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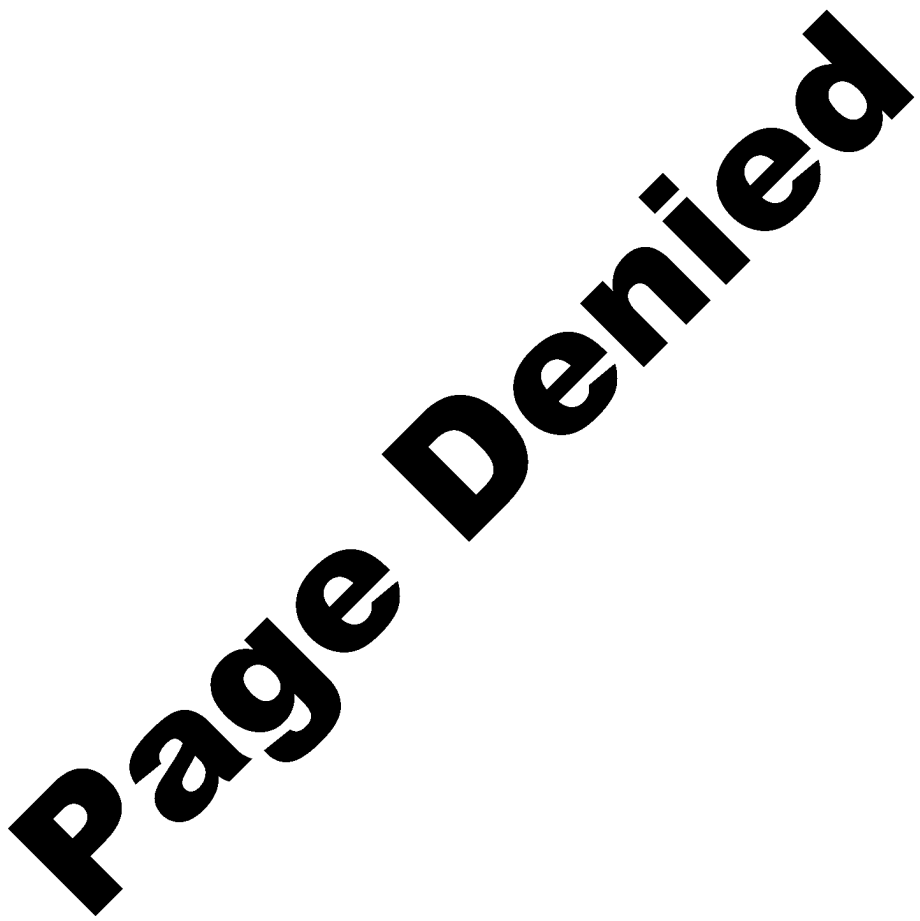

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CENTRAL INTELLIGENCE AGENCY
WASHINGTON, D.C. 20505

13 February 1976

MEMORANDUM FOR: The Director of Central Intelligence

SUBJECT : MILITARY THOUGHT (USSR): The Artillery Offensive - The Principal Method for the Combat Employment of Artillery in an Offensive Operation Conducted with Conventional Means of Destruction

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 reviews the employment of artillery beginning with World War II in establishing the position that the artillery offensive is the method which provides the best fire support for a ground forces operation. An artillery offensive is subdivided into the phases of artillery preparation, artillery support, and support for the advance of other ground elements into the depth of the enemy defense. The author provides detail on the tactics employed in these phases, underscoring the need for good reconnaissance, planning and control, and citing combat with enemy tactical nuclear weapons as the most important task. A table illustrates the required density of artillery in relation to the volume of tasks in a breakthrough sector. This article appeared in Issue No. 3 (88) for 1969 [redacted]

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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 [redacted]

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William E. Nelson
Deputy Director for Operations

[redacted]

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Intelligence Information Special Report

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COUNTRY USSR

DATE OF INFO. Late 1969

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SUBJECT

MILITARY THOUGHT (USSR): The Artillery Offensive - The Principal Method for the Combat Employment of Artillery in an Offensive Operation Conducted with Conventional Means of Destruction

SOURCE Documentary

Summary:

The following report is a translation from Russian of an article which appeared in Issue No. 3 (88) for 1969 of the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal "Military Thought". The author of this article is Marshal of Artillery K. Kazakov. This article reviews the employment of artillery beginning with World War II in establishing the position that the artillery offensive is the method which provides the best fire support for a ground forces operation. An artillery offensive is subdivided into the phases of artillery preparation, artillery support, and support for the advance of other ground elements into the depth of the enemy defense. The author provides detail on the tactics employed in these phases, underscoring the need for good reconnaissance, planning and control, and citing combat with enemy tactical nuclear weapons as the most important task. A table illustrates the required density of artillery in relation to the volume of tasks in a breakthrough sector.

