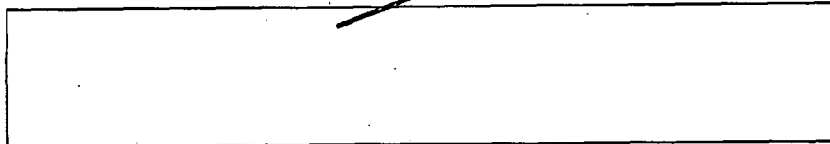


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CENTRAL INTELLIGENCE AGENCY
WASHINGTON, D.C. 20505

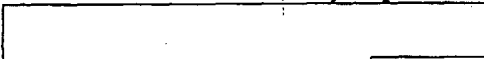
2 June 1976

MEMORANDUM FOR: The Director of Central Intelligence
FROM : William W. Wells
Deputy Director for Operations
SUBJECT : MILITARY THOUGHT (USSR): Road Support in
Operations

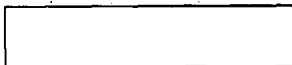
1. The enclosed Intelligence Information Special Report is part of a series now in preparation based on the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal 'Military Thought'. This article consists of two critical replies to various articles on road support published in earlier issues of this series. The first asserts that joint efforts by various road construction elements are needed to fulfil present-day operational requirements, and that roads should be geared for both troop and logistical movements. The author also recommends uniting engineer and road building functions under a road support directorate in a formation such as a front. The second repeats the need for integrating the road support of troop maneuvers and logistical movements, and cites the results of exercises in the Baltic Military District in establishing heavy road equipment requirements, which the authors claim the engineer troops cannot meet. This article appeared in Issue No. 2 (75) for 1965.



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 W. Wells



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Distribution:

The Director of Central Intelligence

The Joint Chiefs of Staff

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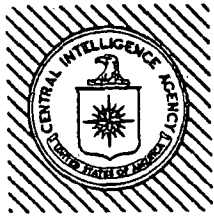
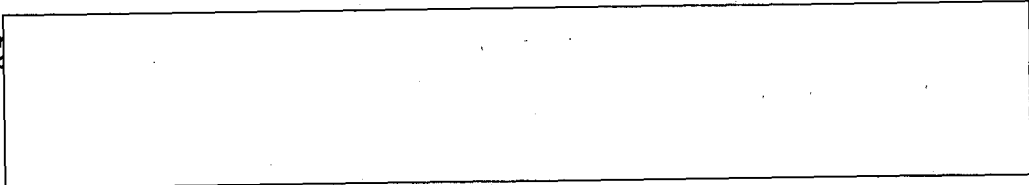
Deputy to the Director of Central Intelligence
for National Intelligence Officers

Director of Strategic Research

Page 2 of 16 Pages

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Intelligence Information Special Report

Page 3 of 16 Pages

COUNTRY USSR



DATE OF INFO. Mid-1965

DATE 2 June 1976

SUBJECT

MILITARY THOUGHT (USSR): Road Support in Operations

SOURCE Documentary

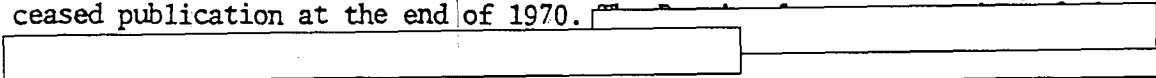
Summary:

The following report is a translation from Russian of an article which appeared in Issue No. 2 (75) for 1965 of the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal "Military Thought". This article consists of two critical replies to various articles on road support published in earlier issues of this series. The first, by General-Major of Engineer Troops V. Makarevskiy, asserts that joint efforts by various road construction elements are needed to fulfil present-day operational requirements, and that roads should be geared for both troop and logistical movements. The author also recommends uniting engineer and road building functions under a road support directorate in a formation such as a front. The second, by Colonel General M. Milovskiy and Engineer Lieutenant Colonel N. Varlamov, repeats the need for integrating the road support of troop maneuvers and logistical movements, and cites the results of exercises in the Baltic Military District in establishing heavy road equipment requirements, which the authors claim the engineer troops cannot meet.

