 May 82) pp 1-2

[Full-text translated articles published in this report are indicated with an asterisk (\*); excerpted translations--with a double asterisk(\*\*)]

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- The Italian "Lupo" Class Guided Missile Frigate F564
- The Military Transport Hercules-C.1 and the Modified Version Hercules-C.3

Articles by Soviet authors and the chronicle were prepared from foreign press sources. Illustrations in this issue were taken from the reference book "Jane's" and the magazines AVIATION WEEK AND SPACE TECHNOLOGY, ARMY, ARMADA INTERNATIONAL, AFRIQUE DEFENSE, GROUND DEFENSE, SOLDAT UND TECHNIK, INTERNATIONAL DEFENSE REVIEW, INTERNATIONAL ELECTRONIC COUNTERMEASURES HANDBOOK, KAMPFTRUPPEN, MARINA MILITARE, MARITIME DEFENSE, NAVAL AVIATION NEWS, NAVY INTERNATIONAL, REVISTA MILITARE, TRUPPENPRAXIS FLIGHT INTERNATIONAL, (ELECTRONIC WARFARE?), AIR PICTORIAL, (AIR ET COSMOS), OSTERREICHISCHE MILITARISCHE ZEITSCHRIFT.

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PERCEPTIONS, VIEWS, COMMENTS

COMMENTS ON NATO MANEUVERS 'AUTUMN FORGE 81'

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 5, May 82 (signed to press 6 May 82) pp 3-9

[Article by Col A. Kirillov and Lt Col V. Viktorov: "North Atlantic Bloc Maneuvers 'Autumn Forge-81'"]

[Excerpts] As it moves toward its 60th anniversary, the Soviet Union is once again demonstrating to all mankind that the concepts of socialism and peace are inseparable. Relying upon the strength and solidarity of world socialism, on its strong alliance with all progressive and peace-loving forces, our state has achieved large successes in the struggle for peace and international security. Forces hostile to détente are also becoming more active, however. Military budgets in the NATO nations are increasing by the year, and the unrestrained arms race goes on. Enormous amounts are being allocated for military purposes in the United States, for example: around 180 billion dollars for the 1981 fiscal year and 219 billion for 1982. They will exceed 1.6 trillion dollars within the next five years. The American military-industrial complex is not satisfied with these astronomical amounts, however. They are demanding even more. Submitting to Washington's demands, certain U.S. allies in the aggressive bloc have also committed themselves to automatically increase military outlays almost to the end of the present century.

The annual series of exercises conducted by NATO's joint and national armed forces with the code name "Autumn Forge" are not the least of the activities attesting the militaristic preparations of the Western nations. When carefully following these extensive fall maneuvers, one is first of all struck by their clearly expressed political trend. They actually represent an unconcealed demonstration of force carried out in the immediate proximity of the borders of the Soviet Union and other nations of the socialist commonwealth (Figure 1 [graphics not reproduced]). Furthermore, steps to prepare the troops, naval forces and control agencies are conducted on such a scale and so closely approximate an actual combat situation that it is perfectly possible for them to develop into large-scale aggression.

The combat readiness level of the field forces, formations and units is checked in the course of the exercises, and the influence of changes in the organization and the armament of their own forces and those of a likely enemy upon the possible nature of combat operations in individual theaters of military operations and on

the European continent as a whole are studied. In the process of conducting these extensive activities, the bloc command works out various options for preparing for, unleashing and conducting a war in Europe and in the Atlantic.

"Autumn Forge-81," for example, which took place from August to October of 1981, included 28 national and multinational exercises conducted in a common operational and strategic setting stretching over an enormous territory from Norway to the eastern borders of Turkey. More than 300,000 servicemen took part in them, and 15,000 units of tracked and wheeled combat equipment, as many as 2,000 combat aircraft and around 300 ships of various classes were activated.

Once again the NATO strategists took advantage of the exercises to initiate its usual slanderous campaign about a growing "Soviet military threat." The exercises received extensive coverage in the press, on the radio and television. The main stress was on demonstrating to the public the so-called "Atlantic solidarity" of partners in the bloc and of convincing it of the need to increase military outlays on the part of the NATO nations, and on reviving the spirit of militarism and the climate of war neurosis in the population of Western Europe.

During ceremonies officially opening the fall maneuvers, which took place on 14 September 1981 at Verles Air Force Base in Denmark, American General Rogers, Supreme Commander of Joint NATO Forces in Europe, named the following as the main objectives of the exercise: to improve the operations of field forces, formations and units of ground, air and naval forces in the performance of tasks similar to those which would be assigned them in time of war; to test the readiness and the ability of the armed forces of various nations to conduct effective and coordinated military operations in European theaters.

The United States has traditionally been the most active in the militaristic preparations. According to foreign press reports, the Pentagon carried out large-scale preparations to transfer forces and weapons to the European continent and worked out various alternatives for the operational deployment of its armed forces on foreign territories and for their entry into a war.

A comprehensive exercise by American formations, called "Reforger-13," was conducted between 10 August and 10 October 1981. During the exercise, according to information published in the foreign press, 27,000 tons of various kinds of cargo and around 17,000 servicemen, including units and subunits of the 1st and 4th Mechanized Divisions, the 7th and 9th Infantry Divisions, as well as an operations group from the headquarters of the American 3d Army Corps, were transferred by air and sea from continental United States to Europe. As many as 65 small combat support and service subunits from the regular forces and reserve components were also transferred.

The personnel arrived at military airfields of the FRG and the Benelux countries. Heavy weapons and combat equipment delivered by sea were off-loaded at the ports of Gent in Belgium and Rotterdam in The Netherlands, and were then sent by motor vehicle and rail transport to the exercise areas in the FRG.

Almost simultaneously with these activities, matters pertaining to the flight of tactical aircraft from continental United States to the European theater of war were being worked out as part of an exercise by the American Air Force, called "Crested Cap."

The foreign press reported that the main objectives of the exercise were to test plans for delivering from the United States to Europe a strategic reserve designated for reinforcing the Joint NATO Armed Forces, to work out on a practical level the operational deployment of the units and formations and to have them conduct combat operations in interaction with the forces of other countries in the bloc.

All of the arriving American forces took part in exercises conducted in the Central European Theater of Military Operations, to which the main role was assigned in the aggressive military plans of the bloc. It was here, in accordance with the script for the "Autumn Forge-81" maneuvers, that the NATO command ran through specific stages of large-scale operations, with the actual involvement of personnel and equipment, tested the field training of the most combat-ready grouping of forces and tested the new organization and establishment structure of the formations and units (primarily that of the West German forces), new types of weapons and military equipment.

Below, on the basis of material carried in the foreign press, we present information on the largest and most characteristic exercises conducted in the Central European Theater of Military Operations as part of the series of fall maneuvers.