50X1-HUM End of Summary

Comment:

Marshal of Artillery Konstantin Petrovich Kazakov, a Hero of the Soviet Union, also contributed an article entitled "The Rocket Troops of the Ground Forces in Combat with Naval Targets" to Issue No. 2 (84) for 1968 He was replaced as Chief of the Rocket Troops and 50X1-HUM Artillery and became an Inspector-General of the Ministry of Defense in 1969. 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.

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The Artillery Offensive - The Principal Method for the Combat Employment of Artillery in an Offensive Operation Conducted with Conventional Means of Destruction

by

Marshal of Artillery K. Kazakov

Experience gained in exercises and war games we have conducted in recent years, and also an analysis of the operational-strategic concepts of probable enemies, demonstrate that in a future war ground forces may be given the task of breaking through a defense employing only conventional means of destruction.

It should be emphasized that an enemy using engineer equipment and prefabricated structures is able in a short period of time to prepare positions for all types of weapons and control posts, and set up a strong defense. At the same time, a modern defense will be equipped with a large number of armored means of fire (tanks, armored personnel carriers, self-propelled guns).

The lines of defense, in engineer preparation and numbers of fire means, will be equal to those which our troops had to break through in offensive operations during the Great Patriotic War.

To break through a prepared defense under conditions of non-nuclear war requires reliable and sustained firepower from artillery and aviation. Experience has established that aviation is capable of carrying out no more than 20 to 25 percent of its assigned tasks. Thus, most of them fall to artillery.

To successfully break through a defense, artillery must reliably neutralize strong points to the depth of the brigades of the enemy first echelon; this includes disrupting his system of antitank defense, destroying tactical nuclear means of attack (to the depth of the range of fire), neutralizing artillery and mortar batteries and disrupting the control system. At the beginning of the offensive, artillery is charged with the task of supporting the attack of motorized rifle and tank subunits and units, and then of providing continuous accompanying fire for their advance during a battle in the depth of the enemy defense.

Artillery accomplishes all these tasks by various ways and methods; and the nature of its cooperation with combined-arms large units and units and the procedure for this cooperation change, depending on the phases of the combat actions.

The variety of methods for accomplishing fire tasks and the complexity of carrying out cooperation during an offensive requires such an organization of the employment of artillery as would promote continuous and effective fire support for the offensive operation.

The most desirable form of artillery combat actions, one having a well-balanced system is, in our view, the artillery offensive, which fully proved itself in operations during the Great Patriotic War. Its fundamentals were set forth in Supreme High Command Headquarters Directive No. 03 of 10 January 1942.

An artillery offensive consisted of neutralizing the enemy defense, as well as of continuously supporting infantry and tanks with massed, effective artillery (mortar) fire throughout the offensive, and was subdivided into the phases of preparation for the attack, support for the attack and support of infantry and tank actions in the depth of the enemy defense.

It was most completely carried out first at Stalingrad on 19 November 1942. The artillery offensive subsequently was the deciding factor in all offensive operations of the Soviet Army in the Great Patriotic War. Methods for the artillery offensive were continuously improved and were distinguished by an absence of stereotypes. Large groupings of artillery were established to carry out the offensive. In the most important offensive operations in the years 1944-1945 the density of artillery in breakthrough sectors reached 250 to 300 guns and mortars per kilometer of front.*

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*In the Lvov-Sandomir operation (July-August 1944) - 250 guns, mortars and rocket launcher vehicles per kilometer of front; in the Iasi-Kishinev operation (August 1944) - 250 to 290 guns, mortars and rocket launcher vehicles per kilometer of front; in the East Prussian operation (January 1945) - 200 to 300 guns, mortars and rocket launcher vehicles per kilometer of front; in the Berlin operation (April 1945) - up to 314 guns, mortars and rocket launcher vehicles per kilometer of front. 50X1-HUM

Massed artillery strikes against the entire tactical depth of the enemy defense were the basic method of conducting artillery preparation. However, in this method each battalion and battery fired at accurately reconnoitered targets (strong point, artillery battery, observation post, etc.).

