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CENTRAL INTELLIGENCE AGENCY
WASHINGTON, D.C. 20505

29 November 1976

MEMORANDUM FOR: The Director of Central Intelligence
FROM : William W. Wells
Deputy Director for Operations
SUBJECT : MILITARY THOUGHT (USSR): Airfield Engineer
Support of the Air Army in the First Offensive
Operation of the Front

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 general review of support provided by airfield engineer forces to the air army of a front, including its cruise missile units, in an offensive operation. The support of departure basing entails the preparation and protection of a network of main, maneuver and alternate airfields and missile siting areas in anticipation of a rapid advance by front troops. The author examines the airfield requirement of the air army, airfield engineer support of air combat operations, including the construction and restoration of airfields and cruise missile positions, restoration of captured enemy airfields, the use of highways as runways, and future requirements occasioned by V/STOL aircraft. This article appeared in Issue No. 4 (65) for 1962.

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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

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Intelligence Information Special Report

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COUNTRY USSR

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DATE OF INFO. Mid-1962

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29 November 1976

SUBJECT

MILITARY THOUGHT (USSR): Airfield Engineer Support of the Air Army in the First Offensive Operation of the Front

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 author of this article is Engineer Colonel V. Semenov. This article is a general review of support provided by airfield engineer forces to the air army of a front, including its cruise missile units, in an offensive operation. The support of departure basing entails the preparation and protection of a network of main, maneuver and alternate airfields and missile siting areas in anticipation of a rapid advance by front troops. The author examines the airfield requirement of the air army, airfield engineer support of air combat operations, including the construction and restoration of airfields and cruise missile positions to allow rapid maneuvering, the personnel, equipment and time required for this, restoration of captured enemy airfields and the importance of capturing serviceable airfields, the use of highways as runways, and future requirements occasioned by STOL and VTOL aircraft. End of Summary

[Redacted]

Comment:

The author also wrote "Engineer Support of Antiair Missile Units Front Offensive Operation" in Issue No. 3 (70) for 1963

[Redacted] 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.

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Airfield Engineer Support of the Air Army
in the First Offensive Operation of the Front

by
Engineer Colonel V. Semenov

The postwar development of front aviation is characterized by a further increase in its combat characteristics and an expansion of its operating ranges in time and space. The main factor determining the might of present-day front aviation is its equipping with nuclear missile weapons and the newest combat equipment. But together with the growth in the combat might of the front aviation, certain difficulties in utilizing it have arisen. Successful fulfilment of the tasks confronting the air army during the preparation for and course of an offensive operation of the front in the initial period of war will be determined to a considerable extent by the conditions of basing and maneuvering air units and large units.

The further increase in the dependence of aviation on the conditions of airfield basing is explained by the fact that the take-off and landing characteristics of jet aircraft by comparison with piston aircraft have drastically changed and have led to the necessity of almost doubling the dimensions of temporary airfields, improving the quality of preparation of dirt airfields, and increasing the strength of man-made runways.

Solving the problem of basing the front aviation greatly depends on the coordinated actions of the command of the border military districts, which are expanded into front formations with the beginning of military actions, and of the command of the air army. The high rates of advance of the troops of the front and the fluid nature of armed combat will force the aviation, during the development of the operation, to frequently carry out airfield maneuvering, which will not uncommonly be accomplished under conditions of radioactive contamination of the terrain. This will require the fulfilment in extremely short time periods of a considerable number of airfield engineer measures directed toward support of the basing of aviation and toward averting its lagging behind the advancing troops of the front.

Let us examine the airfield engineer support of the air army during the preparation and course of the first offensive operation of the front.

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The nature of departure basing of the air army. Airfield engineer support of the departure basing of the front aviation carried out in peacetime largely predetermines the successful fulfilment of the tasks confronting the air army in the first offensive operation of the front.