Simultaneously with the "Autumn Forge-81" maneuvers, which covered practically all of Western Europe, the NATO command conducted a number of exercises between 1 August and 19 September in areas of the Atlantic, the Norwegian and North Seas, as well as in areas of the English Channel and the Baltic straits. The largest of these were the exercises code named "Ocean Venture," "Magic Sword" and "Ocean Safari." Taking part in them were naval forces, strategic and tactical air forces of the United States, Canada, Great Britain, the FRG, Norway, Denmark, The Netherlands, Belgium and Portugal, as well as France and Spain, numbering more than 250 combat ships and auxiliary vessels and as many as 1,000 aircraft. Marines of the United States and The Netherlands, units and subunits of ground forces of individual bloc nations were also involved. The numerical strength of the forces exceeded 120,000. American Admiral G. Treyn, Supreme Commander of Joint NATO Forces in the Atlantic, had overall supervision of the exercises.

All of these maneuvers and exercises were coordinated and directed by the staffs of bloc joint armed forces in Europe, in the Atlantic and in the theaters of military operations. Many of them were conducted under the immediate supervision of the commanders in chief of the NATO forces in the theaters of military operations. Chiefs of state and heads of government of the participating countries and high-ranking representatives of the North Atlantic Bloc attended individual exercises.

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Overall, the "Autumn Forge-81" fall exercises and maneuvers, conducted in a military and political situation which has deteriorated in the world through the fault of the United States and NATO, bore the clearly expressed stamp of military provocation, and one of its main objectives was to further exacerbate international tensions.

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PERCEPTIONS, VIEWS, COMMENTS

COMMENTS ON MORAL-PSYCHOLOGICAL MAKEUP OF NATO SERVICEMEN

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 5, May 82 (signed to press 6 May 82) pp 9-14

[Col V. Katerinich: "The Moral-Psychological Makeup of Servicemen in the Capitalist Armies"]

[Text] Since the war bourgeois military theoreticians have made a considerable effort to resolve the problem of maintaining morale among personnel among the imperialist states' armed forces at the proper level. A great deal of scientific research has been conducted, numerous recommendations have been worked out on the selection of recruits and troop training methods, and special manuals have been written. The foreign experts admit, however, that weaknesses inherent in the morale of the imperialist armies are making themselves felt. This is creating concern among the ruling circles, since it limits their possibilities for using the armed forces as their main tool of aggression and cohesion.

The foreign press wrote a great deal about this during the American aggression against the Korean people. In the words of one military magazine, the general tone of the articles at that time was expressed in the statement: "Our morale is in trouble." U.S. aggression against Vietnam gave birth to the so-called "Vietnam syndrome," which was manifested in numerous cases of desertion and disobedience on the part of a large number of soldiers, reprisals against the more despised and cruel officers, an increase in drug addiction and mass antiwar demonstrations by the American people.

The "Vietnam syndrome" was one of the reasons for a significant restructuring of the U.S. armed forces, which have been manned strictly on a hired basis since 1973. All those who, from the standpoint of the military-political leadership, "demonstrated weakness" have been expelled from the ranks. The formations and units have been built up with new officer cadres, trained from among members of the propertied classes. A number of other measures were also carried out.

In the estimate of foreign experts these measures have enhanced the readiness of the U.S. armed forces for new acts of aggression. This is just what the Pentagon leaders are striving for. We know that the American Army, Air Force and Navy are in general a loyal instrument of Washington policy. Notes of dissatisfaction and

concern about the morale of the U.S. armed forces continue to appear in the Western military press, however. The newspaper ARMY TIMES, for example, has stated that many elements of the American army are "polluted with the dregs of society," that some soldiers "lack patriotic motivation" and "have no sense of pride in their occupation." American General Rogers, Supreme Commander of Joint NATO Forces in Europe, has stated that Pentagon leaders are especially disappointed by the fact that some of the servicemen "have no understanding of the essence of the nature of the military danger," that is, they do not believe that the slanderous fabrications about the "Soviet military threat," which is spread with such zeal by imperialist propaganda. They are also concerned by the fact that some servicemen of the NATO countries, including the United States, "have been exposed to the influence of the protesting crowd" and in general, "suffer from sick morale."

Such complaints are voiced not only by the American generals. The commands of the armed forces of Great Britain, the FRG and a number of other countries also complain of "difficulties" and "dangerous signs" in troop morale. The British newspaper DAILY TELEGRAPH recently wrote with good reason: "Morale in the European states is now NATO's soft underbelly."

In connection with this many books, pamphlets, articles and monographs on troop morale and its causes have been published in recent years in nations of the aggressive North Atlantic bloc. They have one thing in common--an intensified search for those moral and physical factors which, in today's situation, could be used to strengthen the armies of the imperialist states, to prepare their personnel to take part in wars and other acts of aggression by imperialism. All of the authors typically downplay the role of social-political factors in the development of troop morale. They consciously conceal the exploitative nature of the bourgeois state and of the so-called bourgeois democracy, and distort the real essence of the imperialist armies' functions. They steadfastly adhere to the fabrications of Western propaganda, repeating its slanderous statements and its attacks against socialism and communism, against the Soviet Union and socialist reality, against the national liberation struggle being waged by peoples.

In their interpretation of factors contributing to the development of troop morale, bourgeois ideologists rely not upon a scientific world outlook but upon ideological deception, slander and a distorted interpretation of events. At the same time, they exaggerate the role and significance of various secondary factors and artificially increase their effect upon the servicemen.

What do imperialist military ideologists give as the main factors? There is no complete unity on this issue among them. They all agree that the role and the importance of troop morale have increased today and that greater attention must be devoted to problems of maintaining it. There are varied and sometimes contradictory, opinions about how to resolve them, however.

In their study of the problem of maintaining good moral-psychological stability among the forces, the bourgeois military experts have arrived at the following conclusion: Morale, the problem of creating and maintaining it, and its weaknesses lend themselves to the same sort of "treatment" as does a wound or a fracture. One

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need only to work out the proper "medicine and methods of treatment" in conformity with the nature and the national features of a given army, they say, and the problem will be resolved.

In their opinion, an army's good morale and fighting spirit are based on a shared spirit of comradeship. It has always been highly important, but its role has now grown substantially. This, they say, is a result of the development of modern means of warfare and methods of conducting combat operations, as well as to the difference in the "human material." The modern soldier, they state, is far better educated, more highly developed intellectually, has a rich imagination and is susceptible to the influence of various opposition forces. For this reason, they cannot be commanded as were the "unquestioningly obedient country soldiers" in the time of reactionary British military leader Wellington, an advocate of corporal punishment as a means of maintaining discipline in the army. The possibility of a commander's directly affecting the soldier in modern combat has also been sharply reduced. Today's soldier will frequently make decisions himself and become his own commander. His leadership qualities must therefore be developed. British General Richardson writes in his book "Fighting Spirit: Psychological Factors In War" that the soldier can only possess these qualities when there is a well developed spirit of comradeship.

Richardson notes that the herd instinct develops among the rank and file, tightly coalesced into small groups and subunits. It helps them to overcome their instinct for self-preservation in combat, since they experience fear primarily for their entire group or subunit and not for themselves. The spirit of comradeship, according to Richardson, can push aside such factors as the cause of the war, the nature of democracy and of the social order, in which, as we know, the positions held by imperialism's military ideologists are extremely vulnerable.

