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CENTRAL INTELLIGENCE AGENCY
WASHINGTON, D.C. 20505

14 June 1978

MEMORANDUM FOR: The Director of Central Intelligence
FROM : John N. McMahon
Deputy Director for Operations
SUBJECT : MILITARY THOUGHT (USSR): Some Problems
of Reconnaissance in the Preparation of a
Front's First Offensive Operation

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". The authors of the article first discuss the probable deployment times and movements of various types of NATO missile battalions and batteries in their preparation for a meeting engagement in the zone of a front at the beginning of a war. Then they explain how long-range reconnaissance groups and reconnaissance aircraft of a front and army can be employed most effectively prior to a meeting engagement to locate enemy targets. They conclude by stressing the need to improve aerial reconnaissance equipment. This article appeared in Issue No. 4 (65) for 1962. The Russian-language version was disseminated as FIRDB-312/03608-74.

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 the

[redacted] Codeword [redacted]

John N. McMahon

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Page 2 of 14 Pages

TS #788134
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Intelligence Information Special Report

Page 3 of 14 Pages

COUNTRY USSR

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SUBJECT

MILITARY THOUGHT (USSR): Some Problems of Reconnaissance in the Preparation of a Front's First Offensive Operation

SOURCE Documentary

Summary:

The following report is a translation from Russian of an article which appeared in Issue No. 4 (65) for 1962 of the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal "Military Thought". The authors of the article, Colonels P. Chernetsov and A. Khorenkov, first discuss the probable deployment times and movements of various types of NATO missile battalions and batteries in their preparation for a meeting engagement in the zone of a front at the beginning of a war. Then they explain how long-range reconnaissance groups and reconnaissance aircraft of a front and army can be employed most effectively prior to a meeting engagement to locate enemy targets. They conclude by stressing the need to improve aerial reconnaissance equipment.

End of Summary

Comment:

After 1962 the SECRET version of Military Thought was published three times annually and was distributed down to the level of division commander. It reportedly ceased publication at the end of 1970. The Russian-language version of this article was disseminated as FIRDB-312/03608-74. The article to which it refers was disseminated as FIRDB-312/01150-78.

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Some Problems of Reconnaissance in the Preparation
of a Front's First Offensive Operation

by
Colonel P. CHERNETSOV
Colonel A. KHORENKOV

In the article of Colonel R. SIMONYAN, published under the above title in the Collection of Articles of the Journal "Military Thought", No. 1 (62) for 1962, it was correctly pointed out that in preparing an initial front operation, the main task in obtaining reconnaissance data about the enemy should be given to the operational reconnaissance of the border military district (front), which is carried out in cooperation with strategic reconnaissance. A careful analysis of these data during peacetime will permit us to determine the grouping, the important targets for destruction, and the probable nature of enemy combat actions in the zone of a front and on the axes of actions of each army at the beginning of a war.

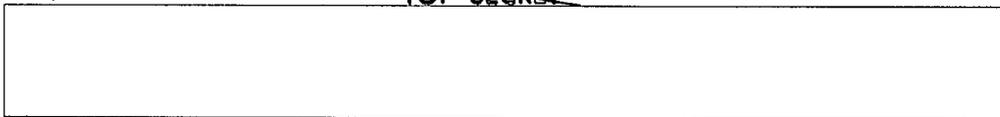
The experience of exercises shows that this is especially important when the enemy has also prepared an offensive operation, as a result of which meeting engagements of armies of the first echelon of a front inevitably arise.

We shall examine problems in the organization and conduct of reconnaissance with the forces and means of an army under these conditions.

Based on the possible width of the offensive zone of a combined-arms (tank) army in a meeting engagement at the beginning of a war, we can expect an enemy grouping of up to one and a half army corps (four to six divisions) with reinforcement means. Accordingly, even in the period of threat and, moreover, with the initiation of actions by both sides, the majority of enemy targets will be in motion.