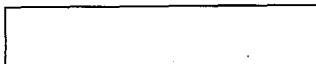
End of Summary

Comment:

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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Road Support in Operations

by

General-Mayor of Engineer Troops V. Makarevskiy,

Colonel General M. Milovskiy

and

Engineer Lieutenant Colonel M. Varlamov

In recent years the subject of road support has been discussed repeatedly on the pages of the military press. Apparently the importance and, at the same time, the vulnerability of roads and road installations in modern operations is too obvious; the gap between the number of road and bridge works and the forces and means available for their restoration is a wide one; and finally, the dissociation of forces and means designated for building and maintaining the roads cannot help but cause alarm.

The efforts of authors of articles published in the Collection of Articles of the Journal 'Military Thought' are also directed toward a solution of the numerous problems that have arisen in considering questions of road support.

A special response was received by the article by Marshal of the Soviet Union M. V. Zakharov, "On the Road Support of Modern Operations"* in which the author calls for "the reliable control over the preparation of roads and their use first of all in support of the troops", pointing out that up to 80 percent of the entire enormous motor transport inventory of a front is in the battle formations of the troops and not more than 15 to 18 percent is available in the rear areas of the army and front.

Marshal of the Soviet Union M. V. Zakharov believes that a special directorate for transportation lines must serve as the single center for planning the road support of operations in support of the maneuvering and transport of troops as well as their materiel and technical support.

*Collection of Articles of the Journal 'Military Thought', No. 2 (52), 1960.



Similar thoughts were expressed in an article by Colonel General of Engineer Troops A. Tsirlin, "The Question of Road Support in Offensive Operations".*

The authors of other articles published in the Journal resolve the questions of the preparation and use of roads chiefly in support of the operational rear and not the maneuvering of troops, which in our opinion cannot be considered a correct approach.

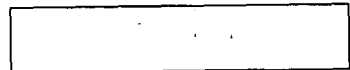
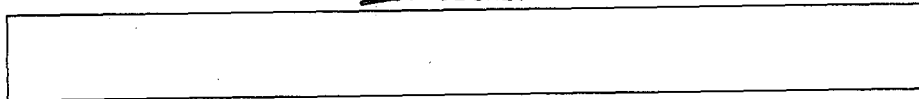
In our view an even more erroneous viewpoint was taken by General-Mayor P. Fomichev in the article "Problems of the Road Support of Modern Offensive Operations";**although on the whole the article contains a number of interesting thoughts and useful suggestions on the organization of road and bridge works. Certainly the author is correct when he says that roads should be readied during an offensive without disrupting the battle formations of the troops, and that there is a need to increase the combat readiness of road repair units. His comments on organizing cooperation with Civil Defense organs, bringing construction units of the Ministry of Defense into road-building work, improving the national-economy road construction equipment, and standardizing water crossing equipment sets, are appropriate.

At the same time it is our opinion that General-Mayor P. Fomichev has taken a one-sided view of the function of roads, seeing them only as arteries linking the operational rear with the front.

It is for this reason that in the calculations which he gives the extent of the road system in a front has been reduced by nearly a factor of two. In our opinion the extent of the road system at the start of an operation should be up to 10,000 kilometers and not 4,000 kilometers; and toward the end of the operation it should be not 12,000 to 15,000 kilometers but three times greater. This occurs because the author has not considered another, unquestionably more important function of the roads, particularly in the initial period of a war: the fact that they serve as ways for moving the troops to the front lines.

*Collection of Articles of the Journal "Military Thought," No. 2 (57), 1961.

**Collection of Articles of the Journal "Military Thought", No. 3 (70), 1963



Calculations show that to support the movement forward of an army consisting only of five divisions and army units to a depth of 1,300 to 1,500 kilometers where four to six through roads have been prepared, it will be necessary to prepare 9,000 to 10,000 kilometers of axial and lateral roads which will have up to 150 bridges 50 meters or more in length with a total length of 18,000 to 20,000 linear meters.

The preparation and maintenance of such a large number of roads requires the allocation of at least 50 road-building and bridge-building battalions, while all (or almost all) of the engineer units (subunits) of an army comprise only 40 percent of the number of men and equipment that would be necessary. The remaining equipment would have to come from road units in the rear, road contingents of the Ministry of Motor Transport and Highways, military construction detachments, and subunits and units of the branch arms.

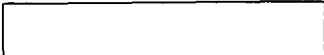
In our view, only through the joint efforts of all of these special units, under centralized control, will it be possible to prepare roads and crossings in a timely manner under present-day conditions.

