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CENTRAL INTELLIGENCE AGENCY  
WASHINGTON, D.C. 20505

18 December 1975

MEMORANDUM FOR: The Director of Central Intelligence

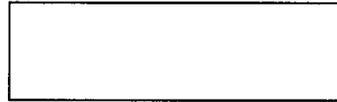
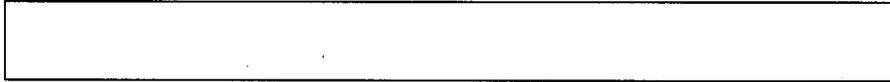
SUBJECT : WARSAW PACT JOURNAL: Tactical Exercises  
of Air Defense Large Units with Field Firing

1. The enclosed Intelligence Information Special Report is part of a series now in preparation based on articles from a SECRET Soviet publication called Information Collection of the Headquarters and the Technical Committee of the Combined Armed Forces. This article reviews Warsaw Pact air defense tactical exercises conducted in 1970-1971 to raise the combat readiness and effectiveness of the forces in repulsing surprise air strikes. Two-stage exercises were held at the corps and division level, and included field firings of surface-to-air missile units and fighter aviation in situations closely approximating actual warfare. The author provides detail on the planning and conduct of these exercises, which covered such problems as the rebasing of a large unit and the practical cooperation of missile and aviation elements in a single zone. This journal is published by Warsaw Pact Headquarters in Moscow, and it consists of articles by Warsaw Pact officers. This article appeared in Issue No. 2, which was published in 1971.

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. For ease of reference, reports from this publication have been assigned

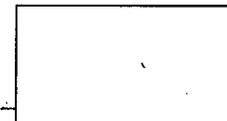
William E. Nelson  
Deputy Director for Operations

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# Intelligence Information Special Report

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COUNTRY USSR/WARSAW PACT



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SUBJECT

WARSAW PACT JOURNAL: Tactical Exercises of Air Defense Large Units with Field Firing

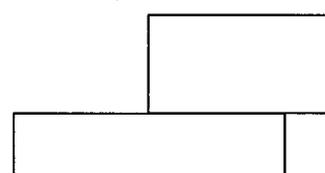
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Summary:

The following report is a translation from Russian of an article from a SECRET Soviet publication called Information Collection of the Headquarters and the Technical Committee of the Combined Armed Forces. This journal is published by Warsaw Pact Headquarters in Moscow, and it consists of articles by Warsaw Pact officers. This article was written by Colonel General of Aviation I. D. Podgorny. This article reviews Warsaw Pact air defense tactical exercises conducted in 1970-1971 to raise the combat readiness and effectiveness of the forces in repulsing surprise air strikes. Two-stage exercises were held at the corps and division level, and included field firings of surface-to-air missile units and fighter aviation in situations closely approximating actual warfare. The author provides detail on the planning and conduct of these exercises, which covered such problems as the rebasing of a large unit and the practical cooperation of missile and aviation elements in a single zone. This article appeared in Issue No. 2, which was published in 1971.

End of Summary

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Tactical Exercises of Air Defense Large Units  
with Field Firing

by

Colonel General of Aviation I. D. Podgorny,  
First Deputy Commander of the Air Defense Forces  
of the Member States of the Warsaw Pact

During 1970-1971, tactical exercises of air defense large units began to be conducted within the air defense forces of the Warsaw Pact allies with field firings by surface-to-air missile units and fighter aviation. This was occasioned by the need to comprehensively train such major large units as air defense divisions and corps to conduct combat actions under the complex conditions of a modern war. The probable enemy possesses large forces for aerospace attack consisting primarily of modern types of missiles and aircraft, which are kept at a high level of combat readiness, as well as various means for conducting radioelectronic warfare.

The actions of enemy aviation in a war, both with and without the employment of nuclear weapons, obviously will consist of massed attacks carried out at high speeds in short periods of time by a large number of small groups of aircraft echeloned by altitude and depth, under the cover of intensive radio jamming, and with the employment of different types of maneuvers in the zones of operation of air defense means. The great mobility which the enemy possesses makes it possible for him to frequently change the operational and tactical methods of operation of his forces.

