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SOVIET UNION MILITARY HISTORY JOURNAL

No 4, April 1987

[Except where indicated otherwise in the table of contents the following is a complete translation of the Russian-language monthly journal VOYENNO-ISTORICHESKIY ZHURNAL published in Moscow.]

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MASSING OF FORCES ON SECTOR OF MAIN THRUST

Moscow VOYENNO-ISTORICHESKIY ZHURNAL in Russian No 4, Apr 87 (signed to press 23 Mar 87) pp 11-21

[Article, published under the heading "Soviet Military Art," by Maj Gen P.T. Kunitskiy: "Massing of Forces on Sector of Main Thrust"; the article was written from the experience of the Great Patriotic War]

[Text] One of the principles ensuring victory over the enemy on the battlefield is the massing of forces on the sector of the main thrust. This was employed for the first time by the Ancient Greek General Epaminondas in 371 BC. F. Engels wrote: "Epaminondas was the first to discover the great tactical principle which up to the present has determined the outcome of virtually all crucial engagements: the uneven distribution of troops along the front in the aim of concentrating forces for the main thrust on the decisive sector."(1)

In the course of past wars, the Soviet Command has given the most serious attention to the questions of massing forces on the sector of the main thrust.

During the years of the Civil War, Lenin's demand: "At the decisive moment and at the decisive point to have a predominant preponderance of forces..."(3) was the guiding one in organizing and conducting the combat actions of the Red Army. During the war up to 75 percent of all its forces underwent a strategic regrouping. Here certain divisions were shifted from one front to another up to five times.(5) The principle of massing forces on the sector of the main thrust was also widely employed within the fronts. Thus, on the sector of the main thrust of the Southern Group of the Eastern Front in a zone 200-220 km wide, the group commander M.V. Frunze concentrated 49,000 bayonets and sabers with 152 guns, while on the remaining front of the Southern Group up to 700 km long there were just 22,500 bayonets and sabers with 70 guns. The well thought out concentration of forces (with an over-all shortage of them) on the decisive front made it possible to successively defeat Kolchak, Denikin, Yudenich and thwart the combined thrust of the Entente.

During the years of the Great Patriotic War, Soviet military art was enriched by experience in the decisive massing of forces on the sector of the main thrust.(6) Without having a substantial over-all superiority and at times in

being inferior to the enemy in men and weapons, the Soviet troops achieved major victories primarily due to the skillful employment of this principle by the command.

The high effectiveness of massing forces on the sector of the main thrust was achieved as the Armed Forces gained combat experience, as they were equipped with weapons and military equipment and as the organizational structure of the troops was improved.

In a number of offensive operations from the first period of the war, there was the scattering of men and weapons. This was one of the reasons for their inconclusiveness or unsuccessful outcome. On 20 July 1941, I.V. Stalin in talking over the direct wire with MSU S.K. Timoshenko said: "Up to now you move up two or three divisions to help a front but nothing substantial results from this. Is it not time to abandon such a practice and begin creating fists of seven or eight divisions with cavalry on the flanks? ...I feel that the time has come for us to shift...to actions in large groups."(7)

Hq SHC [Headquarters Supreme High Command], having generalized the experience of the first offensive operations, in the Directive Letter of 10 January 1942, pointed out that the slow pace of reaching the enemy tactical defensive zone could be explained not only by the shortage of men and weapons but also by the dispersion of actions and by the desire of the commanders of the fronts and armies to conduct an offensive along many axes. In the letter Hq SHC proposed the decisive abandoning of an even distribution of forces along the front and the establishing of powerful assault groupings on the main sectors. The letter emphasized that precisely this was the prime task of the command, for only in such a manner could one ensure a decisive predominance of forces and success in breaching the enemy's defenses on a certain sector.(8)

During the second and third periods of the war, the command personnel gained rich combat experience and its art of troop command grew. Year after year the output of weapons and military equipment increased and troop organization improved. Now the front and reserve of Hq SHC had tank and mechanized corps, uniform tank armies, artillery divisions and breakthrough corps, antiaircraft artillery divisions, powerful air armies, long-range aviation and air defense field forces and this made it possible to rapidly maneuver major forces, to increase the quantitative strength and improve the qualitative composition of the troops concentrated on the sectors of the main thrusts. The current article has attempted to disclose just certain aspects of the examined question: command over the massing of men and weapons on the sector of the main thrust in the offensive campaigns, the strategic, front and army operations; the organizing of assault groupings; the massing of the main weapons; the air cover for the troops being concentrated; logistic support; covertness of the massing of men and weapons.

Command over the massing of men and weapons on the sector of the main thrust was characterized by a high degree of centralization and this was caused primarily by the great front of armed combat and by the significant scale of troop concentration on the selected sectors.

Hq SHC, as the superior body of strategic leadership over the Armed Forces in the war, directly led the massing of men and weapons in the offensive campaigns and in the strategic and sometimes front operations. Here the front commanders were granted extensive initiative.

Having designated the axis of the main thrust in a campaign or strategic operation, Hq SHC set the quantitative and qualitative composition of the forces for launching it. In turn, the commanders of the fronts and armies as well as their staffs provided leadership over the concentration of the men and weapons in their areas on the basis of instructions from Hq SHC and the decisions for the front (army) operation. The high centralization of command made it possible to utilize the available forces most completely and effectively, even with an obvious shortage of the latter to alter the balance in the favor of the Soviet troops on the sector of the main thrusts and achieve victory. This was the case, for example, in preparing the counteroffensive at Moscow.

For defending the capital, the Soviet Command mobilized all its capabilities. Trains arrived at Moscow in a growing amount carrying troops, military equipment, weapons, ammunition and food from the Urals, from Siberia and Central Asia. Upon the decision of Hq SHC, during the first days of November 1941, the formation of ten reserve armies was started. Two of them, the 1st Assault and 20th, by the end of the month had been moved up into the Moscow area (on the right wing of the Western Front). Formations from the 60th, 24th and 26th Armies were also shifted here. The 10th Army was concentrated to the south of Ryazan and the 61st in the Ryazhsk and Rananburg area.(9)

As a result of the adopted measures, at the end of November and the beginning of December, that is, directly before the counteroffensive, the Western, Southwestern and Kalinin Fronts received significant reinforcements. The Western Front (commander, Army Gen G.K. Zhukov), for example, received three combined-arms armies (1st Assault, 20th and 10th), nine rifle divisions and two cavalry divisions, eight rifle brigades and six tank brigades as well as a large number of special units.

The committing of fresh field forces and formations to battle around Moscow, although not ensuring an over-all superiority in forces over the enemy (the Nazi grouping by the beginning of December 1941 was superior to our troops by 1.5-fold in personnel, by 1.4-fold in artillery and 1.6-fold in tanks)(10) but did permit our Command to substantially alter their ratio in our favor on the flanks of the enemy groupings, where the main assaults were to be launched by the fronts. These established conditions for going over to a counteroffensive and achieving a major victory.

The adopting of a plan to mass forces was preceded by great creative work by the command and the staffs and in the course of this they studied and analyzed the following: the existing (developing) military-political and strategic situation, the aims of the forthcoming actions and their nature; the composition, position, state and combat capabilities of our own and enemy troops, the expected nature of enemy operations; the physicogeographic and weather conditions of the theater of operations (the strategic and operational sectors) as well as other factors.

From mid-1942 until the summer of 1944, forces were massed on the southern wing of the Soviet-German Front, as was caused by the need to defeat the largest and most dangerous enemy grouping as well as by the importance of liberating the industrial and agricultural regions of the Ukraine from occupation. From June 1944 until the end of hostilities in Europe, the Soviet Army launched its main thrust on the western sector leading our troops by the shortest route to the vitally important centers and capital of Nazi Germany. The main forces were concentrated on the designated sectors for achieving the set goals.

In its plan for the massing of forces, Hq SHC proceeded from the economic capabilities for satisfying the needs of the operational army, as the quantity and quality of the troops to be concentrated depended upon this. "...The successes of the Red Army could have been temporary and they could have been nullified after the first major counterstrike by the enemy, if the Red Army were not supported from the rear by all our Soviet people, by all our country."(11)

By mid-1942, the defense industry capacity lost at the start of the war had not only been replaced but also surpassed. The troops began receiving in increasing quantities tanks, SAU [self-propelled artillery mount], aircraft, artillery and rifle weapons and ceased experiencing a shortage of ammunition. Here the share of new models was as follows: 42.3 percent for small arms, 83 percent for artillery, over 80 percent for armored and tank and 67 percent for aviation.(12) From the summer of 1942, they began organizing highly mobile armored and mechanized formations and field forces (tank and mechanized corps and tank armies), artillery divisions and corps of the RVGK [Reserve Supreme High Command] and large air formations. As a result it was possible to significantly strengthen the assault might of the troops on the sector of the main thrust.

In a front offensive operation, the quantitative and qualitative strength of the troops being concentrated on the sector of the main thrust was determined by the importance of the axis of operations, by the tasks to be carried out, by the available forces of the front and by the degree of its reinforcing with the resources of Hq SHC, by the opposing enemy grouping and by the nature of its defenses. The soundness of the massing of forces was increased if the following were taken into account: the nature of the terrain, the capacity of the accessible sectors, the conditions for employing weapons and combat equipment, and the possibility for the covert concentrating of troops. Important significance was given to the qualitative aspect of the troops being concentrated. The most battleworthy formations with combat experience were used for operations on the sector of the main thrust. Also considered were the personal qualities of the commanders and their professional training.

The principle of the massing of forces on the sector of the main thrust was expressed in the establishing of strong offensive groupings which significantly surpassed in effective strength those fighting on other sectors.

Thus, in the main grouping of the Soviet Army on the western sector, where the main thrust was to be launched in the campaign in the summer of 1944

(Belorussian Operation), on a sector representing 37 percent of the total length of the Soviet-German Front there were concentrated in relation to the entire operational army over 51 percent of the personnel, 53 percent of the guns and mortars, 58.3 percent of the tanks and SAU and around 56 percent of the aircraft.(13) In all the strategic operations which developed in areas comprising 20-37 percent of the total length of the Soviet-German Front, the following forces were involved: 25-50 percent of the personnel, 25-52 percent of the guns and mortars, 20-70 percent of the tanks and SAU and up to 30-98 percent of the aircraft.

The massing of forces was carried out just as boldly on the sectors of the main thrusts of fronts and armies. In recalling the Stalingrad Battle, MSU A.M. Vasilevskiy has written: "The crux of the matter was that the Soviet Command with the lack of over-all superiority in men and weapons was able to skillfully organize powerful assault groupings on the axes of the main thrusts. As an example, one might give the Southwestern Front which operated in a zone 250 km wide. On the breakthrough sector of 22 km (which was around 9 percent of the total length of the front) we had concentrated up to 50 percent of the rifle divisions, all the tank and cavalry corps and 85 percent of the artillery reinforcements. All the aviation of the front operated in the interests of this grouping. Assault groupings were established in an analogous manner on the Don and Stalingrad Fronts."(14)

In organizing troop groupings on the main sector, the Soviet Command proceeded not only from the necessity of launching a strong initial strike against the enemy but also the possibility of continuing the offensive to the entire depth of the planned operation.

The experience of the offensive operations from the first period of the war indicated that one of the reasons for the incompleteness of certain of them was the insufficient reinforcing of the fronts and the armies in the course of the fighting. Without an influx of fresh forces the superiority gained over the enemy by the start of the offensive was quickly dissipated, the assault capability of the troops was reduced and the operation did not proceed further.

The strategic reserves played a major role in the prompt and dependable reinforcing of the fronts. Usually, by the start of the offensive operations, the RVGK had from 6 to 9 combined-arms armies, 1 or 2 tank armies and 1 or 2 air armies and from 4 to 11 cavalry corps. These forces were employed on the most important axes both for establishing assault groupings as well as in the aim of boosting their effort in the course of the strategic and front operations, supporting their flanks and shifting the efforts of the troops to other sectors.

In the 1943 summer-autumn campaign, by drawing on the strategic reserves, the effective strength of the Bryansk, Central, Voronezh, Southwestern and Southern Fronts was increased by more than 850,000 men (39 percent), by 1,400 aircraft (60 percent) and 4,230 tanks (280 percent). In preparing the Belorussian Operation (1944) Hq SHC assigned from its reserves for reinforcing the First Baltic, First, Second and Third Belorussian Fronts, some 4 combined-arms armies, 2 tank armies, 4 artillery divisions, 23 air divisions, 4 combat

engineer brigades and many other formations and units. As a result, the grouping of Soviet troops in Belorussia had been increased by 86 percent for artillery and 62 percent for aircraft.

In the course of a strategic offensive it was sometimes essential to shift efforts from one sector to another. As a rule this was possible only with a significant reinforcing with reserves for those fronts which were reassigned to the new sector. Thus, in the course of the Belorussian Operation, the need arose to change the axis of advance of the First Baltic Front from the Kaunas to the Shyaulay axis and then to the Riga axis. Regardless of the fact that by a change of axis the tasks of the front significantly increased, the First Baltic Front reinforced with two combined-arms armies (2d Guards and 51st) successfully carried them out.

The groupings of forces on the sector of the main thrust were basically organized by interfront, intrafront and intra-army regroupings.

The largest was the regrouping of the Second Belorussian Front in March 1945 from East Pomerania to the Berlin axis. The main forces of the front were turned by 180 degrees and over a period of 8-9 days carried out a regrouping by the combined method (by rail, motor transport and on foot) covering a distance of 250-300 km. "This was a complicated maneuver by the troops of an entire front," recalled MSU K.K. Rokossovskiy, "and the likes of which had not occurred over the entire Great Patriotic War."(16)

The planning of the regroupings of tank armies held a central place in the activities of Hq SHC. In possessing high maneuverability, fire power and great strike force, the tank armies were one of the most important means for achieving success in the offensive operations. This also determined the main aim of their regroupings, that is, the reinforcing of the fronts fighting on the main sector.

A regrouping for the designated purpose was most often carried out in the course of preparing for an operation. Here armies were reassigned to fronts from the RVGK (after constituting or bringing up to strength) or upon Headquarters instructions from one front to another. Thus, from January 1944 to January 1945, the tank armies were regrouped eight times from the RVGK. An example of a regrouping between fronts would be the transfer in June 1944 of the 2d Tank Army of the Second Ukrainian Front to the First Belorussian Front, in March 1945, the 1st Guards Tank Army of the Second Belorussian Front to the First Belorussian Front.

The regrouping of tank armies was characterized by a high degree of command centralization. This was carried out upon the decision of Hq SHC which had fully taken over the organization of the moving up of armies in its reserve. Headquarters also resolved a large portion of the questions related to organizing the regrouping of armies from one front to another. This was caused by the need for precise organization of cooperation in moving the armies through the zones of the fronts, for the prompt and complete support of them with mobile forces as well as for establishing conditions for the unobstructed traffic of troop trains.

When the areas or zones held by the tank armies were away from the sector of the front's main thrust chosen for a new operation, they were regrouped within one front. An intrafront regrouping was organized by the staff of the front on the basis of a directive from Hq SHC for the forthcoming operation. Thus, the Directive of Hq SHC of 3 April 1945 to the First Ukrainian Front stated: "The main thrust by the forces of five combined-arms armies and two tank armies (meaning the 3d and 4th Guards Armies fighting at this time on the left wing of the front.--Author) is to be launched from the Triebel area...."(17) Analogous instructions were contained in other directives from Hq SHC: of 18 February 1944 to the Second Ukrainian Front on the employment of the 5th Guards, 2d and 6th Tank Armies(18) and of 24 June 1944 to the First Ukrainian Front for carrying out the Lwow-Sandomierz Operation.(19)

The massing of forces on the sector of the main thrust was carried out in the aim of dependable fire damage to the enemy. The artillery termed the "God of War" was the main weapon here. Artillery densities reached: 70-80 guns, mortars and rocket launcher vehicles per kilometer of breakthrough sector in 1941-1942 and in 1945, 250-300 and more.(20)

An example of the decisive massing of artillery (with an over-all shortage of it) would be the first artillery offensive with the breakthrough by the 20th Army of the Western Front in January 1942 of the enemy deliberate defense on the Lama River (Battle of Moscow). The army, having been significantly reinforced with artillery by the adjacent 1st Assault Army and 16th Army as well as the reserves of the front, by the start of the offensive had 8 artillery regiments, 5 rocket artillery battalions and 2 armored trains (the amount of artillery had risen by 7-fold). With a total width of the zone of advance of 20 km for the army, the breakthrough was made on a 7-km sector, where up to 80 percent of all its artillery was concentrated. This made it possible to establish a density of 58 guns, mortars and rocket artillery vehicles per kilometer of front.

In addition to artillery, rifle formations and tanks were decisively massed on the breakthrough sectors. In January 1943, in the Ostrogozhsk-Rossosh Operation of the Voronezh Front, the command of the 40th Army on a breakthrough sector 10 km wide had concentrated 5 rifle divisions, 1 rifle brigade and 3 tank brigades (90 percent of the infantry and artillery and all the tanks), while on the remaining 75-km front of the army's zone, there were 8 battalions and 57 guns, that is, 1 battalion per 10 km and less than 1 gun per kilometer of front.(21)

The art of the massing of forces grew from operation to operation. From the moment of the publishing of the Directive Letter of Hq SHC of 10 January 1942 until the war's end, the solution to the problem of the massing of forces was carried out by reducing the number of thrusts launched by the armies in the aim of breaching the defenses (to one); narrowing the zones in which these thrusts were launched; the more skillful concentration of personnel and military equipment in them by the maximum possible weakening of the secondary sectors and the maximum reinforcing of the formations fighting as part of the assault grouping using resources of the senior chief.

In the breakthrough sectors which comprised from 7-8 to 15-20 percent of the total zone of advance of a front (army), they assembled into a single fist some 70-80 percent of the infantry, artillery and virtually all tanks (see the Table).

Table

Massing of Forces and Their Densities on Breakthrough Sectors
in Front and Army Offensive Operations

Periods of War	Percentage of Number of Forces on Breakthrough Sectors to Over-All Number			Width of Zone of Advance of Rifle Division on Breakthrough Sector, km	Weapons Density (units per km of breakthrough sector)	
	Personnel	Artillery	Tanks		Guns and Mortars	Close Support Tanks
First (in 1942 Operations)	50	60-65	75-80	3-6	20-80	3-12
Second	60-80	80-90	90-100	1.5-3	120-220	10-20
Third	65-80	80-94	90-95 to 100	0.6-1.5	250-300	25-30

From the Table it can be seen that the degree of massing forces gradually grew. The troop densities on the breakthrough sectors during the third period of the war had increased as follows in comparison with the first period: by 2-4-fold for rifle troops, by 4-10-fold for artillery and by 6-10-fold for tanks and SAU. This ensured the creation of the proper material basis for successful practical breakthrough of enemy defenses and the exploitation of this success into an operational one and subsequently a strategic one. The defeat of the enemy by artillery fire and tanks was supplemented and strengthened by air strikes.

The first experience in the massed employment of aviation on the sector of the main thrust was gained in the Battle of Moscow. Since the Western, Southwestern and Kalinin Fronts were short of aviation, they received reinforcements from the air units and formations of the Moscow Military District, the VI Fighter Air Defense Corps and the long-range bomber aviation of the High Command.(22) Having concentrated around 1,000 aircraft around Moscow, the Soviet Command established quantitative superiority over the enemy in aviation and for the first time since the start of the war achieved operational air supremacy.(23)

In the preparation of the Belorussian Operation (1944), 33 air divisions were shifted from the RVGK to the four fronts (First Baltic, Third, Second and First Belorussian). In addition, 8 long-range aviation corps were rebased closer to the front line where they could more effectively support the operations of the fronts launching the main thrust. During the period of preparing the Vistula-Oder Operation, Hq SHC reinforced the First Belorussian and First Ukrainian Fronts with 5 air corps in October-December 1944.

An exceptionally important role was assigned to aviation in committing the tank armies (horse-mechanized groups, tank corps) to battle and with their continuation of the offensive in the operational depth. From 40 to 70 percent of all aviation forces were involved in supporting and covering the tank field forces and formations which were employed as the mobile groups of fronts and armies. Here a portion of the air formations, predominantly the ground attack and fighter aviation, was assigned for constant and immediate cooperation with the tank troops while other formations were involved periodically, upon call, when the situation required.

In massing the forces on the sector of the main thrust, the Soviet Command devoted great attention to covering them from the air. "The practice of the war," wrote the Supreme Commander-in-Chief I.V. Stalin, "has shown that the bravest troops become impotent if they are not protected against air strikes."(27)

In the offensive operations of the first period of the war, antiaircraft weapons were positioned evenly along the entire front and this told negatively on combating the air enemy. In October 1942, the Order of the NKD [People's Commissar of Defense] was issued and this demanded the abandoning of the scattered employment of antiaircraft weapons and for covering the groupings fighting on the main sectors against air strikes, strong antiaircraft artillery groups were to be established, including in them from one-half to two-thirds of all the organic antiaircraft weapons of the front (army).(28)

The massing of forces on the sector of the main thrust involved the carrying out of a large amount of logistical work. With each year of the war, the demand for materiel increased. Thus, the weight of an artillery-mortar volley of a rifle division rose from 548 kg in July 1941 to 1,589 kg by December 1944.(29) In preparing for the counteroffensive at Stalingrad, just for the Stalingrad Front during the period from 1 through 20 November 1942, over 6,500 tons of ammunition were moved across the Volga and concentrated at the designated areas.(30) In the Belorussian Operation it required 13,500 railway cars to transport one unit of fire of shells to the four fronts (First Baltic, Third, Second and First Belorussian). By the start of the operation, four or five units of fire were to be stockpiled.(31)

The massing of forces on the sector of the main thrust was carried out covertly. This largely explains the high results. "Our superiority over the Germans," wrote MSU G.K. Zhukov, "was felt in the fact that the Soviet Armed Forces had learned to keep their intentions a deep secret, to carry out extensive disinformation and mislead the enemy. Covert regroupings and concentrations of the troops made it possible to achieve surprise attacks against the enemy."(32) The start of such major strategic operations as the

counteroffensives at Moscow and Stalingrad, the Belorussian, Iasi-Kishinev and many others were a complete surprise for the Nazi Command.

The secrecy of massing the forces was achieved by the skillful use of mistakes by the Nazi Command in assessing the capabilities of the Soviet troops.