In organizing the departure basing of the air army, it is necessary to take into consideration the requirements of establishing an advantageous grouping of the front aviation by the beginning of the operation, providing conditions for its successful fulfilment of tasks, and setting up a reliable system of protecting the basing against means of nuclear attack. The entire system of basing of the front aviation must meet these three requirements. Let us note that a modern system of basing front aviation must include main basing airfields, maneuver airfields, and alternate airfields.

The depth of the disposition of the departure basing airfields of the front aviation is determined by its capabilities to conduct combat actions from these airfields in the initial missile/nuclear strike and also to cover and support the troops of the front at the beginning of war. At the same time, the depth of basing must ensure invulnerability of aviation to the short-range missiles of the enemy.

In peacetime, the front aviation may have an overall depth of basing of up to 400 to 600 kilometers. In the interests of ensuring the constant combat readiness of the aviation and its successful actions in the first offensive operation of the front, it is necessary to provide for the advance establishment of maneuver and alternate airfields which will allow the aviation to perform a prompt maneuver to departure basing airfields at the beginning of the operation. Airfields in the zone of actions of the troops of the front must be situated with consideration for the possibility of quickly including air large units in the accomplishment of the task of routing the opposing enemy and assisting the combined-arms large units in completing his destruction. For this, the depth of the departure basing of the first-echelon fighter air divisions fulfilling the tasks of covering the deployment of troops and their movement up to the national border must reach about 150 kilometers, the overall depth of departure basing of the fighter aviation of the front, in conformity with that materiel with which it is equipped at the present time, being 200 to 250 kilometers. Considering the operating radius of the enemy short-range missiles, it is advisable in organizing the first offensive operation of the front to have the forward basing airfields of the fighter and fighter-bomber aviation of the border military districts at a distance of 50 to 70 kilometers from the national border. As the role of the surface-to-air missile troops in

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covering the large units and installations of the front increases, the distance of the forward basing airfields of the fighter aviation from the national border may be increased to one and one-half or two times as far.

Airfield complexes of departure basing of the second-echelon air divisions, mainly of the front bomber aviation, are advisably placed at a distance of 300 to 450 kilometers from the national border. Along with this, in order to hit deeper enemy targets with bomber forces, it is desirable, in the fighter aviation basing zone, to prepare for the bombers separate maneuver airfields or a maneuver airfield complex. Using the departure basing airfield network established in such a manner, the air army can carry out airfield maneuvering in the zone of the front for the purpose of shifting its efforts from one axis to another, increase the depth of action against the enemy, rebase air units and large units to reduce the possibility of their being hit by nuclear strikes, and also conceal the true basing of the front aviation during the preparation and course of the operation.

Under present conditions, besides using the basing airfields of some air large units for the airfield maneuvering of other air large units, it also is advisable to allocate a certain part of the alternate airfields and prepare them as maneuver airfields. Expanding the capabilities for carrying out airfield maneuvering of the front aviation by establishing a certain number of additional maneuver airfields will undoubtedly increase its combat readiness for delivering the initial nuclear strike against the enemy and repulsing his surprise attack. At the same time, this will create favorable conditions for the fulfilment of the subsequent tasks of the air army in the first operation of the front and, further, it will favor an increase in the protection of the basing of the front aviation against enemy means of nuclear attack.

Maneuver airfields, in our opinion, are given the same engineer preparation as the main basing airfields, with the disposition on them of the appropriate radiotechnical means, a definite reserve of materiel-technical means, and deployed rear services organs capable at any moment of receiving this or that air unit using the maneuver airfield and supporting its uninterrupted combat actions. Consequently, the constant combat readiness of the front aviation in the initial period of war is conditioned to a considerable extent by advance engineer preparation of the appropriate number of maneuver airfields and by the availability in the air army of enough reserve rear services units capable of supporting the combat activity of the aviation from these airfields during the preparation and the beginning of the first offensive operation of the front, which is being

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carried out at high speeds.

The basic tasks of airfield engineer support of the air army in an offensive operation of the front in the initial period of war are: creating the conditions for the cruise missile units and air large units to maintain constant combat readiness for conduct of combat actions in the initial missile/nuclear strike against the enemy and in repulsing his surprise attack; and providing the front aviation with conditions for dispersed, maneuverable, protected, and concealed basing. Timely accomplishment of these tasks should assure the front aviation successful conduct of combat actions during the preparation and beginning of the offensive operation.

