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Ways to Reduce the Time Required to Plan the Movement of Troops of an Army over a Great Distance

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The necessity of immediate movement of troops of operational formations at high rates of speed from the interior of the country for the purpose of their timely arrival at an area of combat operations to reinforce the first operational echelon urgently requires that such a movement be planned in advance, even in peacetime.

However, the experience of operational-strategic exercises and war games shows that with the beginning of military operations, especially when they begin with surprise massed nuclear strikes, the situation can be altered abruptly and as a result there is required not only a more precise definition of the plan worked out beforehand but also the adoption of a new decision and planning for the movement of large units and units of combined-arms and tank armies. Under such conditions planning will most often be carried out in an extremely limited time, parallel to bringing troops to full combat readiness and eliminating the aftereffects of enemy nuclear strikes.

The efficiency of the work of the commander and staff of the army and of the subordinate commanders and staffs during this period must be such as not to delay the beginning of the movement of troops. During the time of bringing forces to full combat readiness, it is necessary to plan out the movement as a whole and to convey the tasks to the units and subunits. In this way the forces can immediately begin movement into the area of combat operations without being exposed to danger of contamination from enemy nuclear and chemical weapons in combat alert assembly areas.

Calculations and the experience of exercises conducted in different military districts in 1963 to 1967* show that in all four to five hours are needed to bring divisions kept at wartime TO & E to full combat readiness, but planning the movement of the troops of an army takes, on the average, 14 to 15 hours. In this time troops could advance 200 to 250 kilometers, accomplishing a march of a day's march in depth. This is why research into ways to reduce the time and increase the efficiency of the work of the

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*During our preparation of this article, materials of nine command-staff exercises and six war games were analyzed.

commander and staff of the army in planning the movement of forces over a great distance takes on special urgency.

Analysis conducted with the aid of network models of the functioning of control organs at the army - battalion level shows that after receiving the directive of the front, generals and officers of the army field headquarters and the subordinate commanders and staffs do not immediately set to work.

In the actual practice of operational preparation, the army commander, receiving a front or district directive for movement, studies the task together with the chief of staff and the chief of the operations department and determines the concept of the movement. Then an operations briefing of the command personnel of the field headquarters takes place, and instructions are issued about the preparation of data and calculations for making a decision. Only after this, usually after three to four hours and sometimes more have passed, do the chiefs of the staff departments, of branch arms, and special troops and their subordinate officers set to work in organizing and planning the movement. Given such methods and work sequence, the loss of time in the staff of an army can reach 240 to 320 man-hours, and in the field headquarters of an army 720 to 960 or more, which constitutes 30 to 35 percent of the total working time, lost on the organization and planning of a movement.

Research shows that in the departments of the staff and the field headquarters of an army a significant volume of work on the organization and planning of the movement of troops can be already completed before the operations briefing conducted by the commander or chief of staff of the army. Thus, roughly, out of over 500 kinds of calculations and jobs, about 140 of the most important of them can be completed after familiarization with the task of the army without waiting for a decision to be made. This will allow the expenditure of work time in the staff of the army to be reduced to 40 to 50 man-hours, and in the field headquarters, to 120 to 160 man-hours, i.e., six to 6.5 times less.

Knowing the task of the army, the chiefs of the staff departments, branch arms, and services can, even before the operations briefing, prepare their working maps and plot on them the necessary data indicated in the directive of the front; study the task received; specify the tasks and work places of subordinate officers; collect data about the position and status of large units and units, and inform their commanders and staffs about the nature of the task before them and the time of preparation for departure; determine the number and condition of routes and the nature of large

natural boundaries in the zone indicated; specify the make-up of the enemy grouping and the nature of its possible operations; organize the work of subordinate officers in the preparation of calculations and suggestions for the decision to be made; prepare preliminary calculations of the march; organize communications with the staffs of cooperating operational formations; and carry out other tasks.