Under these conditions, combat actions of the air defense forces of the country will be characterized by exceptional intensity, transience, abrupt changes in the air situation, complexity of battle, many varieties of forms and methods for conducting it, and by the employment of much diverse and complicated combat equipment.

In order to be capable of conducting such actions, exceptionally high combat readiness and a corresponding level of training for all personnel are required of the air defense forces.

One of the main elements in training the air defense forces is operational-tactical training.

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This training is called upon to continuously improve command skills, the training of staffs, and the knowledge and skill of all personnel in using combat equipment, armament, and means of control.

Raising the combat effectiveness and combat readiness of the forces in all possible ways requires that close attention be given to the level of combat training of personnel, primarily command personnel. For generals and officers of the air defense forces, the main task of operational-tactical training is their acquisition of solid, practical skills in efficiently organizing the conduct of modern combat actions of units and subunits, in cooperating closely and in controlling a battle under the complex conditions of a situation with the maximum utilization of the combat capabilities of equipment and armament.

Under modern conditions, the role of the commander as the organizer of battle has grown immeasurably. The complexity of organizing combat actions, implementing the control of the forces, and coordinating their actions requires that commanders have extensive knowledge, be highly flexible and efficient in leadership, and possess the ability to foresee the trend of developments in order to more effectively ensure the fulfillment of a combat task. These requirements pertain to all commanders, especially commanders of air defense large units. Modern air defense corps and divisions are combined-arms large units which include units and subunits of various branch arms and special troops. These large units are designated for defense of the most important axes, areas, and installations, and constitute the basis of the air defense system of the entire country.

It is precisely at this level that problems are being the most fully resolved concerning the organization and planning of combat actions of units of different arms of the air defense forces, their practical cooperation by means of the immediate distribution of targets between the surface-to-air missile troops and fighter aviation, and concerning the execution of operational-tactical maneuvers by forces and means; the foundations are being laid for the centralized control of the forces. Here, problems are also being fully resolved concerning the comprehensive training of the forces to conduct a modern battle.

Therefore, exceedingly great importance is attached to training air defense commanders and large units, as organizers of battle and the training of staffs, to confidently control the combat actions of the forces.

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It is known that the operational-tactical training of troops is organized and conducted in various ways. Under peacetime conditions the conduct of exercises with troops is particularly important. The actual course of exercises is to a certain extent limited in nature because of safety measures taken to protect the troops and population; nevertheless, based on the results of exercises, it is entirely possible to judge the status of the combat readiness and combat effectiveness of the troops and draw appropriate conclusions. In order that these conclusions do not diverge from a realistic estimate of the state of troop preparedness to conduct combat actions, it is necessary to prepare and conduct exercises under conditions as close as possible to those of an actual battle.

Up to now, we have had the capability to conduct field firings only by separate subunits and units of surface-to-air missile troops and fighter aviation. In the same way, tactical exercises have been conducted for regiments (brigades) with field firings under firing range conditions with the participation of reduced crews from command posts. At these exercises, the work of commanders and staffs was directed basically at controlling subunits in battle. The appropriate chiefs of branch arms participated in these exercises and commanders of air defense corps and divisions performed as directors of firings.

This principle of training troops by moving from the simple to the complex during this stage of their development has fully justified itself. Attention during this period was mainly focused on training surface-to-air missile battalions to fulfil combat tasks. This had favorable results. The level of tactical training of the commanders and staffs of regiments and brigades, and the effectiveness of field firings have increased from year to year. However, the commander and staff of a large unit were deprived of the opportunity of solving an entire complex of troop control problems. Therefore, it became necessary to conduct tactical exercises with field firing on the scale of an air defense large unit.

For this purpose, basic methods were worked out and material conditions were created on the firing range. Subsequently, experimental exercises (for divisions and corps) were carried out which were initially conducted with field firings by surface-to-air missile troops only; fighter aviation units were assigned later. As a result, such an important factor in the organization of combat actions as practical cooperation between units of surface-to-air missile troops and fighter aviation in a single zone began to be dealt with thoroughly.