Having decisive significance during the course of the offensive operation will be the speedy preparation of airfields on the axes of actions of the troops of the front. Speedy preparation of airfields can be achieved by shortening the time of reconnaissance of sectors for airfields, introducing more streamlined forms of airfields, and increasing the mobility of the airfield engineer units and their mastery of the methods of constructing and restoring airfields under nighttime conditions.

The amount and nature of engineer measures to be fulfilled by the engineer troops in peacetime in the interests of supporting the combat actions of the cruise missile units will be determined by the task which is assigned to these units in an initial missile/nuclear strike. If the plan provides for allocating certain cruise missile units for the first missile/nuclear strike, then, for such units or their subunits on alert, it is advisable to have, already in peacetime, siting areas ready that would ensure their constant readiness to conduct combat actions.

In the siting areas, shelters can be prepared for the launchers, special vehicles, and personnel. True, advance preparation of siting areas justifies itself only in case it is accompanied by careful and all-round camouflage. Siting areas for launching subunits on alert, taking into consideration the range of their fire, should be situated 30 to 40 kilometers from the national border (front line). Besides this, the engineer measures for support of the front cruise missile units fulfilled in peacetime must be aimed toward creating conditions for launching cruise missiles both from permanent deployment points as well as from combat alert assembly points, and during the movement of these units into siting areas. It should also be kept in mind that, during the deployment of the troops of the front at the beginning of war, the forces of the engineer units and subunits may carry out engineer preparation of new siting areas for the

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cruise missile units and subunits, in which provision must be made for the preparation of waiting and servicing positions, preparation of roads to provide for the maneuvering of the cruise missile subunits in the siting area, building of structures for the command post of the unit commander, and fulfilment of engineer measures for camouflaging the cruise missile units and subunits.

The siting area of a cruise missile unit may occupy an area of 500 to 600 square kilometers. In the selection of places in which to locate the siting areas of cruise missile units, it is necessary to take into consideration the disposition of the siting areas of the army and front missile and surface-to-air missile units, and also the location of the airfields of the front aviation. One must not allow overlapping of some siting areas by others. High density of the disposition of missile units and subunits on the terrain will not only reduce the capabilities of the rocket troops of the front to hit targets throughout the operating zone of the troops of the front, but it will also create conditions for the enemy to destroy them quickly with nuclear weapons.

The requirements of the air army for airfields. Up to the beginning of the first offensive operation, the number of airfields for the aviation of the front may be different in each specific case. It is determined in dependence on the preparation of a given theater of military operations in respect to airfields, the quantitative composition of the air army and the nature of its basing, and also in dependence on the conditions of the terrain on which the air army has been based in peacetime.

If there are in the composition of the air army four to five fighter, fighter-bomber, and bomber air divisions, one transport division, one or two reconnaissance regiments, one or two aviation engineer regiments, and one aviation radio regiment, then with this variant, in the air army in the initial period of war there may be 17 to 21 air regiments altogether. Figuring on two airfields for each fighter and fighter-bomber air regiment (the remaining air regiments -- one to each airfield), 25 to 33 airfields will be required to base them. This number of airfields will permit situating all the aviation of the front within the zone of actions of its troops. But it will be too difficult to provide continuous support and cover of the troops with this number of airfields. With the beginning of the operation, the requirement for airfields is conditioned not only by the strength of the aviation but also by the necessity for airfield maneuvering. Let us suppose that simultaneous airfield maneuvering is being carried out by only one-quarter of the forces of the air army; in this case, without sharing the basing of other air large units, it is

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necessary to have, in addition to the indicated number of airfields, another six to eight maneuver airfields and a like number of alternate airfields.

