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CENTRAL INTELLIGENCE AGENCY  
WASHINGTON, D.C. 20505

22 June 1973


1389  
HR70-14

MEMORANDUM FOR: The Director of Central Intelligence


SUBJECT : MILITARY THOUGHT (USSR): Tactical Air  
Operations in Conventional Warfare on a  
Maritime Front

1. The enclosed Intelligence Information Special Report is part of a series now in preparation based on the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal "Military Thought." This article addresses most aspects of tactical air operations in support of ground and naval forces involved in conventional warfare on a maritime front. These comments are based on games and exercises conducted in the Odessa Military District, so they relate to the wartime Southwestern Theater of Military Operations. The primary mission of tactical air forces is identified as destruction of enemy nuclear capability, such as aircraft carriers and their aircraft. Heavy emphasis is placed on coordination of joint forces for specific types of operations. This article appeared in Issue No. 3 (91) for 1970.

2. Because the source of this report is extremely sensitive, this document should be handled on a strict need-to-know basis within recipient agencies.

  
W. E. Colby  
Deputy Director for Operations

  
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# Intelligence Information Special Report

COUNTRY USSR

[Redacted]

DATE OF INFO. Late 1970

DATE 22 June 1973

## SUBJECT

MILITARY THOUGHT (USSR): Combat Actions of Front Aviation in an Offensive Operation on a Maritime Axis Carried Out Without Nuclear Weapons

SOURCE Documentary

### SUMMARY

The following report is a translation from Russian of an article which appeared in Issue No. 3 (91) for 1970 of the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal "Military Thought." The author of this article is General-Major A. Bukhantsev. He addresses most aspects of tactical air operations in support of ground and naval forces involved in conventional warfare on a maritime front. These comments are based on games and exercises conducted in the Odessa Military District, so they relate to the wartime Southwestern Theater of Military Operations. The primary mission of tactical air forces is identified as destruction of enemy nuclear capability, such as aircraft carriers and their aircraft. Thirty to fifty percent of aircraft in various categories are allocated to this mission and twenty to sixty percent to destruction of enemy aircraft on the ground, depending on the air situation. A reserve of not less than ten percent of combat aircraft is maintained. Heavy emphasis is placed on coordination of joint forces for specific types of operations.

END OF SUMMARY

### COMMENT:

There is no information in available reference materials which can be firmly associated with the author. Military Thought has been published by the USSR Ministry of Defense in three versions in the past--TOP SECRET, SECRET, and RESTRICTED. There is no information as to whether or not the TOP SECRET version continues to be published. The SECRET version is published three times annually and is distributed down to the level of division commander.

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Combat Actions of Front Aviation in an Offensive Operation  
on a Maritime Axis Carried Out Without Nuclear Weapons

(From experience in exercises of the Red Banner  
Odessa Military District)

by General-Mayor of Aviation A. Bukhantsev

The goal of combat actions for defeating enemy ground troops and naval forces on maritime axes will be not only to capture territory and important industrial and political centers in the land sector of the theater of military operations, but also to seize straits, islands, and naval bases. These circumstances also affect the nature of combat actions of front aviation in such operations. The extent and types of missions fulfilled by front aviation vary; a different approach is required for controlling large units and units and for coordinating their actions with front troops and naval forces.

Besides those missions related to a land theater of military operations, a front air army in an offensive operation on a maritime axis will fulfil a whole series of specific missions, namely, the destruction in the air of enemy aircraft carrier aircraft; the mounting of strikes against surface vessels in the coastal zone and the disruption of troop transports in sea communication lanes within the limits of the tactical radius of aircraft; the destruction of amphibious landings; the protection of our own naval bases, ports, and large units of ships; the support of our amphibious landing forces during transport at sea and during their landing on shore for combat; the support of naval aviation in the front zone; the conduct of aerial reconnaissance for anti-amphibious defense of the coastline; the mounting of air strikes against enemy amphibious landings and other enemy targets; and support of our own amphibious landings.

In planning air army combat actions we must take into account that the solution of many problems demands successive concentration of air efforts. At the beginning of an operation, the basic forces of the air army are, as a rule, directed to the destruction of enemy aircraft and nuclear/missile means, after which they provide support and cover for our troops in their breakthrough of enemy defenses; and, finally, they are concentrated to support naval and air landing forces to seize straits areas in combined attacks with front troops, the navy, long-range aviation, and airborne troops.