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During such an exercise, a situation is created which is close to the actual situation of an air attack, in which target aircraft attack, operating from different directions and altitudes and employing maneuvers and evolutions which correspond with tactical views held by the probable enemy. At the same time, the necessary number of LA-17 guided missile targets and RM-205 missile targets, which operate at altitudes of 300 meters up to 20,000 meters and at speeds up to 2,000 kilometers per hour, are launched. All this happens in a very short amount of time and under conditions of radiotechnical jamming. In order to fulfil fire tasks under such conditions, a high level of training and the coordination of the combat actions of the entire air defense large unit are required.

Tactical exercises of air defense corps and divisions with field firings by units of surface-to-air missile troops and fighter aviation on firing ranges are the highest form of operational-tactical training for air defense large units in conducting combat actions under modern conditions. They ensure the development in the commander of the ability to take decisive action and use initiative, give the commander and staff practice in accomplishing both operational-tactical and fire tasks, make it possible to improve the forms and methods of controlling a battle under conditions of the close cooperation of units of aviation and surface-to-air missile troops, and also aid in better studying the probable enemy.

Tactical exercises, as the highest level of training and combat teamwork of air defense units and large units, strengthen the morale-psychological training of personnel and commanders at all levels, as well as their emotional-volitional qualities. They also develop the ability of personnel and commanders to make sound decisions in a short amount of time and to display stamina and self-control in a complex situation which approximates actual conditions.

At these exercises, the provisions of regulations and manuals are practically verified, as are different tactical-technical calculations, capabilities of combat equipment and armament, and also the various ways of organizing and conducting a battle. From the results of these exercises, it is possible to evaluate not only the level of training of units and an entire large unit, but also to more fully determine the correctness of the theoretical premises and methods of training the troops which are the basis for the development of the air defense forces of the country and for the organization of air defense, to reveal weak links within the air defense system, and to take necessary measures for their elimination.

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However, the basic aim in conducting tactical exercises with field firing is to further raise the level of combat readiness and combat effectiveness of the troops for repulsing surprise strikes by an air enemy under complex situational conditions.

Taking these circumstances into consideration, as well as the fact that tactical exercises of air defense large units with field firing on a firing range require significant materiel expenditures and a large allocation of personnel and equipment, each such exercise must be prepared and conducted especially carefully; basic work for the training is carried out in garrison areas.

As is known, such exercises are carried out according to the plan of combined undertakings of the Combined Armed Forces of the member states of the Warsaw Pact. An exercise is organized and directed by the Commander of the Air Defense of the Country or by his deputy. Within each air defense large unit, a tactical exercise with field firings by units of surface-to-air missile troops and fighter aviation on a firing range probably should be carried out once every two or three years.

These exercises, as any new undertaking, require from commanders, chiefs of staff, and chiefs of arms of the air defense forces of the country a lot of work, initiative, and a creative approach to the solution of the many unexpected problems that arise; thus, they are a school for commanders of air defense large units and promote the comprehensive development and improvement of commanders' skills in controlling a battle.

Basic recommendations for preparing and conducting exercises are stated in "Principles for Preparing and Conducting a Tactical Exercise for a Division (Corps) of the Air Defense of Warsaw Pact Countries with Field Firings by Units of Surface-to-Air Missile Troops and Fighter Aviation", which was published in February 1970.

In accordance with these Principles, a tactical exercise for air defense corps and divisions with field firings should begin at the garrison areas of the troops with the assignment of a full-strength air defense corps (divisions); the exercise should conclude on a firing range with practice and field firings by assigned units of surface-to-air missile troops and fighter aviation against a uniform tactical background under the direct command of the commander of the air defense corps (division).

The theme and training goals of an exercise cannot be standardized for all the air defense large units of a given country; they depend on the

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nature of the combat tasks carried out by a large unit, on the specific features of the area of combat actions, on the capabilities and tactics of operation of the probable air enemy in a given area, on the level of training of the staffs and troops, as well as on the combat training tasks for the current year.

Work in preparing the staff of the directing body, the umpire staff, staffs, the command post, and the troops for an exercise is organized and monitored by the director of the exercise. The chief of staff of the directing body organizes the working out of materials for the exercise, the selection and training of umpires, and the monitoring of the preparation of staffs and troops for the exercise. Chiefs of branch arms and their departments and services are assigned for this work.