Even in the autumn of 1941, the Nazi Command felt that the Soviet Army was incapable of major offensive actions. The moving up of troops toward Moscow which was partially detected by the enemy was seen as a strengthening of the defenses. In benefiting from this mistake, the Soviet Command concentrated major forces on the Moscow sector and carried out a counteroffensive which was a surprise for the enemy. In defining the results of the counteroffensive by the Soviet troops at Moscow, the West German military historian K. Reinhardt in his book "Povorot pod Moskvoy" [Moscow Turning Point] wrote: "The fact that the German Command was caught unaware shows a deployment of forces which turned out well for the Russians...."(33)

After the heavy defensive engagements for us in the south of the nation in the summer of 1942 (in the area of Stalingrad and in the Northern Caucasus), the Nazi Command was also convinced that the Soviet troops would be unable to conduct a major offensive in these areas. "The Russians themselves," pointed out the Operational Order of the High Command of the Nazi Ground Troops No. 1 of 14 October 1942, "in the course of the last fighting have been seriously weakened and in the winter of 1942-1943 cannot have such large forces as they had last winter."(34) Even after the war the former Chief of Staff of the Operational Leadership of the Hitler Headquarters, Gen Jodl, speaking on instances of the failure of German military intelligence, admitted: "The most important was its failure in November 1942, when we completely missed the concentration of large Russian forces on the flank of the 6th Army (on the Don)."(35)

The Wehrmacht leadership made a major miscalculation in 1944. It felt that in the summer the Soviet troops would launch the first strike in the Ukraine and not in Belorussia. The captured commander of the 246th Infantry Division, Gen Muller-Bulow, in interrogation said: "...How could you secretly concentrate a mass of troops in these swamps, in the open field? Unbelievable!...the main thrust across the swamps -- I would not have believed this...."(36)

In the interests of achieving the covert massing of forces on the main sector, the Soviet Command conducted active operations on the other sectors. Thus, the offensive operations organized and conducted by Hq SHC in October-November 1941 on the flanks of the Soviet-German Front (at Tikhvin and Rostov) not only tied down the enemy forces but also diverted its attention from the concentrating of large forces on the Moscow sector.

In order to divert the enemy's attention from the concentrating of large masses of troops around Stalingrad, the Soviet Command in the summer and autumn of 1942 increased actions against the Army Group Center on the western sector. The Nazi Command gained the impression that precisely here and in no other place a winter operation was being prepared. During this time reserves were being moved up toward Stalingrad and by the start of the counteroffensive it was possible to balance the over-all ratio of forces and on the sectors of

the main thrusts of the fronts to establish double and even triple numerical superiority over the enemy.

In order to convince the enemy that in the summer of 1944, the offensive by the Soviet troops was being readied precisely in the Ukraine and not in Belorussia, the Third Ukrainian Front upon instructions from Hq SHC behind its right wing (to the north of Kishinev) carried out a false concentration of eight-nine rifle divisions reinforced with tanks and artillery. The 5th Guards Tank Army and 2d Tank Army which had been assigned to participate in the Belorussian Operation up to the start of the offensive were on the southern wing of the Soviet-German Front.(37) That the massing of forces was carried out secretly can be seen from the fact that the Nazi Command did not reinforce its grouping in Belorussia.

In preparing the Iasi-Kishinev Operation, a special role was played by misleading the enemy on the sector of the main thrust. The Third Ukrainian Front simulated the concentration of the assault troop grouping consisting of a rifle corps and a mechanized corps as well as an artillery breakthrough division on an auxiliary sector, in the area of the 5th Assault Army. Here reconnaissance in force was actively carried out and the aviation of the 17th Air Army periodically attacked the enemy defenses. These measures were so effective that the enemy continued to keep strong forces of the 6th Army opposite the 5th Assault Army. This helped to achieve success in breaching the enemy defenses from the bridgehead to the south of Bender where the main thrust was launched by the front.

Feints and diversionary actions were carried out in the aim of concealing the massing of forces on the sector of the main thrust and false information was released. For example, in the preparations of the Vistula-Oder Operation, billeting officers misinformed the local population on the true concentration of the tank groupings of our troops. The residents of individual areas were warned of a supposed coming evacuation of them from the population points designated to quarter the arriving tank units.

Coverttness in the massing of forces on the sector of the main thrust was also achieved by the strictest observation of camouflage measures. A limited number of persons was involved in working out the plan. Categorically prohibited were any correspondents on the operation being prepared and the concentration of the troops as well as talks over the telephone and telegraph on these questions. The formations and units were moved up to the breakthrough sectors only at night or with limited visibility.

* * *

Soviet military art successfully solved the problem of massing forces on the sector of the main thrust in an offensive. The massing was marked by complete soundness, by high efficiency and uniqueness of execution and this shows the high generalship skill of the Soviet military personnel.

Under present-day conditions, with more advanced weapons, the principle of their massing on crucial sectors remains one of the chief ones. In the West, for example, it is felt that the concentration of forces is a factor of combat

might and success. The U.S. Army Field Manual FM100-5 states that the advancing sides wins an engagement if it will establish a decisive superiority on the sector of the main thrust in its favor.

The experience gained by the Soviet Command in massing forces on the battlefields of the Great Patriotic War is of permanent significance. Its study and creative employment are an important condition for increasing the combat readiness and capability of the Army and Navy.

FOOTNOTES

1. K. Marx and F. Engels, "Soch." [Works], 2d Edition, Vol 14, p 355.
2. [Not in text]
3. V.I. Lenin, PSS [Complete Collected Works], Vol 40, p 6.
4. [Not in text]
5. "Voyennaya strategiya" [Military Strategy], Moscow, Voenizdat, 1963, p 155.
6. Here and below by the massing of forces we understand their concentration on the main sector to ensure decisive superiority over the enemy, its defeat and the achieving of the set goal in an offensive. The indicator of the massing of forces is their density on the selected sectors.
7. TsAMO [Central Archives of the USSR Ministry of Defense], folio 96-A, inv. 2011, file 4, sheets 1-2.
8. See: "Velikaya Otechestvennaya voyna 1941-1945: Entsiklopediya" [The Great Patriotic War of 1941-1945: An Encyclopedia], Moscow, Sovetskaya Entsiklopediya, 1985, p 242.
9. "Istoriya vtoroy mirovoy voyny 1939-1945" [History of World War II of 1939-1945], Moscow, Voenizdat, Vol 4, 1975, p 280.
10. Ibid., pp 283-284.
11. I. Stalin, "O Velikoy Otechestvennoy voyne Sovetskogo Soyuz" [On the Great Patriotic War of the Soviet Union], Moscow, Gospolitizdat, 5th Edition, 1953, pp 143-144.
12. "Vtoraya mirovaya voyna. Itogi i uroki" [World War II. Results and Lessons], Moscow, Voenizdat, 1985, p 222.
13. "Istoriya vtoroy mirovoy...", Vol 9, 1978, p 505.
14. A.M. Vasilevskiy, "Delo vsey zhizni" [A Cause of One's Entire Life], Moscow, Voenizdat, 2d Supplemented Edition, 1975, p 293.
15. [Not in text]

16. VOYENNO-ISTORICHESKIY ZHURNAL, No 5, 1965, p 37.
17. "Berlinskaya operatsiya 1945 goda" [The 1945 Berlin Operation], Moscow, Voenizdat, 1950, p 550.
18. TsAMO, folio 132-A, inv. 2642, file 13, sheet 208.
19. Ibid., sheet 109.
20. "Sovetskaya Voennoye Entsiklopediya" [Soviet Military Encyclopedia], Moscow, Voenizdat, Vol 1, 1976, p 266.
21. A.I. Radziyevskiy, "Proryv: Po opytu Velikoy Otechestvennoy voyny 1941-1945 gg." [Breakthrough: From the Experience of the Great Patriotic War of 1941-1945], Moscow, Voenizdat, 1979, p 45.
22. "Velikaya Otechestvennaya voyna Sovetskogo Soyuza 1941-1945. Kratkaya istoriya" [The Great Patriotic War of the Soviet Union of 1941-1945. Concise History], Moscow, Voenizdat, 3d Revised and Supplemented Edition, 1984, p 118.
23. Army Group Center aimed at Moscow had 615 aircraft.
24. [Not in text]
25. [Not in text]
26. [Not in text]
27. "Perepiska Predsedatelya Soveta Ministrov SSSR s Prezidentami SShA i Premyer-Ministrami Velikobritanii vo vremya Velikoy Otechestvennoy voyny 1941-1945 gg." [Correspondence of the Chairman of the USSR Council of Ministers With U.S. Presidents and British Prime Ministers During the Great Patriotic War of 1941-1945], Moscow, Gospolitizdat, Vol II, 1957, p 34.
28. "Sbornik boevykh dokumentov Velikoy Otechestvennoy voyny" [Collection of Combat Documents From the Great Patriotic War], Moscow, Izd. Generalnogo Shtaba Vooruzhennykh Sil Soyuza SSR, No 5, 1947, pp 44, 45.
29. "'Vtoraya mirovaya voyna. Itogi i uroki," p 231.
30. "Sovetskaya Voennoye Entsiklopediya," Vol 7, 1976, p 454.
31. "Velikaya Otechestvennaya voyna Sovetskogo Soyuza 1941-1945. Kratkaya istoriya," p 310.
32. G.K. Zhukov, "Vospominaniya i razmyshleniya" [Recollections and Reflections], Moscow, Izd-vo APN, 7th Edition, 1986, Vol 2, p 291.
33. "Istoriya vtoroy mirovoy..., " Vol 4, p 284.

34. Quoted in: G.K. Zhukov, "Vospominaniya i razmyshleniya," Vol 2, 1986, p 291.
35. "Velikaya Otechestvennaya voyna Sovetskogo Soyuza 1941-1945. Kratkaya istoriya," p 192.
36. I.Kh. Bagramyan, "Velikogo naroda synovya" [Sons of a Great People], Moscow, Voenizdat, 1984, p 338.
37. "Voyennoye iskusstvo vo vtoroy mirovoy voyne i v poslevoyennyy period: Strategiya i operativnoye iskusstvo: Uchebnik dlya slushateley Voennoy akademii Generalnogo shtaba" [Military Art in World War II and the Postwar Period: Strategy and Operational Art: A Textbook for Students of the General Staff Military Academy], Moscow, Izd. Voennoy Akademii Generalnogo Shtaba, 1985, pp 77, 78.

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PREPARATION OF ARMY OFFENSIVE OPERATIONS

Moscow VOYENNO-ISTORICHESKIY ZHURNAL in Russian No 4, Apr 87 (signed to press 23 Mar 87) pp 22-29

[Article by Lt Col Ye.I. Zyuzin, Candidate of Historical Sciences: "Preparation of Army Offensive Operations"]

[Text] The skillful organization of the activities of army commanders and staffs underlay the successfully conducted army offensive operations during the years of the Great Patriotic War.

This work can arbitrarily be divided into two stages. In the first stage the decision or plan was adopted, the tasks were issued to the troops, the operation was planned and cooperation organized. The second involved the preparing of the troops and the staffs for the operation. This included providing aid to all levels of commanders in thoroughly studying the battle task and determining the most effective means for carrying it out; the establishing of the army troop grouping; the organizing of command and all types of support; the conducting of party political work; the preparation of the forming-up area for the offensive; deployment of the troops and supervision of their readiness. Usually many other tasks arose and the army commanders and staffs during this period were engaged in resolving them.

The questions of preparing for the operations were resolved by the army commanders and staffs depending upon the situation and the nature of combat. During the first period of the war the army staffs were frequently not completely up to strength and not sufficiently efficient. A majority of them did not have the necessary experience in combat work. The offensive operations had to be readied under difficult conditions and in a limited time. For example, as a rule, not more than 3 days was assigned for this during the 1941 summer-autumn campaign.

The decision to assign additional time (from 5 to 10 days) was necessitated by the receiving of reinforcements, manning up and developing combat coordination of the formations and units. Thus, the troops of the 24th Army of the Reserve Front were prepared for the Yelnya Operation from 22 through 29 August 1941 in the process of the regrouping of forces, and individual formations arrived in the course of combat. For this reason many measures related to the

preparation of this operation in the army were carried out by administrative order.

The chief work method under such conditions was the parallel execution of measures to prepare for the offensive in the army formations, units and subunits. However, due to the lack of experience in rapidly organizing combat, a portion of the important measures was overlooked. For example, the commander of the 24th Army and his staff were unable to properly resolve the questions of organizing cooperation in the field and fire damage to the enemy. The 107th Rifle Division and a number of reinforcement units were late in taking up the initial position for the offensive. For this reason the assault was untimed and this significantly weakened the army's initial thrust. As a result, in 2 days of fighting they advanced only 2 km.(1)

A number of front and army orders from the first period of the war pointed out that the commanders of all levels were poor in organizing combat: they did not conduct reconnaissance prior to the offensive, they did not organize cooperation in the field with the branches of troops, they had little knowledge of the enemy and did not check the correct assimilation of battle tasks by subordinates. This was the case, for example, in the 20th Army in the course of the counteroffensive at Moscow.(2) Analogous shortcomings were also noted in other armies (10th and 16th). This was explained chiefly by the fact that the commanders and staffs did not possess sufficient skills in organizing the offensive.

As the combat capabilities of an army increased, as the technical equipping of the troops was improved, as the nature of enemy defenses changed as well as in line with the appearance of new elements in the operational configuration of the army, the work of the commanders and staffs in preparing for the operations developed and grew more complex. This work was also significantly influenced by the directives of Hq SHC which set out the main demands on the work of the commanders and staffs in the area of preparing the operations.

The most typical conditions in preparing for the army operations in the second and third periods of the war were: the presence of significant time for their preparation (within 10-15 days and more) and the extended stay of the troops in direct contact with the enemy (a month or more).(3)

With the gaining of experience the army commanders and staffs began to provide the subordinate commanders and staffs with more time to prepare the troops for the forthcoming operations. For these purposes the preliminary orientation of subordinates as to the nature of the forthcoming tasks and the issuing of preliminary orders proved effective; this was the basis for the start of planning combat by subordinates. Because of this time was saved and this could be employed by the army command for providing help and supervising the readiness of the troops to carry out the combat tasks, for implementing measures on operational, combat, technical and rear support as well as for organizing the operational, combat and political training of the troops.

In instances when the operations were prepared under difficult situational conditions (limited time, a large number of diverse tasks and so forth), special command bodies began to be employed (like operational groups) and

these were concerned with such questions as providing camouflage (the Sinyavin and Smolensk Operations), the regrouping of troops (Ostrogozhsk-Rossosh Operation), organizing a traffic control service and rear support (Lower Silesian and other operations). This made it possible to control the troops on a centralized and efficient basis in the course of preparing for the offensive.

The basic method of preparing an operation during the war years was sequential work initially in the army command elements and later the corps, divisional and regimental. This made it possible for the staffs to encompass the planning questions with sufficient completeness, profundity and detail, to achieve effective coordination among the forces to be employed as well as thoroughly support troop combat.

With the achieving of planned work as well as with the better content of information and a precise allocation of functional duties between the staff officers, the task of preparing an offensive operation even in a limited time began to be carried out better.

Starting with the second period of the war, the army commanders together with the formation commanders began to carry out the main organizational work, particularly in preparing for the breakthrough of a deeply echeloned defense, as a rule, in the field. Thus, prior to the Orel Offensive Operation (12 July-18 August 1943), the commander of the 3d Army, Lt Gen A.V. Gorbатов, 17 days prior to the start of the offensive conducted a reconnaissance with the divisional commanders, the artillery commanders and divisional engineers and as a result of this they precisely determined and studied the concentration areas, the routes of advance, the firing positions for the artillery and the forming-up place for the assault of each division and regiment. In addition to this, the army commander conducted a military game in a sandbox with the designated individuals. The divisional commanders also in the form of a military game in turn with the unit commanders worked out the procedure for concentration, the march and the offensive in their zones of action as well as in the breakthrough sectors.(4)

Analogous work was conducted in the 53d and 6th Guards Armies in the Belgorod-Kharkov Operation in the summer of 1943, by the 65th Army in the Bobruysk Operation of 1944 and others.

Here it is essential to point out that in the first period of the war and at the beginning of its second period (the Stalingrad counteroffensive, the defeat of the Nazi troops in the Northern Caucasus and on the Upper Don), the work of the commanders and staffs in preparing the operations was carried out, as a rule, with the setting of the battle tasks, reconnaissance in the field and at meetings of the leadership of the armies and formations. However, by the summer of 1943, in line with the increased size of an army and the change in the nature of enemy defenses, this was no longer sufficient. For this reason, in the army staffs, when the situation permitted, they began to make it a practice of holding operational games, command-staff exercises, exercises in terrain mock-ups (sandboxes, miniature ranges) as well as directly in the field.

The theoretical exercises and military games, as was stated in an essay on the offensive actions of the 70th Army in the Lublin-Brest Operation, provided the commander personnel and staffs with an opportunity to more effectively prepare the troops for the offensive. The formation commanders clearly knew their tasks, their place in the operation, the reinforcements available to them, the difficulties which awaited them, and for this reason were able to prepare the units for the offensive ahead of time and effectively.

In the preparation of the Belorussian Operation, for example, operational gains on maps as well as exercises on terrain mock-ups were held in all armies after the commanders in the field had carefully chosen the breakthrough sectors, the forming-up place for the offensive and had organized cooperation.

In the troops the commanders and staffs conducted actual organizational work in accord with the real situation, the adopted decision, the plan of the operation and the set battle tasks. Usually they worked out several versions of troop actions, considering here the balance of forces and the combat capabilities of the sides. The command-staff games helped disclose shortcomings in the work of the staffs and these were eliminated in the process of the game.

Thus, there was a trend for the army and formation leadership to work through the entire course of the future operation and its individual stages. The work was improved by moving from the practice of having a senior commander issue instructions to the playing through of variations of possible actions by the sides. These were the first attempts to clarify the scheme of the forthcoming offensive and model the future operation.

The method of parallel work by several command elements in preparing an operation arose only in the course of the war and was not to become widespread. They turned to this most often with a shortage of time, in preparing successively deeper army operations and in committing the armies to battle without a pause. For this reason the decisions for the operation and its planning were worked out in parallel in the armies and formations, that is, almost simultaneously, on the basis of oral guidelines concerning the forthcoming task and the preliminary battle orders. In adopting a decision under these conditions, the commanders spent a minimum of time, assigning the basic portion of the work to the troops. In the aim of providing inferior commanders with additional time, the tasks were issued to them by preliminary battle orders personally by the commander or his deputy in visiting the troops; there was also the practice of providing maps with the plotted situation. The troops of the 5th Guards Army in the Prague Operation were prepared for the offensive in this manner. Preparations were carried out in the course of a 100-km march from the area of Torgau on the Elbe to the area of Grossenhain to the north of Dresden. Regardless of the difficult conditions, all the main work of organizing combat operations of the rifle formations and planning the fire and engineer support for breaching the defenses in wooded terrain had been completed within a period of 2 days. The former army commander, Army Gen A.S. Zhadov has written that he organized combat operations simultaneously with the commanders of the rifle corps and divisions. Parallel preparation for an offensive in the operational and tactical elements was actually carried out.

Since the time factor in such instances played a crucial role, the commanders organized battle primarily for those formations which were to go over first to the offensive. For example, in the 19th Army, with the relieving of the troops of the 70th and 3d Assault Armies in preparing for the East Pomeranian Operation, the Army commander Gen G.K. Kozlov, with a group of headquarters officers and the commanders of these formations, even before the arrival of the forward units, visited the forward edge of the enemy defenses. By this time the divisional commanders had received preliminary orders to move up as well as general data about the enemy and these were concretized in the field. "Here in the field," commented MSU K.K. Rokossovskiy, "we worked out the task and cooperation was coordinated between the infantry, the tank corps and the reinforcement units."(6) Having clarified the received tasks, the formation commanders met the troops which had moved up. As the army staff clarified and detailed the plan of the operation, the formations received instructions on the allocation of the reinforcements as well as the organization of combat and logistical support.

Instructive was the organization of combat operations in the 13th Army (commander, Lt Gen N.P. Pukhov) in preparing for the Rovno-Lutsk Operation of 1944. This was prepared in a period of 2 days. One-half of the time was spent in the army-corps level and around 1 day was employed by the commanders and staffs of the divisions, regiments and battalions. The organization of battle in the companies and platoons was provided during 2 or 3 hours of daylight. On 26 January, a reconnaissance with the organization of cooperation in the field was conducted by the divisional commanders during the first half of the day and by the regimental commanders during the second. The tasks were given to subordinates verbally with the use of maps, after which this was backed up with written documents. The battle order, the instructions for security in the field and the timing coordination tables were received by the divisional and regimental staffs during the night of 27 January, after all the questions related to the organization of battle had actually been resolved.(7)

However, such a method of work was effective only when all levels of commanders and staffs had good operational-tactical training and were able to command the troops in a difficult situation with firmness and flexibility. This method has not lost its value under present-day conditions.

An important measure in the work of the command and the staffs in the actual preparation of an operation was the organizing of cooperation. For this, from the experience of the Belorussian Operation, the Army commanders spent an average of 2 or 3 days, the corps commanders spent up to 2 days, the divisional commanders 1 or 2 days (9 or 10 hours of daylight), the regimental commanders spent 1 day (7-9 hours of daylight), the battalion commanders spent 5 or 6 hours and the company commanders 2-4 hours.(8) Thus, an average of one-third of the time assigned to prepare an offensive was spent on organizing cooperation in all elements of command.

In the work of the commanders and staffs to organize cooperation, an ever-larger place began to be held by the questions of coordinating the efforts of the forces in the field and its mock-ups. Here they worked out the actions of

the formations and units in taking up the forming-up area for the offensive, in conducting reconnaissance in force, the artillery and air softening up as well as during the assault on the first position and the strongpoints in depth; in committing the mobile groups and second echelons to battle, in repelling counterstrikes and counterattacks and in crossing water obstacles.

Cooperation was organized in greatest detail for the period of breaking through the enemy tactical defensive zone and committing the mobile group (second echelon) of the army to battle. After the instructions of the senior chief, the direct executors in the presence of the army commander coordinated their actions between themselves. With the occurrence of contradictions, the commander here issued instructions as to who was to carry out one or another task and how.

For the period that the troops were to take up the forming-up position, for the carrying out of the artillery and air softening up and for the first day of combat, the efforts of the troops were to be coordinated in the field for each sector of attack. To the depth of carrying out the immediate task, cooperation was usually organized using terrain mock-ups and maps and to the depth of the further task, using maps. After this the army commander, his deputies and the military council members traveled to the troops, where they continued the work of organizing combat operations.

During this time the army chief of staff concentrated attention on the questions of organizing command and communications, reconnaissance and operational camouflage. He also approved the carrying out of tasks for operational, combat, technical and rear support and exercised supervision over the preparation of all types of reserves for the operation and over the security and defense of important facilities within the limits of the field force.

During this same period the officers of the army sections and services checked the readiness of the weapons, the equipment and the command facilities; the availability of ammunition, fuel and lubricants; the supply of the personnel with everything necessary for combat. Any oversights in the work were immediately eliminated.

