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CENTRAL INTELLIGENCE AGENCY
WASHINGTON, D.C. 20505

12 April 1977

MEMORANDUM FOR: The Director of Central Intelligence
FROM : William W. Wells
Deputy Director for Operations
SUBJECT : MILITARY THOUGHT (USSR): Units of
Fire and Norms of Ammunition Reserves

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 is a supplement to an earlier article on conventional ammunition requirements, which recommended that mobile reserves be increased. The current article cites ammunition expenditures during World War II operations to support the thesis that mobile reserves of artillery and mortar ammunition ought to be increased above the small arms ammunition mobile reserves. The author also examines the make-up of a unit of fire, stressing that it must be changed to include newer types of ammunition. This article appeared in Issue No. 2 (78) for 1966.

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

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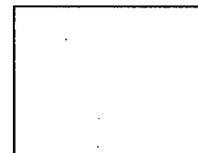
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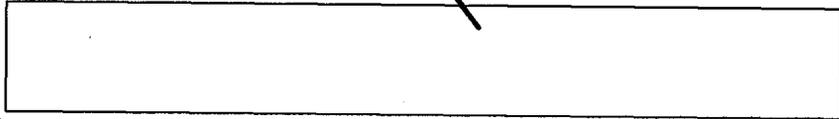
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Intelligence Information Special Report

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COUNTRY USSR



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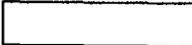
MILITARY THOUGHT (USSR): Units of Fire and Norms of Ammunition Reserves

SOURCE Documentary

Summary:

The following report is a translation from Russian of an article which appeared in Issue No. 2 (78) for 1966 of the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal 'Military Thought'. The author of this article is Colonel General of Artillery I. Volkotrbenko. This article is a supplement to an earlier article on conventional ammunition requirements, which recommended that mobile reserves be increased. The current article cites ammunition expenditures during World War II operations to support the thesis that mobile reserves of artillery and mortar ammunition ought to be increased above the small arms ammunition mobile reserves. The author also examines the make-up of a unit of fire, stressing that it must be changed to include newer types of ammunition.

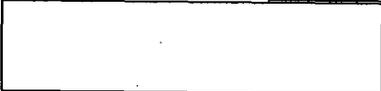
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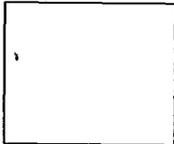
Comment:

The author has been identified as Chief of the Penza Higher Artillery Engineering School, and has since retired. He also wrote "Determining Norms for the Stockpiling and Expenditure of Artillery Ammunition" in Issue No. 1 (89) for 1970

_____ the article to which it refers was _____



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Units of Fire and Norms of Ammunition Reserves

by

Colonel General of Artillery I. Volkotrubenko

In the third issue of the Collection of Articles of the Journal "Military Thought" for 1965, in the article "The Actual Requirement for and Supplying of Troops with Conventional Ammunition in Present-Day Operations", Colonel Ye. Yefimov raises very important questions. While sharing completely the author's principal arguments and proposals, I would like to set forth several observations on the subject he has touched upon.

I must say that for the past ten years nothing at all had been reported in the military press on the subject of supplying troops with conventional ammunition. In all exercises and games that took place over these years no one determined the conventional ammunition required to support operations. It is therefore not surprising that some comrades in charge of artillery supplies have on the whole forgotten how to make the required calculations. In 1962 in an exercise in one of the military districts, the army's missile and artillery armament service proved incapable of organizing the supplying of troops with conventional ammunition.

In the light of this, the appearance in the Journal "Military Thought" of an article devoted to an analysis of the status of the supplying of troops with conventional ammunition ought to be considered an extremely important event, and perhaps the beginning of the elimination of subjectivism in these matters.

As is known, the norm introduced in recent years for mobile ammunition reserves in units, large units, and formations has been differentiated according to nomenclature. A drastic reduction in artillery and mortar ammunition forms the basis of this differentiation. The reserves of artillery rounds have been made equal to the reserves of small arms ammunition. Such a method of determining reserves does not follow from the tasks which the troops must fulfil and does not take into account the vast experience we have accumulated in past wars. Meanwhile, in the history of wars there are no instances in which the expenditure of rifle cartridges has been higher than the expenditure of artillery rounds.