It should be pointed out that General-Mayor P. Fomichev and several other authors examine the preparation of the road network and the organization of the road service from the position of the "classical" approach, which calls for the division of the entire network of roads in an army (front) into two parts: tactical roads (from the front line to the divisional supply depots or the forward branches of army depots) and roads of the rear area (operational). It is envisioned that the former (tactical), intended to support the movement and maneuvering of the troops, will be prepared by engineer units, while the latter, used for the delivery of materiel and for evacuation, will be prepared by road units of the army (front) rear.

We believe that the division of roads into "tactical" and "rear" in modern operations, particularly in operations in the initial period of a war, is an outdated concept.

One may be convinced of the correctness of this viewpoint if he examines, even in the overall plan, the tasks of any of our border or interior military districts. Their main task in the initial period of a war will be to ensure the timely movement forward of troops in a state of constant combat readiness and newly deployed to the line of armed contact with the enemy, and then the movement forward of deeper reserves. It is precisely to the fulfilment of this task that almost all available and





deployable engineer units may be assigned: a significant number of the military construction detachments of the district, road contingents of the Ministry of Motor Transport and Highways, road units of the rear, troops on their own routes of movement and, if necessary, second-line contingents and replacements. In addition, Civil Defense units will be allocated to restore roads and build bypasses in the event of damage in large cities and road junctions.

Can one really draw a line here and divide road preparation works into "tactical" and "rear area" as in the "classical" method?

The "battle formation" of forces and means allocated for the preparation of roads frequently finds itself reversed, that is, the road contingents of the rear or the Ministry of Motor Transport and Highways find themselves closer to the enemy than the deployed engineer units, or the units may be mixed up. The tasks of preparing bridges and crossings and repairing damage can be carried out only when there is the most rigid centralization in the employment of all these forces and means and precise control over them.

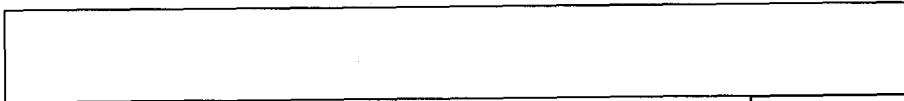
Therefore, it is our view that there has long been a need for the unification within a front and an army of all the forces and means capable of preparing and maintaining unimproved roads,* bridges and crossings in support of troop maneuvering and the organization of supply deliveries, as well as the establishment of a single control center for these units.

In some articles the authors have expressed the opinion that the role of organizer of all of these forces and means should be given to the combined-arms staff which would develop a road support plan on the basis of the decision of the troop commander.

There is no doubt that the staff should solve the operational part of the problem of moving and regrouping troops and determining the procedure and time periods involved in moves. However, the staff is not in a position to handle the technical part of the problem -- the organization of road preparation work, the utilization of all the forces and means allocated for road support, and the supervision of all the work.

*We have in mind all classes of roads, including cross-country routes.





The authors of such proposals forget that the staff is overworked with many other problems and cannot act as arbitrator in the distribution of the efforts of engineer, road and other units allocated to road preparation work. What is needed is a single authority with the appropriate control organ which could be responsible equally for the preparation of tactical and rear area roads and could exert well-qualified technical supervision over all works.

In our opinion, therefore, it is now necessary to unite the engineer and road units (large units) within the armies and fronts (districts) and establish road support departments (directorates) under the command of a special assistant (deputy) to the commander of the army (front).

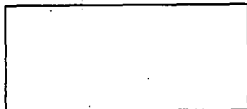
The idea of establishing such a directorate, which would have the appropriate control organs and communications means, was suggested by Marshal of the Soviet Union M. V. Zakharov, who called it a directorate for transportation lines.

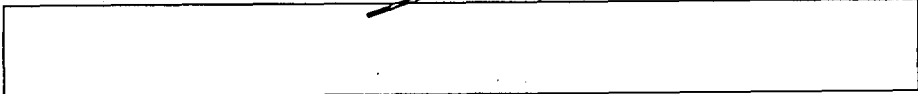
Road contingents of the Ministry of Motor Transport and Highways, construction units and other contingents and units of the branch arms allocated to road construction in support of the army (front, district) should also be subordinate to the road support directorate.