For example, in one operational-strategic exercise of the Red Banner Far East Military District, the officers of the field headquarters of the 15th Army (in the game) set to work on the organization and planning of a movement 35 to 40 minutes after, and in the 12th Tank Army (in the game) in an exercise of the Belorussian Military District in 1965, 25 to 30 minutes after receiving a directive of the front. Incidentally, in the 15th Army, two copies of the directive of the front were received. The commander of the army, the chief of staff, and the chiefs of the operations department, intelligence, and engineer troops worked with one copy, and the chiefs of the primary staff departments, branch arms, and services worked at the same time with the other. The commander of the 12th Tank Army familiarized the chiefs of the primary staff departments, branch arms, and services with the contents of the directive of the front in the course of 15 to 20 minutes after its receipt. With this method loss of working time in the control organs of the army was almost fully prevented and the period of organizing the planning of the movement could be shortened to six to ten hours.

A significant reduction in the period of planning the organization of a movement is attained by carrying out parallel planning at all levels of control. For this it is necessary to get the extremely necessary preliminary data for planning to subordinate commanders and staffs in good time. These data include primarily the method, axis, and routes of movement, time of preparation for the march and departure times, the area of the first day-time rest and the time of the beginning of the march.

The division commander and staff, knowing the method and axis of a movement and the time of preparation, can indicate the basic measures concerning the preparation of the routes and the forces and means necessary for this, determine the grouping of forces and means on the march and in the rest area, make calculations for the march, study the nature of large natural boundaries, take note of methods and times for negotiating them, make a decision, plan out the march along general lines, organize reconnaissance and the traffic control service, send out a reconnaissance group to the rest area, and begin preparing the units for the march. 50X1-HUM

The significance of the above-mentioned preparatory data becomes even greater for commanders and staffs of regiments and battalions. A battalion commander, knowing the time of readiness and the axis of movement over a great distance can take steps to prepare for the march, including drawing up the column.

Preliminary orders with an indication of the method, axis, and readiness time for movement will not exceed 15 to 20 words in number (10 to 15 groups). To decode and convey them to units and large units requires, accordingly, 30 to 60 minutes.

Consequently, within 1.5 to two hours after the army receives a directive of the front, preparation for a long march can be begun immediately in subunits as well. At the same time staffs of large units and units will be carrying out work on the organization, planning, and preparation for the movement.

An important way to reduce the period of planning a movement and increase the working efficiency of the commander and staff of an army is the allocation of tasks to the large units without excessive detail. According to the experience of exercises and war games, for a division for each day's march there are determined and indicated: the main and alternate routes of march or zones of movement; the line of departure and movement phase control lines after two or three hours' advance and the time of crossing them; the daytime (night-time) rest area and time of arrival at it; areas and times of long and sometimes of short halts; the order and times of crossing large natural obstacles.

With such a detailed treatment of the task of a division advancing, for example, by two routes, it is required for the depth of a day's march to indicate 30 to 40 local features and up to ten times for crossing designated boundaries and arrival at assigned areas. As a result, the movement of a division having a march formation on the order of about 100 kilometers long is with unjustified frequency regulated as to place (every 30 to 60 kilometers) and time (every two to three hours). All this not only hampers the independence and initiative of the subordinate commanders and staffs but also greatly increases the volume of work and expenditure of time on the preparation of calculations in the staff of the army and the subordinate levels of control. At the same time, during the movement of forces over a great distance, such strict regulation of the movement of large units as to place and time is not required.

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The division commander and staff are fully able to plan the movement of units independently, especially for the first days' marches, when contact with enemy ground forces groupings and his large-scale airborne or amphibious landing forces is not very likely. For this it is necessary to inform them of the routes (zone) of movement and the beginning of the march, the rest area and the arrival time there, and also the security measures according to the army plan. Movement of large units under these conditions in the interests of fulfilling the operational plan is regulated in sufficient detail by the size and period of the day's march.