There is no doubt that comradeship and the solidarity of the military collectives play an important role in the development of the morale and fighting spirit of the forces. As the Marxist-Leninist classics have stressed more than once, however, this feeling is illusory in the bourgeois armies. Real comradeship is inconceivable without solidarity of views and interests, without high social and political goals and joint efforts to achieve them. One cannot ignore the fact that the imperialist armies are the armies of an exploitative society, a tool of the ruling classes, whose interests are the opposite of those of the vast majority of people. They are manned by people indoctrinated in the principles of private ownership, social inequality, domination and subordination. The psychology of the individualist is inherent in them. Comradeship among such people can be artificially maintained only up to a certain point, until personal, egotistical interests and personal security become involved. The principle "every man for himself" functions beyond that point. Even the bourgeois military experts themselves are forced to acknowledge this.

In their opinion, the "regimental spirit" is a higher level of development of the spirit of comradeship. "Comradeship and the regimental spirit are the roots from which troop morale grow," says Richardson. The American magazine MILITARY REVIEW recommends that the "regimental spirit" be developed by achieving "long-term

stability of the personnel," by developing the sense of a common goal and loyalty to each other through the conduct of specially prepared debates on social and political issues, by using symbolism, historical events, national holidays and military ceremonies, by strengthening ties among the families of servicemen.

The tasks at the present time, in the opinion of imperialism's military ideologists, is that of developing a "NATO spirit," that is, the uniting of the NATO forces, presently torn by acute political, economic, military, national and other differences. They are primarily concerned about the growing anti-American sentiment in the North Atlantic bloc and the suspiciousness and lack of trust in the overseas masters, who are prepared to draw their European partners into abyss of nuclear war for the sake of their own selfish interests.

Nor do they conceal the fact that the "NATO spirit" should be given an anti-Soviet, anticommunist bent. The military press of the imperialist countries state that this must become a sort of foundation for "NATO solidarity" in the struggle against the Soviet Union and other states of the socialist commonwealth and against the national liberation and democratic movement of peoples, in the preparation of a war against them, in the forcing of military preparations.

According to their calculations, the "NATO spirit" should become a unique source of ideological acts of diversion against the USSR and the European socialist countries. The NATO military ideologists harbor the illusion that cultivation of the "NATO spirit" in the armed forces will ultimately help to create a "European spirit," which one fine day will be capable of penetrating even into Eastern Europe.

A readiness on the part of the armies of the European countries as a whole to follow in the wake of a U.S. policy, to sacrifice the sovereignty and security of their peoples for the interests of the United States should be an immutable feature of the "NATO spirit." The book "Fighting Spirit: Psychological Factors in War" states that they "should learn from the U.S.A., which has fought more than anyone else in recent years."

Despite all their efforts, the "NATO spirit" remains a dream seen through rose-colored glasses by the military ideologists. The foreign press admits that they are more and more being forced to speak of erosion rather than unity within the bloc. Despite this, we must not underestimate attempts to strengthen morale in the armies of the North Atlantic bloc on an anti-Soviet basis. They comprise one of the main aspects of NATO's preparations for war.

The bourgeois experts regard morale among personnel of the units or subunits as a complex phenomenon, "resting upon numerous supports." The individual soldier's morale is considered to be one of them. In the final analysis, it is the basis for the morale and fighting spirit of military collectives large and small. The morale and fighting spirit of the individual are determined, in their opinion, by two groups of factors: physical and spiritual. In the former they include, first and foremost, discipline in the broad sense of the word--the soldier's conduct, order in the unit (or subunit), maintenance of good health, and so forth. The

soldier must understand firmly and clearly that the order existing in the unit is unshakable and will be maintained in any situation, that he will always be provided with everything he needs (that he will be promptly fed and clothed), that when necessary, he will be provided with rest and medical aid, that his actions in combat will receive timely support through the actions of other branches of troops. All of this, say the Western ideologists, must be undeviatingly worked for, since it helps to strengthen the soldier's morale and develops steadfastness and endurance in him.

Among the spiritual factors the military experts of the imperialist states include religiousness, an understanding of the reasons for a war and self-confidence.

They believe that faith in God among the Christian peoples has weakened considerably at the present time. Nonetheless, it should be supported in every way, since in a moment of difficulty the soldier ordinarily "turns to the Almighty for aid and support." The matter does not end with this, however, by far. The main thing is that servicemen/believers "can be more easily forced to fight" for an unjust cause by justifying it with various specious pretexts. Furthermore, as British General Richardson acknowledges, believers/soldiers fight better than those who "are acting in defense of incomplete freedom, in the circumstances in which they live." Because of this the clergy are charged with the task of "providing the military with a banner which they can follow."

Western military ideologists have encountered certain difficulties in the matter of the soldiers' understanding of the causes of a war: "War," the book "Fighting Spirit: Psychological Factors In War" states, "is becoming more and more unpopular. The development of nuclear weapons has made it almost unthinkable. Ritual verbiage by political and religious figures on the noble goals of our governments and the enemy's satanic treachery is sounding more and more senseless and absurd." This fact has led bourgeois military ideologists to conclude that the causes of a war should not be openly proclaimed (actually, the bourgeoisie almost never did so). They recommend "concealing them in vague, diplomatic formulations" or replacing them with considerations of a patriotic nature, empty talk about duty to those near and dear, and so forth.

In the opinion of the Western experts, the soldier's self-confidence is also formed by a whole set of factors. In order to develop it a serviceman must have firm confidence in his commanders, his comrades, his weapons, his neighbors, his branch of troops and in the armed forces as a whole. He must know what his enemy is like and how the latter is armed. Man, the bourgeois experts declare, fears the unknown. This fear can only be removed through thorough explanatory work and prolonged, focused training. Many military ideologists of the United States and Great Britain even suggest that it is worth while to thoroughly familiarize the soldiers with the destructive features of nuclear weapons and teach them to protect themselves against those effects, that the influence of weapons of mass destruction on troop morale will be confined to acceptable limits, that in any case it will not produce such phenomena as the appearance of panic or mass neuroses. They openly advocate nuclear war and suggest that this is acceptable and that it is even possible to win such a war.

After analyzing personnel losses incurred during World War II, as well as during aggressive adventures carried out since the war, the foreign theoreticians conclude that so-called psychological losses account for too great a portion of them. Many servicemen did not withstand the pressure of a combat situation, did not demonstrate adequate moral-psychological endurance. Many cases of shock, hysterics, nervous breakdown or exhaustion, neuroses and so forth were noted. The book "A History of World War II: The Medical Service," published in London in 1962, presents the following data bearing out the fact that psychological losses accounted for 13,255 men, or 15.6 percent of all losses, in the British 21st Army Group, which saw action in Western Europe. The figure was even greater in certain divisions: 20 percent in the 52d Infantry Division and 21 percent in the 53d.

There was an even higher level of psychological losses in the armed forces of the United States. They accounted for more than 1.5 million people during World War II, which was far greater than general losses. Special steps even had to be taken during the aggression against Vietnam.

The main cause of those casualties, in the opinion of Western experts, was fear and an inability on the part of the servicemen to control their emotions, that is, not only the pressure of the battle situation but also the individual qualities of the servicemen, their mental state. Consequently, the Western experts assume, the mental state must be worked on, must be conditioned in advance and when necessary, treated. Doctors are to have the main role in this matter. They should be taught not only to treat wounds and injuries, but mental illnesses as well. They, in turn, must teach the soldiers as a preventive treatment how to overcome their fear, how to suppress it in themselves, how to control their self-preservation instincts.