Thus, to provide maneuver basing of an air army of the indicated composition in departure position, up to 50 airfields will be required altogether. This is the minimum number. Such an airfield network can only basically provide basing of the aviation of the front. And if one considers that, in a number of cases, the necessity may arise to allocate six to nine airfields from the airfield network of the air army for the fighter aviation of the air defense army defending installations in the border area, and three to five airfields for carrying out staging of the long range aviation for the purpose of bringing its basing closer to the targets of action located in the deep rear of the enemy, then the capabilities for dispersed basing of the air large units of the air army will become very limited.

In order to have beforehand an airfield network of the needed capacity, it is necessary, as it appears to us, already in peacetime, during the preparation of the territory of border areas in respect to airfields, to prepare two to three airfields for each air regiment. Under this condition it will be possible with the beginning of war to provide departure basing of the air army, and in peacetime to work out the performance of quick maneuvering of air large units during operational training in district and army exercises.

Along with the preparation of an airfield network, taking on great significance now are engineer measures for antinuclear protection of the departure basing of the aviation, including, as is known, the undertaking of work to ensure utilization of the protective features of the terrain and dispersal of the air units and large units, and the equipping of airfields with structures for the protection of personnel and materiel.

With proper utilization of the protective features of the terrain, it is possible to increase the antinuclear protection of the basing of aviation in a real way and by the same token considerably reduce the requirements of the air units and air large units for man-made structures to be erected on airfields for the protection of personnel and materiel. On airfields prepared in peacetime, it is advisable, in our opinion, to be sure to have dispersal zones. In order to ensure the constant combat readiness of the air subunits, in the dispersal zones it is desirable to have strips for the take-off of aircraft immediately from these zones. Increasing the combat readiness of the front aviation and providing for its

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maneuvering and protection from the effects of enemy nuclear strikes can also be promoted by wider utilization of the civil airfields of the border military districts and the socialist countries. Naturally, the indicated airfields can be used for the landing and take-off of the present aircraft of the front aviation only with the appropriate additional preparation.

Airfield engineer support of the combat actions of the air army. During an offensive operation, airfield maneuvering of the large units and units of the air army acquires great importance. During the rapid advance of the troops of the front, it will be necessary to constantly bring the basing airfields of the aviation, especially of the fighter and fighter-bomber aviation, closer to the forward large units of the front so that the aviation, in cooperation with the rocket and surface-to-air missile troops of the front, can successfully fulfil the tasks of cover and support of the advancing troops.

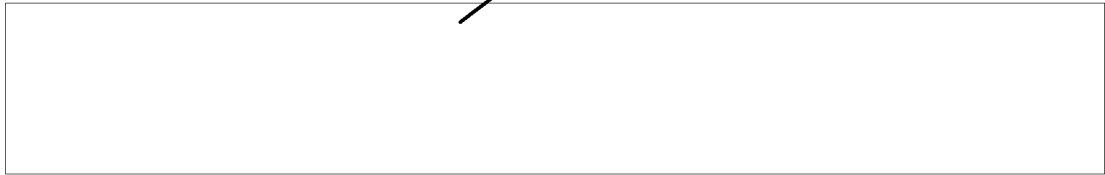
The requirements for depth of disposition of the forward airfields during the operation remain basically the same as for the depth of departure basing of the aviation of the front. An additional requirement will be the preparation of conditions that provide the fighters the capability of conducting more prolonged actions at low flight altitudes. Taking this into consideration, it is advisable to situate the forward airfields of the fighter aviation at a distance of 70 to 100 kilometers from the front line; the depth of basing of all fighter aviation must not exceed 100 to 300 kilometers. This will allow covering the troops of the front against the strikes of enemy aviation at low altitudes from a status of airfield alert and intercepting the air enemy at high altitudes 25 to 30 kilometers beyond the front line, i.e., up to the line of enemy bombing against our troops.

The fighter-bomber aviation, designated for hitting enemy targets 15 to 200 kilometers from the forward large units of the front, should be situated at the same depth as the first echelon of the fighter aviation of the air army, and the bomber aviation, from 300 to 450 kilometers from the front line, and in an number of cases even up to 600 kilometers away. Naturally, to deliver strikes on deep enemy targets it is necessary during an offensive operation of the front to have for the bomber aviation of the front a staging airfield complex in the area of the airfield basing of the first-echelon fighters.