In the case where large units and units subordinate to the army or front move forward immediately after a division, it is advisable for the division to determine the beginning of the movement, periods of crossing large natural boundaries, times or areas of halts and one to two movement phase control lines for the movement to prevent bunching up of troops, especially before "bottlenecks".

A significant reduction of the number of fixed lines and areas for large units, as well as the times for crossing them will sharply reduce the length of planning in the army and the time of conveying tasks to the large units.

In the practice of operational preparation, the movement of an army is planned in detail for the entire depth by day's marches. The planning of each of them cannot be equally complete, as it is difficult or even impossible to foresee in every detail the probable changes of the situation in the area of combat operations and on the routes of the movement, especially towards its completion.

Abrupt and rapid changes in the situation in the zone of movement will necessitate the introduction of substantial changes in the plan, amplification or assignment of new tasks to the large units and units, especially for getting around or over extensive zones of contamination, areas of massive destruction, zones of flooding and large natural barriers. Therefore it is advisable in the army, based on the concept of the commander, at first to plan the movement of forces in detail only for the first two or three days' marches and along general lines for the subsequent marches. The tasks for the large units and units are assigned for one march and they are briefed on the axis of movement for the subsequent day or two.
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This will allow tasks to be defined and conveyed to large units and units for the first day's march significantly before the movement of the

troops of the army is planned for the entire depth. In this case, the beginning of a movement is not made to depend on the completion of the entire plan, and the goal and concept of the army's move also are kept secret. Experience with a series of exercises shows that the first day's march of the troops can be planned in 2.5 to three hours in an army, and in a division in 4.5 to five hours after receipt of a directive of a front. This time does not exceed the periods of bringing large units to full combat readiness.

In the work of the control organs of the army and division during planning of a move over a great distance, considerable time has usually been taken up by the making of various calculations, especially of the depth of the march columns, the time of crossing designated lines and the time of arrival at the assigned areas. The special feature of these calculations is that the initial data needed to make them are relatively constant in value. Therefore, the staff of the army and the division staffs can prepare beforehand tables, schedules and nomograms with which to speed up significantly the making of calculations in planning a movement. Thus, having data on the number of vehicles in subunits, units, and large units, it is possible to calculate beforehand the depth of their columns depending on the speed of movement and the amount of distance between them. Time for calculations of the march is thereby reduced by about 15 to 20 percent.

Estimates show that the general volume of work by the staff of an army in making all the necessary calculations for a day's march will constitute roughly 350 to 500 mathematical operations, and for the entire depth of the movement 1,750 to 2,500. With manual computations it has to take a significant number of officers a long time. So recently various calculators have been used more and more for calculations of the march.

The effectiveness of employing keyboard calculators and especially electronic computers in these calculations is confirmed by the following examples. In the exercise ELEKTRON, to estimate the depth of the columns of the march formation of an army manually required two hours. The same calculations were performed on a keyboard calculator in 40 minutes, that is, three times as fast. In one of the practical problems in the Military Academy i/n M. V. Frunze the march of a tank division for a 600-kilometer depth was calculated with the aid of an electronic computer in 20 to 25 minutes; at the same time, the manual method took about eight hours, that is, 19 to 24 times as long. It is also well known that calculations of the march performed with the aid of the electronic computer enjoy a high de50X1-HUM of accuracy.

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At the same time, experience in using electronic computers in combined-arms staffs has revealed that officers of combined-arms staffs do not always have the necessary practical skills in the preparation of problems for solution on the electronic computer. Therefore, not uncommonly, the time lost in programming the problems and fulfilling the preliminary operations exceeds machine time ten to 15 times and more. The paramount task of staff officers is the quickest possible mastery of existing and forthcoming computers, which will facilitate a sharp increase in the working efficiency of organs of control.

In conclusion, we stress that the ways we have looked at to reduce the time required for planning a movement of troops of an army can to a definite degree contribute to a significant reduction of the gap that has developed between the period of bringing large units and units to full combat readiness and the time spent by control organs in the organization of the movement.

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