According to the NATO armies, in anticipation of a meeting engagement, each army corps of the first echelon must send forward covering troops made up of an armored division and an armored (reconnaissance) regiment, which usually operate on a wide front at a considerable distance from the main forces (up to

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60 kilometers) and have the primary task of forcing the enemy to deploy prematurely, to concentrate his troops in a limited area, and at the same time to create favorable conditions for destroying them with nuclear weapons.

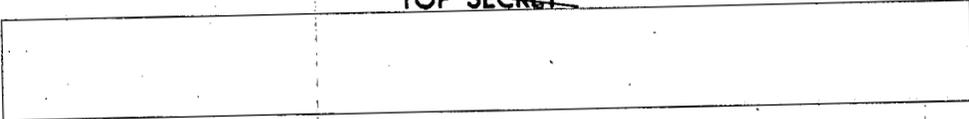
In a similar manner the main forces advance behind the covering troops also on a wide front. Thus, a division can advance in a zone of 20 to 40 kilometers along three to four routes, and an army corps can advance in a zone of 80 to 100 kilometers along six to eight and more routes.

Under these conditions the possible number of enemy targets in the army zone which are favorably disposed for destruction by nuclear weapons and, therefore, subject to reconnaissance will be within the limits of 55 to 78 targets. Of these there will be: six to 12 columns of divisions of the first echelon and six to 12 of the second echelon; two Redstone guided missile fire batteries; one to two Corporal guided missile battalions; two to three cruise missile detachments; 16 to 20 tactical aviation airfields; eight to ten columns of battalions of tactical means of nuclear attack (their reinforcement); ten to 12 batteries of surface-to-air missiles; and two to three troop control posts.

Toward the beginning of the meeting engagement the number of targets may be increased due to the deployment of divisions and tactical means of nuclear attack in battle formation.

The NATO command considers aviation the main means for delivering nuclear strikes during the period when the opposing groupings are converging. Up to 70 percent of the nuclear warheads and Redstone and Corporal (Sergeant) guided missiles may be allocated to aviation. Tactical means of nuclear attack advancing in columns of divisions will be able to deliver strikes only when the troops have approached to within ten to 25 kilometers of each other.

Consequently, the main efforts of army reconnaissance before the meeting engagement begins should be to concentrate on discovering the operational means of nuclear attack (airfields of tactical aviation, Redstone and Corporal guided missiles), and, besides this, with the unleashing of the engagement, they should concentrate on discovering the tactical means. At the same time, it is necessary to carry out continuous observation of the



advancing enemy grouping, especially of his armored large units and units.

In organizing reconnaissance and preparing nuclear strikes it is necessary to take into consideration the possible length of enemy columns during the advance under daytime and nighttime conditions as is shown in Table 1.

Table 1

Designation of subunits, units and large units	Length of the Columns (in kilometers) for movement	
	in daytime	at night
Field artillery group of Redstone guided missiles	20-25	8-10
Fire battery of Redstone guided missiles	1-1.5	0.3-0.5
Battalion of Corporal guided missiles	13-14	6-7
Battalion of Lacrosse guided missiles	6-7	2.5-3
Battalion of Honest John free-flight rockets	10-11	4-8
Battery of Honest John free-flight rockets	4-5	2-3
Battalion of 280-mm. guns	12-14	6-7
Battalion of 203.2-mm. howitzers	10-12	5-6
Motorized infantry battalion	6.4	3-3.5
Tank battalion	7.2	3.5-4
Battle group	8-10	4-5
Division in movement		
-- along two routes	100	56
-- along three to four routes	50-60	30-40

Not only before the initiation of a meeting engagement but even during the unleashing of one, many of the targets will be stationary, including certain nuclear means in siting areas and concentration areas. To select the yield of the nuclear warhead and the type of burst, it is necessary to know the probable distance of these means from the front line (the state border) or the line of contact and the approximate area of their disposition. These data are provided in Table 2.