Since the tactical and carrier aircraft of our probable enemies are one of the main means of delivering nuclear weapons, and also constitute their main strike force in non-nuclear combat actions, the operational plan must, besides the missions of seeking and destroying operational-tactical means of nuclear attack, give primary attention to the participation of the air army in an air operation to defeat air groupings in the theater of military operations.)

It is known that to fulfil the mission of destroying the enemy means of nuclear attack during combat actions with conventional weapons we must allot sufficient air resources which, as is shown by calculations and by exercises conducted by many large units, in the first days of an offensive operation will comprise up to fifty percent of the flight resources of fighter-bombers, up to forty percent of the bombers, and up to thirty percent of the reconnaissance aircraft of the front.

In establishing air resources for the destruction of enemy aircraft on airfields and in the air, we must first determine what forces are required to neutralize enemy air defense means and to support our long-range and naval aviation in the front zone; and we must also determine the composition of the nuclear echelon. We must also proceed from the fact that front troops in a non-nuclear offensive operation do not have the necessary forces and means to destroy enemy aircraft on airfields. Nor is there any basis for relying on them to give any appreciable assistance to the air army in neutralizing the enemy air defense system, since these are usually located beyond the firing range of the means of front forces. Therefore, the problem of defeating groupings of enemy tactical and carrier aircraft on a maritime axis will be resolved through the joint efforts of the air army, large units of long-range aviation, and naval aviation in close coordination with front and naval air defense forces and means.

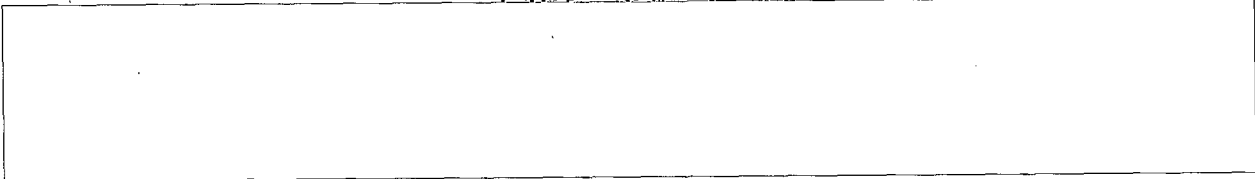
The destruction of tactical aircraft on their airfields and carrier aircraft on their carriers is one of the main missions of long-range and naval aviation as part of an air operation. And the role of the air army in an air operation will be to neutralize enemy air defenses, mainly in support of long-range and naval aviation; to cover their combat formations in the front zone; and, if there are sufficient forces and means available, to destroy tactical aircraft on the ground within the operating radius of fighter-bombers and front bombers.

It is shown by calculations, as well as by strategic military map games and a front command-staff exercise held in 1969, that of all the resources in an operation, the amount allotted for the destruction of enemy aircraft groupings on the ground and in the air may be sixty percent of fighter aircraft, twenty percent of fighter-bombers, thirty percent of bombers, and twenty percent of reconnaissance aircraft.

Thus, in our opinion, we must allot from our air resources sixty to seventy percent of the fighters and fighter-bombers and up to fifty percent of the front reconnaissance aircraft in order to fulfil our combat missions in a non-nuclear offensive operation on a maritime axis against enemy operational-tactical means of nuclear attack and against enemy air groupings (tactical and carrier).

It should be noted here that, while participating in an air operation to destroy aircraft groupings, an air army is not in a position to allot significant forces for the destruction of enemy tactical aircraft on their airfields. Thus, in a two-sided air exercise in 1969, an air army consisting of three fighter aviation regiments, one fighter-bomber regiment, and two separate aerial reconnaissance regiments destroyed the enemy aircraft on only three airfields located 120 to 150 kilometers from the front line. One fighter-bomber regiment and one fighter aviation regiment were used for this (there were two air squadrons at each enemy field). The remaining fighter aircraft of the air army provided cover for the troops and installations in the rear area of the front and the fleet, support for combat actions of long-range aircraft, naval aircraft and fighter-bomber strike groups, by covering their combat formations along flight routes and in the target area, destroying enemy surface-to-air missiles and blockading two airfields of enemy air defense fighters.