It is advisable to locate the siting areas of the front cruise missile units 30 to 80 kilometers from the front line during the operation.

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The high rates of advance of the troops of the front during the operation will drastically limit the possibilities for utilizing departure basing airfields, especially for the fighter and fighter-bomber aviation. Thus, by the end of the first day of the operation, the separation of the troops of the front from the departure basing of the air army may come to 120 to 150 kilometers, and by the end of the third day of the operation, the fighter and fighter-bomber aviation of the first echelon of the air army will be forced to completely change its departure basing airfields. This, of course, will require considerable efforts by the airfield engineer troops and perhaps even by the engineer troops subordinate to the front. But this still does not fully characterize the difficulties connected with the preparation of airfield basing of the aviation during the first operation of the front. When the depth of the operation is 800 to 1,000 kilometers, every fighter and fighter-bomber air division will change up to four or five airfield complexes, and a bomber division, up to two or three. Such is the nature of basing and the scope of airfield maneuvering of an air army in an operation of the initial period of war which predetermine the increase in the amount of basic engineer measures to support the basing of the air army without separation from the troops during the course of an offensive operation of the front.

Airfield engineer support of the air army during an operation of the front, as is known, will be carried out under conditions of widespread employment of nuclear weapons by the sides against all targets, airfields of the aviation included, conditions of the advance of our combined-arms and tank armies along individual axes, wide maneuvering of troops and units, change of the axis of their actions, presence of extensive areas with high levels of radioactive contamination, and frequent change of the basing airfields of the front aviation and the siting areas of the cruise missile units. This specific character of the first operations will require the fulfilment of airfield engineer measures within very short time limits. At the same time, the limited strength of the airfield engineer units which the air army will have at its disposal by the beginning of war may slow down the performance of these measures unless the air army is provided an expanded airfield network in advance, unless the amount and the order of performance of engineer work in constructing and restoring airfields during the operation are determined, and the available airfield engineer battalions are equipped with efficient and highly mobile technical equipment.

The basic measures of airfield engineer support of the maneuvering of the air army during an offensive operation of the front in the initial period of war are: maintaining the departure basing airfields in

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serviceable condition in the first days of the operation, constructing new airfields and restoring damaged ones, bringing captured enemy airfields into serviceable condition, carrying out work to protect the basing of the air army from enemy nuclear means of attack, and ensuring the safety of the forced basing and maneuvering of aviation in zones of radioactive contamination. Another important engineer measure is the preparation of siting areas for the units and subunits of the front cruise missiles and support of their maneuvering during the operation.

The front aviation will start carrying out combat actions connected with repulsing sudden enemy strikes and delivering the initial strike against him from the departure basing airfields prepared basically in peacetime. But from the very beginning of combat actions there will be required fulfilment of such engineer measures as elimination of the aftereffects of nuclear strikes, support of the removal of air units and cruise missile units from zones with high levels of radioactive contamination, restoration of airfields where there is only an insignificant level of damage, final preparation of alternate airfields and support of the rebasing of air units on them, and also preparation of new siting areas for the front cruise missile units and assistance of their maneuvering into the indicated areas.

To perform all these tasks, an air army must have considerable airfield engineer forces at its disposal. In the first days of an offensive operation of the front, engineer measures to maintain the departure basing airfields in serviceable condition will be carried out by the airfield engineer battalions and airfield technical companies from the complement of the aviation technical units. The possibility is not excluded that, at the beginning of war, in order to maintain departure basing airfields in serviceable condition and to eliminate the aftereffects of nuclear strikes against them, civilian construction, road, and transportation organizations located in the territory of the front will also be allocated. However, during the operation, all engineer tasks to support the basing of the air army will be performed basically by the forces of its engineer troops.