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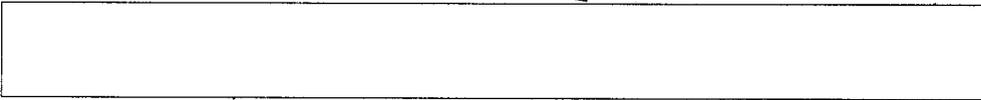


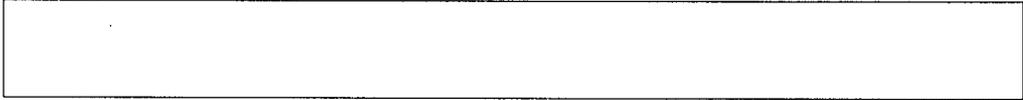
Table 2

Designation of Targets	Distance from line of encounter of troops in kilometers	Area of disposition in square kilometers
Special weapons depot of the forward area.	200-250	25
Group of Mace (Matador) cruise missiles: position of each detachment in the launch area	150 and more	600
prepared area of the group (most important installations in the area).	--	5-12
Field artillery group of Redstone guided missiles:	--	4-9
each fire battery	100 and more	225-350
each ordnance and engineer company	--	0.4
Corporal guided missile battalion:	70-90	1-1.5
fire battery	--	36-64
Nike-Hercules surface-to-air guided missile battery	--	3
Tactical aviation airfield	70-90 and more	4-7
Command post of an army corps (division) ..	450-500	36
Main command post of the field army	20-30 and more	1-1.5
Control and warning center of the tactical air force	up to 100	8-18
Control center of aviation in a sector ...	50 and more	2.5-6
	150-200	1

To properly organize combat against those means of nuclear attack which will advance in troop columns, it is important to know when they can be prepared to deliver nuclear strikes with the initiation of a meeting engagement. The time for the possible readiness of these means is shown in Table 3.

The time of the possible readiness of operational means of nuclear attack during deployment of them from the march can be set within these guidelines: 3.5 to four hours for a Redstone guided missile; 2.5 to three hours for a Corporal missile; and one to 1.5 hours for a Sergeant missile, if we assume that they will be deployed in positions selected and prepared during the change of location when missiles are checked in the fire batteries. Precisely at this time it is necessary not only to

TS #788134
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discover and make a final reconnaissance of these targets but also to hit them, not allowing them the capability of delivering strikes first.

All forces and means of a front (border district) and armies belonging in its composition will be enlisted for reconnaissance in anticipation of a meeting engagement.

The army, as we know, has organic subunits (units), radio and radiotechnical reconnaissance, a special-purpose reconnaissance company, and also reconnaissance means which are subordinate to the chief of rocket troops and artillery of the army and to the chiefs of artillery of divisions.

The experience of exercises shows that the capabilities of army reconnaissance before the initiation of combat actions are extremely limited.

For example, radio and radiotechnical reconnaissance means have a comparatively short range of action (60 to 100 kilometers). Moreover, in view of the insufficient accuracy of their data, final reconnaissance of those targets by other means is needed.

As correctly mentioned in Colonel R. SIMONYAN's article, the capabilities of radiotechnical reconnaissance means of a front are considerably higher due to the volume of reconnaissance data obtained and the depth of the reconnaissance. However, Colonel R. SIMONYAN does not sufficiently take into account the low measuring capabilities of these means in determining the coordinates of targets (p. 69). As we know, the coordinates of targets designated for destruction by operational-tactical missiles must be determined with an average margin of error not exceeding 175 to 200 meters. The low accuracy of the bearing on a radiotechnical target, in essence, permits radiotechnical reconnaissance to determine only the disposition area of the target. In addition, it must be pointed out that radiotechnical reconnaissance, as a rule, is not capable of distinguishing dummy targets from actual ones. Therefore, targets detected by radiotechnical means, must have final reconnaissance done by other reconnaissance means. Only then can the effectiveness of missile/nuclear strikes be ensured.