Other measures not of a medical order are also necessary, in their opinion. It is recommended that special attention be given to the commanders immediately in charge of the personnel. They must have the ability "to win the respect, the trust and even the love of their men... and must themselves respect the soldier as a person, be his friend and not just his commander."

There is a reason for these injunctions of imperialism's military ideologists. The bourgeois armies are torn by various kinds of conflicts, primarily class conflicts, manifested in alienation and even hostility between the officers and the soldiers. During the time of the U.S. aggression in Vietnam, the American newspaper AIR FORCE TIMES published a letter from one serviceman, who wrote: "The class or caste system in the U.S. armed forces is repugnant. It is designed to maintain segregation between officers and enlisted men." Writing about that same problem, the magazine MILITARY REVIEW acknowledged that the American army in Vietnam "almost fell apart due to the fact that the soldiers turned their backs on their officers."

Some also expressed the opinion that the system for instilling military discipline must be reformed. The military ideologists state that it must measure up to increased demands in the situation today. Certain innovations, called "democratization," were at one time introduced into the armies of the NATO countries by way of "reforming discipline." These have now been abandoned. Primarily, extra

drilling, fines and imprisonment are used for instilling discipline in the armies, just as they were in the past.

The selection of youth to serve in the army, especially in units requiring great nervous tension, is considered to be highly important, along with the above mentioned factors. British Brigadier General M. Lewis has stated: "The individual selection of servicemen is the foundation upon which the mental health of the military collective is built. And the doctor/psychiatrist must have the final word as to whether a serviceman is suitable to serve in special units." "If the soldier is not created for war, he should immediately be gotten rid of, since he spreads the infection of defeat," the British military experts love to reiterate.

Many bourgeois theoreticians recommend a more cautious approach, however, to keep the numerical strength of the armed forces from being drastically reduced. They say that individual selection is essential, but that the most important thing is to avoid overstress, which results in neuroses. This opinion is expressed, for example, by McCurdy in his book "Neuroses In War." He feels that crucial importance should be attached to the prevention of mental illnesses, which would develop in the personnel a rational attitude toward fear.

Fear, the bourgeois military experts say, is a normal, natural emotion, which can and should be controlled. The causes of and the signs of fear and methods of overcoming it must be studied. Every soldier should be trained to restrain his animal instincts, they demand. An individual approach should be taken in this training, the Western ideologists believe. A veteran, tempered fighter could be assigned to a single soldier, whose very conduct would help the latter to overcome his fear. Another would only need to be convinced that "death is not evil and there is no reason to fear it." Yet another should be subjected to derision and criticism, although for the most part this is only detrimental. The vast majority of soldiers, however, should undergo special moral-psychological training in peacetime, designed to teach the servicemen to overcome apprehension and the difficulties of the combat situation, to withstand large nervous and mental stresses and to control their emotions, especially fear. The psychological training should be carried out right in the units. The unit command, the educational information service, the religious ministries and the medical service would be required to take part in its organization and its conduct.

The education service, the bourgeois ideologists feel, should intensify the "mind training" of the servicemen. Although for purposes for propagandistic deception widely publicized statements are made to the effect that no ideological pressure whatsoever is exerted upon the personnel, in reality this is receiving greater and greater attention in the training of the modern armies of imperialist states. The ruling circles strive to develop in the servicemen conviction as to the "democratic nature" of the bourgeois social structure, to develop in their mind an "image of the hated enemy" (both internal and external), to instill in them the idea that wars are lawful and inevitable, that they should prepare for wars "without any sort of moralizing." W. Sargent's book "Battle For The Mind" recommends that all of this be carried out very subtly and skillfully: "Lengthy lectures on these matters

should be avoided. It is better to conduct talks, followed by open discussion. The talks should be of an unofficial nature. They should be carefully prepared, in order for those who conduct them to know how to answer the questions."

Imperialist military ideologists are clearly afraid of becoming tangled up in their fabrications and blatant lies. For example, they are experiencing increasing difficulties in the development of an "image of the enemy" especially of late. At the present time, when, as the Western press acknowledges, the influence of the antimilitary movement is growing and open doubts are being expressed as to the reality of the "Soviet military threat," it has become far more difficult to ignite hatred in military personnel of the imperialist armies. The American newspaper INTERNATIONAL HERALD TRIBUNE writes that it is time for the United States to think about "what it will do if the antiwar protests get out of control." The bourgeois ideologists say that some other methods and arguments are needed. Imperialist propaganda, however, is only adding more and more malice to the anti-Sovietism, however, turning it into a means of preparing a new war.

The role and functions of the military priests have been expanded somewhat. In addition to their propaganda of religious, dogmatic propositions, they are now charged with the duty of "forming the character" of servicemen. Something on the order of manuals for servicemen on this matter have been developed in the armed forces of the United States, Great Britain and a number of other imperialist states. Their objective is "to help all ranks to properly understand the role of Christian values in the development of character." The manuals are supplemented by a series of propagandistic pamphlets: "You And Your Life," "Anatomy of Bravery," "Anatomy of Fear" and so forth.

Doctors are also expected to conduct talks on the nature and the essence of fear and on methods of controlling it. They are required to focus primarily on the practical aspect of the question, to teach the soldiers how to condition their emotions, what they should do to avoid giving in to their full effect, to avoid turning into a coward or becoming panic stricken.

Recently the Western military press has expressed with ever-increasing frequency the opinion that money is the "prime and main factor" maintaining the morale of the hirelings in the imperialist armies. Furthermore, it is believed that the greater the wages, the broader the possibilities for selecting for the armed forces the youth most suitable to the imperialists. "We must pay," says U.S. Secretary of the Navy Lehman, "in order to retain the servicemen we need. This is a simple reality."

Everything we have said illustrates the fact that the military-political leaders of the capitalist nations are devoting more and more attention to the problem of maintaining troop morale. There is no doubt that due to the organic defects and the aggressive, antipopular nature of the imperialist armies, their efforts are not producing solid, long-lasting results. We must keep in mind, however, the fact that the task of the imperialists is to prepare the armed forces for aggression and that its accomplishment is based upon blatant anticommunism and anti-Sovietism,

on ideological deception. Even by developing morale in the troops by means of temporarily effective factors, however, militaristic circles today can cause far greater harm to peoples than in the past, can draw the world into the abyss of a nuclear war.

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PERCEPTIONS, VIEWS, COMMENTS

COMMENTS ON U.S. ARMY AVIATION RADIOELECTRONIC WARFARE EQUIPMENT

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 5, May 82 (signed to press 6 May 82) pp 31-36

[Article by Eng-Col V. Afincv: "U.S. Army Aviation Radioelectronic Equipment"]

[Excerpts] Great importance is attached to the perfection of various radioelectronic equipment in the process of constantly expanding the arms race, which is being conducted in the United States for purposes of achieving military superiority over the Soviet Union. For example, an entire arsenal of a new generation of radioelectronic warfare (REB) equipment is presently being created for the U.S. Army. It will be carried by army aviation planes and helicopters. The American experts believe that this will significantly enhance the effectiveness of radioelectronic warfare under contemporary conditions. In their opinion, the programs discussed in the foreign military press for outfitting the forces with this equipment speak of a growing role for the army aviation in the conduct of radioelectronic warfare in ground theaters of military operations (stress is laid on the fact that it accounts for approximately half of the radioelectronic warfare equipment).