The exercise showed that the allotment of even such a limited number of air army forces for the destruction of enemy aircraft on their airfields is possible only by a surprise attack against the enemy with the initial massive strike. Otherwise, if enemy aircraft conduct aggressive combat actions, it will be impossible to use our unit and subunit fighters against their aircraft on their airfields. All front fighter aircraft will be compelled to provide cover for their own troops and for front and naval rear area installations, and to carry on aerial combat with enemy aircraft.



In the non-nuclear period of combat actions, as has been corroborated by many exercises, the number of enemy airfields on which aircraft must be destroyed in a single strike by our front aircraft depends directly on the number of fighter-bomber and bomber units in the air army. We consider that to successfully destroy enemy aircraft on the ground we must figure on one regiment of three squadrons of fighter-bombers and bombers per airfield. An air army composed of three or four regiments of fighter-bombers and bombers will permit successful air operations against enemy aircraft on their airfields in the front zone without weakening our fighter air cover for front and naval rear area installations or our fighter air support of troops.

A vital factor influencing combat actions of front aviation in fulfilling its mission of cover and support of troops on a maritime axis is the fact that the front has an exposed coastal flank which is vulnerable to enemy air and naval forces and means. This creates favorable conditions for mounting an air strike first of all against rear area installations of the front. At the same time, the use of front antiair defenses is made more difficult, since enemy aircraft can deliver strikes against objectives located on the coast without entering the fire zone of antiaircraft missile troops. Therefore, the fighter aircraft of the air army covering the coastal flank will conduct combat actions over the water, extending the line of interception and duty zones in the air to a considerable distance from shore.

Having a coastal flank also requires an increase in the number of front fighter aircraft and their close coordination with front air defense forces and means. An important role in the control and vectoring of fighter aircraft in the air, especially at low altitudes, will be played by ships of our Navy, which are specially equipped with radiotechnical means for detecting the enemy in the air, reporting this, and directing our fighters to aerial targets.



The basic method of fighter combat actions in carrying out their mission to provide cover for front and naval troops and installations is to intercept from a state of "duty on the airfield" while maintaining periodic duty by small groups in the air. However, upon activation of enemy aircraft and while providing cover for installations located at an appreciable distance from the airfields, interception from a state of "duty in the air" can be widely used.



The selection of duty zones in the air depends on the types of missions to be accomplished. Thus, in providing cover for front troops, as exercises and theoretical calculations have shown, it is advisable to have duty zones at altitudes of 1500 to 2,000 meters over the deployment areas of forward antiaircraft missile battalions; and at 10,000 to 11,000 meters at a depth of thirty to forty kilometers from the frontline over our territory, i.e., beyond the kill zone of "Hawk" missiles deployed near the frontline. Such a distribution of duty zones allows us to intercept enemy air targets over his own territory. In building up forces while repulsing an air raid, fighter aircraft will go into combat from all zones and airfields; or they will have been concentrated previously in duty zones located over enemy territory near the flight axis of his main forces, having established a passage along stipulated corridors through our own antiaircraft missile units.

In covering naval installations and amphibious and air landings the determination of duty zones in the air will depend on the situation (the location of the ship groupings and other objectives to be covered, the axis of advance of amphibious landing troops, and the routes and types of flights of military transport aviation).

Since the majority of enemy low-flying targets may not be detected in time by our front radar means, it is advisable to take action against enemy aircraft at altitudes up to three hundred meters by carrying out independent search and destroy missions ("hunting"), in specially designated zones of combat action for each fighter regiment. However, in the case of very low-altitude enemy raids against targets more than twenty to twenty-five kilometers from the front, the experience of air-tactical exercises of fighter units of an air army has shown that interception may be effected successfully from the state of "duty in the air." Interception from a state of "duty on airfields" under these conditions is applicable only while covering rear area objectives of the front and fleet at airbases located in the interior of the country.

Another important mission which the air army performs for the front troops is air support, which will also have special features on maritime axes. In the first place, the air army, together with front army troops and naval large units and formations, will conduct combat operations for the destruction



(neutralization) of naval as well as land targets hindering the offensive operation. Second, in providing support, the air army will have to operate against enemy landings, both air and sea, while supporting our own naval, air, and tank landings.