Not long ago the control of road units was reorganized -- the road departments in the military districts (fronts) were made a part of the Military Transportation Service. Thus it would seem that the idea of unifying the command of road work has found a practical solution. But in fact there occurred a joining of completely different organizations, dissimilar with respect to their operating techniques, tasks and final results (outputs).

What reasons can be given for combining these organs of the road service and the military transportation service? Apparently as a result of combining all road and transportation organs in the hands of a few there was hope of having direct operational command, by the chief of the rear, of road preparation work and over shipments of all types in the operational rear (although, as is known, those who build and restore the railroads -- the railroad troops -- were left out of this union and were not made subordinate to the chief of the rear).

What can be said against such a unification? First of all that the means and methods used in the preparation and operation of railroads and unimproved roads are absolutely dissimilar, and that the equipment of





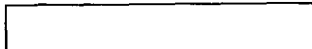
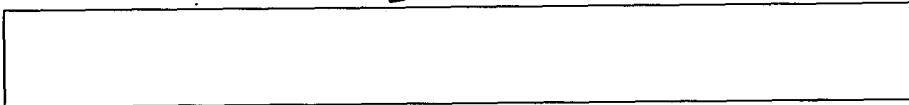
railroad and road units, methods of carrying out the work, the repair base and methods of combat training are different. We should also not forget the fact that in most cases neither the chief of the military transportation service nor the chief of the rear of a front (district) is in a position to exercise the necessary technical (much less operational) command over the road units for the simple reason that they have as a rule a different military training profile and are fully occupied by other more specific tasks.

It seems to us that at the present time the rear has combined so many services and functions that it could not possibly perform them in a sufficiently qualified way. Under these conditions the unification of military transportation service organs with the road service may mark the limit of (word missing) in the activity of the rear.

What can be said "for" and "against" the combining of engineer and road units in an army and a front (district)? The case for would include: organizational ties, similar equipment and repair base, similar methods of organizing work and combat training, and the single type of "output", although the tactical and technical requirements for the quality of roads and bridges are still somewhat different. A very important factor is the capability for flexible utilization of engineer and road units, and the loads on each unit can be made more uniform. Finally, both the engineer and road units will receive well-qualified operational as well as technical supervision from a special deputy (assistant) to the commander of the front (army) and the corresponding directorate (department).

It is now impossible to say who could become the head of this union -- the chief of the engineer troops of the front (district, army), the corresponding chief of the road service, or someone else. It is important that he be a person with sufficient authority and competence to resolve all questions of an operational-tactical and technical nature. The question arises whether such a unification would weaken the influence of the chief of the rear on the preparation of roads required for the delivery of supplies. But of the two functions served by the roads, the main one is the support of troop maneuvering, and then deliveries of materiel will be made over these same roads. In addition, it would obviously be an advantage for the chief of the rear of an army to have an engineer battalion (one engineer company, one or two road and bridge companies and one road traffic control company) instead of the existing engineer company, while a front should have an engineer brigade (one or two engineer battalions, two road battalions, one bridge-building battalion and one road traffic control company). These forces could perform all of the engineer





tasks directly in support of the rear area of the army (front), including the job of preparing access roads to army and front field bases and roads within these areas, and could perform the engineer measures required for the protection of the troops against weapons of mass destruction.

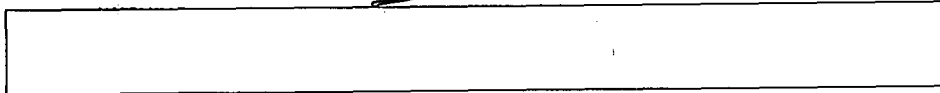
If the responsibility for the command of all road support in an army and a front is placed upon the chief of the engineer troops, he could handle the assignments through an appropriate organ -- a road support directorate (department).

We cannot consider normal the present situation in which the main reporting officer at command-staff exercises and war games on questions of the road support of the troops, the presence and status of the road network and bridges is the chief of engineer troops of the front (district) and army and not the chief of the rear, even though the persons responsible for monitoring the development and preparation of highways in peacetime and wartime and examining the technical specifications for the design, construction and repair of roads and bridges and other tasks are the chief of the rear and the chief of the road service. Under the existing conditions the chief of the engineer troops is actually removed from all of these tasks. A certain paradox has developed: the materiel and all data on roads and bridges flow to the chief of the rear, while the person primarily responsible for their preparation and for road support in operations is the chief of the engineer troops. This contradiction would be eliminated if the road and engineer services were to be combined.