Nine to 12 reconnaissance groups for long-range reconnaissance can be set up from the composition of a special-purpose army reconnaissance company to operate in the rear of the enemy at a distance of up to 150 kilometers from our troops. These groups are capable of reconnoitering not more than two guided missile battalions (with five to six groups to reconnoiter each battalion), whereas one can expect three such battalions in the zone of operations of the army. The capabilities of groups sent out from large units of the first echelon of the army are limited to observing the tactical nuclear means and other targets of the enemy in only six to seven areas in all. Consequently, the army can set up 15 to 19 groups for long-range reconnaissance, which, unquestionably, is insufficient to take under observation even the main surface-to-surface means of nuclear attack of the enemy (the most probable routes for relocation, the concentration areas, the assembly and siting areas). The capabilities are very limited for the organic means of reconnaissance subordinate to the chief of rocket troops and artillery of an army, which are capable of discovering targets for destruction with conventional artillery and partially with tactical missiles to a depth of not more than ten to 15 kilometers. With the initiation of and during a meeting engagement of an army, the reconnaissance capabilities are somewhat increased due to the actions of forward units and reconnaissance organs of large units. But even considering this, the forces and means of army reconnaissance cannot fulfil all reconnaissance tasks and operations.

Consequently, a front must take upon itself a considerable part of the reconnaissance tasks. In addition, the army should be reinforced with front reconnaissance means, primarily with reconnaissance aircraft which are capable of carrying out search reconnaissance in order to detect targets, and with spotter-reconnaissance aircraft for final reconnaissance of targets and monitoring of missile/nuclear strikes. The availability of spotter-reconnaissance aircraft in direct subordination to the chief of rocket troops and artillery of an army will make it possible to reduce the time from the moment of detection of targets until their destruction, inasmuch as the final reconnaissance of targets and the preparation of missiles for launch will be implemented in parallel with the army commander's decision to deliver nuclear strikes.



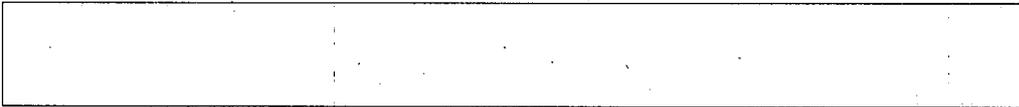
Calculations show that in the offensive zone of an army it is necessary to carry out more than 80 aircraft sorties of reconnaissance aircraft and up to 50 of spotter-reconnaissance aircraft in a 24-hour period. Based on its combat capabilities (three to four daily sorties in the first two days of an operation), an army must be reinforced by at least two tactical reconnaissance air squadrons and one spotter-reconnaissance air squadron. Considering the range of fire of army missiles, it is advisable to employ these means before the beginning of a meeting engagement for reconnaissance of targets located at a depth of up to 100 to 150 kilometers from the probable line of contact with the enemy. More deeply deployed targets will be discovered by operational aerial reconnaissance aircraft of a front. Artillery spotting helicopters can conduct reconnaissance to a depth of ten to 15 kilometers from our forward units on axes of operations of first-echelon large units of the army and can implement monitoring of tactical missile strikes.

When the indicated means are available in an army, army and division long-range reconnaissance groups must be given tasks for discovering the operational-tactical and tactical means of nuclear attack of the enemy in probable siting areas, which are determined relative to the possible line of contact, and also the enemy columns when they are moving out to the areas of the groups' actions.

Under these conditions agents and front long-range reconnaissance groups are to be directed at reconnaissance of the troop movement routes and areas of deeply deployed enemy means of nuclear attack (depots for special weapons, Redstone guided missiles, tactical cruise missiles, and delivery aircraft at airfields).

The experience of exercises has shown that in preparing and conducting an initial operation, such a distribution of tasks between front and army means of reconnaissance is most acceptable.