Of special significance is the high-quality formulation of planning documents, which include: the calendar plan; the concept of the exercise; the plan for conducting it; the task for the exercise; instructions and requests for the allocation of aircraft to represent the air enemy in each stage of the exercise; the plan for party-political work; the plan for rear, special, and combat support; work plans for the reconnaissance group and the flight safety group during the exercise; plans and calculations for rebasing units and subunits; control and communications diagrams for the directing of the exercises; the schedule of high-priority reports; secure troop control documents; and other working documents. The basic ones are the calendar plan of training, the concept, and the plan for conducting the exercise.

The experience of tactical exercises conducted with field firings shows that their quality depends a great deal on the work of the reconnaissance group. The Staff of the Air Defense of the Country assigns a reconnaissance group for the purpose of determining prerequisites for the deployment of arriving units and subunits, organizing the control system, and assuring flight safety for aviation on the firing range. This group carries out its work directly on the firing range 1.5 to two months before the exercise begins.

Tactical exercises with field firings are carried out in two stages with air defense large units of member states of the Warsaw Pact:

First stage -- the exercises are carried out in troop garrison areas with air defense large units at full strength, but without field firings. At this stage, we recommend covering such elements of a combat task as the bringing of the troops to readiness while simultaneously committing them to



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battle, the mobilization expansion of units and subunits, the conduct of combat actions against a specific opposing enemy with the employment of weapons of mass destruction and jamming of radioelectronic means, the restoration of a broken grouping, and other problems.

For this, an air situation is set up by decision of the air defense commander on the basis of an evaluation of the air enemy opposing the air defense corps (division), and of his probable tactics of operation.

During the first stage when they are located at the command post of the air defense large unit, the director of the exercise and the staff of the directing body observe the actions of the trainees and direct the exercise, present hypothetical situations covering problems being worked out during the exercise, control the actions of the aviation of the attacking side, conduct the role playing, evaluate the actions of the commander, staff, and large unit as a whole, and also supervise the work of the umpires.

At the end of the first stage, a tactical prerequisite is established which is essential for rebasing an air defense large unit to a new area of combat actions. To make the exercise more instructive, it is advisable to work out all problems connected with rebasing an air defense corps (division) at the end of the first stage. For this purpose, units and subunits participating in the second stage of the exercise can be moved to alternate airfields and positions against a tactical background (involving interceptions of air targets, the transfer of control to adjacent units, etc.).

Having received the task for the conduct of combat actions in the new area, the commander of the air defense corps (division) analyzes it and gives the necessary instructions for redeployment. The staff of the air defense corps (division) makes the necessary calculations and formulates the plan for rebasing, requisitions the necessary amount of transport, and organizes the rebasing.

If there is time at the end of the first stage, the director of the exercise can conduct a short critique with command personnel from the air defense corps (division) and with the staff of the directing body, and give instructions for the elimination of the shortcomings exposed which may influence the quality of the second stage of the exercise.

The first stage can last one or two days.

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Second stage (two or three days) -- this stage concerns the organization and conduct of combat actions of an air defense large unit in the new area, the firing range. At this stage, we recommend working out problems concerning the preparation of units, subunits, staffs, command posts, and control and guidance posts to carry out a combat task in the new area with field firings. Special attention should be directed to working out problems of the practical cooperation of surface-to-air missile troops and fighter aviation in a single zone.

The air situation during the second stage is set up in conformity with the conditions of permanent troop deployment.

During the second stage, the following are assigned for the exercise: at least two or three surface-to-air missile regiments (brigades), each composed of two or three surface-to-air missile battalions, and the reduced crews of a technical battalion and command post; at least one or two air regiments made up of one or two air squadrons (not less than 80 percent of the listed strength of the flight crews), and the reduced crews of a command post and guidance post; and one radiotechnical regiment made up of seven to nine radar companies, and the reduced crew of the command post of the regiment.

The command, reduced crews of the command post and the reconnaissance-information center, and the communications center are allocated to the exercise from the headquarters of an air defense corps (division). All units and subunits of surface-to-air missile troops, fighter aviation, and radiotechnical troops are fully supplied with combat equipment and ammunition.