In carrying out its mission of troop air support, front aviation will attack primarily targets whose destruction (neutralization) by other means would be ineffective or difficult, in particular against nuclear/missile means, reserves, control points, and numerous mobile and small targets. However, while providing support, front aviation may also attack heavily fortified defensive lines and areas, strongpoints, bridges and crossings over water barriers, ships in straits where our front troops are to force a crossing, and subunits of surface-to-air missiles and antiaircraft artillery which are preventing the fulfilment of missions by our aircraft.

Where only conventional means of destruction are used to achieve superiority in firepower over the enemy and to bring about conditions for a rapid offensive by troops of the first echelon, front aviation may engage in preparatory fire for front troops. However, only part of the fighter-bombers and fighters may be used for this task. The main forces of the air army must be held in reserve for air support of troops.

The air army carries out all troop support missions within the limits of its allotted aircraft resources which, under conditions of non-nuclear warfare, may comprise fifty to sixty percent of the aircraft reserve for fighter-bomber operations, up to ten percent of fighter resources, and up to twenty to twenty-five percent of reconnaissance resources.

One of the important stages in the combat actions of an air army in an offensive operation on a maritime axis is troop support during the capture of a straits area. The capture of such a zone has immense operational-strategic significance, since it creates favorable conditions for developing the offensive deep into enemy territory and for achieving the military-political goals of the war in the theater of military operations. And it is in this period that the enemy may decide to use nuclear weapons in a massive strike against our troops. We consider, therefore, that in the Southwestern Theater of Military Operations, under the conditions of a nuclear/missile war, our front troops, upon

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entering the straits area, will have to break through fortified enemy areas in close coordination with naval forces, aviation and airborne landing troops.

Different methods and variants of actions are possible for these forces. In some cases, there will be a rapid breakthrough by tank and mechanized groupings with simultaneous landings along a wide front by naval, tank, and airborne landing forces, for the purpose of capturing the most important islands and peninsulas in the straits area, and areas on the opposite bank. In other cases, the capture of the straits zone can be organized by naval forces and airborne landing forces even before the arrival of the offensive groupings in the straits zone, with a subsequent buildup of landing forces and the consolidation of successes by approaching troops.

The importance of capturing a straits area requires considerable effort by an air army in support of the combat actions of front troops and of naval, tank, and airborne landing forces. Thus, for example, to capture one straits area in the southeastern part of the theater of military operations under consideration, the planning, which was based on a strategic map game and on front command-staff exercises of the Commander of the Odessa Military District, called for up to five air army sorties and an allotment of twelve to fifteen nuclear bombs, constituting eighteen to twenty percent of the nuclear munitions expended by the air army in the whole operation. The use of such a quantity of air army forces and means was necessary in order to effectively neutralize the enemy troops and equipment located in the fortified zone and its approaches, to destroy permanent enemy installations along the straits, to neutralize the anti-landing defenses in areas where we expect to land, and to support our own landings.

During exercises for the support of landings and combat operations of naval, tank, and airborne landings, the air army allotted up to eight nuclear bombs and planned for two or three air army sorties from the resources designated for the capture of the straits area.

We consider that the need for allotting these resources in support of landings will be dictated by the great diversity of missions to be performed by front aviation in this period of the operation, such as covering landing forces crossing by sea (on

the flight routes) and in the debarkation zones; supporting landings by destroying nuclear/missile means, coastal and field artillery, and ship groupings in the coastal area; neutralizing enemy antiaircraft missiles and antiaircraft artillery along the routes of air transport flights and in landing areas; and conducting aerial reconnaissance of landing areas and of enemy ground, naval, and aviation groupings which could offer resistance to the landings.

During this period units of the air army will also fulfil a series of missions in accord with the front offensive operation plans, missions which at the same time are carried out in support of landing forces. For example, the weakening of enemy aviation groupings, accomplished during a front offensive operation, is also important for successful landings and actions by landing forces. Combat with enemy reserves to delay their move to the main axis also has significance for our naval, tank, and airborne landings. We took this into account in determining the resources of the air army forces and means needed to support the crossing by front troops of the straits area in the southeastern part of the Southwestern Theater of Military Operations.