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For example, in the Belorussian Operation the expenditure of small arms ammunition amounted to the following: in the 43rd Army of the First Baltic Front -- 0.4 unit of fire, and in the First Belorussian Front -- 1 unit of fire. In the Berlin Operation as follows: in the First Belorussian Front it was equal to 0.4 unit of fire, in the First Ukrainian Front -- 0.6 unit of fire, and in the Second Belorussian Front it was only 0.3 unit of fire in all.

There is no basis whatsoever for assuming that in a present-day war, characterized by the increased numbers and higher quality of the combat equipment and weapons used by the opposing sides, the expenditure of cartridges may be higher than in the Great Patriotic War.

In this connection, we cannot agree with Colonel Ye. Yefimov's stand on increasing the norm of small arms ammunition mobile reserves.

If we turn to the expenditure of ground artillery ammunition in operations of the Great Patriotic War, it is not difficult to establish that this expenditure was considerably greater than the expenditure of small arms ammunition. Thus, in the Orel-Belgorod Operation the expenditure of mortar rounds ranged from 1.5 to 2.5 units of fire, of divisional artillery rounds it ranged from 1.5 to 2 units of fire, and the expenditure of large-caliber artillery rounds ranged from 2.5 to 3 units of fire.

In the Belorussian Operation the expenditure of mortar rounds was from 2 to 3.5 units of fire, of regimental and divisional artillery rounds it was 1 to 3 units of fire, and finally, in the Berlin Operation, where shells were unlimited, the expenditure of mortar rounds was from 1 to 3 units of fire and that of ground artillery rounds was from 0.5 to 3 units of fire.

We have presented the expenditure of ammunition in operations which lasted for months. If we take this circumstance into account, then we can state that for present-day conditions, an excessive increase of ammunition norms is also unfounded. Hence, when determining ammunition reserves, we should avoid extremes. In peacetime it is an extremely difficult task to establish the expenditure of ammunition. Before the Great Patriotic War, our operations officers estimated that our ammunition requirements in an operation would range up to 10 units of fire; at the beginning of the war, troop ammunition supply requisitions for such amounts were received from many fronts and armies.

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Military reality introduced major adjustments, and ammunition expenditures were fixed at the levels mentioned above -- based on the war experience of the fronts.

Some may disagree with us, as Colonel Ye. Yefimov does, referring to the experience of the Belorussian Operation, stating that we frequently did not issue ammunition in adequate amounts to the troops. Yes, ammunition was limited, but not all of it. There were no limitations on small arms ammunition. From 1942 onward there were no limitations on 45-mm and 57-mm rounds, 82-mm mortar rounds, hand grenades, and a number of other nomenclature items. Maximum norms were retained principally on 76-mm and 122-mm rounds, 120-mm mortar rounds, and partially on the larger calibers.

The reference to the lack of shells in the Belorussian Operation is groundless. The essence of the matter is that during the operation the armies of the Belorussian Front dispersed their reserves in many points and over an extended depth. Thus, the 5th and 11th Armies left their reserves in 10 places to a depth of up to 600 kilometers. The 50th Army had seven ammunition storage points to a depth of up to 500 kilometers. And it was like this in all fronts and armies. This means that there was sufficient ammunition but there was nothing in which to transport it. Clearly, the main cause was insufficient means of transportation. Therefore, we think that instead of an unfounded increase of the norms we must ensure the continuous replenishment of reserves from the higher level to the lower level. The norms of the mobile reserves must be replenished by the end of a day of battle using any means. In this manner the troops will not reduce their rate of advance.

The time has also come to make some adjustments in the norms of mobile reserves of ammunition.

In our opinion, we should above all change the norms of reserves of ground artillery and mortar ammunition.

The norms that have now been introduced of 0.8 unit of fire in units and 0.2 unit of fire in divisions are undoubtedly too small. When a division is attacking from the march, preparatory fire provided for by the Field Service Regulations usually is conducted, for which up to 0.5 unit of fire of artillery rounds is planned. Consequently, by the time of the attack there will be only 0.5 unit of fire left in the artillery of the units and of the divisions. With this amount of ammunition they are to conduct the entire first day of the operation. So as to prevent such a situation, in our opinion the ammunition for preparatory fire must be

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delivered over and above the norm of reserves and be placed on the ground.

This undoubtedly is the only correct way of solving the problem with the prescribed reserves. However, this is easily said but very difficult to accomplish in actual practice.