The need to quickly advance from army troop deployment areas in complex situational conditions under intense enemy action, and the fluidity of combat actions in a meeting engagement require stable and continuous troop control, including control of reconnaissance forces and means and the timely relaying of



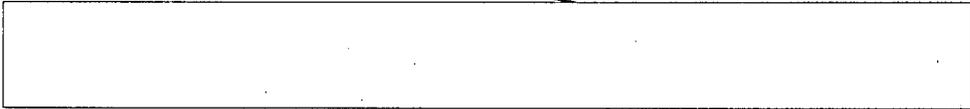
reconnaissance data to the combined-arms staffs and the staffs of the rocket troops and artillery. Even before the beginning of the meeting engagement the chiefs of intelligence of these staffs must determine at least the basic reconnaissance (final reconnaissance) problems. In particular, they must set tasks and organize cooperation between the combined-arms and artillery means of reconnaissance for the purpose of ensuring effective delivery of the initial missile/nuclear strikes against the enemy, specify the procedure for receiving and transmitting reconnaissance data, and specify the organization of communications with reconnaissance units and subunits. The remaining problems will be decided with the unleashing of the meeting engagement and in the course of combat actions in accordance with the developing situation.

It is also necessary in advance to plan the first sortie of reconnaissance and spotter-reconnaissance aircraft which will be implemented with the initiation of combat actions, and its results first of all will be taken into account in preparing and delivering the subsequent missile/nuclear strikes against the enemy during the advance of the army and in the course of the meeting engagement.

The planning and organizing of aerial reconnaissance is customarily carried out by the front staffs and the air army. But a part of the resource of aircraft sorties of reconnaissance aviation should remain at the disposal of the commander of the combined-arms army, and a part of the spotter-reconnaissance aircraft should remain at the disposal of the chief of the rocket troops and artillery. In addition to this, they must know the tasks which the aerial reconnaissance of a front fulfils in the zone of operations of the army.

We must take into consideration that when troops are moved at fast rates, the airfields of reconnaissance and spotter-reconnaissance aircraft toward the beginning of the meeting engagement may be at a considerable distance from the forward units of the army, which can lead to the loss of communications with the airfields. Therefore, it is necessary in advance to select intermediate radio stations for relaying orders from control posts to the airfields.

TS #788134
Copy # 3



Under the complex conditions of conducting a meeting engagement in the initial operation, it is especially necessary to obtain reconnaissance data rapidly. We support the practice established in exercises of transmitting visual reconnaissance data directly from on board the aircraft to the interested staffs, which, therefore, must be supported by the appropriate receiving equipment. When some reconnaissance data are insufficient, in order to speed up the fulfilment of the tasks of final reconnaissance by aerial photography of targets designated for destruction by nuclear missile strikes, it is expedient to direct the aircraft of spotter-reconnaissance aviation to a limited area, where the most probable disposition of the important elements of the target is. In this case, by situating a photographic battery, which is subordinate to the chief of rocket troops and artillery of an army, at the home airfield of the spotter-reconnaissance air squadron, reconnaissance data or interpretation of wet film ten meters in length (30 frames) can be obtained within 40 to 45 minutes after the aircraft has landed. With due regard for the preparation of the missiles for launching, this time raises the reliability of destroying enemy Redstone and Corporal missile means of nuclear attack located at launch sites. However, even with this method of processing the materials of aerial photography the reliability of fulfilling the fire tasks is still insufficient (it does not exceed 60 to 65 percent). Therefore, visual observation still remains the basic method of aerial reconnaissance in a meeting engagement, as in other types of combat actions. Further technical improvement of the existing equipment of reconnaissance aircraft is needed to improve the quality of reconnaissance and reduce the time limits for obtaining reconnaissance data. On the whole, the problem of aerial reconnaissance can only be fully solved with the establishment and introduction of automated reconnaissance systems. This is an extremely complex matter and even with the great successes of Soviet science and technology, the given problem can be resolved only over the course of several years. From this arises the need to increase the capabilities of reconnaissance by improving the existing equipment. That is why we fully support the view that it is necessary to rapidly introduce previously developed equipment for more rapid and one-step processing of aerial film, television equipment, and devices for night photography using natural illumination.