Extensive work in the area of the operational, combat and political preparation of the staffs and the troops preceded the conduct of an offensive operation. This work was carried out under the conditions of a real situation in accord with the adopted decisions, the elaborated plans and considering combat experience; this work was marked by effectiveness. A large portion of the exercises involving generals and officers was conducted personally by the commanders, as a rule, involving the commanders of the reinforcement formations and units. This can be seen from the experience of the commander of the 3d Army, Lt Gen A.V. Gorbатов, in preparing for the Bobruysk Operation in 1944. During the period from 10 through 18 June, with all the commanders of the formations and all reinforcement units, with the chiefs of the branches of troops and services he conducted exercises aimed at carrying out the forthcoming battle tasks and he met with the personnel of the first echelon divisions.(9)

Great importance was given to preparing the officers of the army and inferior staffs. Thus, in special assemblies, exercises and games held in the 59th Army in preparation for the Novgorod-Luga Operation of the Volkhov Front, the staff officers studied the questions of planning an offensive operation (battle), they drilled in organizing cooperation between the branches of troops and in working out the operational documents required in breaking through a heavily fortified enemy defensive zone. Also involved in these games were the commanders of the formations, the chiefs of staff, the intelligence and operations departments, the artillery commanders of the formations with their staffs and the divisional engineers.(10)

Equally important was the preparation of the troops for the operation. From the very first period of the war, important attention was given to this question. As is known, at this time a draft of reinforcements arrived at a front after 2 or 3 weeks of training in the rear. Up to 60 percent of its commanders was made up of officers called up from the reserves. "The bitter experience...in November 1941," commented MSU K.A. Meretskov, "taught us a good deal. Even then we made it a rule: No matter how great the need for troops was, the arriving reinforcements and the newly arrived units before battle were passed through training centers or directly in the formations to acquaint them with the particular features of fighting...."(11)

From the autumn of 1941, any opportunity was employed to increase the combat and morale qualities of the men. Here both in the 37th Army of the Southern Front in preparing the troops for the counteroffensive (November 1941) as well as in the 54th Army of the Leningrad Front (November 1941) and others, particular attention was paid to the actual working out of the questions of

Troop training in the second period of the war assumed a planned and purposeful nature. The army staffs began to regularly plan diverse subjects, to issue the instructions of the commander on organizing training and also exercise control. In the formations and units they drew up plans of exercises for a certain interval of time (10 days or a month) and in the subunits there were exercise schedules.

The combat training of the troops prior to an offensive began to be marked by concreteness, particularly in preparing them for actions under special conditions, in particular for breaking through fortified areas. The army commanders and staffs gave great attention to training the assault detachments and groups. For organizing the former, for example, in the 21st Army on the eve of the Vyborg Operation they assigned 50 hours and for the latter 30 hours. The exercises were conducted on specially prepared terrain which reproduced the enemy defenses. The infantry was trained in the independent crossing of obstacles, rushing an installation from a distance of 100-150 m after intense shelling as well as the sealing off and destruction of pillboxes. The tank subunits were instructed in firing at fire slits and armored cupolas on the move and from brief halts as well as cooperating with the artillery in escorting the infantry. The artillery also worked on firing at fire slits and armored cupolas and trained in the methods of supporting the infantry and tanks. Combat engineers trained in carrying out tasks as part of the assault detachments and groups.

In all the formations, the company, battalion and regimental exercises held the main place in the question of improving troop combat skills. The first two, as a rule, were conducted with field firing. All the attached and supporting subunits and units of the branches of troops were involved in the exercises and prior to this they had participated in field training in their specialties. This made it possible to bring the troop training as close as possible to a combat situation. The rifle subunits learned to advance in extended battle formations along with the tanks, to move close to the explosions of our shells, and after the rolling barrage to destroy the surviving enemy in the trenches and strongpoints by firing all types of weapons, and to cooperate with one another. In the training process, of course, a large amount of shells and cartridges was consumed. Thus, in the preparations for the Sandomierz-Silesian Operation, almost one-half of a unit of fire of these types of ammunition was consumed. However, as was pointed out by Army Gen A.S. Zhadov, in the 5th Guards Army they did not fear such consumption, as they felt that this would be completely repaid in actual combat.

In the process of working in the troops, the commanders and staff officers supervised the course of their preparation for the operation. The most effective method of supervision, as the experience of the war was to show, was a personal inspection by the commander of the readiness of the formations and units to carry out the set tasks. Thus, the commander of the 48th Army, Lt Gen P.L. Romanenko, over a period of 2 months prior to the start of the Bobruysk Operation personally inspected the readiness of the rifle regiments for the offensive in two-sided tactical exercises.(13) Here he went into the smallest details of combat training. "...The commander who goes thoroughly into the organization of combat and troop training and has demanded the same from subordinate commanders," writes Army Gen P.N. Lashchenko, "always carried out the most difficult missions."(14)

An equally effective method of supervision, as was shown by the experience of the commanders and staffs of the armies of the First Belorussian and First Ukrainian Fronts in 1944-1945, was to have the officials and representatives (officers from the operational and other sections) travel to the formations for inspecting the most important questions in the activities of the subordinate commanders and staffs.(15) Conversations over communications equipment were also not excluded.

With such methods of inspecting the readiness of the troops to carry out an offensive, there was the possibility on the spot to resolve a number of questions, in particular to make certain the organization of combat had been correctly organized by subordinate commanders, that they had been informed in detail of the situation, arising questions could be answered and they could also be given specific help.

In thoroughly preparing the troops for an operation, the commanders, the staffs and the political bodies gave closest attention to ensuring high effectiveness of party political work in the formations and units. Proceeding from the decisions of the party Central Committee, the directives of Hq SHC and the Main Political Directorate, they set specific tasks for the commanders and political workers in organizing and conducting party political work with

the personnel, and made certain that this work in content, forms and methods conformed to those conditions under which the fighting would be carried out. The commanders, staffs and political bodies demanded a strengthening of party influence in the crucial sectors, primarily in the units and subunits fighting in the first echelons, on the main sectors, and the shifting of the center of gravity of political indoctrination to the squad, crew, team, platoon and company. All the activities of the commanders, the political workers, the party and Komsomol organizations were aimed at forming a high offensive drive and an unshakable desire whatever the cost to carry out the set mission.

Thus, the development of the theory and practice of preparing offensive operations during the war years occurred in the direction of improvement and creative application of diverse methods of preparing the operations in terms of a specifically developing situation, the seeking out of optimum work methods for the commanders and staffs, the ways for improving troop command, the organizing of close cooperation between them and all-round support for the operations. The crucial element in the practical activities of the commanders and staffs was the organizing of combat operations in the field and the coordinating of efforts by the forces involved in them.

In the work of the army commanders there was a greater share of time spent on organizational work in the formations and units. Here personal contact of officials from the army headquarters with subordinate commanders and staffs made it possible to more efficiently resolve many questions involved in the preparation of an operation.

FOOTNOTES

1. TsAMO [Central Archives of the USSR Ministry of Defense], folio 219, inv. 679, file 39, sheets 51-59; file 72, sheets 142-150.
2. Ibid., folio 343, inv. 6632, file 21, sheet 34.
3. "Armeyskiye operatsii" [Army Operations], Moscow, Voenizdat, 1977, p 12.
4. TsAMO, folio 310, inv. 4376, file 207, sheets 35-36.
5. Ibid., folio 427, inv. 11105, file 301, sheets 30-31.
6. K.K. Rokossovskiy, "Soldatskiy dolg" [A Soldier's Duty], Moscow, Voenizdat, 1984, pp 316-317.
7. I.M. Belkin, "13-ya armiya v Lutsko-Rovenskoj operatsii 1944 g." [The 13th Army in the Lutsk-Rovno Operation of 1944], Moscow, Voenizdat, 1960, pp 53-54.
8. TsAMO, folio 403, inv. 9657, file 182, sheets 47-52; folio 310, inv. 4376, file 217, sheets 18-21; folio 1238, inv. 1, file 70, sheet 193.
9. Ibid., folio 310, inv. 4376, file 217, sheets 18, 21.

10. I.T. Korovnikov, "59-ya armiya v Novgorodsko-Luzhskoy nastupatelnoy operatsii Volkhovskogo fronta" [The 59th Army in the Novgorod-Luga Offensive Operation of the Volkhov Front], Moscow, Voenizdat, 1947, p 47.
11. K.A. Meretskov, "Na sluzhbe narodu" [In Service of the People], Moscow, Politizdat, 1968, p 237.
12. VOYENNO-ISTORICHESKIY ZHURNAL, No 7, 1980, p 23.
13. TsAMO, folio 233, inv. 2356, file 397, sheets 78-79.
14. P.N. Lashchenko, "Iskusstvo voyenachalnika" [The Art of a Military Leader], Moscow, Voenizdat, 1986, p 175.
15. TsAMO, folio 422, inv. 10496, file 428, sheet 34; file 559, sheet 65; folio 403, inv. 9657, file 295, sheet 3; file 203, sheet 14; folio 310, inv. 4376, file 277, sheets 353, 354.

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OPERATIONAL MANEUVERING OF ANTIAIRCRAFT ARTILLERY DURING FRONT OFFENSIVE OPERATIONS

Moscow VOYENNO-ISTORICHESKIY ZHURNAL in Russian No 4, Apr 87 (signed to press 23 Mar 87) pp 30-35

[Article by Col V.A. Subbotin, Candidate of Military Sciences, Docent: "Operational Maneuvering of Antiaircraft Artillery During Front Offensive Operations"; the article was written from the experience of the Great Patriotic War]

[Text] By the start of the Great Patriotic War, the organic antiaircraft artillery was represented by individual batteries and battalions (ozadn) which were part of the rifle, cavalry, mechanized and tank divisions, the rifle, cavalry and mechanized corps.(1) Rear facilities were to be covered by the air defense formations and units of the nation's territory. It was felt that such an allocation of efforts would make it possible for the antiaircraft artillery in cooperation with the air defense fighters to cover the ground troops and ensure their carrying out of tasks under the conditions of active enemy air operations.

However, the initial period of the war showed that the dispersion of a small number of antiaircraft artillery over the troop battle formations did not provide a dependable cover for them against air strikes, particularly as the enemy began to make massed use of aviation and chiefly on the axes of its assault groupings. For combating the air enemy, large air defense groupings were essential. The maneuvering of antiaircraft artillery became an objective necessity. In the course of the war, depending upon the goals, the tasks, the involved forces and the organizing element, maneuvering was carried out on a tactical, operational and strategic scale. Here two forms of maneuvering were clearly defined: by fire and by troops (formations, units and subunits). The latter often was called maneuvering on wheels.(2) While the maneuver of fire was employed solely on a tactical scale, and in the course of repelling air raids, the maneuvering of formations, units and subunits was carried out ahead of time both on tactical, operational and strategic scales.

The operational maneuvering of antiaircraft artillery in the front offensive operations was carried out upon a decision of the field force commander in the aim of establishing groupings to cover the troops and rear facilities, for concentrating air defenses on decisive sectors, for shifting efforts from one

sector (installation) to another, for strengthening or restoring the battleworthiness of the air defenses and for covering arising new facilities. It was carried out by the TOE and attached units and subsequently by the antiaircraft artillery formations independently or together with the covered troops. Here consideration was given to the tasks to be carried out by the latter and the nature of enemy air operations. Depending upon the existing situation and the location of the air defense troops, the maneuvering was carried out from the rear to the front, along the front as well as from the front to the rear, as a rule, under own power and more rarely by rail transport (from the rear to the front).

Regardless of the acute necessity, the maneuvering of antiaircraft artillery on the operational scale during the first period of the war was employed extremely rarely. The reasons lay in the small numbers of antiaircraft weapons, the shortage and limited opportunities for mechanized traction and motor transport as well as the insufficient experience in the combat employment of antiaircraft artillery. Of great importance in resolving the problem of combating Nazi aviation was the Decree of the State Defense Committee [GKO] of 2 June 1942 on establishing army air defense regiments (azenap). Just from July through November, over 100 regiments were constituted.(3) From November they began constituting antiaircraft artillery divisions (zenad) of the RVGK [Reserve Supreme High Command].

The army air defense regiments were included in the fronts, while the antiaircraft artillery divisions were attached to the fronts as reinforcements. These were employed upon the decision of the commanders basically in a centralized manner for covering troop groups and facilities the importance of which changed in the course of operations. For this reason a maneuver became an inseparable part of their combat actions while the aims of its employment were the most diverse.

Maneuvering in the aim of the concentrating of air defense forces envisaged a rapid and covert movement of the antiaircraft artillery formations and units to one of the sectors. This was caused by the need to quickly cover important facilities and troop groupings located there when the enemy was endeavoring to thwart their carrying out of combat missions using aviation.

However, the massing of the antiaircraft artillery forces both in the preparations and in the course of the operations, did not immediately find employment even with the appearance of the zenad of the RVGK and the air defense azenap as part of the fronts. There continued to be instances of the allocating of antiaircraft weapons over numerous installations and as a result of this the troop groupings carrying out important tasks were not always securely covered and suffered heavy losses from Nazi bomber raids. It required instructions from Headquarters and from the commanders of the fronts to carry out a decisive maneuvering of the antiaircraft artillery in the operations in the aim of concentrating its forces on the main sectors. The main demand was to resist the massed enemy air operations with massed antiaircraft artillery fire.(4)

In line with this, the air defense forces began to be organized into antiaircraft artillery groups (ZAG) under a single command. These included

the air defense azenap and the ozadn of the corps and divisions. The USSR People's Commissar of Defense in an order of 22 October 1942 demanded that from one-half to two-thirds of all the front's antiaircraft weapons be employed for this purpose.(5)

The maneuvering of the antiaircraft artillery formations and units of the Bryansk Front in the Orel Offensive Operation (July-August 1943) can serve as an indicative example of the concentrating of forces. The 11th Guards Army which had been transferred to the front was continuing an offensive on the main axis. The enemy, in employing aviation, was endeavoring to check the successful advance of the army's troops and the 4th Tank Army fighting in this same area.

In accord with the decision of the front's commander, during the period from 4 through 8 August, for covering the formations of the 11th Guards Army, they concentrated four zenad of the RVGK, seven azenap of MZA [small-caliber antiaircraft artillery] (three from the 4th Tank Army) and one ozadn of SZA [medium-caliber antiaircraft artillery]; this was more than 60 percent of the antiaircraft artillery of the front and the armies. Here, units of the 14th and 17th Antiaircraft ARTillery Divisions attached to the army previously were moved up to a short distance from deep in the army's operational configuration. At the same time, the 13th and 24th zenad maneuvered along the front line and to a significantly greater distance: the 13th zenad from the zone of advance of the 61st Army over more than 100 km, and the 24th zenad from the zone of advance of the 3d Army over more than 200 km.(6)

Such a decisive maneuver of large antiaircraft artillery forces in the aim of providing a cover, it can be said, for one army even at the expense of weakening the air defense of other sectors of the front proved fully effective. The high density and effectiveness of the antiaircraft fire forced the enemy to increase the altitude of its bombers and limit their operations and this led to a substantial reduction in the effectiveness of the air strikes. As a result, the troops of the 11th Guards Army successfully carried out the tasks set for them.

Maneuvering in the aim of massing antiaircraft artillery was characteristic of all front offensive operations. The difference was merely in the strength of the involved forces and the time of conducting it. For example, when in the course of the Lwow-Sandomierz Operation (July-August 1944) the First Ukrainian Front reached the Vistula, the Nazis undertook decisive measures to prevent the crossing of this important water barrier by our troops. For this the Nazi Command employed not only bomber but also fighter aviation. Around 90 percent of the aircraft overflights (3,500 out of 4,000) were made in the aim of attacking the crossings.(7) From 30 July through 5 August alone, the air defense grouping organized by maneuvering the front and army antiaircraft weapons repelled 83 Nazi air raids against the crossings, involving over 500 aircraft.

The antiaircraft artillery formations and units, having received a task, within a short period of time (1-3 days) carried out marches basically along the front over great distances (some up to 300 km), regardless of the shortage and limited capability of the transport facilities. They were organized into

three antiaircraft artillery groups which numbered 212 guns (around 70 percent of all the front's antiaircraft artillery) and 107 antiaircraft machine guns.(8) Due to this the troops in the crossing areas and on the crossings themselves on the three main crossing sectors were covered rather well. Enemy losses were over 70 aircraft. As we can see, to parry the massed employment of enemy aviation on the most important operational sectors, our command carried out a rapid maneuver and concentration of large air defense forces.

Maneuvering in the aim of shifting air defense efforts from certain sectors (installations covered) to others in the course of the operations was brought about by changes in the operational configuration of the troops, in the nature of enemy air operations and by the importance of certain facilities in relation to others previously covered by a larger amount of antiaircraft artillery. This was also caused by the fact that the air defense forces on one or another sector (in an area) were not always capable of securely covering the troops (installations) against Nazi air strikes. This happened when in the course of an offensive the troops being covered required the carrying out of new tasks, the spreading out of battle orders, due to the shortage of antiaircraft artillery, the losses suffered by it, as well as due to other factors.

The experience of the war showed that frequently the situation developing in the course of operations forced the command of the fronts to alter the operational configuration of the troops or the axis of the thrusts. As a result of this the former configuration of the air defenses ceased to meet the needs of the troops, since the enemy shifted its air operations to strike those groupings (facilities) the weakening of which could delay our advance.

Regardless of an external similarity, the designated maneuver differed from the former in the goals, in the number of involved forces as well as in the procedure of execution. While with the massing of antiaircraft artillery of a front in a maneuver, as a rule, 60 and more percent of its strength went into actions, a maneuver in the aim of shifting efforts was carried out by smaller forces. This was explained by the fact that, regardless of the arising necessity to carry out new tasks, the previously covered installations did not always lose their importance and the enemy did not abandon attacking them, although it did operate with less intensity. The maneuver was executed, as a rule, along the front, while a maneuver in the aim of concentrating forces in the course of an operation was carried out both along the front as well as from deep in the operational configuration at the expense of weakening the cover for facilities on other sectors and in the rear.

A maneuver in the aim of shifting effort in the first period of the war was rarely employed due to the small quantity of antiaircraft artillery and the limited maneuvering capabilities of the air defense units and formations related to the shortage of transport and shortcomings in command. However, in the second and third periods, this became a most important element in the combat employment of antiaircraft artillery. For example, by the start of the operation of the Don Front to eliminate the surrounded Nazi troops at Stalingrad, a strong antiaircraft artillery grouping was organized to cover the 65th Army advancing on the main axis. However, in the course of the offensive, the decision was taken to launch the main thrust in the area of the

21st Army. For reinforcing the air defenses of the army troops with medium-caliber antiaircraft artillery, the front commander assigned one aznap and two ozadn which carried out a maneuver from the zone of advance of the 65th Army and covered the assault grouping. The executed maneuver made it possible to shift the efforts of the antiaircraft artillery and cover the troops of the 21st Army which at that time was carrying out the main task of the front. As a result, the enemy was deprived of the opportunity to launch unrestricted bombing strikes from medium and high altitudes on this sector.

Also instructive was the maneuver of the two antiaircraft artillery divisions in the Vitebsk-Orsha Offensive Operation in June 1944. When the Third Belorussian Front reached the Berezina, the enemy stiffened its resistance. Its aviation intensely bombed our troops and the crossings in the Borisov area, where the main grouping consisting of the 5th Army and the 5th Guards Tank Army was advancing. The command of the front sent the 20th and the 48th zenad to provide an air defense for the crossings over the Berezina and prior to this these units had covered the troops, respectively, of the 39th Army and the 11st Guards Army. Having carried out marches 50-75 km long, the antiaircraft artillery divisions set to carrying out the given task.(9) The shift of efforts of the antiaircraft artillery told positively on the rate of advance as the troops of the front without delay crossed the river, since none of the crossings, regardless of all the efforts of the Nazis, had been destroyed. Thus, the employment of a maneuver in the aim of skirting efforts made it possible to quickly reinforce the air defense grouping and cause significant losses to the air aggressor.

A maneuver in the aim of covering new facilities was caused by their appearance in the operational configuration of the troops in the course of the offensive operations or by greater importance of already-existing ones. Among such facilities were the second echelons (reserves) and mobile groups in committing them to battle, antitank reserves, crossings, passes and various narrows on the troop routes of advance, road junctions, supply depots, unloading (loading) stations, liberated large population points and so forth. Various antiaircraft artillery forces were assigned to cover them, from a separate antiaircraft artillery battalion (regiment) up to several antiaircraft artillery divisions.

It was extremely complicated to plan constant air defense for scattered facilities of varying importance. For this reason, the maneuvering of antiaircraft artillery in the aim of covering new facilities was employed very often. As a rule, a task was not set for the entire operation for the antiaircraft divisions and regiments, as they were shifted from the covering of certain groups of troops (facilities) to others. For example, in the course of the Orel-Offensive Operation (July-August), the 24th zenad alone at full strength over a period of 35 days executed such a maneuver four times. In addition, its regiments also maneuvered independently.

Also indicative on this level were the maneuvering actions of the 1381st Antiaircraft Artillery Regiment in the Lwow-Sandomierz Offensive Operation. During the period from 6 July through 1 August 1944, the regiment carried out a maneuver in the course of which, in receiving new tasks, it successively covered: the Command Post of the 3d Guards Tank Army (6-12 July), the

crossing over the Seret in the Wiertelok area (12-15 July), the antitank reserve of the army consisting of two artillery brigades in the Wielkernic area (16-17 July), the road junction in the Trostyanets-Maly area (18-19 July), and then the antitank reserve and the command post of the army, and from 1 through 5 August as part of the front's ZAG, the crossing over the Vistula in the Baranow area. Similar maneuvering combat operations in the course of the offensive operations were conducted by a majority of the antiaircraft units, particularly separate ones. An exception was those covering airfields and those which did not have sufficient traction.

The maneuvering of antiaircraft artillery assumed particular importance in organizing air defenses for the second echelons (reserves) and mobile groups of the fronts and armies as these were primary objectives of attack for the enemy aviation. The air aggressor endeavored to attack them in the forming-up areas as well as in moves. If it was unable to do this, it launched powerful attacks from the air on the deployment and starting lines. The maneuvering of the antiaircraft artillery formations and units from other sectors (installations) to cover the second echelons and the mobile groups, as a rule, thwarted the enemy's plans. Having carried out a march, the antiaircraft weapons took up positions on dangerous sections of the troop routes of advance and on set lines. Together with the TOE air defense forces of the troops being committed to battle, they formed strong antiaircraft groupings which by their fire drove off enemy raids.

The successful execution of a maneuver by antiaircraft artillery depended largely upon its organization. The front commander was the chief organizer. On the basis of his plan for an operation, the maneuver was planned, the tasks were set for the air defense formations and units and their training carried out. The maneuvering of the antiaircraft artillery was directly led by the deputy artillery commander of the front for air defense. Control of the maneuver consisted in the prompt taking of a decision for carrying it out, determining the effective force, planning actions, issuing tasks and supervising the preparation of the formations and units as well as their leadership in the course of the fighting.

Preparation for a maneuver was carried out ahead of time or in the course of an operation. In the first instance this was carried out in organizing the air defenses, and for this reason the maneuver was planned in terms of the tasks of the troops, the nature of their actions and was reflected in the front's air defense plan. In the latter instance the time assigned to it was only that necessary for replenishing ammunition and materiel and for checking the tractors and motor transport. However, the times often were not kept and the antiaircraft artillery units began to carry out their set tasks without being sufficiently prepared.