The Western press mentions the parallel execution of most missions from the ground and from the air as a characteristic feature of the principles underlying the organization of radioelectronic warfare in the U.S. Army. Because of this many of the army's ground and air radioelectronic warfare means being created have the same functional structure, operate on the same frequency bands and modes and are completely compatible with each other.

American military experts believe that duplication in the performance of the main radioelectronic warfare missions on land and in the air will permit corps and divisions to considerably expand the coverage zone in an area of combat operations in radioelectronic warfare. They note that along with increasing several-fold the depth to which radioelectronic warfare is conducted, the army aviation makes it possible to perform some of the missions which, according to the American press, it is not feasible to perform with ground equipment. They include, among others, reconnaissance and radioelectronic suppression of radio-relay and tropospheric communications, as well as the jamming of enemy radioelectronic stations.

Foreign experts place the radioelectronic warfare missions of the U.S. Army Aviation into two separate categories. The first and main category has to do with the conduct of radioelectronic warfare during the performance of combat operations by ground forces, the second--with individual protection of the planes and helicopters themselves against the enemy's air-defense guided weapons. In this article we will discuss radioelectronic equipment employed in the performance of missions in only the first category.

According to reports in the foreign press, a considerable portion of the above-mentioned radioelectronic warfare planes and helicopters are still in the production stage, are being tested or are only beginning to be delivered to the forces. The lengthy process of getting them to the army aviation is a result of gradual alteration of the organizational structure of the forces which will employ this aviation equipment in combat operations in a theater of military operations.

The organization of subunits of radioelectronic warfare planes and helicopters of the U.S. Army Aviation given in the foreign press, the conversion to which is expected in 1986, indicates that within an army corps this equipment will be combined into an air radioelectronic warfare company, which will be a part of an aerial reconnaissance battalion of a radioelectronic warfare and reconnaissance group. It is planned to have two platoons in such a company. The first will be outfitted with the Guardrail-5 system consisting of six aircraft, while the second will have six RV-1D aircraft outfitted with Quick Look-2 equipment.

In the mid-1980's it is planned to use only the Quick Fix helicopter system. A platoon of helicopters (six machines) will be part of an air radioelectronic warfare and reconnaissance company of a so-called helicopter reconnaissance and anti-tank brigade (Air Cavalry Attack Brigade), that is, separate from the division's radioelectronic warfare and reconnaissance battalion. It is typically referred to in the foreign press as a "radio reconnaissance and direction finding platoon." And so, the fact is stressed that the functions of radioelectronic suppression helicopters had to be performed only in coordination with the above-mentioned battalion. Up to 1986 divisions will have three Quick Fix systems each, which organizationally will be part of a staff company of a radioelectronic warfare and reconnaissance battalion.

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PERCEPTIONS, VIEWS, COMMENTS

COMMENTS ON U.S. F-15 FIGHTER CAPABILITIES

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 5, May 82 (signed to press 6 May 82) pp 39-44

[Article by Col V. Dolbnya, candidate of military sciences: "The F-15 Fighter In Aerial Combat"]

[Excerpts] Continuing the arms race aimed at the achievement of military superiority over the Warsaw Pact states, militaristic circles of countries belonging to the aggressive NATO bloc are not only striving for a quantitative buildup in technical means of combat, but are also making great demands of their quality. This trend is especially graphically displayed in the development of combat aircraft, fighters in particular. According to articles in the foreign press the increased attention being given to fighters is due to the fact that the NATO military experts consider them to be among the most important means of gaining air superiority, without which it is impossible to achieve success in operations on any scale. They consider air battles to be one of the main means of gaining and retaining superiority.

Previously, in the U.S. Air Force and the air forces of its NATO allies, this mission was assigned to multipurpose tactical fighters. Having suffered defeat in the aggressive war against Vietnam, where heavy, multipurpose F-4 Phantom-2 and other aircraft frequently lost maneuvering air battles to light but maneuverable Vietnam fighters, however, Pentagon leaders concluded that in today's situation it is essential to have aircraft especially optimized for conducting aerial combat. In the designing of new fighters the emphasis was therefore placed primarily upon improving their maneuvering qualities. In the words of American General T. MacMullen, the idea of creating such aircraft was materialized in the F-15 fighter, with the development of which the U.S. Air Force began a dynamic period of improving these aircraft. He goes on to say that this aircraft has adequate maneuverability due to the low specific load on the wing and its good thrust-weight ratio. By way of demonstrating this the American military press gives the information contained in the table [graphics not reproduced] on the basic flight and tactical characteristics of the F-15, first modification (F-15A, Figure 1), and F-4E (one of the latest models of the Phantom-2 tactical fighter), as well as certain examples of their maneuvering capabilities as air fighters.

According to the foreign press, test and demonstration flights by the F-15 showed that along with great capabilities for aerial combat, it also has certain shortcomings. They include the following: the possibility of engine failure when flying with afterburners on during a flight involving excessive stress, as well as at low flight speeds and medium or high altitudes, due to the air flow separation in the compressors; the need to illuminate the target after the Sparrow missile has been launched, especially in a battle on reciprocal courses, which can bring the fighter into proximity with the enemy fighter before its missile launching range has been reached; the difficulty of selecting and locking onto the most dangerous target in a group of enemy aircraft, due to the inadequate discrimination capability of the airborne radar.

The F-15 fighter is being improved in the U.S. Air Force with these and certain other shortcomings in mind. In the first place, the engines and their control systems are being modernized, and secondly, it is planned to install additional jet engines on the aircraft, by means of which it can maintain the prescribed direction of flight, while maneuvering with a shift in any direction along the lateral or vertical axis, which will increase its possibilities for entering its weapons employment area and for evading enemy fire more effectively.

In the process of perfecting the F-15 fighter's weapons system, the main attention is being focused on the creation of conditions making it possible simultaneously to track and fire upon a large number of targets (as many as 12). It is planned to use for this purpose the new AMRAAM medium-range guided missiles (as many as 14 of the missiles can be mounted on the aircraft) and the AIM-7M Sparrow with its multi-pulse homing head. It is also planned to increase the effectiveness of guided missiles by installing active fuses and new anti-jamming equipment on them and increasing their firing range against targets with a small effective reflecting surface. In addition, the airborne radar is being modernized to improve its discrimination capability.