The duration of the artillery preparation, as a rule, was one to two hours, but sometimes longer. Toward the end of the war (because of the increased quantity of artillery allocated), it had been shortened to 20 to 40 minutes. During artillery preparations, direct-firing guns were widely employed to demolish and destroy individual targets.

Support for an infantry and tank attack was carried out by various methods -- successive concentration of fire, single or parallel barrage. Artillery simultaneously neutralized the most important enemy strong points, and also artillery and mortar batteries, by concentrated fire. The depth of attack support reached three to five kilometers. Great precision and efficient control of artillery fire (in which combined-arms commanders directly participated) and close cooperation with the troops being supported ensured accomplishment of the main task; artillery fire literally "led" tanks and infantry, which followed at a distance of 200 to 400 meters behind the bursts of the artillery shells.

Accompanying fire for infantry and tanks during a battle in the depth was accomplished by combining fire with maneuver by the individual guns (self-propelled artillery), platoons and batteries in the battle formations of forward subunits. Strong points in the immediate depth of the enemy defense, artillery and mortar batteries, and approaching reserves were destroyed by the concentrated fire of artillery groups and battalions. Artillery control was decentralized. However, it permitted the army commander (division commander) at any point in the operation (battle) to mass fire to inflict decisive destruction on the most important enemy targets (groupings) in the shortest possible time.

After the Great Patriotic War the organization of the artillery offensive was continuously improved, and toward the end of the 1950's more effective methods of accomplishing fire tasks, as well as fire control methods at all levels from army down to battery, were worked out and mastered.

However in subsequent years, in connection with the inclusion of missile/nuclear weapons in the ground forces and also due to some reasons of a subjective nature, the concept of the "artillery offensive" as a

method for the combat employment of artillery in an offensive operation was, in our view, groundlessly eliminated from the regulations, as well as from the operational and combat training of the troops. And although the basic elements of the artillery offensive remained, the whole well-balanced system of fire support for the breakthrough of the enemy defense was disrupted to a significant degree.

Artillery combat actions in essence disintegrated into a series of sporadic tasks which were not interconnected by a unified concept of fire support for the offensive operation. This applies particularly to the phase of fire support for the offensive.

This phase lasts from the beginning of the attack by motorized rifle and tank units until the completion of assigned combat tasks by divisions and armies. The term "fire support for an offensive" (as it exists in the regulations) is too general and does not fully correspond to the actions of advancing troops, nor to the tasks of artillery in providing fire support for them. Nevertheless, our regulations do not cover such an important phase as artillery support for the attack, although it is the most complex from the point of view of organizing cooperation and fire control. In this phase artillery uses such types of fire as rolling barrage and successive concentration of fire, in which the opening and cessation of fire against sectors and lines are carried out on signals from the commanders of motorized rifle (tank) regiments and battalions. At the same time as the rolling barrage (successive concentration of fire) is carried out, artillery neutralizes artillery batteries and other important targets in the enemy defense.

Exercises conducted in recent years (including those with field firing) show that combined-arms and artillery commanders do not take this into account, and do not give sufficient attention to organizing cooperation in the attack phase. As a result a smooth transition from preparatory fire to support is not ensured, and the motorized rifle and tank subunits do not try to advance behind the bursts of their shells at minimum distances. The depreciation which has occurred in the role of artillery in modern warfare was also the reason for the lag in the development of reconnaissance means and means for controlling artillery units and subunits, as well as in the development of self-propelled artillery. We think the artillery offensive should be recognized as the only method for the combat employment of artillery in an offensive operation which makes it possible to provide the best fire support for the operation. The artillery offensive must undoubtedly reflect the tasks and conditions for the combat employment of artillery, which have changed in

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comparison with the operations of the Great Patriotic War.

In the present article are set forth only basic theses regarding the artillery offensive as they appear to us to apply to a modern offensive operation.

An artillery offensive consists of the decisive and rapid destruction of enemy tactical nuclear means of attack and the neutralization of his defense to the depth of divisions of the first echelon, and of the continuous support of motorized rifle and tank large units and units with massed effective artillery fire from the beginning of the attack until the task of the day is fulfilled.