In conclusion it should be pointed out that the present practice of military districts in planning operations for the initial period of a war has been to assemble all available forces and means for the preparation of lines of troop movement, to utilize them in a centralized manner and to set up improvised control organs, where necessary bringing in officers from the road service, the construction directorate and other services under the overall supervision of the Chief of the Engineer Troops. However, the limitations of the existing tables of organization make it difficult to adopt effective measures for improving the command of road support. The decisions made in some areas are not backed up by the necessary materiel and there is a lack of continuity in the work.

Conditions require that the solution of this most important problem be reinforced by the necessary organizational measures.





* * *

Some very important questions were raised in the article by General-Mayor P. Fomichev "Problems of the Road Support of Modern Offensive Operations".* This explains the great interest which the article caused among the readers.** The comments of Colonel L. Chernolupkiy and General-Mayor of Engineer Troops G. Bulakhov contain a number of interesting propositions to which we have no objections. But we cannot agree with some of the statements made by General-Mayor of Engineer Troops G. Bulakhov.

Let us refer to the main thesis presented in the article. The author asserts that, "in fact, the task of road support for an offensive operation by a front at the start of a war will be solely the function of engineer support". He bases this assertion on the division of road support into the following types: the support of supply deliveries and the support of troop maneuvering and movements. Additionally, he feels that at the start of a war the engineer troops will have a large amount of equipment (1,000 sets of dozer attachments, up to 150 route clearers, more than 1,300 mine-clearing attachments, up to 130 bridge-layers and others).

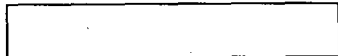
It is now obvious to everyone that under modern conditions operations will acquire an enormous spatial scope from the very beginning of a war and will be carried out at high speeds with the continuous buildup of efforts of the advancing troops, making it necessary to move formations and large units over great distances from the deep rear to the front, between fronts and within the limits of a front zone.

Questions of supply must also be solved in complete accordance with the nature of actions of the troops. Therefore, the differentiation of road support into two types performed in the interests of supply and in the interests of troop movements -- as General-Mayor G. Bulakhov has attempted to do, is an artificial one in our opinion. The overwhelming majority of military researchers have now arrived at a common viewpoint which basically is that the problem of the road support of operations can be solved successfully only by the integrated employment of all means both for the support of troop maneuvers and movements as well as in the interests of supplying materiel in all echelons: center-front, army-large unit (unit). Only then will the rational utilization of all available forces and means

*Collection of Articles of the Journal "Military Thought", No. 3 (70) for 1963.

**Collection of Articles of the Journal "Military Thought", No. 3 (73) for 1964.





be possible (the road troops of our army and of the Warsaw Pact countries, the engineer troops, special contingents and other subunits of transportation organizations). This same thought was expressed in the article by General-Mayor P. Fomichev, and we think there is no reason to doubt this assertion.

The importance of each of the above road support organs to operations, particularly in the initial period of a war, will change depending upon the situation which has developed and the level at which the means are used; for example, the road support troops will perform the major part of the work at the center-front level, while at the army-large unit level the main burden will fall on the engineer troops.

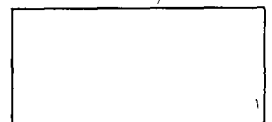
As is known, all road support measures in modern offensive operations will be carried out under a single plan which determines exactly the plan and tasks of the road support troops, engineer troops and civilian organs at all levels.

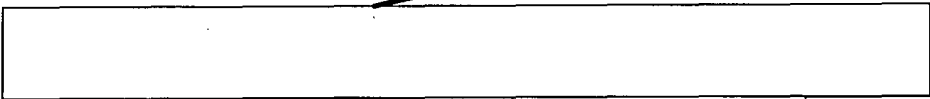
The second argument by the author of these comments -- that only the engineer troops can perform the tasks of the road support of operations in the initial period of a war (in view of the large amount of equipment available to them) -- has also raised some objections. At the present time it is generally accepted that the main task involved in the road support of operations is the preparation of roads, which includes their restoration and the organization of road traffic control service on them.

The need for road restoration equipment stems from the scope and nature of the work which must be performed with this equipment in order to ensure the movement of troops and supply columns, including those with missiles and missile propellant, at speeds of at least 25 to 35 kilometers per hour.