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PERCEPTIONS, VIEWS, COMMENTS

COMMENTS ON CARRIER AVIATION CAPABILITIES AGAINST SHIPS

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 5, May 82 (signed to press 6 May 82) pp 55-60

[Article by Col M. Pain: "Carrier Aviation Against Surface Ships"]

[Text] In their aggressive preparations, along with improving the strategic, naval-based offensive forces, ruling circles of the United States are devoting a great deal of attention to the development of general-purpose naval forces, the striking power of which is comprised of aircraft carriers. The latter, with their great maneuverability and universality, are capable of performing most of the missions facing the navy in wars using both conventional and nuclear weapons. The aircraft carriers have on board from 80 to 100 aircraft of various types: medium and light A-6E Intruder and A-7E Corsair-2 ground-attack aircraft, F-14A Tomcat and F-4J Phantom-2 fighters, DRLO [long-range radar spotting aircraft (AWACS)], E-2C Hawkeye radioelectronic warfare and EA-6B Prowler aircraft, RF-6G Crusader reconnaissance aircraft, S-3A Viking ASW aircraft and SH-3H Sea King ASW helicopters. This permits them to carry out missile and bomb attacks (including nuclear attacks) against ships and naval bases, as well as against other targets located not only along the coast, but even in the depth of enemy territory; to gain and retain dominance at sea and superiority in the air in an area of combat operations; to seek and destroy submarines; to provide cover for landing forces crossing the ocean against air strikes; to blockade areas of the ocean and narrows for purposes of preventing enemy ships from going out to sea; to provide direct air support for ground forces and the land forces for a landing operation, operating on shore; and to protect naval lines of communication.

In peacetime the aircraft carriers are used for performing policing functions and for "showing the American flag" in all the strategically important areas of the planet.

This article, prepared from information published in the foreign press, considers certain aspects of the organization and the tactics of combat operations by the carrier aviation against enemy surface ships.

According to the foreign press, practically all the carrier-based aircraft take part in this kind of fighting. For example, the reconnaissance aircraft reconnoiter naval targets, the ground-attack aircraft carry out strikes against them,

the fighters escort the ground-assault aircraft to the area of the strike and cover them from the air, the AWACS aircraft perform long-range radar detection of enemy ships and aircraft and guide their own forces to them, and the radioelectronic warfare aircraft create active and passive jamming of the enemy's radioelectronic equipment.

The A-7E Corsair-2 light assault aircraft is considered to be the main aircraft in operations against surface ships in a war at sea. When the enemy's group of ships consists of four to six or more units and has a sufficiently powerful air defense, however, the A-6E Intruder medium ground-assault aircraft are also used in an attack (Figure 1 [Figure 1 not reproduced]). The Western press states that the carrier aviation of the U.S. Navy includes 14 squadrons of A-6E Intruder aircraft (2 of these are combat training squadrons) and 30 squadrons of A-7E Corsair-2 aircraft (4 are combat training squadrons). One squadron of medium ground-assault aircraft (10-12) and 2 squadrons of light aircraft (12-14 aircraft in each) are part of a wing on each aircraft carrier.

Judging from exercises conducted by American naval forces in recent years, every strike against surface ships is preceded by aerial reconnaissance (conducted by carrier-based RF-8G Crusader reconnaissance aircraft, F-14A Tomcat fighters and Hawkeye E-2C AWACS aircraft). Its mission is to reveal the precise location, the composition, the course and speed of the enemy's task force (surface strike group, detachment, landing group or convoy).

According to reports in the foreign press, the E-2C Hawkeye is capable of detecting surface ships at a range of up to 360 kilometers, of maintaining constant surveillance over them by means of their radioelectronic equipment, without coming into range of the ships' weapons, and of directing combat operations of the carrier aviation. In a massed attack, the Hawkeye aircraft essentially becomes an airborne command post. Its airborne equipment, which is based on the ATDS combat information and control system (BIUS), makes it possible to identify and classify targets from information received from various sources, to determine their basic characteristics and assess the degree of danger, to select the type of weapon to be used, to guide fighters and ground assault aircraft and transmit navigation information. All of the necessary information is also sent by means of the LINK11 communications system to the ATDS (sic) combat information and control system on board the aircraft carrier, which permits the commander of the carrier group to monitor the situation in the area of attack and to exercise direct control over the operations of tactical groups at a distance of 500-600 kilometers. The optimal flight altitude for the Hawkeye AWACS aircraft in the area of surveillance is 8,000-9,000 meters. Carrier-based fighters provide cover for it.

The foreign press emphasizes the fact that the operational tactics of the carrier-based aviation against surface ships and the number of aircraft involved in an operation are determined by the nature of the target, the degree of counteraction by its air defense means, the time of day and weather conditions.



Groups for the suppression of air defense means perform the mission of destroying a formation's antiaircraft ships with strikes against both their radioelectronic facilities (with AGM-45A Shrik, Standard-ARM and AGM-88A HARM antiradar missiles) and the ships themselves (with AGM-84A, AGM-12 Bullpup and AGM-65 Maverick missiles, various modifications). The tactical and technical characteristics of these missiles are given in the table [Table not reproduced].

Radioelectronic warfare groups detect and neutralize a formation's antiaircraft radioelectronic means just before the strike groups come within range of detection by the ships' radar and generate interference, under cover of which the assault aircraft leave the target after they have carried out the strike. Ordinarily, radioelectronic warfare groups consist of special EA-6B Prowler aircraft, as well as ground attack aircraft and fighters equipped with jamming stations aboard or in containers.

Guidance and control groups include E-2C Hawkeye AWACS aircraft and escort fighters. The Hawkeye aircraft guide the ground-attack aircraft to surface targets and the fighters to air targets, monitor the air space and relay commands between the aircraft carrier and the commanders of the tactical groups.

The final reconnaissance groups pinpoint the location of the targets, identify the main targets in the formation of ships and transmit information to the commanders of the assault groups before the latter reach the initial combat deployment line.

Fighter escort groups consist of fighters, which cover the ground attack aircraft en route and in the strike area.

According to statements made by military experts of the United States, aircraft in the support groups comprise 50 percent or more of the total number of aircraft taking part in an operation.

The carrier-based aircraft are refueled in the air to increase their range. Four KA-6 Intruder tankers can ordinarily refuel nine ground attack aircraft.

When the strikes are against groups of surface ships within a range of 500 kilometers the carrier-based wing can interact with the tactical aviation.

The foreign press describes the following sequence for organizing a strike against a formation of ships. Carrier-based aircraft take off from the aircraft carrier in accordance with information derived from aerial reconnaissance. After takeoff the aircraft form up for combat and head for the targets, ordinarily at medium or high altitudes (the guidance and control group proceeds to the area of combat operations along a separate route). The breakdown of the combat formation into tactical groups and the change in altitude are carried out before the aircraft reach the ships' radar range. The first to come within range are aircraft designated for reconnoitering the target, followed in succession by the diversionary groups, groups for suppressing air defense means and radioelectronic warfare groups and finally, the assault groups.

The foreign press notes that upon reaching the ships' radar range, the ground attack aircraft of the assault groups proceed to the target at low and extremely low altitudes (60 meters or less) at maximum speeds (up to 900 kilometers per hour) and arrive at the target from various directions in groups of 2 to 4 aircraft. The first strikes against the ships are with AGM-84 Harpoon, AGM-12 Bullpup and AGM-65 Maverick missiles, with airborne guided and conventional bombs. In some cases they also fire at the ships with their guns.

The diversionary groups reach the formation of ships somewhat ahead of the assault groups, at medium altitudes and from various directions. Groups for the suppression of air defense means strike at the escort vessels. At that time the assault groups, screened by interference, arrive in the target area from several directions, climb sharply, find the target, take aim and employ their weapons. The distribution of specific targets among aircraft of the assault group is performed from an airborne command post (a Hawkeye aircraft) or by the group's commander. Missiles are ordinarily used for the first strike, bombs for the rest of the strikes. A second approach may be made to the target, for shelling the target with guns or for photographing the results of the strike.