To support the combat actions of the cruise missile units during the operation, frequent change of siting areas will be required. New positions will be needed daily in order to bring the missiles closer to the troops, to a distance from which the cruise missile units can hit the deepest targets and at the same time not sustain losses from the tactical missiles and conventional artillery fire of the enemy. Unless a daily change of positions of the cruise missile units and subunits is provided, then, by



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the end of the first day of the offensive, the depth at which enemy targets may be hit with these missiles is substantially reduced and the range of tasks they can accomplish is drastically restricted.

For the missile unit, the airfield engineer battalion, during the preparation of the siting area, is required to conduct engineer reconnaissance of the terrain and participate in the reconnaissance and selection of sectors for launching, waiting, and servicing positions; to prepare the routes and support the relocation of the cruise missile units to the new siting areas; to carry out engineer preparation of the positions, implement engineer measures to protect personnel and equipment from nuclear means of attack, and take measures to camouflage equipment and protective structures. Support of the relocation of the cruise missile units and subunits during the operation is a matter of special concern.

Engineer support of the combat actions of the cruise missile regiment during an offensive operation can be accomplished by one airfield engineer battalion or a reinforced company of this battalion. If high-performance mobile equipment (three BAT-type road-clearing tractor-dozers, three MDK excavators, and three DIM road induction minesweepers) is introduced into the T/O&E of the present engineer-combat engineer platoon of the front cruise missile regiment, then the platoon will be able, during the operation, to carry out the preparation of the siting areas of the launching squadrons in the course of five to six hours. In this case, the front cruise missile regiment will have the capability of carrying out timely maneuvering.

Airfield engineer support of air large units involves a large volume of earthworks in the construction of airfields. In each specific case the volume is determined taking into consideration the relief of the terrain and the linear dimensions of the runways.

During the Great Patriotic War, the length of the airfields constructed was within the limits of 1,000 to 1,200 meters, with the volume of earthworks on an airstrip on average broken terrain constituting from 1,000 to 2,000 cubic meters. In constructing a present-day temporary airfield 2,000 to 2,200 meters long on the same average broken terrain, the volume of earthworks increases considerably and reaches 10 to 15 thousand cubic meters.

When troops of the front advance at high rates, a rigid requirement is made in respect to time limits for constructing and restoring airfields in the course of the operation. With a rate of advance of the troops of the

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front up to 100 kilometers per day, the time for constructing and restoring each airfield must not exceed one day, since otherwise the forward airfields of the front aviation will be more than 100 kilometers distant from the front line, as a result of which the front aviation will not be able to provide cover of troops from the air and fulfil certain air support tasks. Consequently, during an operation conducted at high speeds, the airfield engineer battalion must have the capability, under conditions of average broken terrain, by working in two shifts, of preparing for operation a dirt airstrip measuring 2,000 x 100 meters in one day. In the process, as it appears to us, the only work to be carried out should be scraping, compacting, and rolling a dirt runway, taxiways, and dispersal zones for materiel, and preparing approach roads to the airfield and slit trenches for personnel.

Shortening the times of preparing new airfields during the operation may be achieved as a result of reducing the width of the airfields, increasing the speed of moving the airfield engineer battalions from one airfield to another, mastery by these battalions of the construction of airfields under night conditions, and more complete and effective use of means of mechanization.

An airfield prepared during an operation, by the moment its construction or restoration is completed and by the moment the fighter or fighter-bomber aviation land on it, may not be more than 60 to 100 kilometers distant from the forward advancing troops. In order that the depth of disposition of the forward airfields will not be increased by the time their construction or restoration is completed, and that they will not be located too far from the forward combined-arms large units, it is advisable to carry out the preparation of individual labor-consuming airfields with the forces of two airfield engineer battalions.

The restoration of airfields seized from the enemy during the operation will be complicated. They may have different degrees of damage. The enemy may blow them up before leaving. In this case, airfields destroyed with the use of surface or underground bursts of nuclear mines will have so great a degree of destruction and such a high level of radioactive contamination that restoring them during the offensive operation of the front will be, for practical purposes, impossible. Only those dirt airfields which have been put out of operation (by the enemy or by our troops during preceding actions) as a result of air nuclear bursts, or airfields with a man-made runway that have been blown up with conventional high-explosive weapons, may be restorable.