Artillery accomplishes its tasks in cooperation with aviation, which primarily strikes targets located beyond the range of artillery fire (division reserves, division command post, aviation control posts), as well as moving targets, nuclear means of attack (detected at the beginning of artillery preparation) and other large targets.

We will examine how much the tasks of artillery and the methods of fulfilling them have changed. A new task has become the main one -- the immediate destruction of detected enemy tactical nuclear means of attack, i.e., launchers and guns employing nuclear warheads. All the artillery must be ready at any moment to switch over to carrying out this task. Hence flow the basic requirements made of artillery fire control -- flexibility, reliability, multichannel communications, and constant readiness for centralization for the purpose of concentrating fire on newly detected nuclear means of attack. The most important task is thus the neutralization of enemy artillery and antitank means (especially antitank guided missile launchers) which are situated in the depth of the defense of a brigade of the first echelon. Therefore, the depth to which the defense is hit simultaneously during artillery preparation cannot be less than the maximum range of modern enemy antitank guided missiles, that is six to seven kilometers.

The task of combating enemy artillery is accomplished differently. Until now batteries of towed guns were neutralized by two or three short artillery strikes; between the strikes, fire spotting was conducted by deliberate fire or by intensively concentrated rapid fire of batteries. One of our batteries could accomplish the task of neutralizing such a battery (located in emplacements) during preparatory fire.

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At the present time the artillery of the armies of the NATO countries is equipped with armored self-propelled guns. A self-propelled artillery battery is capable of occupying and abandoning positions in a few minutes. Therefore, such batteries can be neutralized only by one or two short, but powerful, artillery strikes with a significant expenditure of ammunition. To neutralize one battery, as a rule, a battalion of our artillery should be allocated in order simultaneously to cover a considerable area with shell bursts and to attain a high density of fire.

Since self-propelled artillery has dependable protection and will be maneuvering continuously, to combat newly detected batteries the chief of the rocket troops and artillery of an army (division) must have a reserve of artillery subunits (one or two battalions) available during both artillery preparation and support for the attack.

The approach to flank protection of the breakthrough sector now has changed. In view of the increased range of antitank means, strong points on the flanks must be neutralized in the artillery preparation phase at the same time as other targets (at a distance of up to two kilometers from the flanks). During artillery support for the attack these strong points also should be held under fire until troops seize the areas defended by the battalions of the first echelon.

Under modern conditions an attack by motorized rifle (tank) units and particularly an advance during a battle in the depth of the defense will be conducted at a higher rate. This circumstance requires greater mobility on the part of fire subunits and artillery control means. High enemy mobility requires that artillery concentrate and mass fire in the shortest possible length of time (a few minutes).

Although the tasks of artillery and the conditions and methods of their accomplishment have changed under modern conditions, when breaking through the enemy defense employing conventional means of destruction, artillery will continue to prepare an attack by motorized rifle (tank) units and lead them with its fire from one target of the attack to another. That is why we propose to return to such a tested form as the artillery offensive.

Under modern conditions it is more desirable to subdivide an artillery offensive into three phases: artillery preparation for the attack, artillery support for the attack, and artillery support for the advance of motorized rifle and tank subunits during a battle in the depth of the enemy defense.

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Thus, the question of setting up support for the attack by parallel barrage or successive concentration of fire on two lines simultaneously must be raised. One artillery group will fire upon a line immediately in front of the attacking subunits; and another will fire on a line 1,500 to 2,000 meters from the first, and on the main deployment areas of antitank guided missiles and other enemy long-range antitank means. 50X1-HUM

It may be shown that in the absence of continuous trenches in the enemy defense, attack support need not be carried out by rolling barrage. However, it must be understood that a rolling barrage is employed when there are no accurate reconnaissance data available about the location of platoon strong points and all the fire means they possess. Precisely such conditions as these will be most characteristic in modern warfare. Only by setting up a solid wall of fire is it possible to reliably paralyze the actions of enemy antitank means.

With the opening of a rolling barrage (successive concentration of fire), artillery (mortar) batteries as well as strong points located on the flanks and between the lines of the rolling barrage (successive concentration of fire) are neutralized. Finally, artillery must be prepared for rapid massing (concentration) of fire against those defensive sectors which are presenting the most stubborn resistance.