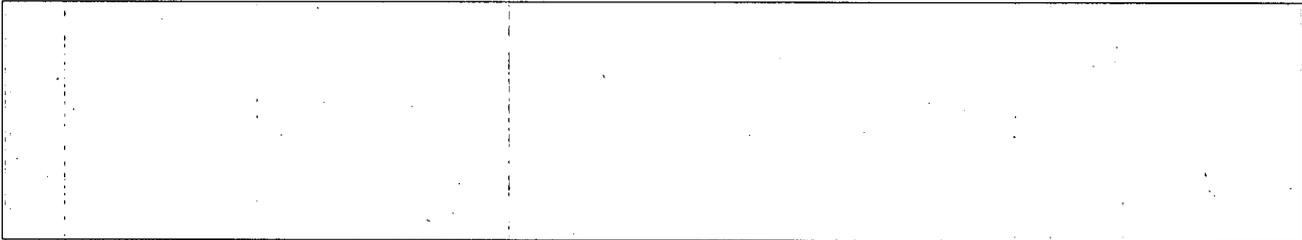
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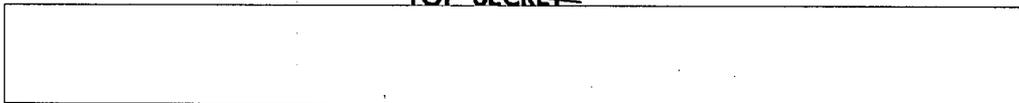
Page 13 of 14 Pages

An instrument for speeding up the processing of aerial film, for example, makes it possible to obtain developed and fixed dry aerial film with a speed of 30 meters every ten to 12 minutes, that is, three times faster compared to the conventional method. The device for one-step processing, tested many times in exercises, immediately provides both negatives and positive prints simultaneously. Had the necessary attention been given to this device it would have been possible to have it in service long ago, but strange as it may seem, its introduction is being held up for some reason. A television apparatus for aerial reconnaissance, especially the latest models with increased resolving capability and of relatively small dimensions can also considerably improve the effectiveness of reconnaissance. The capabilities of aerial reconnaissance at night can be broadened if aircraft are equipped with continuous-strip aerial cameras with photo-electronic image converters. True, they still need improvement, but this does not rule out their being put into use. The new device increases the capabilities of aerial reconnaissance, which will make it possible to employ nuclear weapons more effectively in a meeting engagement.

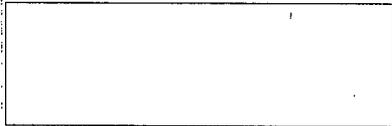


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Designation of units (subunits) and their places in the columns	Distance from the head of the advance guard in kilometers	Distance of the fire position from the deployment line of the advance guard in kilometers
Platoon of 203.2-mm. howitzers (on mechanized transport) following in the advance guard of the column of the division	8-10	6-8
Battalion of 203.2-mm. howitzers (on mechanized transport) following in the column of main forces of the division	30-50	6-8
Organic batteries (battalions) of an Honest John division following in the column of its main forces	25-35	up to 10
Honest John battalions following in columns of the main forces of the army corps	30-50	up to 10
Lacrosse battalions following in columns of the main forces of the army corps	30-60	up to 15



Distance needed to be crossed to fire position with the beginning of deployment of advance guard in kilometers	Time needed for moving to area of fire position <u>day</u> (in minutes) <u>night</u>
2	$\frac{5}{8}$
24-43	$\frac{58-100}{96-108}$
15-25	$\frac{36-60}{60-100}$
20-40	$\frac{48-96}{70-160}$
15-45	$\frac{36-108}{60-180}$

Table 3

Time for deploying and preparing for salvo launch day (in minutes) night	Total time limits for preparing to open fire with the beginning of deployment of advance guard day (in minutes) night
$\frac{20}{30}$	$\frac{25}{38}$
$\frac{20}{30}$	$\frac{78-120}{126-138}$
$\frac{35-86}{50-110}$	$\frac{71-146}{110-210}$
$\frac{35-85}{60-110}$	$\frac{83-181}{130-270}$
30	$\frac{66-138}{90-210}$