Of great importance for shortening the time to execute a maneuver was the Order of the USSR People's Commissar of Defense of 22 October 1944 which demanded that the commanders of all branches of troops provide assistance and help to the antiaircraft units and formations, to move them out of turn over crossings, permit them to overtake columns and provide help in getting off roads to take up firing positions.(10)

As a rule, an operations group was set up for command of the antiaircraft artillery formations or several units carrying out a maneuver. With a smaller scale of maneuvering forces, this task was assigned to individual officers. They informed the commanders of the formations (units, subunits) of the enemy, the position and nature of actions of our troops, they clarified the tasks, they organized the moving up to designated areas and commanded the columns of antiaircraft weapons enroute. The control of the maneuvering was greatly impeded by the lack on the fronts of air defense command posts from which it would be possible to direct the actions of the TOE and attached antiaircraft artillery formations and organize and maintain cooperation with the covered troops, the Air Defense Troops and the Air Defense Fighter Aviation.

The organizing of temporary formations in the form of antiaircraft artillery groups under the command of the deputy artillery commander of the front for air defense or one of the commanders of the zenad, ensured centralized control of the antiaircraft artillery on the main sectors of troop actions. However, the limited capabilities of the fielded command posts did not make it possible to fully utilize the available forces as in the course of the maneuver contact of the antiaircraft artillery formations and units with the ZAG command post often was broken and they switched to independent actions, thereby reducing the effectiveness of the maneuver and all air defenses as a whole.

Thus, the operational maneuver of antiaircraft artillery for the first time and on a sufficiently wide basis began to be employed only during the years of the Great Patriotic War. This was largely aided by the constituting of army air defense regiments and the antiaircraft artillery divisions of the RVGK. In the development of the operational movement one can clearly trace the following trends: an improvement in the forms and art of execution, a higher level of organization and command. Also characteristic was the diversity of goals for the maneuver. Here it is essential to note one pattern: the end result always envisaged the creation of good conditions for the surprise employment of antiaircraft artillery, the causing of maximum damage to the enemy and the interdicting of its actions in the set area. In other words, no matter how adroit a maneuver was, it would not provide the desired result if it did not end with the establishing of a strong air defense grouping and the launching of a fire strike against the enemy.

FOOTNOTES

1. TsAMO SSSR [Central Archives of the USSR Ministry of Defense], folio 36, inv. 12559, file 31, sheets 124, 131, 132.
2. See: "Rukovodstvo po boyevomu primeneniyu sredstv PVO pri obespechenii voysk" [Manual on Combat Employment of Air Defense Weapons in Troop Support], Moscow, Voenizdat, 1944, p 44.
3. TsAMO, folio 36, inv. 12559, file 479, sheets 12, 13.
4. See: "Sbornik boyvykh dokumentov Velikoy Otechestvennoy voyny" [Collection of Combat Documents of the Great Patriotic War], Moscow, Voenizdat, No 16, 1952, pp 78, 82.

5. Ibid., Moscow, Izd. Generalnogo Shtaba Vooruzhennykh Sil Soyuza SSR, No 5, 1947, pp 44, 45.
6. TsAMO, folio 36, inv. 12559, file 70, sheet 44; file 83, sheet 21; file 88, sheet 35.
7. "Sovetskaya artilleriya v Velikoy Otechestvennoy voyne 1941-1945 gg." [Soviet Artillery in the Great Patriotic War of 1941-1945], Moscow, Voenizdat, 1960, p 488.
8. Ibid.
9. TsAMO, folio 36, inv. 12552, file 139, sheet 162.
10. See: "Sbornik boyvykh dokumentov...", No 5, p 45.

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COMMANDER, STAFF WORK IN COMMANDING TANK (MECHANIZED) CORPS

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[Article by Lt Col L.N. Antonov: "Commander, Staff Work in Commanding Tank (Mechanized) Corps"; the article was written from the experience of the Great Patriotic War]

[Text] An analysis of the combat experience gained in the years of the Great Patriotic War makes it possible to isolate three basic stages in the work of the commanders and staffs in the area of the command of tank (mechanized) corps on the offensive: preparatory period, command of the formations and units in committing them to battle (the breach) and in operations in the operational depth of the enemy defenses.

The preparatory period started from the moment of the receiving of the task from the army (front) commander to whom the corps was subordinate or from the commander of the tank field force of which the corps was a part.(1) The crucial factor which influenced the organizing of command of the formation during this period was the time assigned by the senior chief for preparing for the offensive. As the experience of the last war showed, from 1 to 14 days and sometimes more were assigned to ready the tank (mechanized) corps for an offensive.(2) The length of the preparatory period also influenced the choice of the working method of the corps commanders and staffs in this stage of command. They carried out the preparations for the offensive on a planned basis or in a short period of time. However, in all instances the corps commanders and the officers of their staffs endeavored primarily to carry out the main questions of command: to study the task, to assess the situation, to take a decision, to set the tasks for the troops, to organize cooperation and combat support, to provide supervision of execution and render aid to subordinate commanders of the formations and units.(3)

Command of a tank (mechanized) corps in preparing for an offensive was carried out from the formation command point which included the staff, the officers from the political section, the branches of troops and services. From the personnel of the command post they established an operations group for supporting the work of the corps commander during his trips to the observation post, to the troops, as well as in conducting reconnaissance and so forth.

With planned preparations which, as combat experience showed, required at least 3 days, the entire range of measures in the area of troop command was carried out successively initially in the corps element and then in the inferior elements. Characteristic here was that in the aim of ensuring covert preparations for the offensive, a number of measures in organizing combat was carried out by a strictly limited group of officials from the corps headquarters, its staff and the staffs of the brigades. For example, in the VI Guards Tank Corps (commander, Maj Gen V.V. Novikov) over the first 5 days of the assigned 10, participating in the preparations for combat in the Vistula-Oder Operation were the corps commander, his deputies, the chief of staff, the chiefs of the intelligence and operations sections as well as the commanders and chiefs of staff of the brigades. The remaining time was devoted to organizing cooperation both within the corps as well as with the attached formations and units, adjacent units, as well as work directly in the formations and units. Such preparations for the offensive made it possible for the corps on the very first day of the operation to successfully carry out the set task of completing the breach of the enemy tactical defensive zone and fight its way some 22 km into the operational depth of the enemy defenses.(4)

Work was organized in an analogous manner by the commanders and staffs of the V and II Guards Tank Corps in preparing, respectively, for the Belgorod-Kharkov and Belorussian Operations. The V Guards Tank Corps had 5 days to prepare for the offensive while the II Guards Tank Corps had 14 days.(5)

The work of the commander and staff was organized differently in the II Tank Corps in preparations for the Voroshilovgrad Operation. Having received the battle task from the commander of the 3d Guards Army at 0700 hours on 27 January 1943, that is, 2 days before the start of the operation, the corps commander, Maj Gen Tank Trps A.F. Popov, immediately informed all the personnel of the headquarters and the corps staff of this. This made it possible for all the staff sections and the headquarters of the formation to immediately begin preparations for the offensive and these were essentially completed by the middle of the following day. As a consequence of this over one-half of the allocated time was available to the inferior command elements.(6)

Thus, with planned preparations for an offensive, that is, when the commander and staff had at least 3 days from the moment of receiving the task, command of the formation was carried out according to the classic version which in the postwar years was named the "method of successive work." Here the corps commander and staff spent an average of 12-16 hours on studying the task, assessing the situation and taking a decision. In this instance at least 1.5-2 days were assigned for the organizing of cooperation.

In preparing for an offensive in a short period of time the commanders and staffs of the tank (mechanized) corps were forced to alter the work methods, since even the main troop command measures had to be carried out under conditions of a strict time limit. For example, in the course of the Orel Operation, the commander of the XII Tank Corps, Gen M.I. Zinkovich, in the morning of 18 July 1943 was informed verbally by the commander of the 3d Guards Tank Army, Gen P.S. Rybalko, that the formation was to go on the offensive on 19 July. Without waiting to receive written orders from the army

staff, the corps commander, having studied the task, together with the corps chief of staff and the chiefs of the operations and intelligence sections, assessed the situation, took a preliminary decision and issued this to the brigade commanders. Then together with the formation commanders he drove out to reconnoiter in the area of the 3d Army of the Bryansk Front, where the corps was to be committed to the breach. At the same time, the officers of the formation's staff reconnoitered the routes of advance for the brigades from the assembly area to the forming-up area. Gen M.I. Zinkovich in the field adjusted his decision and organized cooperation between the formations and units of the corps as well as with the rifle formations of the 3d Army. After completing this work, the brigade commanders, in using the remaining daylight, conducted reconnaissance of the forming up area and the forward edge of the enemy defenses with the battalion and company commanders. Upon receiving written orders for the offensive, the corps staff organized the moving up of the formations to the forming-up place. By the morning of 19 July 1943, the corps was ready to carry out the set task.(7)

Such a work procedure made it possible for the formation's commander and staff to significantly reduce the time spent organizing combat in the corps command level and because of this increase the time for preparing the troops for the offensive as well as for practical work of the officers from the corps headquarters and staff in the units and formations.

Work was organized similarly for the commanders and staffs of the V Guards Tank Corps (commander, Maj Gen Tank Trps M.I. Savelyev) in preparing for the Vienna Offensive Operation, the VII (commander, Maj Gen Tank Trps K.F. Suleykov) and XI (commander, Lt Gen Tank Trps A.L. Getman) Guards Tank Corps, respectively, in the Kiev and Zhitomir-Berdichev Operations. In both instances there were from 1 to 2 days to prepare for combat.(8)

Experience showed that from 12 to 48 hours were spent for the rapid or express organization of an offensive. Here 3 or 4 hours were spent on taking the decision and 6-12 hours on working out the questions related to the conduct of joint operations. Under the conditions of limited time, the work of the commanders and staffs of the tank (mechanized) corps was characterized by a desire to resolve the questions of organizing combat in parallel, that is, simultaneously in the corps and brigade command elements. For this purpose the corps formations and units received preliminary orders which provided information on the nature of the forthcoming offensive actions and the time to be ready for them. In the postwar years, such a procedure for conducting measures in the troop command area in organizing combat has become widespread and has been the basis for working out and introducing the parallel work method into troop practices.

An analysis of the archival documents shows that at times, as a consequence of an abrupt change in the situation, the tasks were issued to the corps several hours before the start of an offensive. In such instances all command and staff levels immediately were involved in the work of preparing for combat. This was the case, for example, for the commander and staff of the V Tank Corps in the course of the Shyaul'yay Operation, when during the night of 17 July 1944, in moving the formation up to the forming-up place, a coded message was received from the commander of the Second Baltic Front to change

the sector for the commitment to the breach as well as the axis of advance. Even in the course of the march, the corps commander, Maj Gen Tank Trps M.G. Sakhno, by using liaison officers, informed the brigade commanders of the change in the task, and himself with the chief of staff began to assess the situation and work out a plan. With the arrival of the formation in the forming-up area, the corps commander, Maj Gen Tank Trps M.G. Sakhno, personally set the tasks for the brigade commanders and through the officers of the operations group organized cooperation with the commanders of the XIV and LXXXIII Rifle Corps which were supporting the commitment of the corps to the breach.

By 1000 hours on 17 July 1944, an hour after arriving in the forming-up place, the corps was ready to carry out the new battle task. At 1030 hours it received the signal for commitment to the breach.(10)

Within the limits of the examined work methods the commanders and staffs of the tank and mechanized corps employed various procedures and methods in carrying out one or another command function. Thus, with planned preparation for an offensive, for evaluating the situation and taking a decision, the corps commander involved the staff officers, the chiefs of the branches of troops and services, hearing their reports or clarifying questions of interest to them. In the rapid preparation for an offensive, the decision was worked out by the commander together with the chief of staff together with a careful study of the reference reports prepared by the officers of the formation's staff and headquarters.

The staff of a tank (mechanized) corps began planning the combat from the moment of the receipt and study of the task by the formation commander and with the taking of a decision by him brought this work to its full completion. Here an important role, as combat experience was to show, was played by teamwork in the actions of the officers from the formation's staff and headquarters and this was achieved by a clear allocation of functional duties between them and by the early organizing of work groups in the staff. This made it possible to expend minimum time on working out the main battle documents. In particular, work was organized in this manner by the staff of the VIII Guards Mechanized Corps in the Vistula-Oder and Berlin Operations.(11)

It is essential to point out that while with the planned preparation the documents were worked out completely and basically in text, with rapid preparation preference was given to graphic documents such as: a diagram or map of the decision to commit the corps to a breakthrough, the plan of the offensive and the cooperation plan.

With planned preparation for an offensive, the corps commander, as a rule, set the tasks for the troops in the field and determined the main questions of cooperation. Subsequently, in the course of reconnaissance with the formation and unit commanders, the questions of cooperation were worked out more concretely. Then the staffs of the cooperating formations drew up a combat planning table which set out the procedure of their actions according to tasks, lines and time. A final working through of cooperation questions, if time permitted, was carried out in the course of the command-staff exercises

on maps and in the field as well as tactical exercises for the corps formations with reinforcements.(12) Military games were also effectively employed and in the course of these they worked out different versions of actions according to inputs which reflected possible changes in the situation during the offensive.

With rapid preparation, the tasks were given to the units and formations by the corps commander basically by telephone employing documents of a code command system (SUV) and through liaison officers of the corps staff, while cooperation was organized by the issuing of instructions and the sending of written and graphic documents to subordinates.

The organizing of cooperation with aviation was a most important measure carried out in the preparatory period. As a rule, for coordinating questions of cooperation, the corps staff was visited by an operations group from the supporting aviation formation and its representatives clarified all the details of the joint actions during the operation and set the signals for calling in aviation, for mutual identification and target designation on the battlefield. The cooperation plan (timing coordination table) was the working document reflecting all the main questions of cooperation. For example, the IX Tank Corps in preparing for the Belorussian Operation worked out a cooperation table with the 199th Ground Attack Air Division. It, in particular, indicated the object to be hit by aviation and artillery on the forward edge and deep in the enemy defenses.(13)

Of equally important significance was the organizing of artillery support for committing the corps to the breach and cooperation of the tanks and artillery in hostilities in the operational depth. For this purpose an artillery support plan was worked out and this reflected in detail the questions of the cooperation of the artillery with the tank formations in commitment to battle as well as the procedure for employing the artillery in continuing the offensive deep in the enemy defenses. Usually this was approved by the commander of the army supporting the commitment of the corps to the breach.(14)

The support for the combat operations of the corps was organized by its staff, by the chiefs of the branches of troops and services on the basis of the decision and instructions of the formation's commander as well as the orders from the superior staff. With planned preparations, for example, in the I Tank Corps preparing to participate in the East Prussian Operation, the appropriate sections of the formation's staff and services worked out and issued to the troops plans and orders for reconnaissance, camouflage, air and antichemical defense, engineer, rear and technical support. Subsequent inspection and help to the troops aided in promptly carrying out all the planned measures for the given types of support.(15)

With the rapid preparation, as a rule, plans and orders for combat support were not worked out. All organizational work was carried out on the basis of verbal instructions from the appropriate chiefs of staff sections, the branches of troops and services of the corps with their subsequent written confirmation. This provided efficiency in resolving such questions of combat support as the conduct of reconnaissance, the engineer organization of the

routes of advance for the corps formations from the assembly area to the forming-up place as well as the organizing of increased supplies of ammunition, fuel and food.(16)

Command of the corps in commitment to battle (the breach) was provided from an observation post organized ahead of time close to the forward edge of our troops. As a rule, this was combined with or located next to the observation post of the commander of the combined-arms field force (formation commander) in whose area the corps was being committed. This provided an opportunity for the corps commander to observe the development of the breakthrough, to follow changes in the situation and respond promptly to them. For example, the commander of the I Guards Tank Corps and which in the course of the Belorussian Operation comprised the mobile group of the 65th Army, Gen M.F Panov, commanded the commitment of the formation to the breach on 24 June 1944 from an observation post combined with the observation post of the army commander, Gen P.I. Batov. This made it possible for him to ensure the planned moving up of the corps brigades to the start line and their organized commitment to the breach.(17)

The committing of a corps to battle demanded great skill and efficiency from its commander and staff officers. This was particularly true of determining the moment of the commitment. A characteristic example would be the actions of the commander of the III Mechanized Corps, Maj Gen Tank Trps S.M. Krivoshein, on 3 August 1943, in committing the corps formations to the breach in the course of the Belgorod-Kharkov Operation. He commanded the corps from the observation post of the commander of the XIII Rifle Corps, Maj Gen V.F. Damberg. Here also was the operations group from the command post of the mechanized corps. When the rifle units slowed down the rate of breaching the enemy defenses, Gen S.M. Krivoshein decided to commit to battle for boosting their efforts the formation's forward detachment, the 49th Tank Brigade, which was moving up directly behind the infantry battle formations. Having reported his decision to the commander of the 1st Tank Army and having had it approved by the commander of the XIII Rifle Corps, he radioed the order to the commander of the forward detachment to engage in battle.

By 1300 hours, the 49th Tank Brigade, in cooperation with units from the XIII Rifle Corps, had reached the area of the enemy artillery firing positions, having significantly disrupted the enemy antitank fire plan. In the existing favorable situation, Gen S.M. Krivoshein signaled the start for the moving up of the main forces of the corps from the forming-up place. Simultaneously, with agreement of the commander of the XIII Rifle Corps, he issued orders to free the routes for the moving up of the corps formations to the start line. Then, by radio, he adjusted the task for the corps forward detachment and the reconnaissance groups fighting in the battle formations of the rifle units.

When the tanks had passed the line for overtaking the infantry, the corps commander with his operations group left the observation post. In moving up behind the battle formations of the first echelon brigades and keeping 1-3 km away, he commanded their fighting by radio. The remaining officers from the headquarters group of the corps command post headed by the chief of staff was at the head of the column of the second echelon brigade.

Such an organization of the command of a corps in commitment to battle ensured most the stability and efficiency of troop leadership. It made it possible for the corps to carry out the set task on the first day of the operation.(18)

In conducting combat in the operational depth, the tank and mechanized corps pursued the enemy, they broke through its intermediate defensive lines, they crossed water obstacles, conducted meeting engagements, repelled counterattacks and captured population points. The basic content of the work done by the commanders and staffs to command the tank (mechanized) formations in the course of the offensive battles came down to assembling data and analyzing the situation, to determining the tasks for the troops and issuing these to executors, adjusting a previously taken decision or preparing a new one, maintaining continuous cooperation, organizing and moving command posts as well as exercising supervision and providing help to the troops.

The high rates of advance of the tank and mechanized corps, the abrupt and frequent changes of situation and the speed of the tank battles had a substantial impact upon the organizing of troop command. In particular, they demanded the continuous collecting of intelligence data concerning the enemy by the superior staff, by the corps intelligence bodies and adjacent units; the precise and rapid preparation and dispatch to the troops of various written documents: constant supervision over the course of combat, the position and state of the corps units and formations; the maintaining of dependable contact with adjacent units and the superior staff. All these questions were resolved by the staffs of the tank (mechanized) corps.

The corps commanders issued battle tasks to the brigades basically personally by radio and, as a rule, for a day of fighting. Here they indicated the line which the main forces of the brigade should reach by the end of the day, the task of the forward detachment and determined the direction for conducting reconnaissance. The orally given battle orders and instructions were written down by one of the officers of the operations section and then drawn up by the corps staff in the established manner. This, in particular, was the procedure followed by Maj Gen Tank Trps M.G. Sakhno in controlling the combat operations of the V Tank Corps in successively breaking through three intermediate defensive lines in the course of the Riga Operation and organizing pursuit of the enemy by the X Tank Corps in the East Prussian Operation as well as the commander of the VIII Guards Mechanized Corps in crossing the Pelica River in the course of the Vistula-Oder Operation.(19)

With the impossibility of personal contact of the corps commander with the brigade commanders and undependable radio contact, battle tasks were given by sending liaison officers to them.

Of important significance in conducting combat operations in the operational depth was the prompt clarifying of a decision previously taken by the corps commander and (when necessary) the preparation of a new one. For example, the commander of the IX Tank Corps, Maj Gen Tank Trps B.S. Bakharov, in pursuing the enemy in the course of the Belorussian Operation, adjusted the decision on the map as new situational data were received, then issuing the appropriate battle orders by radio or by officers from the operations group.(20)

With the development of the offensive according to the previously conceived plan but at a comparatively high pace, the control over the combat operations of a tank (mechanized) corps was carried out, as a rule, from the command post. The basic portion of all communications equipment here was concentrated at the command post while the second echelon of command was assigned one or two radios and a liaison aircraft (the IX Guards Tank Corps in the Vistula-Oder Operation).(21) If the pace of combat in the operational depth was high or the need arose to adjust the tasks, the corps commander controlled combat actions while in the operations group which was separated from the command post. The communications equipment was reallocated appropriately. For example, in the X Tank Corps, from the experience of its combat operations in 1944-1945, the communications equipment was distributed in the following manner: 30 percent of the radios and 50 percent of the wire communications were in the operations group, and 50 percent of the radio and wire equipment at the command post. Up to 15 percent of the radios remained in the reserve.(22)

Success in troop command in the operational depth depended largely upon the precise organization of moving the control posts. As a rule, this was carried out along a single axis in jumps. The frequency of the move depended upon the rate of advance and for an operations group was two or three times a day and for a command post one or two times a day; the depth of the move reached 10-15 km and 20-30 km, respectively.

The falling behind of the control posts from the battle formations of the units and formations led to a sharp decline in their rate of advance and at times to the threat of failing to carry out the set task. Thus, the XII Tank Corps which was committed to the breach on 14 January 1943 in the course of the Ostrogozhsko-Rossosh Operation was halted by the enemy in front of the town of Rossosh. The formation's command post had fallen behind and was located at Shramovka. The corps commander, without knowing the true status of the brigades, was unable to promptly take the necessary measures to resume the offensive. Only in the evening did the newly appointed corps commander demand that the command post be brought as close as possible to the first echelon brigades and he himself with several staff officers, in using the tanks at the command post, advanced directly to the city. Having clarified the situation and restored contact with the 13th Motorized Rifle Brigade, the 30th and 97th Tank Brigades, he organized cooperation. The assault commenced in the morning of 16 January 1943 from three directions was successful. By midday the brigades had fought their way into the town and had completely cleared it of Nazis.(23)

The achieving of continuous cooperation was an important but also the most difficult task in command of corps in the course of continuing an offensive. Thus, if the combat operations developed within the previously adopted plan, this was maintained by the reciprocal exchange of information between the commanders and staffs of the formations over the liaison radio and by specially assigned staff officers from the corps. This was the case in a majority of the tank and mechanized corps in the course of the offensive operations of 1944-1945. The organizing of cooperation, with the receiving of a new task for the corps, was carried out, as a rule, using a map and if

possible in the field. Characteristic here was the issuing of instructions on cooperation simultaneously with the signing of battle tasks.