The objective of artillery support for an advance during a battle in the depth of the enemy defense is to ensure the continuous advance of motorized rifle (tank) units (large units) and to prevent an enemy counterattack by massed (concentrated) and barrage fire.

During support for an attack and for a battle in the depth of the enemy defense a large role is played by accompanying guns and antitank guided missile launchers, moving within the battle formations of motorized rifle (tank) battalions of the first echelon. The presence of infantry combat vehicles within the battle formations of the advancing troops does not ensure reliable destruction of enemy fire means since the guns mounted on them are short-range (up to one kilometer) and do not use fragmentation shells. Close support tasks, apparently, will be accomplished most effectively by adopting self-propelled artillery into service with regimental and divisional artillery.

Stable artillery fire control during these phases can be carried out only from mobile armored command posts and command-staff vehicles. These problems are now being solved successfully. 50X1-HUM

Carrying out an artillery offensive in breakthrough sectors requires the establishment of powerful artillery groupings. The amount of artillery necessary for the breakthrough is determined on the basis of the volume of tasks being accomplished simultaneously during artillery preparation. Calculations show that the breakthrough of a prepared enemy defense in the European theaters of military operations requires 80 to 110 guns and mortars per kilometer of breakthrough sector front (see table).

What are the possibilities of setting up the required artillery densities? 50X1-HUM

In a combined-arms army in the breakthrough sector, up to 408 guns and mortars can be allocated to fire from indirect fire positions (the organic artillery of two motorized rifle divisions of the first echelon, army artillery and the divisional artillery of a division of the second echelon); in a tank army, only 252 guns and mortars can be allocated.

If each army in the first echelon were reinforced by an artillery division of present-day strength (252 guns and mortars), then its requirements would be only 75 to 80 percent satisfied. 50X1-HUM

Consequently, even with such reinforcement, army and divisional artillery of an army from the second echelon of the front (in all, up to 300 guns) still must be allocated to artillery preparation and support. However, this involves extremely great difficulties and there is the danger that this artillery may not return to its own large units in time 50X1-HUM

The establishment of large artillery groupings in the breakthrough sectors gives rise to the urgent problem of their protection against enemy nuclear strikes. To resolve it, artillery should be concentrated at the breakthrough sectors for a strictly limited (minimum) time. After accomplishing its tasks, attached artillery must be moved forward, and allocated artillery withdrawn to the flanks. Artillery placed in deployment areas must be dispersed, making optimum use of the maximum range of the guns and the capability to maneuver fire.

Planning an artillery offensive in a modern operation is complex in that it must ensure the transition from non-nuclear actions to actions employing nuclear weapons without significant reorganization of the system of cooperation and without excessive loss of time.

An artillery offensive is inconceivable without stable control of the artillery and its fire. Setting up continuous artillery reconnaissance

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(especially of enemy nuclear means of attack) and a reliable communications system ensuring the rapid report of reconnaissance results to staffs and the passage of fire control commands, have particular significance in matters of control.

Experience shows that artillery preparation and attack support have been successful only when the enemy defense has been carefully reconnoitered by all available means. Therefore, in preparing offensive operations repeated aerial photography of enemy lines of defense was conducted without fail; and besides the various means of artillery reconnaissance, combined-arms and engineer reconnaissance data were widely used.

Extremely significant in this respect was the experience of organizing preparatory fire and support during the breakthrough of the enemy defense by the 349th Armored Regiment in the DNEPR exercise. As our troops approached the prepared line of defense, aerial photography of the line -- which provided artillery staffs with photographs of the defense -- was carried out twice. Artillery reconnaissance subunits arrived at the line of defense at the same time as the reconnaissance organs of the motorized rifle subunits.

This organization of reconnaissance made it possible to determine precise contours of strong points and the coordinates of batteries, fire positions and other targets. Seventy-five to eighty percent of the enemy defense had been detected; this enabled artillery to reliably neutralize 79 percent of the detected targets during preparatory fire and support.