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In restoring dirt airfields after air bursts of low and medium-yield nuclear warheads, it will be necessary to carry out scraping and rolling over the whole area damaged. Restoration operations can, as exercises show, begin only one to two hours after a high air burst, when the degree of radioactive contamination of the terrain has come down to acceptable limits. To restore a dirt airfield after the air burst of a low-yield nuclear warhead will require, according to calculations, one airfield engineer company-day, and to restore a dirt airfield after the air burst of a medium-yield nuclear warhead -- up to one airfield engineer battalion-day. To restore airfields put out of operation with conventional explosives takes lesser forces and time.

Occupying an important place in airfield engineer support of the aviation of the front is the capture of serviceable enemy airfields. The conditions for capture of serviceable enemy airfields during an offensive operation conducted at high speeds have changed drastically.

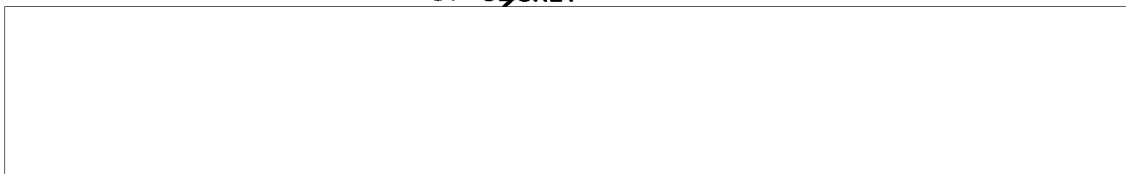
Earlier, as is known, the forward airfields of the enemy tactical aviation were 40 to 50 kilometers distant from the front line. Lately the enemy seems to have a tendency toward increasing the depth of disposition of the forward airfields of this aviation to about 100 kilometers. It can be assumed on sufficient grounds that all enemy airfields situated nearer than the indicated depth will be prepared for blowing up and part of them may be blown up upon being abandoned. However, with an advance of our troops at a rate of up to 100 kilometers per day, the enemy will hardly succeed in blowing up all his airfields. It will be possible to count on the capture of certain airfields which will be suitable for flights of our aviation. This is a very important circumstance. Both the air cover of the troops of the front and their support by the forces of our aviation will largely depend on whether the command of the front troops is able to ensure the capture of serviceable enemy airfields.

To successfully accomplish this task, we think it is necessary, on the basis of operational expediency, to plan the capture of certain enemy airfields by combined-arms and tank armies and to allocate the necessary forces and means for this when organizing the offensive operation of the front. Of course, the capture of suitable enemy airfields by the forces of advancing ground troops is possible only when they make a rapid, deep penetration into the enemy disposition, but this very thing will be typical of the first offensive operation.

The most advisable may be a combination method of capturing airfields, where the capture and holding of enemy airfields is carried out by tactical

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airborne landing forces before the approach of the large units of the ground troops who have the task of deep penetration and movement into the area of the captured airfield.

The daily requirement for airfields to be prepared during an offensive operation will be determined by the rates of advance, the numerical strength of fighter and fighter-bomber aviation making up the first echelon of the air army, and the requirement of this aviation for airfields to support maneuvering along the front. If the first echelon of the air army is going to be made up of one fighter-bomber and two fighter air divisions, then, as calculations show, during the operation it is necessary every day to prepare at least one airfield for each division. Besides this, to support airfield maneuvering and to replenish airfield losses during the operation, it is necessary every day to prepare one or two more airfields. Thus, during an offensive operation, to provide basing for the first echelon of an air army having the above-mentioned strength, daily preparation of up to four to five new airfields will be required, of which one or two serviceable airfields must be captured from the enemy by the troops of the front. This last condition is, as has been indicated, extremely important. If it is not fulfilled, then the air army may substantially lower the intensity of air support and worsen the cover of troops against air strikes.