Thus, the work experience of the commanders and staffs of tank (mechanized) corps in troop command during the offensive operations of the Great Patriotic War showed that both in preparations for the offensive as well as in the course of the hostilities, their most important task was to resolve all questions related to the leadership of the formations and units. Firmness, continuity, flexibility and stability of command were ensured by the skillful choice and creative application of the most effective work methods by the commanders and staffs depending upon the available time and the specific situational conditions, by rational echeloning, by prompt moving, by the skillful use of control posts and by the wide employment of radio and mobile means of communications.

FOOTNOTES

1. "Stroitelstvo i boyevoye primeneniye sovetskikh tankovykh voysk v gody Velikoy Otechestvennoy voyny" [Organizational Development and Combat Employment of Soviet Tank Troops During the Years of the Great Patriotic War], Moscow, Voenizdat, 1979, p 118.
2. TsAMO SSSR [Central Archives of the USSR Ministry of Defense], folio 3405, inv. 1, file 6, sheets 1-2; folio 3402, inv. 1, file 136, sheets 4-99; folio 3403, inv. 1, file 10, sheets 230-270; folio 3413, inv. 1, file 15, sheets 60-110; folio 3048, inv. 1, file 5, sheets 1-8.
3. P.P. Tovstukha, R.M. Portugalskiy, "Upravleniye voyskami v nastuplenii" [Troop Command on the Offensive], Moscow, Voenizdat, 1981, p 7.
4. TsAMO, folio 3405, inv. 1, file 168, sheets 9-13.
5. Ibid., folio 3406, inv. 1, file 273, sheets 6-126; folio 3402, inv. 1, file 136, sheets 4-99.
6. Ibid., folio 3407, inv. 1, file 42, sheets 8-9.
7. Ibid., folio 3405, inv. 1, file 33, sheets 2-4, 16, 50.
8. Ibid., folio 3403, inv. 1, file 76, sheets 2-4; folio 3406, inv. 1, file 273, sheets 6-126; folio 3048, inv. 1, file 5, sheets 1-8.
9. [Not in text]
10. TsAMO, folio 3404, inv. 1, file 7, sheet 92.
11. Ibid., folio 3440, inv. 1, file 130, sheets 205-206.
12. Ibid., folio 3398, inv. 1, file 194, sheet 16; folio 3410, inv. 1, file 51, sheet 6.
13. Ibid., folio 3408, inv. 1, file 40, sheet 94.

14. Ibid., folio 3405, inv. 1, file 203, sheets 120-122.
15. Ibid., folio 3398, inv. 1, file 194, sheets 8-16.
16. Ibid., sheets 17-21; folio 3404, inv. 1, file 7, sheets 59, 65, 123, 126, 209; folio 3405, inv. 1, file 336, sheets 13, 33, 49, 73, 110.
17. Ibid., folio 422, inv. 213277, file 15, sheets 80-81.
18. Ibid., folio 3440, inv. 1, file 53, sheets 74-89.
19. Ibid., folio 3404, inv. 1, file 7, sheets 217-228; folio 3410, inv. 1, file 51, sheet 37; folio 3407, inv. 1, file 53, sheets 54-61.
20. Ibid., folio 3408, inv. 1, file 40, sheets 94-100.
21. Ibid., folio 3409, inv. 1, file 1, sheets 256-257.
22. Ibid., folio 3410, inv. 1, file 55, sheets 2-15.
23. Ibid., folio 3405, inv. 1, file 10, sheet 66.

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NAVIGATION, HYDROGRAPHIC SUPPORT OF FLEET OPERATIONS IN ARCTIC BASIN

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[Article by Capt 1st Rank A.P. Aristov: "Navigation, Hydrographic Support of Fleet Operations in Arctic Basin"; the article was written from the experience of the Great Patriotic War]

[Text] In order to ensure, under combat conditions, accurate and safe navigation of ships (vessels) and their basing as well as the effective use of weapons and equipment, Gidrografiya SF(1) [Northern Fleet Hydrographic Service] from the first to the last days of the war had to carry out an entire range of involved measures.

One of the primary tasks was a constant improvement in the organizational structure of the entire hydrographic service and the improved managing of it.

At the outset of the war, the Northern Fleet Hydrographic Service (chief, Engr Capt 1st Rank G.I. Shardin; Mil Commissar, Reg Commissar P.A. Pashchenko; and from October 1941, Reg Commissar N.I. Kazakov) had available the following subunits: hydrographic section; hydrographic region of the Berents Sea (four hydrographic sectors and a maneuverable detachment); marine observatory; Northern Hydrographic Expedition (11 hydrographic vessels, 14 motor boats, 14 launches) consisting of three detachments, including aerial photography.(2)

Subsequently, the structure and composition of the forces of Gidrografiya SF changed depending upon the operational-strategic situation in the theater as well as considering the experience of the navigation-hydrographic support. Thus, from 1 September 1941, in accord with the order of the People's Commissar of Defense and People's Commissar of the Navy, the hydrometeorological service (the marine observatory and the network of hydrometeorological stations) was transferred to the system of the Red Army Hydrometeorological Service. For deciphering the materials of aerial photographic reconnaissance and for compiling graphic and descriptive documents on their basis, on 10 July 1941, under the Staff of the Naval Air Forces a Photogrametric Center was organized (subsequently converted into a detachment). To increase the effectiveness of carrying out assignments for hydrographic reconnaissance and navigation-hydrographic support for systematic combat actions and operations, on the basis of the Northern Hydrographic

Expedition on 17 July 1941, three integrated maneuverable hydrographic parties were organized.

In line with the organization in August 1941 of the White Sea Naval Flotilla (BVF), the White Sea Hydrographic Region was organized. This included the Iokang and Pechora hydrographic sections which had been removed from the hydrographic region of the Berents Sea. From May 1942, for better and more dependable navigation and hydrographic support (NGO) for the ships and fleets of the flotilla, a new structural and command organization was introduced, the BVF Hydrographic Service.

In order to ensure safe escorting of the ships and vessels through the swept channels, under the conditions of the constantly growing mine danger, in November 1941, a naval pilot service (chief, Capt 2d Rank F.Ye. Ushakov) was organized and this included three naval pilot stations: Polyarnyy, Murmansk and Kildin-Mogilninskiy. Initially this service was led directly by the chief of Gidrografiya SF, but from 27 October 1943, it was transferred to the chief of the hydrographic region at the main fleet base.(3) Other organizational measures were also carried out.

Navigation and hydrographic support for the systematic combat actions of the fleet forces and the operations was provided on the basis of the orders, instructions and directives of the fleet staff upon request of the formation and unit commanders.

Of great importance under the combat conditions were the converting of the regular navigation protection facilities (SNO) to the category of remote-activated ["manipulyator"] at the main and maneuvering bases as well as organizing a system of control for the network of the remote-activated SNO. The hydrographers encountered a number of difficulties in carrying this out. Thus, by the start of the war in the fleet (at Polyarnyy) there were only two activator ["manipulyator"] detachments which were in the stage of organization in accord with the order of the commander of the Northern Fleet of 29 April 1941. Their manning and equipping did not conform completely to wartime requirements. With the start of military operations, the fleet command took a decision to unite these detachments into one and to make it part of the Berents Sea Hydrographic Region.(4)

In August-September 1941, 23 remote activator stations (3 searchlight, 5 acetylene and 5 radio beacon) were set out and 11 regular beacons and lights were converted to the remote-activated category.(5) Such measures made it possible for the vessels in navigating close to shore and along channels to determine their bearings from the shore and floating markers, and outside the visibility of the shore markers (at a distance of up to 50 miles), using radio beacons.

In the course of the war there was an improvement in the organization and a further increase in the forces of the remote activator service (see Figs. 1 and 2). The number of the acetylene remote-activated stations, for example, more than doubled. The increase in the remote activated equipment basically due to the acetylene was explained by the good operating qualities of the latter, that is, the mobility and autonomy of operation; the possibility of

adjusting the range of action and the illumination sector as this increased the concealment of navigation support for fleet combat operations.

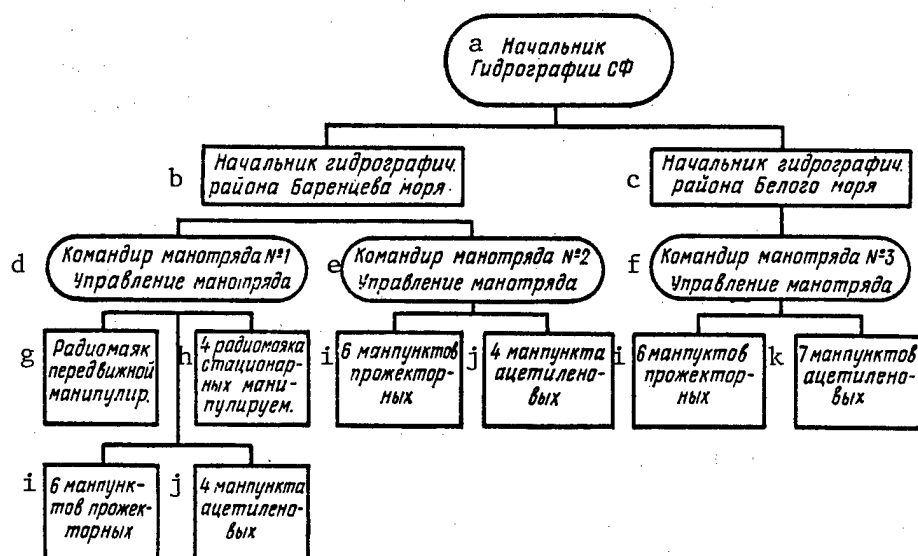


Fig. 1. Organization and Forces of Remote-Activator Service of Hidrografiya SF on 22 June 1941

N o t e. The diagram was compiled from data of TsVMA [Central Naval Archives], folio 11, file 17814, Vol 2, sheet 41.

- Key:
- a--Chief of Hidrografiya SF
 - b--Chief of Berents Sea Hydrographic Region
 - c--Chief of White Sea Hydrographic Region
 - d--Commander of Remote-Activated Detachment No 1;
Headquarters of Remote-Activated Detachment
 - e--Commander of Remote-Activated Detachment No 2;
Headquarters of Remote-Activated Detachment
 - f--Commander of Remote-Activated Detachment No 3;
Headquarters of Remote-Activated Detachment
 - g--Remote-Activated Mobile Radio Beacon
 - h--Four Stationary Remote-Activated Radio Beacons
 - i--Six Searchlight Remote-Activated Stations
 - j--Four Acetylene Remote-Activated Stations
 - k--Seven Acetylene Remote-Activated Stations

Direct combat command over the forces of the remote-activated service as a whole was provided by operational duty officers of the remote-activator detachment. Under him were the commanders of the stations, the emergency-repair and radiotelegraph troops, the ships and transport. Instructions for turning on and turning off the remote-activated equipment was received by him from the operations duty officer of the shore flagship command post (OD BFKP). In the aims of increasing the efficient use and concealing the work of the

remote-activated SNO as well as for ensuring dependable security of navigation, direct command over this equipment as of 1942 began to be provided from the BFKP under which they formed a staff post for the remote-activator service (Fig. 3). Control over the operation of the remote-activated SNO in the operational zone of the White Sea Naval Flotilla was carried out from the two command posts of the Main and Iokang Naval Bases.(6)

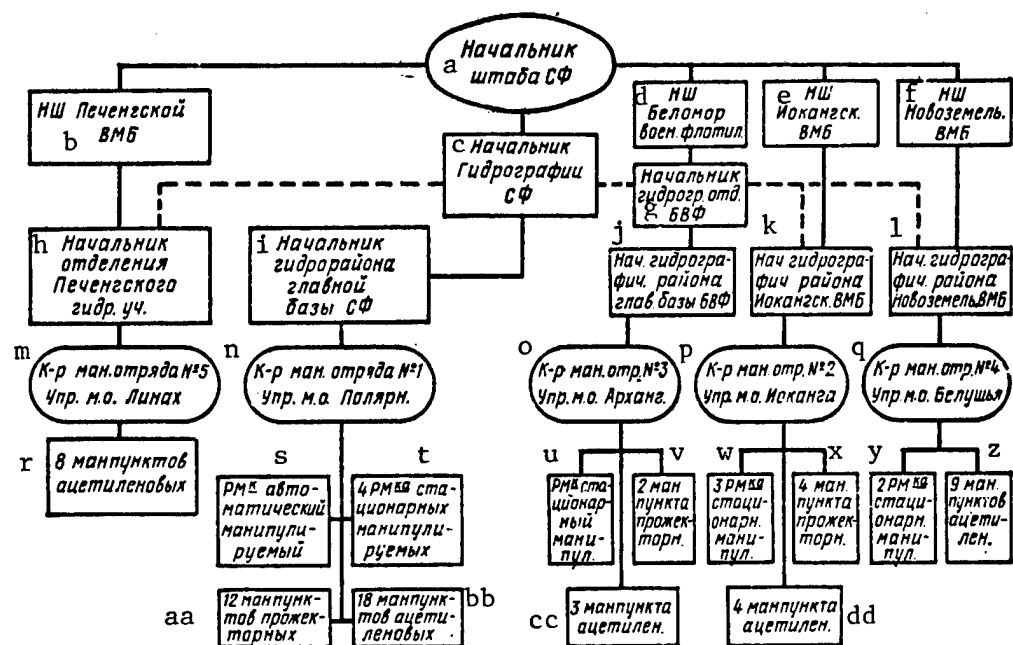


Fig. 2. Organization and Composition of Remote-Activated Service of Gidrografiya SF on 8 May 1945

N o t e. Diagram compiled from data of TsVMA, folio 11, file 17814, Vol 2, sheet 45.

———— Direct subordination;
 ----- Special subordination.

Key: a--Chief of Staff of SF
 b--Chief of Staff of Naval Base
 c--Chief of Gidrografiya SF
 d--Chief of Staff of White Sea Naval Flotilla
 e--Chief of Staff of Iokang Naval Base
 f--Chief of Staff of Novaya Zemlya Naval Base
 g--Chief of Hydrographic Section of BVF
 h--Section Chief of Pechenga Hydrographic Facility
 i--Chief of Hydrographic Region of Main Base of SF
 j--Chief of Hydrographic Region of Main Base of BVF
 k--Chief of Hydrographic Region of Iokang Naval Base
 l--Chief of Hydrographic Region of Novaya Zemlya Naval Base
 m--Commander of Remote-Activated Detachment No 5;
 Headquarters of Linakh Remote-Activated Detachment

[Continuation of Key for Fig. 2]

- n--Commander of Remote-Activated Detachment No 1;
Headquarters of Polyarnny Remote-Activated Detachment
- o--Commander of Remote-Activated Detachment No 3;
Headquarters of Arkhangelsk Remote-Activated Detachment
- p--Commander of Remote-Activated Detachment No 2;
Headquarters of Iokang Remote-Activated Detachment
- q--Commander of Remote-Activated Detachment No 4;
Headquarters of Belushye Remote-Activated Detachment
- r--Eight Acetylene Remote-Activated Stations
- s--Automatic Remote-Activated Radio Beacon
- t--Four Stationary Remote-Activated Radio Beacons
- u--Stationary Remote-Activated Radio Beacons
- v--Two Searchlight Remote-Activated Stations
- w--Three Stationary Remote-Activated Radio Beacons
- x--Four Searchlight Remote-Activated Stations
- y--Two Stationary Remote-Activated Radio Beacons
- z--Nine Acetylene Remote-Activated Stations
- aa--Twelve Searchlight Remote-Activated Stations
- bb--Eighteen Acetylene Remote-Activated Stations
- cc--Three Acetylene Remote-Activated Stations
- dd--Four Acetylene Remote-Activated Stations

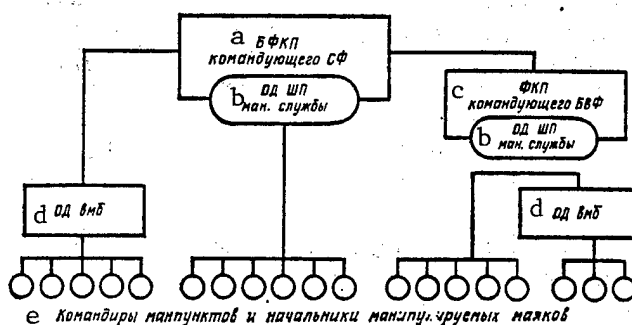


Fig. 3. Schematic Diagram for Organization of Combat Control of Remote-Activated Equipment in Northern Fleet

N o t e. Diagram compiled from data of TsVMA, folio 11, file 17814, Vol 2, sheet 47.

- Key:
- a--BFKP of Northern Fleet Commander
 - b--Operations Duty Officer of Staff Post of Remote-Activated Service
 - c--Flagship Command Post of BVF Commander
 - d--Naval Base Operational Duty Officer
 - e--Commanders of Remote-Activated Stations and Chiefs of Remote-Activated Beacons

The employment of the remote-activated equipment was determined by the specific operational situation in the theater. From the autumn of 1941 through the autumn of 1944, the equipment was turned on for a time essential to ensure safe navigating of the ships within the limits of their range of action as well as for the period of mine settings, combat sweeping and for carrying out other combat missions. For determining position by convoy vessels and ships, the remote-activated equipment was turned on according to a fixed schedule for a longer time (up to 24 hours). Group radio beacons operated according to a rotating schedule. Subsequently, as a consequence of the reduced enemy submarine operations, the main navigating equipment was switched to permanent operating conditions.

Information on changes in the employment of the SNO and navigation conditions was given in the "News to Mariners." The commanders of ships and the captains of vessels received these data before setting to sea from the operations duty officer of the naval bases (VMB) or the military commandants of the ports, and at sea, solely from the naval base operational duty officer according to instructions for notifying the fleet.

The number of requests to activate the SNO and, consequently, the operating intensity of the various types of equipment depended upon the season of the year. Thus, while in January 1942, 599 requests were received, in June there were only 41; the number of requests to activate radio beacons in October-March averaged 23 percent of the total number of requests for activation of remote-activated equipment during that period and July the figure was 90 percent.(7)

An important task for the hydrographic service which arose during the first days of fighting against the Nazi invaders in the Arctic was geodetic support for the firing of naval gunnery at the shore. This consisted in determining the coordinates of the firing positions of the batteries, the command and observation posts, the ground photographic reconnaissance and sound ranging stations, the rangefinder posts, the auxiliary weapons aiming points and other enemy facilities, as well as in carrying out topographic surveying of the battery areas, as well as in compiling and assembling the artillery plotting boards and the plotting boards of the observation posts.

The carrying out of work to support artillery firing was complicated by the fact that the triangulation network on the coast was little developed and the signs of the triangulation posts existing in the frontline area were destroyed in the course of the fighting. Moreover, topographic work prior to the war had covered a section of the coast only 3 km wide. This met the demands of navigation but did not provide for firing at targets which were 25-30 km from the post. Gidrografiya SF basically possessed small-scale navigation and topographic maps.(8)

Problems for calculating the initial firing data were most frequently solved by simplified but rather precise and dependable methods. The graphic method was employed most widely and very successfully. For each battery they prepared a plotting board with maps glued to it and these encompassed the entire area within the range of fire. On it they plotted the point of the center of the battery as well as a grid of concentric circles and a network of

rays spreading out at different angles. With the aid of such plotting boards the determining of the initial firing data took just about 30 seconds. Here the accuracy of determining the initial data was as follows: at least a half cable length (92.6 m) for range, 2,000-3,000 of the distance for the aiming angle and this was completely sufficient for area fire.

The geodetic support for ship gunnery fire at coastal targets came down to determining the precise coordinates of the location of the firing ship and the correction posts.

For each firing position they drew up a tactical log in which they gave the coordinates and a description of the reference points, the navigation-hydrographic data of the position and other information. A plan of the position was appended to this.

With the receiving of assignments from the fleet staff to support the gunnery firing, the maneuvering parties deployed on the coast in the ship maneuvering area the remote-activated SNO; together with specialists from the radio-technical service, the hydrographers checked the readings of the radars for direction and range. At sea the task of the hydrographers consisted in consulting the commander to bring the ship to the position, in determining the location of the ship at the firing position by more accurate methods as well as in receiving the initial firing data.

Within the systematic combat operations of the fleet forces, specialists from the hydrographic service provided navigation and hydrographic support for the setting of mines and for combat sweeping. Here the hydrographers carried out the following tasks: during the time of operating the minelayers and sweepers they equipped the area with SNO (shore illuminated and unilluminated markers, buoys and indicators), they turned the equipment over for use to the navigators of the minelayers and sweepers and they maintained the equipment of the area in accord with operating requirements. The carrying out of these tasks was impeded by the lack of a triangulation network and by the great length of darkness during the period of the polar nights. For this reason the coordinates of the locations of lights and markers were determined, as a rule, by a resection (by measuring two angles) and then plotted on the plotting board with a goniometric grid. Such a method was employed, for example, in sweeping the channels in the Petsamovuonofjord in November-December 1944 and this provided a good result. With the participation of hydrographers, some 241 mines were swept and destroyed here. Subsequent inspection sweeping indicated that there was no mine danger.(9)

In each specific instance, either maneuvering special groups or parties of hydrographers were established. The composition of either depended upon the scope of forthcoming work. For example, at the end of October 1944, by an order of the Chief of Hidrografiya SF, an operations group was organized for hydrographic support of combat sweeping in the area of Pechenga Gulf. The group was given a hydrographic vessel and a motor boat.(10)

In having the main task of providing navigation equipment for the regions, the hydrographers in individual instances provided direct help to the ship navigators in more precisely determining coordinates during minesetting and

sweeping. They were involved in this more frequently when due to the impossibility of visual observation of the reference points, they were forced to employ the method of theodolite intersecting of the ship by shore points with the subsequent transmission by radio to the ship of the measured headings. This method with a minimum expenditure of forces provided the possibility of reaching an accuracy of determining the ship's location of around 35 m even if the ship were up to 30 miles (around 56 km) from the shore. It was successfully employed, for example, in supporting minesweeping in the areas of the Kildin Reach, in the Varangerfjord, around Rybachiy Peninsula and in other areas.(11)

Navigation and hydrographic support for combat operations had a most comprehensive nature in preparing for landing operations and in the course of landing the amphibious forces. Thus, in the course of the Petsamo-Kirkenes Offensive Operation (7-29 October 1944) the following was required from the hydrographic service: the carrying out of navigation and hydrographic reconnaissance in the areas of forthcoming amphibious operations; providing light markers for the crossing of the ships of the landing detachments and their guiding to the landing points; the designating of landing areas with light markers; supporting the ship gunnery fire at enemy coastal fortifications.(12)

In the aim of ensuring covertness in preparing for the operation, the plan for navigation and hydrographic support was worked out by the officers of the operations department of the fleet staff, by the flagship navigator of the fleet and his assistant without involving specialists from the hydrographic section. The hydrographic service was given only general tasks without disclosing the nature of the forthcoming work.