Combating enemy tactical nuclear means of attack remains the most important task of artillery even when an operation begins without the employment of nuclear weapons. It becomes particularly urgent during a battle or operation, when the enemy at any moment may turn to the employment of nuclear weapons. It is well known that the 155mm and 203.2mm self-propelled howitzers of armies of the NATO countries which have nuclear warheads in service spend only five to seven minutes setting up and preparing for fire. Consequently, it is necessary in that short period of time to reconnoiter the enemy battery (determine its exact coordinates), prepare and transmit the command to the fire position, and carry out the artillery strike. This is accomplished only when fire control is organized. 50X1-HUM

We have reviewed the basic tasks and methods for the combat employment of artillery in an offensive operation conducted without the employment of

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nuclear weapons.

From an organizational point of view the artillery offensive does not cause, in our view, special difficulties, since its basic elements actually exist and in one way or another are used in fire support. The methods used by artillery to accomplish fire tasks, which were tested in battles of the Great Patriotic War and in postwar troop experience, are basically suitable even for modern conditions. Only some of them require improvement.

In organizing an artillery offensive, in our opinion the establishment of the necessary groupings and the organization of artillery fire control during the offensive operation will be the most complex.

The first problem can be partially solved by maneuver of the artillery of the second echelons. However, this is only a temporary solution. The effective establishment of the required artillery groupings in breakthrough sectors requires large, highly mobile artillery large units from the Reserve of the Supreme High Command, specifically artillery divisions of up to 400 to 450 guns and mortars. In regard to the second problem, for fire control and maintenance of continuous cooperation during the offensive, artillery commanders and staffs must have mobile armored command and command-staff vehicles of the same type as the corresponding combined-arms commanders.

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Implementation of the stated measures will ensure successful organization of an artillery offensive.

In an offensive operation employing nuclear weapons, motorized rifle and tank large units will not be required to break through prepared lines of defense. Troops will advance in wider zones and along separate axes. In connection with this, the volume of artillery tasks will decrease significantly and control over artillery generally will be decentralized. Under these conditions, the necessity to consolidate artillery combat actions into such a form as the artillery offensive obviously will no longer arise.

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TABLE

VOLUME OF TASKS AND REQUIRED DENSITY OF ARTILLERY FOR NEUTRALIZING AN ENEMY DEFENSE DURING ARTILLERY PREPARATION IN THE BREAKTHROUGH SECTORS OF TROOPS OF A FRONT (VARIANT)

Targets of destruction	Density of neutralization	Equated area of one target (hectares)	Number of guns required to destroy one target	5th Army: U. S. mechanized division is on the defensive; Width of breakthrough sector on axis of main strike - 2 kilometers			7th Tank Army: West German motorized infantry division is on the defensive; Width of breakthrough sector on axis of main strike - 8 kilometers		
				Number of targets	Equated area (hectares)	Required number of guns	Number of targets	Equated area (hectares)	Required number of guns
Honest John batteries*			18	3-4		2-3 battalions	3-4		2-3 battalions
		A. Targets to be destroyed first							
203.2mm howitzer batteries	1.0		18	6-9		108-162	4-7	-	72-126
105mm & 155mm howitzer, 175mm field gun batteries	1.0		12	15		180	9-12	-	108-144
Rocket launcher batteries	1.0		12	3		36	2	-	24
Platoon strong points of first-echelon companies (U.S. - 6 hectares, West Germany - 4 hectares)	1.2	7.2 (4.8)	2 guns per hectare	15	108	216	15	72	144
Platoon strong points of first-echelon companies on the flanks	1.0	6 (4)	2 guns per hectare	6	36	72	6	24	48
Platoon strong points of second-echelon companies	1.0	6 (4)	2 guns per hectare	6	36	72	6	24	48
Battalion command posts	1.0	4	12	3	12	36	3	12	36
Brigade command posts	1.0	6	12	2	12	24	2	24	24
Mortar platoons (sections)	1.0		6	8-9		48-54	6	36	36
Separate targets	1.0	1 hectare	1 gun	20	20	20	20	20	20
		B. Targets to be destroyed second							
Platoon strong points of second-echelon battalions	1.0	6 (4)	2 guns per hectare	9	54	108	9	36	72
Division command post	1.0	8	18	1	8	18	1	8	18
Division reserves	To be destroyed by aviation								
Total artillery required to conduct preparatory fire (taking into account battalions being held in reserve)						848-936			596-670
Required density of artillery per kilometer of breakthrough sector						106-117			75-85

*To be destroyed as detected by artillery from the reserve of the army

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