We believe that in a large unit the minimum norm of artillery and mortar ammunition reserves should be 1.5 units of fire. We do not press for increasing in a large unit the norms of the reserves of the remaining nomenclatures of ammunition, as we consider these to be adequate.

Now to say a few words on ammunition reserves in an army. Here the norms for artillery and mortar ammunition have also been considerably reduced. Whereas formerly, even after the war, these norms amounted to 0.5 unit of fire, now they have been cut back to 0.25 unit of fire. This means that if we replenish an army's reserves of artillery rounds on a daily basis, then the artillery can expend in a day no more than 0.25 unit of fire, that is, in a day of combat a division's artillery regiment can expend approximately seven hundred 122-mm howitzer rounds. This is extremely inadequate. Therefore the minimum norm of an army's reserves of ammunition for ground artillery and mortars must be 0.5 unit of fire.

As for small arms ammunition, it would be advisable, in our opinion, to increase it from 0.15 unit of fire to 0.25 unit of fire. Reserves of other types of ammunition need not be increased.

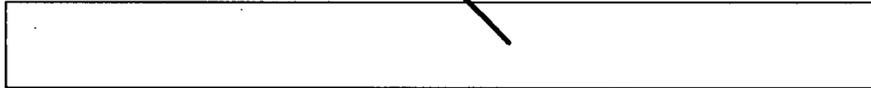
In connection with what we have set forth, we cannot agree with the decision to eliminate the army's special depot for ammunition. With the present-day width and depth of an army's offensive, a single composite artillery depot is in no condition to accomplish all of the tasks assigned to it for supplying troops with ammunition. But if the army had (as it used to) two army artillery depots (a composite depot and a depot for ammunition of all nomenclatures), this task would be successfully accomplished.

As concerns a front's mobile reserves, they are, in our opinion, fundamentally acceptable and for the present do not have to be increased.

A few words on the make-up of a unit of fire. When the concept of a "unit of fire" was introduced -- and it emerged long before the wars of the twentieth century -- a unit of fire meant the ammunition norm for a single day of intense combat. In the wars of the twentieth century this concept lost its meaning and the unit of fire became an arbitrary supply unit of

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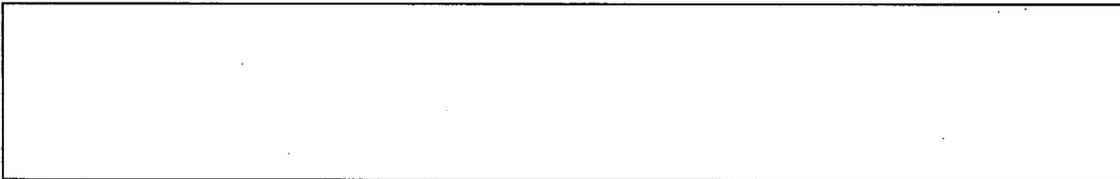
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norms for providing ammunition. By prescribing the method of echeloning ammunition in units of fire we obtained an orderly system of supply which fully proved itself in the Great Patriotic War.

The stagnation in the improvement and growth of artillery which has occurred in recent years has been reflected in the make-up of the unit of fire. Its content has undergone some reorganization in comparison with that of the Civil War, but has not changed since the Great Patriotic War.

The breakdown into high explosive-fragmentation, armor-piercing, and hollow-charge shells exhausts the classification of the present-day unit of fire. We have not introduced into our unit of fire such shells as the incendiary, illuminating, radar-fuzed, and other types of modern ammunition. We are deeply convinced that at the same time the norms of the mobile reserves are changed, the make-up of the unit of fire for artillery and mortar rounds will be revised and the new types of ammunition introduced. It is possible that objections will be raised and it will be pointed out to us that all of these rounds have not formed a part of a unit of fire but have been issued to the troops upon special requisition according to special norms. Yes, that has been the case. And in the past we could reconcile ourselves to this procedure: the special shells were scarce and we could not include them in a unit of fire. But now there are other requirements, other tasks, and it is necessary to revise the unit of fire.

In conclusion, I would wish for a most rapid establishment of norms of mobile reserves of missiles and a determination of the method of echeloning them. This will considerably simplify their supply and undoubtedly contribute to the more stable provision of the troops with missiles.



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