It was established earlier that, by mastering quick restoration and construction of airfields under conditions of average broken terrain and by having the forces of the airfield engineer battalion work two shifts, it is possible to prepare a dirt airfield in one day. Taking this into consideration, to support the airfield maneuvering of the part of the front aviation belonging to the first echelon of the air army will require allocating three to four airfield engineer battalions. Airfield engineer support of the maneuvering of the fighter aviation making up the second echelon of the air army and also of the bomber and military transport aviation during an offensive operation will be realized basically by utilizing the airfields vacated by the aviation of the first echelon. Along with this, the restoration of certain airfields will be required, as will the allocation of one or two airfield engineer battalions for this. Thus, an air army, during the first offensive operation of the front, must have a minimum of five or six airfield engineer battalions.

Support of the maneuvering of the front aviation may be somewhat improved by utilizing certain sections of highways for the take-off and landing of aircraft, for instance, in the territory of the Western Theater of Military Operations. The experience with the flight of aviation from

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highways acquired during the Great Patriotic War confirms the possibility of using them for present-day aircraft as well. Here it is necessary to keep in mind that the present aircraft of the front aviation will require preparing sections of highways nearly twice as long as those prepared up to the end of the last war. The volume of engineer works to adapt certain sections of highways for flights of aviation will be correspondingly increased in comparison with the past. In the plan for road support of the troops of the front, it will be required to provide for measures to supply detours around the sections of highways to be used as runways.

Employment in the near future of aircraft with shortened take-off and landing will, to a considerable degree, facilitate support of maneuverable basing of the air units and large units of the air army during a rapid offensive of the troops of the front in the initial period of war. The conditions for the maneuvering of front aviation in an offensive operation of the front will be improved to an even greater degree when this aviation receives vertical take-off and landing aircraft into service. In this case, the necessity of preparing airfields with long runways will disappear. Engineer support of vertical take-off and landing aviation differs in principle from airfield engineer support of the aviation now existing. Instead of runways which are used by the front aviation for repeated take-offs and landings over two or three days of continuous basing, there will appear areas for vertical take-off and landing of aircraft, the majority of which will most often be used once. As a result of this, the front aviation will have the conditions for highly maneuverable basing during the course of the entire offensive operation of the front carried out at high speeds.

The list and volume of engineer measures to prepare a vertical take-off and landing area for the subunits and units of the front aviation will change. For instance, the tasks of checking the indicated areas for mining and radioactive contamination of the terrain and of preparing protective structures for personnel and equipment will become more labor-consuming. Of course, the relative proportion of the preparation of roads on which maneuvering will be carried out between the areas to transport materiel-technical means, will increase many times. But, in return, it will be completely unnecessary to build runways. True, the engineer units supporting the combat actions and maneuvering of the front vertical take-off and landing aviation will have to have the corresponding

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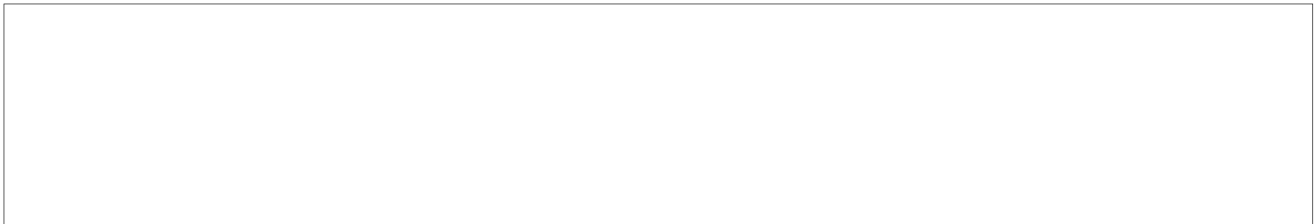
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technical equipping allowing the preparation of conditions for the maneuvering of aviation during the rapid offensive of the front troops. We should already be working on the establishment of such equipping now so that, when such aircraft are received into service, we will have the airfield engineer means of supporting their combat actions right away.



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