The Western press underscores the fact that the following methods are used for carrying out a strike, depending upon the weapons available and the degree of counteraction by enemy air defense means: from a dive, from a pitch-up, and in horizontal flight.

Missiles, bombs, machinegun and cannon armament can be used when the attack is carried out from a dive. American military experts believe that this method assures the greatest degree of bombing accuracy (the probable error for Intruder ground attack aircraft over a firing range, during the day, for example, is 13.5 meters for Intruder ground attack aircraft and 6 meters for Corsair aircraft) and can be used primarily against ships poorly equipped with air defense means.

A dive is ordinarily carried from medium altitudes. The pilot knows the wind variables in the target area and glides his aircraft to a precalculated point, where he begins a steep dive, positions the sight mark on the target and increases his speed to 720-900 kilometers per hour. After reaching a certain slant range from the ship (500-1,000 meters) the bombs are dropped (pre-flight missiles are launched, cannon and machine guns are fired) and the aircraft is taken out of the dive. The load factor reaches 5 g's in the process. The pilot then maneuvers to evade antiaircraft fire and departs the target area at low altitude.

Only aerial bombs are used when the attack is made from a pitch-up. This bombing method is employed when strikes against formations of ships with a powerful air defense system. The ground attack aircraft approach the ships in this case at low or extremely low altitudes, at speeds of up 900 kilometers per hour. Judging from naval exercises and bombings at ranges, at a distance of 5 to 6 kilometers from the target the aircraft climb sharply to an altitude adequate for detecting the ship and then drop to 15-60 meters, maintaining the precise course to the ship. When they reach the precalculated point (1-2 kilometers from the target) the ground attack aircraft switch to a pitch-up and drop their bombs.



pull out of the dive with a turn and then perform an antiaircraft maneuver. The entire flight takes 1.5-2 hours.

When they are at sea the commanders of the aircraft carriers organize single-plane or group practice bombings for the crews of the ground assault aircraft. The bombing is performed visually on smoke spots dropped from helicopters or on the wake track of a group of ships (their accuracy is determined by means of fixes taken from the ships).

Judging from articles published in the Western press, the American naval command has pinned great hopes on antiship missiles for conducting combat operations against surface ships. These can be employed at low altitudes and at great ranges, which eliminates the need for the carrier to come within range of the shipborne air defense means. It is the opinion of foreign military experts that the employment of missiles with radar, infrared or laser guidance systems makes it possible to increase many times over the accuracy of attacks against small naval targets, to expand the group of possible tactical methods used by ground assault aircraft and to cut aircraft losses.

While noting the good combat capabilities of carrier-based ground assault aircraft for combating surface ships, the foreign experts also point out a number of factors influencing the effectiveness of their operations: the difficulty of detecting formations, groups and especially, single ships, at sea, the need for the aircraft promptly to identify the ship, and insufficient accuracy in the employment of the weapons. The American press stresses the fact that in order for a crew to penetrate a powerful air defense system of ships, it is forced to fly at maximum speeds and drop to extremely low altitudes, where the automatic sight does not function stably due to the rapid shifting of the water surface and the targets. Because of this, the sighting and the dropping of the ammunition are done manually, and this lowers the results of an attack. Furthermore, the foreign press reports that pilots are poorly trained, tactically, in matters of self-defense and their departure from the attack area.

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## PERCEPTIONS, VIEWS, COMMENTS

### COMMENTS ON NATO DUAL-PURPOSE TORPEDOES

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 5, May 82 (signed to press 6 May 82) pp 68-72

[Article by Capt 1st Rank (Reserve) Yu. Tuchkov: "Dual-Purpose Torpedoes of the NATO Nations' Naval Forces"]

[Text] NATO's military leaders continue to develop means of armed conflict at sea, including torpedoes, as they prepare to implement their aggressive plans.

The foreign press reports that until the mid-'70's, the naval forces of countries in that bloc were armed with antiship and antisubmarine torpedoes. Their tactical and technical features did not measure up to the demands made of them, however. The fact that the delivery system's unit of fire included various types of torpedoes created additional difficulties, having to do with their combat employment, operation and technical servicing, as well as with the training of the personnel.

Naval experts of the capitalist states developed new dual-purpose torpedoes with various power units (ESU) and guidance systems, incorporating the latest scientific and technological achievements in the fields of electronics and automation. They were designed for destroying both surface ships and submarines and were adopted by the foreign navies in the mid-1970's (Table 1 [graphics not reproduced]).

The dual-purpose torpedoes created in the navies of the European NATO countries have electrical power units, while those in the U.S. Navy have thermal power units.

#### Electrical Power Units

Their capacity does not depend upon outside pressure, and the fact that exhaust gases are not discharged reduces the noise (in comparison with an internal combustion engine), and the torpedo leaves no trace. The same effect is achieved by using a birotary electric engine. In this case the electric engine turns the propellers without the aid of a reduction gear, which creates additional noise.

The electric engines are powered from nickel-cadmium or silver-zinc storage batteries, the main shortcomings of which are a low maximum power density and relatively high cost. The electrically-operated, dual-purpose torpedoes (with a

caliber of 533 millimeters and a length of 6 meters) are equipped with storage batteries which occupy 30 percent of the space inside the torpedoes. Their maximum speeds and ranges are given in Table 2.

#### Thermal Power Units

The American Mk48, dual-purpose torpedoes, first and third modifications (Figure 1) are equipped with a new thermal power unit. The foreign experts believe that this has made it possible to improve their basic characteristics over those of the European SUT, SST4, A184 (Figure 2) and L5 (first and third modifications) dual-purpose torpedoes.

The basis for the power unit is a powerful, compact piston engine. It operates on monofuel (single-component fuel), which has been given the name Otto fuel. It consists of a bright red liquid with a specific weight slightly greater than that of water, which is nonexplosive and impervious to shock. Power units which operate on this fuel have twice the power density of electrical power units equipped with silver-zinc storage batteries, and their exhaust can be controlled. The exhaust-gas pressure upon discharge exceeds the outside pressure, and this makes it possible for torpedoes with these power units to travel at greater depths. A considerable portion of the exhaust gas is dispelled in the water, leaving little trace.

U.S. naval experts believe that replacement of the screw propellers with a hydro-jet engine in the Mk48 torpedo has increased its speed and range.

All of these qualities of the Mk48 torpedo account for its high production cost, which has been an obstacle to its extensive adoption in the naval forces of the European allies of the United States. In order to resolve this problem the U.S. naval command began modernizing the Mk37 antisubmarine torpedo, in order to produce a less expensive, dual-purpose torpedo with improved characteristics. It has been designated the NT37C (Figure 3).

The electrical power unit was replaced with the thermal unit used in the Mk46 anti-submarine torpedo. It weighs 99.8 kilograms less, and this has made it possible to include new electronic devices, making the guidance system more effective. The modernization has doubled the torpedo's range and increased its speed by 40 percent.

Although the basic features of the NT37C torpedo are somewhat inferior to those of the Mk48, it costs considerably less, and this fully satisfies the U.S. allies in the aggressive NATO bloc. Canada's navy has purchased more than 200 NT37C torpedoes, for example, and a contract has been signed with Norway to provide its navy with them.