During an offensive operation on a maritime axis, front aviation, together with large units and units of front rocket troops, will be drawn into participation in naval operations. Air army large units and units participating in naval operations can assist the Navy by carrying out missions to neutralize enemy air defense means within the flight zone of naval missile-carrying aircraft; to destroy ship groupings at their bases and antisubmarine aircraft on their airfields; to destroy enemy naval bases and ports; to participate in the destruction of enemy landing forces on the approaches to the coastal area; and to provide air cover for our own ships, convoys, and landing detachments. Naval support missions have specific characteristics of their own and require special training for flight personnel, particularly in aircraft handling, location and recognition of targets from the air, and methods of destroying them.

Combat actions of air army large units and units to destroy enemy ships in a coastal zone, and his landings, will be carried out under conditions of strong enemy antiaircraft defense activity, particularly by surface ships armed with large quantities of anti-aircraft means. Thus, in the Black Sea basin alone, for the defense of the Black Sea straits our probable enemies are planning

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to maintain a permanent Turkish naval force of up to ten submarines, five or six destroyers, fifteen torpedo-artillery boats, and five or six mine and net barriers. In addition, they can be reinforced with five to seven frigates and destroyers (of which two or three are anti-aircraft missile ships) from the US Sixth Fleet. These ships have eight to twelve "Terrier" or "Tartar" launchers and one hundred to one hundred thirty single- and dual-mounted automatic weapons with calibers of 20, 40, 50, 60, and 76 mm. Therefore, flight personnel of front aviation must be trained to effectively overcome shipboard anti-aircraft defenses and to destroy ships while flying at quite low altitudes.

The destruction of enemy amphibious landings is carried out within the general scope of anti-landing defense by means of strikes against enemy concentration and embarkation points during his crossings at sea, while the landings are being repelled, and during combat with the troops which have landed. Front aviation, in close coordination with naval forces, long-range aviation, and front troops, usually carries out these strikes against landing detachments and convoys during their crossing at sea, building up its efforts against the landing force as it approaches the shore and also against the landing areas.

However, it must be kept in mind that amphibious and airborne landings will most likely take place during a period of intense actions by enemy ground, air, and naval groupings; this requires the commitment of the basic fighter and fighter-bomber forces to repel massive enemy air strikes and decisive actions by his ground forces. Under these conditions, the air army will not be able to commit sufficient forces to destroy the enemy amphibious landing force while it is in transit at sea. Therefore, we consider that the major effort of the front air army in combat with landing forces can be carried out only at the most critical moment, i.e., at the time the landing is made. We have provided for this in our plan for combat actions by allotting a reserve of forces and means of not less than ten percent of the flight reserve of fighter-bombers and fighter aircraft, and this was incorporated into the exercises for combat with enemy landings.

In carrying out combat missions to destroy enemy naval vessels and landings, front aviation may apply all the methods of combat actions: strikes against previously assigned targets, strikes upon request, and independent search and destruction of targets ("hunting"); although the principal method for fighters,

fighter-bombers, and bombers must be strikes upon request, since this method of combat actions is most expedient, particularly in a complex and rapidly changing situation.

Fighter-bomber and fighter attacks from complicated types of maneuvers correspond to a large degree to the conditions of combat action against landing ships and forces in debarkation areas. If nuclear bomb attacks are carried out by toss-bombing (at a toss angle of 45 or 110 degrees) and by dive bombing from a roll to a "zoom" (in an approach to the target from the lowest possible altitude), then during actions with conventional weapons the air attacks will take place from a gently sloping dive (at angles of 10 to 25 degrees) to destroy targets with cannon fire and rockets, and to drop high explosive bombs by the topmast method.

The fulfilment of aerial reconnaissance missions will be carried out under complex ground and air conditions of strong counteractions by air defense means, swiftly maneuvering troop actions, broad use of nighttime hours for the preparation and conduct of combat actions, complex meteorological conditions, and all types of camouflage. And both sides will have many groups of aircraft and individual aircraft in the air at the same time. Based on his combat actions in Vietnam and the Near East, the enemy may make wide use of active and passive radar jamming.

Because of the dynamics of combat actions, as well as the lack of information on specific targets when planning both initial and monitoring reconnaissance flights in support of front troops and the Navy, it will be necessary to make changes in the pertinent plans. Exercises conducted in the past show that during combat actions it is advisable to divide into two parts the aerial reconnaissance flights being planned and placed on the planning chart: one with the flight times and missions indicated; the other (twenty to thirty percent), for requests by the air army command post from Readiness No. 1 and No. 2.