The accompanying table, compiled on the basis of data from a series of exercises conducted in the period 1962 to 1964, shows the amount of work related to the road support of operations.

An analysis of these data shows that the main volume of earth-moving jobs required in the restoration of roads can be performed by scrapers and excavators operating in conjunction with transport means. As far as road surfacing is concerned, the major part of this work (up to 85 to 95 percent) is performed by excavators and transport means.



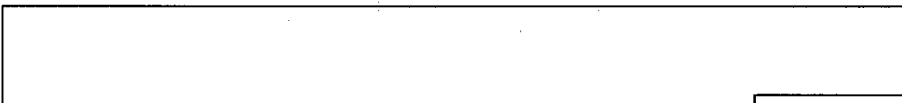


This is explained by the fact that, in the restoration of approaches to destroyed bridges, the construction of bypasses and the restoration of high embankments in defiles and swamps, the major part of the earth-moving tasks is characterized by the following figures: 20 to 30 percent of the total amount of work involves the movement of soil for distances up to 100 meters while 70 to 80 percent involves movement of soil for distances greater than 100 meters. The equipment used in road restoration work is distinguished by its highly specific nature. For example, motorized graders are best used in those situations when it is necessary to move soil over a distance of 10 to 15 meters, when levelling soil, grading existing roads and performing radioactive decontamination of them; bulldozers should be used to shore up embankments and make cuts during the construction of bypasses and approaches to water obstacles when soil and water conditions are favorable, to fill ditches, trenches, and craters and, of course, only in those cases when the distance required for the movement of soil is not greater than 100 to 200 meters and the height of the embankment is two to three meters; scrapers and self-propelled scrapers should be used in the restoration of embankments and the construction of bypasses and approaches when the distance required to move soil is within the limits of 100 to 200 and 1,000 to 2,500 meters, respectively; excavators working with transport means (dump trucks) are widely used for the restoration of sub-grade roads and the construction of bypasses and approaches in those cases when the distance required for the movement of soil is greater than 1,000 to 2,500 meters.

These data have been verified by the experience of numerous exercises with the actual deployment of road troops. For example, in an exercise in the Baltic Military District the following amount of earth-moving work was performed by the technical means indicated: three percent by motorized graders, 25 percent by bulldozers, 35 percent by scrapers and 37 percent by excavators working with transport means. It should be noted that this road restoration work in the Baltic Military District was carried out in the summer under favorable soil-geological and water conditions. At the same time, however, all excavators (18), scrapers (six) and dump trucks (38) were used in the operations while only about 20 percent of the bulldozers (four or five of 23) were used.

In other exercises, when road restoration work was performed in marshy woodland or in the spring in rainy weather, only scrapers and excavators operating with transport means were used in the earth-moving operations. Bulldozers were used chiefly on preparatory jobs.





Now let us see whether the equipment available in the engineer troops and named in the comments by General-Mayor G. Bulakhov corresponds to the nature and scope of road restoration works.

The following conclusions can be drawn on the basis of the data given in the table: the engineer troops, while they have ample capabilities for laying crossings, building bridges and clearing mines and obstacles from roads, have limited capabilities to perform earth-moving tasks (up to 20 to 25 percent of the total) and are completely lacking in the equipment needed to restore road surfaces.

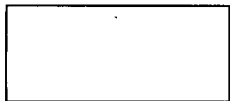
One receives the impression that General-Mayor G. Bulakhov, in determining the ability of engineer units to perform restoration works on roads, bases his comments only on a consideration of the amount of technical means and completely disregards an analysis of their tactical and technical specifications.

In addition, it becomes obvious from an analysis of factual data that the bulldozers and route clearers available in the engineer units can be used successfully only for laying cross-country routes, building fortification works (shelters) and filling all possible types of crater damage in roadways. But the engineer troops do not have the necessary machines to perform the major part of earth-moving works required in the restoration of roads (about 70 to 80 percent) and building protective cover.

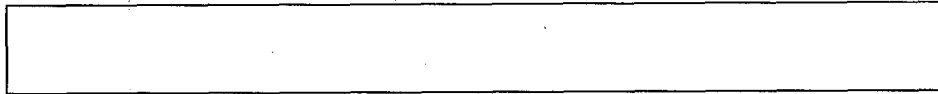
We must also consider the fact that the necessary rate of movement cannot be maintained when bulldozers and route clearers are used to move soil on restored roads. Experience shows that cross-country vehicles can move at speeds of only five to ten kilometers per hour on such road sections.