During the preparatory period the activities of the hydrographic section were aimed, upon orders of the fleet staff, at studying the system of enemy defenses and the coast occupied by it. On the basis of materials from aerial photographic reconnaissance, 14 plans and diagrams were drawn up of bases, ports, anchorages and enemy airfields as well as military-geographic descriptions of them, more than 1,500 military objects on the forward edge of the enemy defenses were interpreted, and 2 topographic maps were corrected. In addition, in the area of Cape Pikshuyev--Kirkenes, the coordinates of around 500 enemy strongpoints were determined and then were utilized by the command of the Northern Defensive Region (SOR) in working out the firing table of the shore artillery as well as in making bombing strikes.(13)

The remote-activated SNO was set out in accord with the diagram of navigation equipment and this described the detailed characteristics of each remote-activated station. The first maneuverable remote-activated group set up three stations (Likhtun-Pakhta, Volokovaya and on Malyy Aynov Island). Their light markers supported the crossing of the landing vessels and ships from Bolshaya Volokovaya Bay to Malaya Volokovaya Bay and to the landing areas in the southeastern part of Malaya Volokovaya Bay. The second group set out four lines of sight: the first and third (Motka, Eyna) were designated to bring the ships to the landing area of the feint landing on the southern coast of Motovskiy Gulf: the second and fourth (Eyna, Mocha) for supporting the

maneuvering of ships in the process of the artillery support for the amphibious force and the units of the 14th Army.(14)

The personnel of the four remote-activated stations was at the torpedo boat base in Pummanki ready to immediately set to sea along with the amphibious force.

The activities of the maneuvering remote-activated groups with the deployment of the SNO equipment, was controlled by the fleet deputy flagship navigator from a command post set up in Pummanki and in the course of the landing of the amphibious troops, from the command post of the commander of the SOR, Maj Gen Ye.T. Dubovtsev, who was leading the landing of the 63d Naval Infantry Brigade in Malaya Volokovaya Bay (see Fig. 4). The communications of the command post with the remote-activated stations was provided through the SNiS [lookout and communications service] posts and the switchboards of the SOR units.

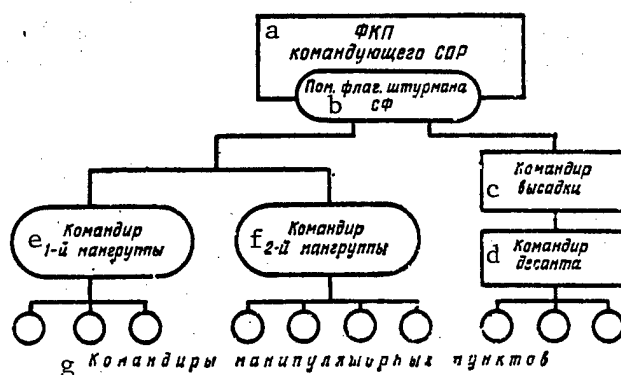


Fig. 4. Schematic Diagram of Combat Command of Remote-Activated Equipment in Course of Petsamo-Kirkenes Operation

N o t e. Diagram compiled from data of TsVMA, folio 11, file 17814, Vol 2, sheet 35.

Key: a--Flagship Command Post of SOR Commander
 b--Deputy Flagship Navigator of Northern Fleet
 c--Landing Commander
 d--Amphibious Force Commander
 e--Commander of First Remote-Activated Group
 f--Commander of Second Remote-Activated Group
 g--Commanders of Remote-Activated Stations

The line-up markers in Motovskiy Gulf were switched on upon command from the SOR command post during the night of 9 October. During the move to the landing areas of the feint force (Cape Pikshuyev and to the east of the enemy strongpoint Oberhow), these provided a navigation guide for two minesweeper launches and MO [minelayer] boats as well as the destroyers ("Gromkiy" and "Gremyashchiy") which by gunnery fire were supporting the landing subunits and units on the maritime flank of the 14th Army.

On the western coast of Sredniy Peninsula and on Malyy Aynov Island, the remote-activated equipment was turned on sequentially as the ships with the main amphibious force approached them. As soon as the ships of the first landing attachment entered Malaya Volokovaya Bay, the Volokovaya and Maativuono alignments were immediately turned on and these provided guidance to the landing points.

The personnel of the two remote-activated stations, in being landed in the first wave of the amphibious force, regardless of the heavy enemy mortar and artillery fire, 7 months later turned on navigation lights at the previously designated points and this ensured the approach of the remaining ships with the main landing forces. Upon completion of the landing of the 63d Naval Infantry Brigade, these stations were dismantled.(15)

For assisting the 14th Army in liberating the Petsamo area, the commander of the Northern Fleet took a decision on 12 October to land a tactical force at the port of Linakhamari. Before setting to sea, the boat commanders received from the fleet deputy flagship navigator, Capt 3d Rank A.I. Shelgunov, complete information about the navigation situation in the Petsamovunofjord, the landing areas at the port and the approaches to them as well as diagrams, maps and aerial photographs prepared by specialists from the hydrographic service. Two naval pilots were also assigned. In the aim of accurately guiding the boats into the fjord, the characteristics of the markers of the remote-activated Volokovaya Station was altered: the range of action was increased while the sector of illumination was reduced to 15 degrees. After the landing of the force, the sector of illumination was increased to 45 degrees in order to improve the conditions for guiding the returning ships.(16)

The high level of navigation and hydrographic support for the fleet combat operations can be seen from the fact that during the Petsamo-Kirkenes Offensive Operation there was not a single navigation accident. This was achieved due to the well organized work of the subunits from the fleet hydrographic service during the preparatory period, to the skillful leadership over the activities of the maneuvering remote-activator parties and the naval pilots, as well as to the high professional skill of the hydrographers. Thus, navigation and hydrographic support for combat operations was an important factor determining the successful fulfillment of the tasks confronting the Northern Fleet during the years of the Great Patriotic War. The promptness and high quality of carrying out the NGO measures depended upon the degree of equipping the theater with a triangulation network and navigation equipment, upon the composition of the forces of the fleet hydrographic service and the prompt establishing of a structure and system for controlling its subunits, men and equipment which would most consider the military-geographic features of the theater. Practice confirmed the advisability of deploying maneuvering and remote-activated detachments and parties in wartime in the aim of promptly carrying out the set tasks.

The experience of navigation and hydrographic support for combat activities of the Northern Fleet forces during the years of the Great Patriotic War makes it possible to draw the following conclusions: not only the accuracy and safety

of ship and vessel navigation depended upon the activities of the hydrographic service subunits but also the effective use of the weapons; the hydrographers provided the staffs of the fleet, the formations and the units with all information of a military-geographic nature necessary for working out the plan of the battle and operation; the carrying out of virtually every battle task required one or another measure for navigation and hydrographic support; shortcomings in the activities of Northern Fleet hydrography apparent in the initial period of the war showed that the organization, the composition of the hydrographic service forces, their training and technical state in peacetime should be on a level which would make it possible without any pause to begin navigation and hydrographic support for different-level fleet combat operations.

FOOTNOTES

1. The Hydrographic Service of the Northern Fleet during the war years was called Gidrografiya SF. Its chief was simultaneously the chief of the hydrographic section and the main subunit of Gidrografiya SF. See: TsVMA [Central Naval Archives], folio 56, file 5013, sheet 12.
2. Ibid.
3. Ibid., sheet 13; file 1385, sheets 20, 22, 35, 40; file 13392, sheet 14. The Berents Sea Hydrographic Region from 18 October 1943 began to be called the Hydrographic Region of the Main Northern Fleet Base.
4. Ibid., file 1383, sheets 6, 7; file 1503, sheet 55.
5. Ibid., sheet 7 verso.
6. Ibid., file 1383, sheet 9; folio 11, file 17814, Vol 2, sheets 45, 46; folio 710, file 34866, sheet 104.
7. Ibid., folio 56, file 11079, sheet 39.
8. Ibid., sheet 26 verso.
9. Ibid., file 13388, sheets 38, 39.
10. Ibid., file 17690, sheet 4.
11. Ibid., file 17814, Vol 2, sheet 33.
12. Ibid., folio 11, file 17814, Vol 2, sheets 34, 35.
13. Ibid., folio 56, file 12843, sheets 8, 10.
14. Ibid., sheets 2, 3.
15. Ibid., sheet 3.

16. "Morskoy atlas, voyenno-istoricheskiy" [Marine Atlas, Naval History], Moscow, Izd. GSh VMF, Vol III, Part 2, 1966, p 498; TsvMA, folio 56, file 12843, sheets 4, 5.

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INFORMATION IN COMBAT ACTIVITIES OF UNITS, FORMATIONS FROM EXPERIENCE OF GREAT PATRIOTIC WAR

Moscow VOYENNO-ISTORICHESKIY ZHURNAL in Russian No 4, Apr 87 (signed to press 23 Mar 87) pp 52-58

[Article by Maj S.P. Ivanov: "Information in Combat Activities of Units, Formations From Experience of Great Patriotic War"]

[Text] The Great Patriotic War provides many examples where the commanders who possessed numerical superiority in men and weapons lost this advantage and did not achieve the set goal due to the ignorance of the situation. Thus, in January 1945, in the preparation for the East Prussian Operation, the commander of the 144th Rifle Division (5th Army) did not possess dependable data about the situation. Moreover, during the night before the offensive, intelligence did not discover the pulling back of the main enemy forces from the first trench. As a result, the main artillery efforts in carrying out the artillery softening up were concentrated on an empty first trench. The commander's ignorance of the actual situation doomed the division not to carry out the task of breaching the enemy's defenses on the first day of the offensive. For the same reason, the 90th Rifle Division (2d Assault Army) during a day of fighting advanced just 4-4.5 km without carrying out its tasks. Due to the great distance of the observation post from the forward edge (6 km), the division's commander did not know the actual situation on the battlefield. In being 8.5 km away, the divisional staff did not provide the prompt assembling of data on the situation. As a result the division's commander was unable to completely realize the combat capabilities of the subordinate forces.

A commander can be the "master" of battle only under the condition of well organized and dependable information. (By information, one understands data of a military nature as well as the process of their transmission and receipt.) The staffs of a formation, unit or subunit play the leading role in providing the commander with information about the situation. In organizing the work of a staff in preparing the situational data essential to the commander in the decision taking process, the chief of staff must consider what information is already known to the commander and what is additionally needed. The staff officers had to be constantly ready (within the limits of the duties performed by them) to report briefly, clearly and correctly to the commander or to the chief of staff on the situational data, their own

conclusions and proposals. In addition to the staff, the chiefs of the branches of troops, special troops and services as they receive new situational data informed the commander as well as one another on questions directly relating to the range of their activities.

The sources of information were: superior and subordinate commanders and headquarters bodies; all types of intelligence; commanders and staffs of cooperating subunits and units; prisoners, deserters, local inhabitants as well as references, descriptions and topographic maps, documents captured from the enemy as well as examples of military equipment. Each source had its particular features and, as combat experience indicated, none taken by itself could provide a full picture of the existing or developing situation. For this reason the main principle of information work was the careful and thorough analysis and utilization of data gained from all sources. The more such sources there were the easier it was to verify them, the more profoundly the situation could be studied and the smaller the opportunity to make errors in evaluating it.

Information from the superior commander and staff was of primary importance. This oriented subordinates and helped them take sounder decisions. A commander who possessed information from above was less dependent upon chance and surprise. For example, on 16 April 1945, in the course of the Berlin Operation, the 50th Rifle Division of the LXXIII Rifle Corps by 1700 hours had completed the breakthrough of the main defensive zone and was successfully continuing the offensive. In relying on air reconnaissance data, the corps commander informed the divisional commander that tanks from the Division Hermann Goring were being moved up by the enemy into his [the Soviet divisional commander] zone. It was clear that the enemy was preparing a counterattack with superior forces.

After assessing the situation, the decision was taken to dig in on the held line, to defeat the enemy with fire by all weapons from a halt and not allow the enemy to break through to the Neisse River.

For repelling the counterattack, the divisional commander set the best line on which the rifle regiments went over to the defensive. After intense fighting the counterattack was driven off and the division's units resumed the offensive.(1)

The methods of providing information (from the top down) depended upon the content and importance of the information, upon the situational conditions and particularly upon the available time. Promptness was the main thing which guided the senior chief in informing subordinates. Information was provided by radio, using mobile and wire communications as well as with personal contact (both by having the commander himself travel to the subordinate troops as well as by summoning subordinate commanders to oneself). One should note the frontline practice of rapidly informing the troops of the appearance on the battlefield of new combat equipment (in particular the new T-VI (Tiger) and Panther tanks and the Ferdinand artillery assault guns on the Kursk Salient), on their weak points and effective methods of combating them.

Information from the senior chief was provided on a differentiated basis. Information about the situation was issued to subordinates in such a manner that each knew only what he actually needed to know for organizing and conducting combat. Surplus information merely got in the way.

Constant supervision was exercised over informational activities. Orders were published about this and the appropriate instructions issued. Thus, after the carrying out of the Rzhev-Vyazma Offensive Operation (2-31 March 1943), the commander of the Kalinin Front issued an order which set out the main shortcomings in command, including in informational activities: "In their majority instructions and information, starting from the army staffs up to the battalion staffs, was given over the telephone.... The staffs do not repeat them in writing and as a result these instructions are often understood and carried out differently by the inferior commanders and staffs than the person giving the order thinks and requires and it is impossible to establish who is right or wrong." (2) This same order determined specific measures to eliminate shortcomings and the task was set of constantly monitoring the situation and all changes in it should be promptly reported to the superior level.

Information from subordinate commanders and staffs, that is, information from the bottom up, provided an opportunity for the superior commander (staff) to constantly be up on the situation, to respond promptly and correctly to changes in it, to give new tasks or adjust the previous ones.

The wrap-up report was the main information reporting document for this type of information. It contained a report to the superior chief on the carrying out of various measures to organize battle, on the fulfillment of the battle task, on the evaluation of the situation, the decisions taken in the course of the fighting and so forth.

The wrap-up reports were divided into regular and irregular. The regular reports were submitted at the time designated by the superior chief, while the irregular ones were according to the initiative of the subordinate, but without fail in an instance when it was essential to confirm the receipt of a battle task or the start of its fulfillment; to report on the appearance of new enemy subunits and units or new types of combat equipment and weapons; on the appearance of the enemy where it had not been, or its absence in a place where it had been previously, on abrupt changes in enemy actions (a surprise retreat, going over to a counterattack, the switch from offensive to defensive and vice versa) and on establishing contact with the enemy. In addition, the commander was obliged to report on a decision taken upon his own initiative and related to an abruptly changed situation.

One of the major causes of confusion and miscomprehension of the content of the wrap-up reports was wordiness. The wrap-up reports did not achieve their aim with a delayed submission as was pointed out by senior chiefs. Thus, the Directive of the Chief of Staff of the Armored and Mechanized Troops of the Belorussian Front of 4 October 1943 drew attention to the fact that "the units are very late in sending their wrap-up reports and summaries to the staffs of the armored and mechanized troops of the armies and these do not conform to reality." (3) The commander of the Armored and Mechanized Troops of the 8th Army (Volkhov Front) in the Order of 20 March 1943 commented: "Information

for the superior staff is not organized in the units. The reports are submitted in their majority in an illiterate manner and by persons who are far distant from the leadership of battle. In the 33d Guards Tank Regiment, the battle documents are drawn up and signed by the clerk and they are submitted very late...." The commander demanded: "The battle and operational documents are to be drawn up personally by the chief of staff and he is to see to their prompt delivery to the staff of the army armored and mechanized troops."(4)

Good results were achieved in those instances when the senior chief indicated on what questions he wanted to be informed first. For example, in issuing instructions on troop command, the commander of the 4th Tank Army demanded that prompt and complete information be provided on the results of combat: a) what a subunit, unit or formation was doing and where and what was the enemy ahead; b) what losses it had suffered and what equipment captured; c) on its own losses.(5)

These and other directives and orders of the command demanded that the wrap-up reports give only reliable and checked data and data which was actually essential for the commander (staff); information the reliability of which was in doubt should be so stipulated, ambiguous expressions such as "immediately" or "we will endeavor" and so forth should be avoided; there should be no over-exaggerations of the success or understating of failures. It was very important to make the wrap-up report brief and clear. Brief was considered to be only the one where an idea was expressed correctly and completely with a minimum of words. A carelessly written wrap-up report impeded its study and comprehension. For this reason individual points and ideas should be set out with a red underlining and in paragraphs. The document should be written out clearly and legibly so that it could be read with poor light. The use of inks and chemical pencil should be avoided as such a text could be lost by rain, snow and dampness.

The scope and content of a wrap-up report each time differed. They were determined specifically by the developing situation. The procedure for setting out the information also varied. Most frequently this was done in the following sequence. The first point gave an assessment of the enemy grouping and its actions. Mention was made of the locations of weapons, the degree of combat capability of the subunits, their strong and weak points. The second point stated what the formation, unit or subunit had done since the moment of dispatching the previous report and what it had achieved up to a certain time; about the position, status and supply of one's own as well as the attached and supporting units and subunits. This same point should mention the situation of adjacent units. The third point gave a brief content of the commander's decision adopted in line with the developing situation, the method and time for the start of its fulfillment were indicated as well as the forces. The fourth point set out requests for the senior chief on questions of providing help in carrying out the battle task.

Here is one of the reports from the staff of the 1st Tank Division (Northwestern Front).

"Wrap-Up Report No. 24 from the Staff of the 1st Tank Division. Western Edge of Grove to Southeast of Moloskovitsa Station 12 Aug 41, 2330 hours. Map 100,000.

"1. Enemy tanks with infantry attacked the ambush of the 2d Tank Division in the Kryakovo area and the forest to the west. Enemy tank traffic observed near Kryakovo, Ragulovo.

"2. The 2d Battalion of the 2d Tank Regiment is conducting defensive combat. No infantry. Kryakovo has been set afire by enemy artillery fire and aviation. Ambush fighting its way to the north from Kryakovo. There are losses: 5 tanks set afire, there are killed and wounded, number to be clarified.

"3. For cooperation with the 2d Tank Battalion, the commander of the 2d Tank Regiment has sent a platoon of antitank personnel consisting of 14 men to the Beseda area.

"4. Observation by the commander of the 2d Tank Battalion of the 1st Tank Regiment has established [that in the area] 1 km to the south of Nerevitsa, enemy tanks, artillery and mortars have been drawn up; from the fire of the latter there are losses in the 5th Company of the 2d Tank Battalion of the 1st Tank Regiment.

"Plan: By tank ambushes in the area to the south of Kotino, together with the 1st Rifle Regiment of the [1st] Guards Regiment [of people's militia] to prevent the advance of enemy units to the north.

"I request bomber aviation neutralize the enemy concentrated in the designated areas.

Commander 1st Tank Division
Maj Gen Baranov

Military Commissar of 1st Tank Division,
Brig Commissar Kulik

Chief of Staff, Col Zelinskiy"(6)

In the aim of shortening the time for working out and transmitting the reports, particularly over communications equipment, blanks of formalized documents were employed.

In the providing of information from the bottom up, great importance was given to the initiative of subordinate commanders and staffs. This information was provided according to the principle "I saw--I know--I reported."

In the course of the Berlin Operation, the commander of the signals platoon of the 167th Guards Light Artillery Regiment (the 1st Guards Breakthrough Artillery Division), Guards Jr Lt V.I. Mashalin, with artillery scouts, in laying cable to the battery positions, discovered a large column of enemy infantry with several Ferdinand assault guns in a clearing. Having given the precise target coordinates to the observation post of the battalion commander, the officer immediately called in fire and corrected fire until the enemy column was dispersed with great losses in personnel and equipment.(7)

A variety of information was a report of one's ideas on the existing or developing situation to a senior chief. In October 1943, in the course of stubborn fighting to break the defenses at Melitopol, the chief of staff of the 308th Guards Rifle Regiment, Maj P.I. Shcherbakov, on the basis of information received from various sources about the enemy, concluded that in the morning a counterattack by the enemy was possible with the forces of at least a reinforced regiment and he reported his conclusions to the regiment's commander and to the divisional staff. Having assessed the importance of the received information, the divisional staff immediately requested information from adjacent units, artillery troops and scouts. New information was secured. Having studied this and compared it with the existing, the divisional staff, upon instructions of the commander, took the necessary measures. In the morning the enemy launched a counterattack with an infantry regiment and 30 tanks and this was repelled with great losses for it.(8)

All types of reconnaissance were an important and dependable source of information in combat. Without accurate intelligence data, a commander could not count on success.

Observation was one of the methods of ground reconnaissance widely employed under the conditions of direct contact with the enemy. Observers were assigned for conducting observation in a squad and platoon, and observation posts were set in a company and higher. The commanders personally conducted observation from their observation post.

In the preparations of the Vitebsk-Orsha Offensive Operation (June 1944), in the zone of the 43d Army there were 11 army observation posts, 7 corps, 43 divisional, 54 regimental, 66 battalion and 180 company with a total of 361. Observation combined with other types of reconnaissance detected: 95 enemy artillery and mortar batteries, 68 antitank guns, 383 machine guns, 268 dugouts, 43 observation posts, 12 command posts, 28 minefields and many other enemy installations and this was around 70 percent of all the targets located on the enemy's first position.(9)

On the eve of the Iasi-Kishinev Operation, in the defensive on the Dniester bridgehead in 1944, a significant portion of the data concerning the enemy was acquired by the staff of the 108th Division by organizing observation. Scores of observers constantly during the day and at night studied the enemy defenses. In order to view the first position and the strongpoints located on the high bank of the old river channel, the observation posts had to be built in tall trees. Over a period of 4 months of combat operations on the Dniester bridgehead (May-August) the enemy defenses were thoroughly studied. The extensive work proved effective as the artillery and mortar fire accurately hit the previously detected targets.(10)

Prisoners were an important source of information. In the course of the Bobruysk Operation (24-29 June 1944), a mobile detachment from the 120th Rifle Regiment (under the command of Capt V.P. Rubashkin) consisting of a reinforced rifle regiment with 4 tanks and a combat engineer squad, toward the end of 27 June 1944, came out on the western edge of the forest to the east of Osipovich. As a result of an organized ambush, prisoners were taken and in

the interrogation of them the enemy forces defending Osipovichy were established. In the wrap-up report to the regimental commander, the captain stated these data as well as his own plan: to initiate combat for the battle, to reach the western outskirts and hold it until the approach of the forward detachment of the 37th Guards Rifle Division. Stunned by the bold attack, the German garrison lost its head and quickly began to retreat to the west. The forward detachment approached the city at the moment of street fighting. In the morning the main forces of the CV Corps were already in Osipovichy.(11)

Local residents provided valuable information about the enemy. In the crossing of the Dnieper, the "hydrometeorological service," wrote Army Gen P.A. Batov, "provided the troops with very meager data on the water barriers. In preparing for the crossing we had to use the experience of the local population. Savelyev (a fisherman--S.I.)...provided much valuable information on the nature of the river at the crossing sections. These confirmed the conclusions of our engineer reconnaissance and made it possible to take a decision on the duration of artillery softening up and accurately calculate the time for capturing the bridgeheads."(12)

With the approach of the main forces of the X Guards Tank Corps to the Warta River (10 January 1945), the commander of the head tank battalion of the 61st Guards Tank Brigade, Capt V.G. Skrynko, reported to the corps staff that "three Polish citizens who came out of Burzenin 15 minutes ago told him that enemy troops were positioned in the city and along the entire eastern bank of the river while the bridge across the Warta was guarded." It was also learned that in a 2-km strip to the east of the river the Nazis had not permitted the local inhabitants to carry out any work. From this information it was concluded that along the entire eastern bank of the Warta the enemy had established a fortified zone.(13)

The prompt and correct information of the local inhabitants facilitated a solution to the task of crossing the Warta. In using terrain folds and the forest, the tank platoon of Lt N.L. Yudin with combat engineers mounted on the armor rapidly approached the river. In a period of 10-15 minutes, the bridge security was overwhelmed and a 60-ton bridge captured and cleared of mines. Green rockets exploded in the air and this was Yudin signaling that the bridge had been captured. After several minutes all of Skrynko's battalion had crossed the Warta. Some 30 minutes later and the main forces of the brigade had moved up.