Missions which are the least dependent on a change in the situation are assigned to scheduled flights; while flights from Readiness No. 1 are usually combat reconnaissance flights for ships with nuclear/missile means and for other targets in support of front and naval troops, and flights to monitor the combat actions of front and naval troops. Crews on Readiness No. 1

must be briefed in advance on their approximate targets and areas of reconnaissance, with specific missions given priority to take off or while in the air.

Reconnaissance aviation fulfils missions either in a simultaneous flight by entire reconnaissance units (when reconnaissance and re-reconnaissance of a great many objectives must be made within a limited period of time) or in periodic flights of single crews or pairs in the front zone. The methods of aerial reconnaissance are visual observation, photography of objectives at various scales (depending mainly on weather conditions and flight altitude), and radio and radar reconnaissance of ground and sea objectives.

Since reconnaissance aircraft of front aviation do not have systems which give accurate and current coordinates on the aircraft, visual reconnaissance most often consists of indicating coordinates on a large-scale map. This demands a high level of flight personnel training and practice by crews in comparing maps with locations, especially on flights at low altitudes and high speeds. We consider that with the growing demands for aerial reconnaissance data in modern operations, especially on a maritime axis, an urgent need has arisen to equip reconnaissance aircraft of front aviation with the following: a system that gives accurate and current coordinates; reconnaissance radiotechnical equipment for locating operating radar stations; a shortwave radio for communications at low altitudes; and secure communications equipment to transmit reconnaissance data with onboard radios to interested command posts.

Aerial reconnaissance on a maritime axis must be carried out in close coordination with the reconnaissance forces and means of naval formations. In planning aerial reconnaissance it is necessary to provide for the distribution of efforts along the main axes of naval and front troop actions; mutual exchange of information between naval aviation and the air army; and the supplying of the naval amphibious command with the necessary photomosaics and other data on the debarkation areas. During activities by air army reconnaissance aircraft in support of naval forces, an important point in working out coordination is to ensure that information from an aerial reconnaissance aircraft is received by the reconnaissance directorates and by the ships of naval large units and units in the preparatory period as well as during the

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course of the operation, particularly during amphibious landings, reconnaissance of naval forces, and combat with enemy landing forces.

We believe that even during peacetime, while working out joint problems during combat training, it is necessary to provide for unified coding of naval and land maps with a table of radio signals for the transmission of data from aircraft to command posts of naval forces and front troops.

In the majority of cases on maritime axes, the capture of straits areas and the crossing of fortified lines and areas will be accomplished by front troops. Since aerial reconnaissance is a means of operational troop support, it is charged with photographing, at various scales, fortified areas and lines and amphibious and airborne landing areas, and providing commands and staffs with precise large-scale maps or photomosaics. For this it is advisable to create a single center of operational reconnaissance in the air regiment and to include in it front cartographic subunits.

The need for strictly centralized control and precise coordination of aviation with front troops and naval forces is dictated by the broad scope of combat actions in an offensive operation on a maritime axis; the participation by the forces and means of all branches of the armed forces; the large number of varied missions performed by the air army; and the direct dependence of the success of the operation on the degree of success in destroying enemy nuclear/missile means, aircraft, ships, and landings.

Control of air army large units and units in an operation will be effected from command, forward and rear area control points of the air army deployed near corresponding control points. This control will be carried out as follows: through operations groups located in the command (forward) posts of combined-arms (tank) armies of the first echelon; at the command post of the commanding officer of the front air defense troops and at the command post of the fleet commander; and through the aviation representatives assigned to naval, air, and tank landing forces.

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In exercises conducted in the past we included the following in making up operations groups assigned the task of aviation control: combat training officers, operations officers, navigators, communications officers, reconnaissance officers, and officers from the meteorological service. However, the existing regulation, by which the air army headquarters assigns forces and means to aviation control points, each time by administrative order, cannot meet modern requirements. In our opinion it has become necessary to include in the air army control organization a fighter aircraft control point which is organizationally part of the operations group designated to control fighter aircraft from the command post of the commanding officer of the front air defense troops aircraft control points, which are also responsible for coordination with troops (according to the number of combined-arms and tank armies) and naval forces, and which, even in peacetime, are maintained in full strength with personnel and radio communications equipment so that they will be able to carry out their assigned tasks immediately upon the onset of combat actions.