In order that troops in wheeled vehicles and supply columns be able to maintain a speed of 25 to 35 kilometers per hour, it will be necessary either to surface the destroyed road sections or carry out artificial soil compacting procedures. Soil-compacting equipment is available only in certain road construction battalions of the road troops; the engineer units do not have this equipment.

The second road preparation task is that of the road traffic control service. The article by General-Mayor P. Fomichev correctly places emphasis on the organization of communications, since this determines the efficiency of control and the rational utilization of the entire existing



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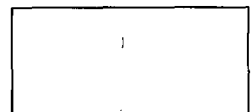
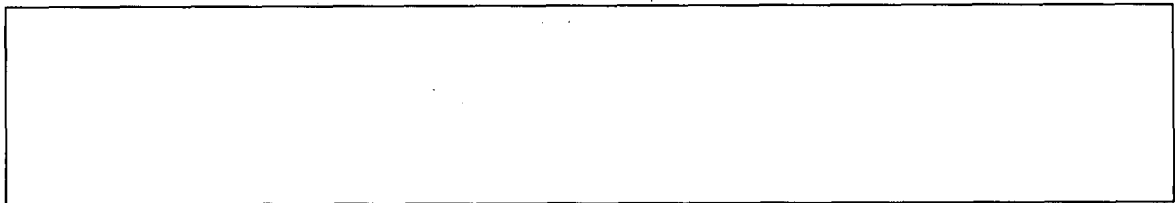


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network of roads in the front (army) area. This road support task also cannot be performed by the engineer troops.

Thus, of the main tasks of providing road support for operations in the initial period of a war, the engineer troops can perform only a few, chiefly those related to the laying of crossings over water obstacles, clearing obstacles on roads and the laying of cross-country routes.

Taking into consideration everything that has been said above, we would like to say that in our opinion there is no need to waste efforts trying to prove that one or another organ is more important to the performance of tasks of the road support of the troops. The task simply involves the more rational utilization of all forces and means available for road support while precisely defining the tasks of the road support and engineer troops and the civilian transportation organizations.



~~TOP SECRET~~

Time of exercise, period of operation and number of roads prepared	Amount of work involved in restoration of road network in front zone							
	earth-moving (total cubic meters)	Percent of total and distance required to move soil (meters)				Surfacing (thousands of linear meters)	Bridges (linear meters)	
		up to 10-15 m (motorized graders)	from 10 to 100 m (bulldozers)	from 100 to 1,000-2,500 m (scrapers)	more than 2,500 m (excavators with dump trucks)		Long and medium	Small bridges
March-April 1962								
In support of the immediate task (4 main, 4 secondary and 3 lateral roads)	618,549	5	29	46	20	294.5	10,547	1,835
Same (4 main and 3 lateral)	265,400	4	25	50	21	195.1	3,903	679
Same (2 main, 3 secondary and 3 lateral)	210,750	3	27	54	16	117.6	3,519	612
In support of the subsequent task (3 main, 3 secondary, 4 lateral)	907,679	3	28	45	24	493.3	15,247	2,670
Same (2 main, 2 secondary and 4 lateral)	260,550	5	30	41	24	146.5	4,347	756
September 1962								
In support of the immediate task (3 main, 3 secondary, 3 lateral)	463,025	5	23	52	20	157.0	5,430	1,162
In support of the subsequent task (3 main, 2 secondary, 3 lateral)	352,375	3	20	52	25	152.0	5,060	1,740
Same (5 main, 3 secondary 4 lateral)	569,625	3	26	43	28	148.0	7,250	1,450
In support of the entire operation (5 main, 3 secondary, 4 lateral)	132,790	4	24	46	26	317.0	8,720	1,744
April 1964								
In support of the immediate task (2 main, 2 secondary, 3 lateral)	248,840	5	35	10	50	110.0	6,865	1,200
Same (3 main, 3 secondary, 3 lateral)	369,390	5	32	15	48	163.0	8,645	1,620
In support of the subsequent task (2 main, 1 secondary, 3 lateral)	216,168	5	30	10	55	95.8	5,283	918
Same (3 main, 3 secondary, 4 lateral)	452,600	5	40	12	43	246.4	7,860	1,850