In the Lwow-Sandomierz Operation, in pursuing the retreating Nazis, a battalion under the command of Capt A.I. Yakushev from the 1178th Rifle Regiment of the 350th Rifle Division on 29 July 1944 reached the swampy banks of the Vistula several kilometers to the south of Sandomierz. Local inhabitants provided information about the river and its particular features in the plains areas. With their aid boats, beams and rafts were found. The crossing of the water obstacle was carried out comparatively easily and with minimal losses. "The first to cross the river were the soldiers of the machine gun company under the command of Sr Lt S.Ye. Avdoshkin.... The machine gunners dug in on the bridgehead and supported the crossing of the regiment's remaining subunits.(14)

There was no shortage of reports, as the archival documents indicate. However, all the information received by the staff merely reflected events. The staff had to make conclusions. "But conclusions," as Army Gen S.M. Shtemenko has written, "are not so simple! First of all, the data obtained by intelligence are frequently contradictory, at times exaggerated or understated, and sometimes simply incorrect. From the hopper of intelligence data, after careful filtering, scrupulous examination and analysis, one selects all that is valuable and reliable and on the basis of this conclusions are drawn."(15)

The secured information underwent careful rechecking, as the enemy, in resorting to disinformation, endeavored to create a false notion of its intentions as well as the existing forces and their grouping.

For the commander and the staff there was no information which did not merit attention. In battle there were frequent instances when seemingly unimportant data ended up very valuable. For this reason, all information required a profound and thorough study.

The collecting of information had an active nature. This was expressed in the constant desire of the staff at whatever the price and by the designated time to have the most recent information on the enemy's position, its actions, aims and objectives to the entire depth of the tasks to be carried out, to know the position and condition of our own troops and the conditions for conducting combat. In other words, information was secured by the staff not sporadically but constantly.

Effectiveness played a special role in information. Out of the entire total of incoming data, the staff isolated the main and decisive data and primarily that which was essential for the command at the given time.

The staffs showed great responsibility for the information. The chief of staff had to have the courage to report truthfully even the worst data, without embellishing or hiding anything. It was impossible to depict the desired as the actual, the unknown as the reliable. During the war years there was a rule: however bad the situation may be, the staff is obliged, without concealing anything (and at the same time without exaggerating) to report about this up the line of command. "To courageously report the sometimes bitter truth...before the taking of a decision by a commander..." wrote Army Gen S.M. Shtemenko, "these are the true qualities of a good staff officer. Of course, it is not easy to report unpleasant facts, since the speaker risks being the first to feel the dissatisfaction or anger of a superior.... But the truth will out. The desire to evoke pleasant emotions in a superior usually was not beneficial."(16)

The receiving of information in the combat activities of units and formations has not lost its importance in modern combat. A study of combat experience and its creative application in practice are an urgent task for us.

FOOTNOTES

1. "Taktika v boyevykh primerakh. Diviziya" [Tactics in Combat Examples. The Division], Moscow, Voenizdat, 1976, pp 79-80.
2. "Sbornik boyevykh dokumentov Velikoy Otechestvennoy voyny" [Collection of Combat Documents of the Great Patriotic War], Moscow, Voenizdat, No 11, 1950, p 6.
3. Ibid., No 21, 1954, p 77.
4. Ibid., pp 81-82.
5. Ibid., No 15, 1951, pp 30-33.
6. Ibid., No 33, 1957, p 67,.
7. V.M. Zhagala, "Raschishchaya put pekhote.... Voennoye memuary" [Clearing the Way for the Infantry.... Military Memoirs], Moscow, Voenizdat, 1985, p 210.
8. TsAMO SSSR [Central Archives of the USSR Ministry of Defense], folio 1299, inv. 1, file 9, sheet 49.
9. Ibid., folio 398, inv. 9331, file 54, sheets 208-215.
10. VOYENNO-ISTORICHESKIY ZHURNAL, No 1, 1986, p 33.
11. P.I. Batov, "V pokhodakh i boyakh" [In Campaigns and Battles], Moscow, Izd-vo DOSAAF, 4th Edition, 1984, p 398.
12. Ibid., p 322.
13. D.D. Lelyushenko, "Moskva--Stalingrad--Berlin--Praga. Zapiski komandarma" [Moscow--Stalingrad--Berlin--Prague. Notes of an Army Commander], Moscow, Nauka, 1975, pp 319-321.
14. "Geroi Sovetskogo Soyuza]: Istoriko-statisticheskoy ocherk" [Heroes of the Soviet Union: Historical Statistical Essay], Moscow, Voenizdat, 1984, p 136.
15. S.M. Shtemenko, "Generalnyy shtab v gody voyny" [The General Staff in the War Years], Moscow, Voenizdat, Book 2, 1953, p 285.
16. Ibid., p 288.

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SOLDIERS' HEROISM AT CHERNOBYL DETAILED

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[Article, published under the heading "Mastery and Heroism" by Capt 1st Rank V.S. Chuykin, Candidate of Historical Sciences: "The Feat in Chernobyl"]

[Text] During the night of 26 April 1986, due to the flagrant violating of the operating rules by the operators, there was a sudden rise in the power of the reactor in the block No 4 of the Chernobyl Nuclear Power Plant. This led to the the rapid formation of steam and then its explosion which caused the destruction of the reactor. As a result, radioactive gases were released to a height of around 1,000 m. A portion of the radioactive product settled on the earth's surface and during the first days the radiation levels around the power plant were hundreds of milliroentgens per hour. Some 40,000 inhabitants of the town of Pripyat were evacuated and subsequently the population in a 30-km zone around the power plant was evacuated.(1)

The military firemen were the first to reach the blazing block No 4. Their loyalty to duty and their desire to save the citizens even at a price of their own lives were fully apparent in the fight against the fire and radiation. For courage, heroism and self-sacrificing actions, Maj Int Serv L.P. Telyatnikov was awarded the title of Hero of the Soviet Union, and Lts Int Serv V.N. Kubenok and V.P. Pravik received this title posthumously.(2) The General Secretary of the CPSU Central Committee M.S. Gorbachev in a speech on Soviet Television on 14 May 1986 pointed out: "Under very difficult conditions it was possible to extinguish the fire and prevent its spread.... The severe test was withstood and is being withstood by everyone, the firemen, the transport workers, construction workers, medics, special chemical protection units, helicopter pilots and other subunits from the Ministry of Defense and Ministry of Internal Affairs."(3)

At present, much of the work of eliminating the consequences of the disaster at the Chernobyl nuclear plant has been completed. The power blocks No 1 and No 2 are already in operation, and No 3 is ready to start up. The destroyed reactor has ceased being a source of radioactive contamination; a "sarcophagus" has been built for it. I happened to participate in this work and see how the soldiers, sergeants, warrant officers ["praporshchik"] and officers worked at the most difficult areas of a dangerous zone. A profound

awareness of the importance of the tasks confronting them and a creative approach to their solution, a thorough knowledge of the assigned equipment and skillful mastery of it, a high sense of responsibility and discipline, boldness and courage distinguished the men.

This is our story.

* * *

During the first days after the accident, decisive actions were needed to reduce the temperature inside the damaged reactor. A group of soldiers of 11 men headed by Capt P.G. Nikita received the task of installing a pipeline to supply liquid nitrogen to the station's fourth power block. A minimum time was assigned to carry this out. The communist officer realized well that under the existing conditions it was essential not only to carefully think out and precisely determine the volume, time and procedure for carrying out the work for each soldier but also help gain the necessary confidence while staying in the radiation zone.

P.G. Nikita recalled to his subordinates the reasons and the goal of their presence in the area of the power plant, having expressed certainty that they all would make a worthy contribution to eliminating the consequences of the disaster. Then he informed the men of the radiation situation, having paid particular attention to instructions concerning the procedures and methods of action in the protective equipment as well as the precise observance of the plan and methods for installing the pipeline.

The captain carried out the joining of the pipe, the installation of the pump and other operations along with the men, setting an example of confident and capable actions. And this brought a positive result. The group carried out the task within the established time and with a high quality.

The personal example of the commanders is always important, particularly when the subunit or unit assigned to him is working under difficult conditions. The communist, Lt Col P.I. Muragin, has great authority in the helicopter subunit. For his subordinates he was an example of carrying out his official and party duty, high work efficiency, tenacity and endurance and love for his profession. The pilots say about the officer that he was born for the skies and knows everything about his helicopter.

Lt Col Muragin is a military pilot 1st class, a USSR master of sports in parachuting and sports aviation, and has spent over 2,500 hours in the air. At Chernobyl he was, as a rule, the first to get up. Having taken off to reconnoiter the weather, at 0700 hours he began carrying out preflight preparations. Having resolved this question calmly and precisely, he set to work on the next. The officer had a fine feel for the psychological state of the men and this helped him lead them skillfully.

Petr Ivanovich [Muragin] frankly told his subordinates how stirred he was when he for the first time flew off to the fourth power unit. He had read a great deal about the disaster, he had seen "his main enemy" on the television screens and in photographs in newspapers, but, when he first approached the

reactor "wall" (he had to come in close and photograph the reactor from different directions), the control and pedals seemed locked in the "hover" position. In order to successfully carry out the operation, a psychological barrier had to be surmounted. Muragin surmounted it by first hovering over the roof of the damaged power block and then with a jeweler's precision moving from the bottom up along the stack.... High quality color photographs were obtained. The accurate tone further strengthened the commander's authority and made it possible to establish the necessary professional attitude.

Soon thereafter subordinates were able to demonstrate their skill and show their moral-political and psychological qualities. The helicopter crews of Capt V.V. Kuznetsov and V.V. Baykov received the mission of establishing special devices on the roof of the third power block for catching graphite fragments.

The day before, during the period of preflight training, Muragin informed the pilots and navigators of the convenient routes for approaching the target and the particular features of operating with an exterior suspended load. Then the operation was gone through on the ground.

Muragin clarified the task for the pilots in the cockpit of the helicopter which was hovering over the reactor roof. With an even, calm voice he gave explanations and answered questions. This confidence of the leader came across to his subordinates. The crew did not have a shadow of a doubt that the task would be carried out successfully and in a minimum time.

This was the case. The special devices were placed with the precision of a centimeter at the designated spots.

The chemical protection unit was carrying out the task of decontaminating the interior spaces and territory of the nuclear plant. Its commander, Lt Col A.I. Ivanov, set the task for the subunits directly at the plant. Showing up at all the points where subordinates were working, by his self-control and energy he inspired the men to unstinting work. Demanding of the men, Communist Ivanov placed the highest demands on himself.

Once, arriving at the nuclear plant, Lt Col Ivanov discovered that there was a problem in the organized work of laying the reinforced concrete slabs as a large amount of equipment had piled up and things were going slowly. Having investigated the reasons for the trouble, he was able to organize the execution of the operations in a new way. On the next day the amount of work had trebled. The subunit which worked subsequently in this area took first place in the socialist competition in the unit.

Another time I met Ivanov in the turbine room of the second power block. Together with the soldiers he was carrying out decontamination work. To my question of whether it was worth it himself to participate in all of this with a mop in hand, the officer persuasively replied that it was. And he went on to explain his feeling: contact with the men helped more quickly find ways to effectively carry out the tasks on hand and for reducing the time subordinates spent in a dangerous zone.

Many professional proposals of the winner of the Order for Service to the Motherland in the USSR Armed Forces 3d Degree, Lt Col A.I. Ivanov, were approved by the leadership of the nuclear plant and carried out, and the unit was awarded the Pennant of the USSR Minister of Defense for courage and military valor for the exemplary execution of assignments from the command.

The political workers, the party and Komsomol activists and the subunit agitators also made their contribution to the collective's success. The role of the experienced servicemen and high-class specialists was particularly significant here.

The agitator of one of the platoons, the able driver of the reconnaissance combat vehicle (BRDM), V.S. Mokharinskiy, had great respect among fellow servicemen. In giving great importance to correctly choosing the form of agitation work, along with reading editorials from newspapers and magazines and giving the latest news from the life of the nation and abroad, he also frequently employed conversations. Such a form presupposes the involvement of each person in the discussion. Thus, in discussing the speech of M.S. Gorbachev over Soviet Television on 14 May 1986 with his comrades, Mokharinskiy asked the question: "How are we to reply to the party's high praise of our work? How can we increase our contribution to eliminating the consequences of the disaster?" The discussion came more to life. Professional proposals were made by each man. The agitator was the leader in carrying them out. One time in working in an area with a high radiation level, the engine suddenly died and the Komsomol member Mokharinskiy in a few minutes eliminated the malfunction and carried out the assignment, sustaining a minimum radiation dose.

Several months ago, Pvt Mokharinskiy, having carried out his civil and military duty with honor, returned to his home kolkhoz and began, like his father, to work as a driver.

In the unit of Lt Col A.I. Ivanov the rich experience of the Great Patriotic War is also employed in working with the personnel. The command adopted an appeal to the men involved in eliminating the consequences of the disaster at the Chernobyl Nuclear Plant and prepared instructions for the soldier, for the party organization secretary, the party group organizer, the Komsomol organization secretary, the agitator and the combat leaflet editor operating in the zone of radioactive contamination.

For developing high moral-political qualities among the men of this unit and in other subunits, they organized the propagandizing of the finest works of Soviet writers who extolled the hero soldier and the defender of the socialist fatherland. In great demand were the books of A. Chakovskiy "Blokada" [The Blockade], K. Simonov "Dni i nochi" [Days and Nights], Yu. Bondarev "Goryachiy sneg" [Hot Snow], and I. Stadnyuk "Voyna" [War], as well as the military memoirs of G.K. Zhukov, A.M. Vasilevskiy, K.K. Rokossovskiy and V.I. Chuykov.

Speeches by the participants of the Great Patriotic War had a great mobilizing effect on the personnel. For example, Hero of the Soviet Union S.K. Nurmagambetov visited the men under the command of Officer S.K. Mutfullayev. He said that during the years of the Great Patriotic War he

had fought in these areas, and urged the men to do everything possible to eliminate the disaster which had befallen the areas adjacent to the Chernobyl Nuclear Plant. Then S.K. Nurmagambetov, upon instructions of the command, presented valuable presents and certificates to the soldiers and sergeants who had particularly distinguished themselves. In a response, the communist, Pvt A.G. Allerbori, on behalf of the soldiers present, assured the command that the personnel would make every effort to carry out the government assignments.

The men of the subunit under the command of Lt Col V.P. Kapashin were at work in Braginskiy Rayon of Gomel Oblast, in overfulfilling their quota. They were conducting radiation reconnaissance and decontamination of the roads, houses and other structures. In the course of the work the personnel met with the leader of the partisan movement during the years of the Great Patriotic War in this area F.A. Zagoranskiy and with local residents. These meetings which pleased the kolkhoz members left a good trace in the hearts of the soldiers and impelled them to work with even greater efficiency.

The experience of the last war has also been successfully employed in Chernobyl by the military pilots under the leadership of Maj Gen Avn N.T. Antoshkin. They were assigned by employing their helicopters to seal off the fourth reactor which had gone out of control, that is, carry out one of the most important tasks at that time.

"Sooner or later for each commander there comes a moment when the schedule of the day consists of so-called unexpected events which must be mastered and must be controlled, otherwise these events will turn around, come back and pose a problem. Such is military service," said N.T. Antoshkin, analyzing what had occurred and his actions.

Among the unexpected things was the orders to concentrate the helicopter operating schedule by transporting cargo to fill the crater. This schedule was already completely full. On that day, 27 April, the pilots, it seemed to them, had dropped an enormous number of tons of sand, boron and other materials into the reactor. In the evening N.T. Antoshkin reported what had been done to the members of the governmental condition. He did not expect praise but what he heard in reply at first disheartened him: "For the fourth reactor this is an insignificantly small amount."

The general did not have the right to risk the life of his subordinates. What was needed was a new, unusual approach to carrying out the task. And it was found. N.T. Antoshkin based his plan on the scheme worked out in the years of the Great Patriotic War by the twice Hero of the Soviet Union, Maj Gen Avn I.S. Polbin, for a group dive-bomber attack which ensured high effectiveness in hitting small-sized targets.

Nikolay Timofeyevich [Antoshkin] spent the entire night analyzing Polbin's experience. Certainly the plan of the veteran had been designed for the speed and aerodynamics of fixed-wing aircraft and here they were using helicopters. But the high professional training and sense of responsibility for the assigned job helped Antoshkin achieve success and this immediately was felt in the results of his subordinate aviators.(4) On the following day, the

helicopters "attacked" the reactor crater with a density that was twice as high as the day before.

Not only the pilots distinguished themselves in taming the damaged reactor. In the course of the work, the cargo had to be suspended on the helicopters. One of the first to begin carrying out this operation was Lt F.F. Kabukevich, the deputy commander of the chemical defense company for political affairs. The other men followed his example and this contributed to the smooth actions of all the specialists in the area of the fourth power block.

The communists were in the vanguard in carrying out any jobs to eliminate the consequences of the disaster at the Chernobyl Nuclear Plant. The men of the unit where Lt Col A.A. Polovnev is the political worker were instructed to decontaminate the interior areas and territory of the nuclear plant with high radiation levels. "Communists, fall out!" came the command from the lieutenant colonel. In turning to the party members, the officer said: "Comrades, I remind you of your privilege to always be ahead when things get difficult. Be an example for all the men in carrying out the task and in observing the radiation safety rules." After the line-up, each of the communists, in approaching the political worker, said: "We will not fail!" and they kept their word.

Thus, the secretary of the party organization, Sr Lt V.N. Trubnikov, who held a talk with the personnel on the importance of successfully carrying out the jobs at the nuclear plant, was asked by one of the soldiers: "Comrade senior lieutenant, will you work with us today at the nuclear plant?" "I will," replied the officer. Trubnikov had assessed the situation very accurately and he could not take a different decision, although on the day before he had headed the group and according to the schedule was to work only on the next day.

During the decontamination of the machine room, the senior lieutenant spent all his time next to his subordinates. The work went smoothly, the men carefully watched the actions of the officer and tried to work as confidently and accurately, and follow his advice and recommendations without delay. That day was yet another step on the way to completely eliminating the danger of contamination.

The decontaminating of the roof over the third power block was carried out under difficult conditions. The highly radioactive products remaining after the accident had to be dropped on the ruins of the fourth block. But how? Many variations were examined, including the operating of automated units on the roof surface which was obstructed by graphite debris and fragments of structural elements. Specialists concluded that this job could be done only with the aid of man. A volunteer was required to go up to the roof in protective clothing with sensors and carry out the task. The degree of danger and the duration of the work on the roof could be clarified only after the taking of samples.

The dangerous assignment was carried out by the communist, Lt Col Med Serv Aleksandr Saleyev, a specialist in radiation hygiene. Scientists proposed worker overalls as an individual protective costume. On top of them in the

front and in back were lead sheets as well as two leaded X-ray aprons. There were airtight glasses, a guard on the head and a respirator. On the feet were soldier boots. Saleyev confidently climbed to the roof in such garb with scores of dosimeters. Then he proceeded strictly according to the plan.

Following the example of the military medic, volunteer soldiers brilliantly carried out the task. The roof of the third power block was decontaminated.

In carrying out together with the specialists, scientists and workers, the difficult but honorable task of eliminating the consequences of the accident at the Chernobyl Nuclear Plant, the personnel of the subunits demonstrated the finest qualities inherent to the men of the USSR Armed Forces: patriotism, courage and heroism, high organization and discipline. These qualities were based upon a profound awareness of the personal responsibility for the high effectiveness of the work being done and for the health of the people who would live on this land which had been won away from radiation.

FOOTNOTES

1. ARGUMENTY I FAKTY, No 36, 1986; NEDELYA, No 44, 1986.
2. KRASNAYA ZVEZDA, 26 October 1986.
3. PRAVDA, 15 May 1986.
4. For courage and unstinting labor shown in eliminating the emergency at the Chernobyl Nuclear Plant and for eliminating its consequences, the Presidium of the USSR Supreme Soviet awarded Maj Gen Avn N.T. Antoshkin the title of Hero of the Soviet Union. (PRAVDA, 26 December 1986.)

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REPAIR PLANT ON THE FRONT

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[Article, published under the heading "Memoirs and Essays," by Maj Gen A.U. Tarasenko (posthumous): "Repair Plant on the Front"]

[Text] It was the second half of 1943. Having seized the strategic initiative from the enemy, the Soviet Army was advancing successfully along a front from Velikiye Luki to the Black Sea. With each passing day the rear services of the nation supplied the operational army with more and more aircraft, tanks, self-propelled artillery mounts [SAU], guns, mortars and other combat equipment. New tank corps and armies continued to be constituted on the fronts according to the instructions of Hq SHC.

From the summer of 1943, the employment of tanks and SAU in the operations assumed an unprecedented scope and this necessitated an expansion of the tank repair service. For this reason it was no accident that precisely in 1943, strong mobile repair plants began to be introduced.

By a decision of the GKO [State Defense Committee] of 19 April 1943, the first two mobile tank unit repair plants, the PTARZ-7 and PTARZ-8, were organized. On 13 September, the GKO adopted a decision to constitute another five such enterprises. I was entrusted with organizing the work of one of them. The establishing of the mobile tank unit repair plants capable of carrying out major overhaul of tank engines and other units under field conditions as well as rebuild and manufacture tank parts placed the organization of armored equipment repairs in the troops on an industrial basis.

After the liberation of Smolensk from the Nazi invaders, the Western Front at the end of September 1943 went over to the defensive. The repair bodies were confronted with the task of rebuilding as quickly as possible the tanks and SAU which had broken down in the course of the just completed operation. At that time I held the position of the senior officer for the repair section of the headquarters of the commander of the armored and mechanized troops.