Experience in conducting similar tactical exercises shows that the indicated composition of an air defense corps (division) allocated to the exercise during the second stage ensures the carrying out of the assigned task, which is similar to an actual task; in addition, a certain number of units and subunits remain in the garrison area to perform the functions of combat alert. When it is considered necessary during the second stage of the exercise to reinforce those on combat alert in the remaining units, subunits, and combat crews of the command post, this is done by drawing upon the forces and means of another air defense large unit. The plan given for setting up an exercise is not a model, but only one of the ways to organize such exercises. There can also be other ways.

On the arrival of the air defense large unit in the area of the firing range, its commander, after a comprehensive evaluation of the situation,

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works out a decision for the conduct of combat actions in the new area. After approval of this decision by the director of the exercise, combat tasks are assigned to the units, and the staff works out documents for planning the combat actions (the list of documents is determined by the staff of the directing body on the basis of the actual capabilities of the operations groups of the staffs of the large unit and units).

At the end of the preparatory period on the firing range, the commander of the air defense corps (division) reports to the director of the exercise that his large unit is completely ready to continue the exercise with field firings.

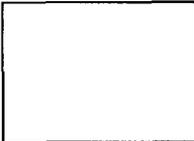
Combat actions on the firing range begin with a combat alert and the sudden appearance of air targets. The commander, having evaluated the situation, gives the order to bring the air defense units and large units to combat readiness and makes a decision for conducting the combat actions.

At this stage of the exercise the director of the exercise, the staff of the directing body, and the umpires monitor the actions of the commanders and staffs (crews of the command posts) in evaluating the situation, the correctness of the decisions made and of the calculations for the destruction of air targets, the quality of the execution of fire tasks, the control of units and subunits, the cooperation of surface-to-air missile troops and fighter aviation in a single zone and their observation of safety measures when conducting field firings at targets, as well as other problems of combat activity of the troops.

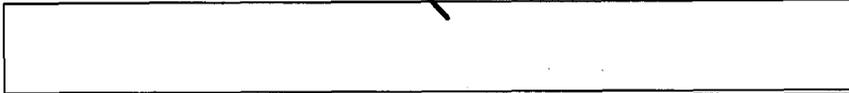
In this case, special attention is paid to monitoring the reliability of radar information on the coordinates of target aircraft, one's own fighters, and radio-controlled targets while bearing safety factors in mind.

The second stage of the exercise on the firing range concludes with the conduct of a preliminary critique of the exercise and the practice and field firings; participants in the exercise, the directing body of the firing range, and officers from the group of instructors are brought in for this critique.

The principal aim of the critique is to evaluate, based on a thorough analysis of the exercise and its results, the state of combat readiness, the level of training of units, subunits, and command personnel, and the teamwork of staffs (crews of command posts, control posts, and guidance posts) in carrying out the combat tasks assigned. A correctly conducted



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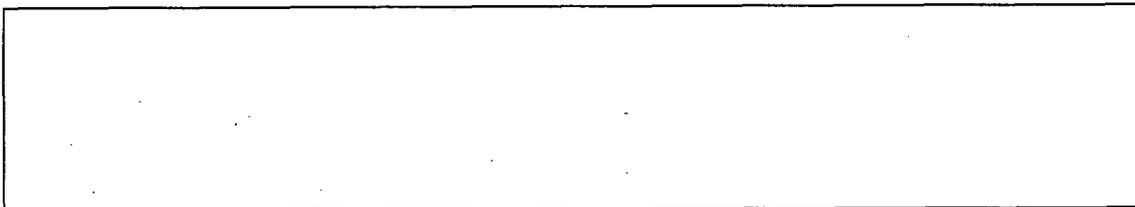
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critique is an important element of the process of training commanders and staffs.

A high-quality critique of the exercise develops the trainees' ability to have a critical and creative attitude toward their actions and, in the final analysis, aids in raising the level of combat readiness of the troops. In addition, the critique of the exercise is of great training-educational importance and enables the director to personally instruct and directly influence subordinate generals and officers. This requires the directors of the exercise and the staff of the directing body to approach the preparation of materials for the critique with all thoroughness and seriousness and to conduct it instructively.

The director of the exercise personally conducts the critique.

In conclusion, it should be noted that exercises of air defense large units are an important stage in the training and further improvement of troops of the unified air defense system of the Warsaw Pact member states.



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