The organization of the coordination of an air army on a maritime axis has several special features which are related to the participation of naval forces in the operation and to the fulfilment of missions which are characteristic for such an axis. Under these conditions an air army coordinates closely with one or two combined-arms armies attacking on the coastal flank, with naval forces, air defense troops, long-range aviation, military-transport aviation, and with amphibious forces.

Coordination of the forces and means participating in a front offensive operation on a maritime axis is organized by the front troop commander on the basis of orders from the Supreme High Command. Coordination directly along the maritime axis consists mainly of destroying enemy ship groupings operating in the coastal zone; supporting amphibious landings; providing air cover for naval transports, ports, naval bases, and other naval installations; conducting aerial reconnaissance over the water; and rescuing aircraft crews downed at sea. Besides this, joint air and naval actions are coordinated in combat with enemy amphibious forces in their embarkation (loading) areas, during sea crossings, and in landing on shore.

In our opinion, the organization of coordination of amphibious landings is most complicated. As was learned from exercises, the



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reason for this is that modern amphibious landings may be combined ones, consisting of naval, tank, and airborne forces. The use of such landings has become an established part of joint exercises of maritime military districts and fleets, but they are still not single, organic units. During landings one often senses a certain isolation in each group and a strong tendency toward independence.

In organizing the coordination of air army large units and units with the forces and means assigned to a naval operation, the following matters must, in our view, be reflected in a unified plan of coordination of front troops and naval forces in an offensive operation:

- the composition of naval and tank landing forces; the combat formation of ships and tanks crossing the sea; the time and routes for sea crossings by naval and tank landing forces; the time required to reach debarkation areas, to seize a beachhead, and to debark our landing forces;

- composition, combat formation, routes and type of military air transport flights for airborne landings, as well as the time for passing control landmarks and for debarkation;

- sectors of enemy air defense which our military air transport must cross;

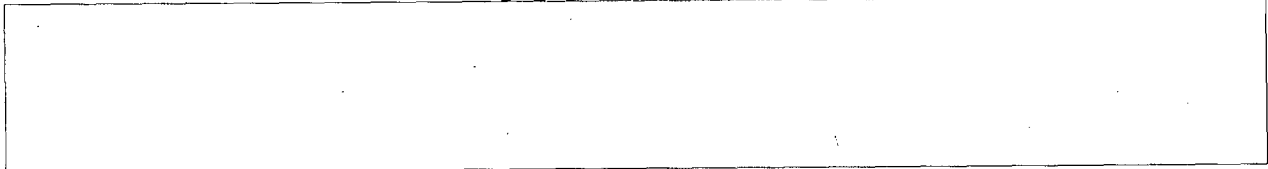
- forces and means allotted by the air army to provide cover for landing forces in transit at sea (on air transport flight routes) and in debarkation areas, to neutralize enemy anti-landing defenses, to support combat actions after debarkation; and air army forces and means allotted for combat against air defenses in support of our military air transport;

- procedure for providing cover for landing forces in embarkation (loading) areas, in transit at sea (on flight routes), and in debarkation areas;

- method of controlling fighter aircraft while providing cover;

- procedure for mutual exchange of information concerning the air, ground, and naval situation;

- organization of rescue operations for crews forced down over water;



- composition and location of operations groups (representatives) from the air army, long-range aviation, transport aviation, and the fleet during the debarkation of an amphibious landing.

A plan for the coordination of front troops and naval forces in an offensive operation must be worked out parallel with the preparation of an operational plan by the front staff and representatives of the other staffs concerned. Lest such a plan becomes unwieldy, it should reflect the problems of coordination in basic outline only. In our opinion, the details of coordination must be treated as attachments to the basic plan in the form of separate documents (for example, the debarkation of naval, tank, and airborne landing forces, the capture of a straits area, and the defense of the seacoast). This will greatly simplify the working out of coordination problems by staffs and will facilitate their subsequent refinement.

We have presented some special features of the combat use of front aviation in a front offensive operation on a maritime axis, conducted without nuclear weapons. The individual positions presented in this article require further development, refinement, and clarification during the application of practical measures in the operational training of the staffs of other military districts.