Foreign naval experts believe that thermal power units, which operate on single-component fuel, have not yet reached their maximum possibilities and that in the future the torpedoes will have considerably greater power and speed. There is a speed barrier (60 knots), however, beyond which modern engines cannot produce an increase in speed, even with extra capacity in the power units.

The guidance systems for all the dual-purpose torpedoes include wire guidance (except for the French L5, first and third modifications), as well as an active/passive acoustic guidance system.

#### The Wire Guidance System

The dual-purpose torpedoes have greater range, and consequently, travel longer to reach the target and have more time to accumulate error in maintaining the prescribed course with a gyroscope. A gyroscope cannot react to deviations of more than  $\pm 0.5^\circ$  from the prescribed course, and this is sufficient to prevent the torpedo from detecting the target in the final phase, since the torpedo may be beyond the functional range of its acoustic homing system.

All of these factors plus the desire to reduce to the minimum the amount of time required to ready the torpedo for firing forced the foreign naval experts to create a wire-guidance system for the torpedo (Figure 4). In this case fire control instruments on board the ship work out the initial data and automatically feed them to the torpedo through a connecting cable. When the torpedo is fired it emerges from the torpedo tube, breaks the connecting cable and begins to draw out the guidance wire from a reel attached to the inside of the tube. The wire is connected to a guidance wire wound around a reel inside the torpedo shell and led out of the shell through a special tube, which passes through the torpedo's bottom stabilizer, beneath the propellers. One end of the guidance wire is connected to fire control instruments on board the ship, the other end to guidance instruments located in the torpedo. It is first completely unwound from the reel in the torpedo tube and then, from the reel located inside the torpedo shell. The unwound guidance wire hangs in the water.

The active/passive acoustic homing system was initially used in antiship torpedoes to find the target only in the final phase of their horizontal path, and in anti-submarine torpedoes--on both the horizontal and vertical planes (detection range was 180-360 meters). The acoustic homing system in dual-purpose torpedoes allows for the target search to be conducted on both the horizontal and the vertical plane. Its general effectiveness was improved, as well as its effectiveness in waters of shallow depth and when acoustic counteraction is being taken. Ceramic converters with pressure-sensitive elements and solid-state electronic circuits made it possible to increase the system's sensitivity and its target detection range to 450-900 meters.

There are two systems for guiding the dual-purpose torpedoes by wire: target intercept and target pursuit (Figure 5). The guidance commands are transmitted from fire control instruments on board the ship to torpedo guidance and control instruments.

The first method consists in determining the torpedo's point of interception with the target and guiding the torpedo to that point by wire. A target blip (its anticipated location) is depicted on the display panel of the fire control instruments on board the ship, as well as blips indicating the ship firing the torpedo and the torpedo's location on the intercept course. Any deviation of the latter

from the prescribed course is determined and a guidance command is sent out by wire. With this system the torpedo is guided by wire to the point at which its acoustic homing system takes over to seek the target, intercept and attack it (the final phase of the torpedo's path).

The foreign naval experts believe that this will cut to the minimum the amount of time required for the torpedo to travel to the target, although changes in the latter's course as it is being guided will entail a shifting of the anticipated point at which the target will appear, and this could prove to be beyond the functional range of the acoustic homing system.

The second method consists in firing the torpedo (with subsequent course adjustment) according to the detected target's bearing. After the second bearing is determined, a command is transmitted by wire for an adjustment in the torpedo's course. This process is repeated up to the point at which the acoustic homing system begins to function. With this guidance system all changes occurring in the target's course are taken into account, but the torpedo travels a considerably greater distance to reach the target.

The American press states that an improved wire-guidance system is used in the Mk48 torpedo, third modification, which guides it by the methods described above and makes it possible to transmit to the attacking ship information on the target obtained by the torpedo's acoustic system. This considerably improves the probability of its hitting the target. The fact is stressed that the Mk48 dual-purpose torpedoes, first and third modifications, are convenient to operate and do not require complicated technical servicing, and that a simple program is used for training the personnel in their employment. These torpedoes provide for a more effective battle against modern submarines. They expand the antisubmarine defense zone of a formation of ships and, along with antiship missiles, are a part of the arsenal of weapons used for combating ships. The foreign press reports that improved models of the dual-purpose torpedoes will be developed and delivered to the naval forces in the 1980's.

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PERCEPTIONS, VIEWS, COMMENTS

COMMENTS ON U.S. VERTICAL MISSILE LAUNCHERS ON SHIPS

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 5, May 82 (signed to press 6 May 82) pp 72-73

[Article by Capt 3d Rank D. Vladimirov: "Shipboard Vertical Missile Launcher"]

[Excerpts] In accordance with an order from the U.S. Navy the Martin Marietta company is developing the new EX-41 ship-based vertical launcher for antiship, antisubmarine and antiaircraft missiles (61 missiles in any combination). It is planned to install the missile on surface ships of large and medium water displacement, primarily Ticonderoga class cruisers (two per ship, beginning with the CG52, Figure 1 [graphics not reproduced]).

The vertical launcher (UVT) is armor-plated. It is located beneath the ship's upper deck. Its weight is three-quarters that of the conventional launcher with the same ammunition. Its maximum required power is 20 kilowatts (a conventional launcher's drive system consumes 200 kilowatts). It is reported that the technical servicing of the vertical launcher is not complicated and does not involve great expense. It is serviced by a nine-man crew, that is, only slightly more than half the number required for the Mk26 launcher, first modification. The vertical launcher consists of eight identical modules and a control system for launching the missiles (Figure 2).

A module includes a carrier structure, an armor-plated platform, an armor-plated cover, a gas removal system and a loader.

The device functions in the following manner. The crane is hoisted by means of a hydraulic lift to the level of the upper deck, where it is readied for loading and unloading operations. For replenishing the ammunition a telescopic boom moves the missile container to the designated compartment, where the bottom of the container is secured over the compartment opening by means of a fixed support. The boom then moves the container with the missile from a horizontal to a vertical position and lowers the missile into the compartment on special guide rails (Figure 3).

According to the company's experts the loader can reload 10 containers in 1 hour in adverse weather conditions. The vertical launcher is reloaded by a four-man crew.

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The launching control system includes the vertical launcher's control post and eight dual-channel, automated control panels (one for each module).

The control post, consisting basically of two AN/JYK-20 mini electronic computers, checks the condition of the entire chain of control for the missile launching and monitors its functioning, receives target designations and launch commands from the ship's weapons control system and feeds them (through an automatic control panel) to the missile's onboard equipment. Each control panel can simultaneously provide target indications for 2 missiles in a module, while the control post can handle as many as 15 missiles in the vertical launcher.

The EX-41 vertical missile launcher has been tested at sea on board the experimental vessel Norton Sound since December of 1981. The first guided missile cruiser of the Ticonderoga class equipped with the launcher is expected to join the fleet in 1983.

The inclusion of guided missile cruisers with vertical launchers into the combat fleet of the American Navy will represent another round of the arms race initiated by ruling circles of the United States and a new stage in the buildup of the Pentagon's militaristic preparations.

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