In one of the last days of September, in a forest which had begun to turn yellow and where the damaged tanks had been assembled by the repairmen, the chief of the 55th Damaged Vehicle Assembly Point (SPAM), Mil Engr 3d Rank

F.V. Tokarev informed me that I was being summoned by the deputy commander of the front's armored and mechanized troops, Maj Gen Tank Trps I.Ye. Ivanin. I did not know the reason for the summons but for any eventuality I took with me data on the course of repairs on the combat equipment.

Ivan Yemelyanovich [Ivanin] met me with a smile and in waving some document, exclaimed:

"Now we are to have our own mobile tank unit repair plant!"

"And just where are we to get it?" said I, with interest.

"We will establish it ourselves. Read this!" And he turned over to me an order from the commander of the armored and mechanized troops of the Soviet Army, Col Gen Tank Trps Ya.N. Fedorenko, concerning the constituting of the 118th PTARZ.

"The command is of the opinion to assign the organization of the plant to you. You will head it. We feel that you have great experience in directing the front repair center at Osug and you will successfully handle the new assignment."

I left the general concerned with thoughts about the coming work, although without realizing all its complexity. When I directly got down to organizing the plant and setting up its work, it became apparent that we did not have the necessary production equipment and specifications. There was also the acute question of engineer and technical personnel. Moreover, we had to be concerned with both food and spare parts.

By the order of the commander of the Western Front of 7 October 1943, I was appointed the chief of PTARZ No 118. The deputy chief of the plant for political affairs was Lt Col G.F. Belenko who had been the deputy commander of the 132d Separate Repair-Reconstruction Battalion (orvb) for political affairs; the chief engineer was to be the deputy commander of the tank brigade for technical affairs, Mil Engr 3d Rank A.I. Chushkin, and the production chief was the commander of the 64th orvb, Mil Engr 3d Rank A.K. Zagniborodov. We knew each other well from previous undertakings involved in the repair of armored equipment and this was a pleasure and instilled confidence in close work in the new undertaking.

The 64th orvb served as the basis for the organizing of the plant. The PTARZ was also to include a company of the 22d Army Repair-Construction Battalion (arvb) which was engaged in repairing the V-2 diesel engines, transmissions, the master and steering clutches of the T-34 tank and a company of the 132d orvb which repaired the units of T-60 and T-70 tanks as well as the GAZ-202-203 engines. At that time the 64th orvb was located in the village of Kondrovo, not far from the railroad station of Govardovo. It was precisely here that the 118th PTARZ began its campaign record.

I will never forget that first meeting in one of the three surviving huts in Kondrovo. It was all confusion. The "child" was birthed in agony. There were no instructions. We had to settle everything ourselves. The meeting was

a long one. We began somewhere around noon and finished late in the evening by the light of a wick lamp. Having determined who was responsible for what, we parted tired but content.

On the next day, the chief engineer Aleksandr Ivanovich Chushkin traveled to the 22d arvb to receive the personnel of the repair company and the production equipment. The production chief Aleksandr Krillovich Zagniborodov traveled to the 132d orvb for the same purpose. Georgiy Fedorovich Belenko and I were concerned with the recruitment and placement of personnel as well as other organizational questions.

The time for organizing the plant was very short: from 1 December the enterprise was to reach full design capacity with a monthly major overhaul of 80 diesel engines, 50 GAZ-202-203 motors, 100 other tank units as well as rebuild and manufacture a large amount of tank parts. The front required this. The difficulties involved with the setting up of the plant and the relocating of the repair companies of the 22d arvb and the 132d orvb should not tell in the number of repaired units.

The officer personnel for the newly organized PTARZ came chiefly from the same repair units which were used to organize it. The remaining specialists (40-45 percent) came from the front's reserve officer regiment. The company of the 22d arvb was the basis for the plant's first section for the major overhaul of V-2 diesel motors. The company commander, Mil Engr 3d Rank Mikhail Georgiyevich Chebatkov became chief of the section. The company commander of the 132d orvb, Sr Tech Lt Aleksandr Andreyevich Sirotkin headed the second section. The platoon commanders of these companies were appointed chiefs of the shops.

Thus, the two main sections of the plant possessed experienced personnel, however there was not enough production equipment and that available was primitive.

An important element in the production process was the third section, the special work section. Its functions included the rebuilding and manufacturing of the parts of tank units. The shop, the services and the equipment of the section were located in special shops in vehicles and trailers. Initially the section had just one machine shop. As the plant expanded, there were five shops: machine, fitting, welding, chrome plating and tool. From the 22d arvb the section received several lathes, attachments for grinding the liners of the V-2 engines, as well as machines for grinding the discs of the master and steering clutches. A portion of the bench and other equipment was received from the 132d orvb. The chief of the section was Mil Engr 3d Rank Konstantin Vasilyevich Savchenkov, the former battalion deputy commander for technical affairs in one of the tank brigades of the front.

The production planning section was organized with just as much difficulty as the other sections. We did not have enough skilled leadership personnel and there were no references on the organization of planning and accounting. The accounting and reporting forms as well as the regulation determining the planning and accounting system were worked out in the process of organization.

The production planning section was an unique staff for our plant. It was headed by Mil Engr 3d Rank Sergey Ivanovich Sterlin.

We gave a great deal of attention to the technical supply section as the getting underway of all work depended upon its efficiency in supplying the sections, shops and services of the plant with production equipment, tools and instruments, spare parts and all sorts of materials as well as upon the efficiency of its personnel. The energetic and enterprising Mil Engr 3d Rank Natan Markovich Lyubinskiy was appointed section chief.

During 20-30 October the military council of the front took a decision to move the 118th PTARZ from Govardovo Station to Smolensk in order to bring the repair facilities closer to the front line. In the morning of 25 October I set off to Smolensk with the plant's chief engineer in order to choose a place for the setting up of the plant.

The city had been destroyed. On the walls of houses were large inscriptions scrawled: "Caution, mines!" We drove through the streets clogged with broken brick for a long time until we found the commandant's office. We reported briefly to the commandant on the purpose of the visit.

"How can I help you?" said the commandant shrugging his shoulders. "You can see what condition Smolensk is in. Comrades, there is not even a suitable roof for you." Then he reflected and somewhat uncertainly said: "There is one place, but I don't know...." He paused for a moment. "The barracks where the prisoners of war were kept. In abandoning the city, the Nazis did not succeed in completely destroying them."

The concentration camp was on the western outskirts of the city. Its territory had been fenced by barbed wire in three or four rows. On two sides, the eastern and western, there were towers for watching the prisoners. Of the five barracks, two had been destroyed. In the three surviving ones, the wind whistled, blowing straw across the flood and the double-tiered rough hewn wooden bunks.

In steeling our hearts, we decided to move in as at least there would be a roof over our head as it was no longer summer. At that time, we still did not have the large tents which would subsequently become our main production workrooms. We did not even have any covered vehicles.

In order not to disrupt the schedule for turning out tank units from repairs, we drew up a strict plan for the moving of the plant and according to which a portion of the subunits was to remain at the old spot, continuing the repairs.

On the following day a column of motor vehicles loaded down with the plant equipment headed toward Smolensk. We were unable to transport the entire system all at once as we did not have enough transport. We were unloading and setting up at the new place until late at night. We dug trenches as enemy aviation was still bombing the city. There was more work to do as the plant was located in two places. We spent a great deal of energy preparing production to begin work at the new place. In the first half of November the plant was completely moved to Smolensk.

In the new situation we continued equipping the sections, shops and services. By their own forces the repairmen made stands, benches, various attachments, washing machines and successfully employed mechanical tools for the most labor-intensive jobs. The production planning and technical sections worked out specifications, flow charts and reporting and accounting documents. The operation of the shops and sections in repairing the tank units with each passing day assumed a more ordered production sequence.

Party political work had been conducted intensely among the personnel during the intense time of organizing the plant. Its aim was to explain to the personnel the importance of the plant in the system of tank maintenance of the armored troops as well as show the role of the repairmen in rapidly rebuilding the damaged combat vehicles.

The difficulties were major ones, both internal which we jokingly styled difficulties of growth (the lack of the required machine tool and other equipment, motor transport, production and technical documents and the insufficient training of a portion of the officer personnel in the questions of production organization) as well as external and related to the unabating combat of the Western Front in the winter and spring of 1944. The tank losses were significant. They demanded from us more and more overhauled engines and other tank units.

When at the end of February a lull occurred on the front, the opportunity arose for moving a portion of the forces to improve the equipment and manufacture production fittings. We manufactured timekeeping equipment, bodies for the special vehicle shops, production tents and assembled the materials handling and transport equipment. At the beginning of May, the plant already had 22 covered vehicles and 23 covered trailers in which over a period of 10 days the personnel of the third section installed the main equipment.

The welding shop the chief of which was the Sr Mil Tech A.K. Bzhikyan developed aluminum welding of motor parts, it repaired a large number of upper and lower cases for the V-2 engines and radiators and manufactured various bushings and washers for the repaired engines.

The work of installing equipment, manufacturing production fittings, rebuilding parts and overhauling the tank units required a great deal of oxygen. It was hard to come by and for this reason the plant command petitioned the military council member, Lt Gen Intend Serv I.S. Khokhlov and the commander of the front's armored and mechanized troops for the allocating of an oxygen installation for the plant. Soon thereafter the PTARZ received the fifth oxygen station of the 3d Air Army the daily productivity of which was 600 liters of oxygen (15 tanks). From February the station provided oxygen not only to the 118th PTARZ but also partially the other repair units of the front.

In the first half of 1944, the plant's leadership was changed. At the end of February, the chief of the 22d Mobile Repair Base, Mil Engr 2d Rank Leonid Nikolayevich Pereverzev was appointed the chief engineer, and in March I was

transferred to the position of the chief of the repair section of the front's headquarters of the armored and mechanized troops. The plant was taken over by Mil Engr 2d Rank Aleksandr Aleksandrovich Smolyar.

It was hard to say farewell to the collective with whom I had worked so well in the most intense months of the plant's formation and establishment. And although for me the new assignment was a promotion, I left as if I were leaving my home where the habitual, dear and close were to remain. However, there was no time to be sad. The troops were beginning to prepare for the Belorussian Offensive Operation and I threw myself into the new concerns.

With the going over of the troops to the offensive, the number of tanks and SAU to be repaired quickly began to grow. The demand for tank units also increased. Although the plant was successfully fulfilling the plan for the major overhaul of tank engines and units, the demand of the front was still not completely covered. The personnel of the plant matured in the intense work and its skills grew. For example, the electric welder, Sgt Norkin, the lathe operators MSgt Myasnikov, Jr Sgt Razhnin and others did outstanding work in the third section.

On 3 July, the capital of Belorussia was liberated. The 118th PTARZ which had remained far in the rear had to be moved up behind the troops. On 10 July, A.A. Smolyar received orders to move it to Minsk. Here the plant was housed in large, spacious production shops. Under such conditions it was possible to organize the production process of repairing the tank units well.

The intensity in the work of the front repair units and subunits grew with each passing day. Now we had to overhaul those vehicles which had failed for technical reasons. This was natural as many tanks and SAU had traveled 700-800 km and the motors, gearboxes and other parts had to be replaced. This further increased the demand of the troops for overhauled units. In August, the 118th PTARZ received orders to overhaul 60 V-2 diesel engines. In order to handle such an amount of work, an hourly shift schedule was drawn up at the plant. The command took decisive measures to eliminate the bottlenecks. The plant successively mastered the production of various parts, including scarce ones.

In the shops, near the work areas each day they hung up express leaflets put out upon the initiative of the party organizations. With maximum terseness they propagandized the production successes of the repairmen. Thus, one of them announced that the brigade of the fitter Vasilii Vasilyevich Dimitrenko had fulfilled the shift quota by 300 percent. However, soon thereafter the output level achieved by it became ordinary and in the next issue there was a record set by the brigade of A. Vasilenko which fulfilled the shift quota by 500 percent and then several days later, the news ran through the plant of the labor feat of the repair brigade of N.A. Sokovikov which had fulfilled seven quotas in a shift. In the morning of 11 August, the express leaflets announced that the electric shop had fulfilled its monthly program.

In the parts assembly shop they carefully watched the ever-increasing output of the brigade of Communist N.A. Sokovikov. The glory of an advanced worker had been long affirmed for him at the plant. But at this time the sergeant surpassed himself as he began turning out ten quotas and more.

At a result plant meeting I asked the production pacesetter:

"Is it hard to set records?"

"Of course, it is not easy," replied the sergeant. "But is it easy for the soldiers to fight their way 40 km a day? They do and they still will. And no one complains. Can we lag behind them? Advance is what we will do together. As a group, as our 'grandfather' says, it is handier to hit the Nazis."

The "grandfather" at the plant was the smith Petr Ivanovich Bugrov. He was over 60. Until very recently he had been a partisan. His eyes were kind and friendly. He arrived at the plant as a volunteer. They immediately took to him for his knowledge of blacksmithing. The "grandfather" could fill any order the best. With good reason many people half jokingly called the field blacksmith shop the "helping-hand shop." Seeing Bugrov for the first time, I noticed his arms which were bare to the elbow. They were dark chestnut, work-hardened, with cracked and tough fingers. They reminded me of my father's hands.

"By how many percent do you fulfill the shift quota?" I asked Petr Ivanovich.

He was silent a moment and then pointing with his tongs at Belenko, replied vaguely.

"They figure it up over there, but it is my job to hammer while the iron is hot."

"By 300-400 percent," said the deputy commander for him. "The young men learn from Petr Ivanovich agility and skill in handling metal."

Soon thereafter P.I. Bugrov for successes in repairing combat equipment received the medal For Combat Services and later the Order of the Patriotic War 2d Degree.

The plant collective kept its word. On 20 August, the monthly program for repairing 160 V-2 engines was completed ahead of time.

In the second half of August a difficult situation arose on the front as a large number of the IS heavy tanks broke down, having operated their engine life. The front's military council confronted the repairmen with the task of rebuilding the tanks in 15 days. The engines needed for the overhaul were in short supply.

The 118th PTARZ received the task of overhauling 120 diesel engines in 10-12 days. And again came days and nights of intense work. The chiefs of the sections and shops and the plant command in the literal sense moved into production. The first section was strengthened at the expense of the other

sections. As a result each month it began turning out 8-10 motors from repair. The plant successfully fulfilled the assignment of the military council. This was its next success. As a total during the Belorussian Operation, or more precisely, from 23 June through 15 September 1944, the 118th PTARZ overhauled 676 units: 380 engines, 127 gearboxes, 151 master and steering clutches and 18 main drives.(2)

The secret of the plant's production successes lay primarily in the fact that each soldier, sergeant, officer, worker and employee recognized his duty to the Communist Party, to the motherland and to the front. A feeling of responsibility to the nation gave rise to a heroic labor zeal. The people worked non-stop. The work areas were always ready for work. The shops and sections maintained exemplary order and cleanliness and this largely determined the quality of the work and the prompt fulfillment of the plan quota. To a significant degree the mass agitation work conducted by the party-political apparatus contributed to the production successes.

For the overfulfillment of the plan for the overhauling of armored equipment and which was set each month for the fronts by the Main Directorate of Tank Repairs and for the high quality of work performed, by the orders of the commander of the Armored and Mechanized Troops of the Soviet Army, the Third Belorussian Front(3) for August, September and October 1944 received first, second and third prizes amounting to 100,000, 75,000 and 50,000 rubles, respectively, for commending the personnel of the repair units and subunits.

The commander of the front, Army Gen I.D. Chernyakhovskiy, in a regular report to him on the course of the overhaul of armored equipment, had high praise for the work of the repairmen.

"The repairmen bear a heavy burden," he said. "Very heavy. The motor is the heart of a tank. And it is praiseworthy that the collective of the 118th PTARZ successfully overhauls them."

With the advance of the troops to the frontiers of East Prussia, the question again arose of moving the 118th PTARZ closer to the front line. In September 1944, the plant was relocated to Kaunas. Here at the end of 1944 and the start of 1945, it carried out extensive work in developing the production areas and in organizing a higher level of the production process. Thus, the fuel equipment shop removed its equipment from the field shops and located it in spacious and light quarters. They began operating departments for the repair and adjustment of fuel pumps, mounted units and the rebuilding of plunger assemblies and jets.

The second section expanded the shop repairing the GAZ-202-203 motors, supplying all work areas with compressed air. The shop overhauling gearboxes, the master and steering clutches was equipped with materials handling devices and new testing stands. The third section completely mastered the manufacturing of the gasoline pumps of the GAZ-202-203 engines and pistons, the threading of nuts on a drilling machine, the rebuilding of the camshaft for the V-2 engines, the hot-heading of bolts and nuts which accelerated the manufacturing of fastenings by 8-10-fold. The fourth section began manufacturing such complicated tank parts as the clutch housing, the clutch

coupling, the fan boss, the housing of the fan gear drive, the valve guides and so forth. The experience of the section showed that a PTARZ with a small cupola, a pneumatic hammer and heating furnace could successfully manufacture complex tank parts.

With the initiating of hostilities on the territory of East Prussia, the 118th PTARZ was ordered to move production closer to the front line. On 15 April 1945, its operations group headed by Mil Engr 3d Rank A.I. Mamayev set out to select the place for setting up the plant's subunits and for choosing materials and equipment.

With the aid of the military commandant in the town of Elbing (Elblag) at one of the plants, the local population began operating 15 lathes, 4 drilling machines, 6 grinders and a slotter. Also sent here was a portion of the personnel from the plant's third section headed by Mil Engr 3d Rank I.Ye. Konyukhov in order to set up an affiliate of the 118th PTARZ. Upon instructions of the Main Directorate for Tank Repairs of the Soviet Army, the Third Belorussian Front was reinforced with the 30th Armor Repair Train for organizing the repair of tank units (gearboxes, clutches and road wheels of the T-34 tank). It was relocated to Gumbinnen (Gusev) and transferred by the commander of the front's armored and mechanized troops to the 118th PTARZ. In April, the plant's second section was sent to help the 30th Armor Repair Train and some time later the third section was also moved from Elbing to Gumbinnen. Here a strong affiliate of the 118th PTARZ was organized and this was headed by Mil Engr 3d Rank A.I. Mamayev.

The plant affiliate supplied the front's repair units and the troops with finished products on the spot. Thus, in May 1945, 243 gearboxes alone were overhauled. Having fulfilled its quota, the affiliate in July curtailed work and the 30th Armor Repair Train received a new assignment.

From the moment of its organization (October 1943) through June 1945, the 118th PTARZ followed a glorious campaign trail from Smolensk to East Prussia, continuously supplying the repair units with overhauled tank assemblies. Organized from different repair units which at first were not sufficiently well equipped, the plant was able to become a major repair center for the front with a high level of production and advanced production process. In fact the possibility was shown of carrying out under field conditions any tasks related to the overhauling of tank units. For high production indicators under combat conditions, the Presidium of the USSR Supreme Soviet on 17 May 1945 awarded the 118th PTARZ the Order of the Red Star. Almost 60 percent of the plant's personnel were commended with high government awards.

FOOTNOTES

1. See: VOYENNO-ISTORICHESKIY ZHURNAL, No 3, 1984, p 51.
2. "Osvobozhdeniye Belorussii. 1944" [The Liberation of Belorussia. 1944], Moscow, Nauka, 1974, p 707.
3. On 24 April 1944, the Western Front was renamed the Third Belorussian Front.

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MILITARY HISTORY LITERATURE ON AIR DEFENSE TROOPS

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[Article, published under the heading "Historiography and Source Sciences," by D.D. Gorbatenko, Candidate of Historical Sciences: "Military History Literature on Air Defense Troops"]

[Text] As a result of the reorganizations carried out by the Soviet government in the Air Defense Troops in 1945-1948, the latter were finally constituted as an independent armed service. The extended period which had begun even during the Civil War was over. In developing in accord with the over-all trends in the organizational development in the Soviet Armed Forces, the Air Defense Troops nevertheless from the very outset had particular features in their organizational structure, technical equipping and combat employment. Under the conditions of the on-going improvement in the means and methods of armed defense, a thorough generalization of the experience gained by them assumed particular importance in the aim of creatively employing this experience in the combat training practices for the formations and units. An important role in carrying out this task is held by military history literature which not only contains an analysis of the path covered by the Air Defense Troops but also attempts to determine the prospects of their further development.

The first such work was "Voyska protivovozdushnoy oborony strany" [The National Air Defense Troops] published in the series "The Officer's Library." (1) This traces briefly the history in the development in air defense in our nation and abroad and provides an analysis of the state of air defense in certain foreign armies. G.S. Desnitskiy in his book "Chasovyye vozdushnykh prostorov Rodiny" [Sentries of the Motherland's Air Space] describes in more detail the establishing of the Soviet Air Defense Troops and their development up to the 1960s. (2) The reader can learn from it also about the unstinting struggle of the air defense troops against the air and ground enemy during the years of the Great Patriotic War and their contribution to the heroic defense of Moscow, Leningrad, Stalingrad and other strategic centers of the nation. The questions of the tactics and the combat employment of the branches of Air Defense Troops are examined in the textbook prepared by a group of authors at the Military Political Academy imeni V.I. Lenin. (3) In addition, books have been published on the major air defense formations. (4)

In our view, the listed literature has substantially enriched the historiography of the Air Defense Troops, however it does not contain an all-encompassing analysis of the involved process of the rise of the new USSR Armed Service. This important task was carried out only with the publishing of the historical essay "Voyska protivovozdushnoy oborony strany" [National Air Defense Troops](5) prepared by a collective of authors on the basis of the archival materials and already published works. This fundamental work thoroughly and completely shows the diverse activities of the CPSU, as a result of which a new strong Armed Service arose and became established. These were the Air Defense Troops which became a dependable shield of the Soviet state. The essay describes the rise of Soviet air defenses, the basic stages of their development and the involvement of the troops in the struggle for the liberty and independence of our motherland. In drawing on rich factual material, the authors have shown the mass heroism of the men, and have shown the main traits and improvement in the military art of the Air Defense Troops under the changing conditions of combating the means of air attack. Of great value are the appendices providing information on the formations and units, the awarded titles of guards and honorific designators, awarded USSR orders, as well as about the Heroes of the Soviet Union and the men entered in perpetuity in the personnel rolls.

However, it must be pointed out that the questions of the strategic and operational-tactical employment of the air defense troops in the Great Patriotic War have not been described in sufficient completeness in the designated works. These have received a more profound treatment in the research of N.A. Svetlishin "Voyska PVO strany v Velikoy Otechestvennoy voyne" [The National Air Defense Troops in the Great Patriotic War].(6) In analyzing the forms and results of the participation of the Air Defense Troops in the defensive and offensive operations of the Soviet Armed Forces as well as the results of air defense operations of the air defense fronts and armies, the author has provided a theoretical basis for the employment of the air defense forces in the last war. Many of the scientifically sound ideas have maintained their practical importance at present, when the role of air defense in repelling aggression has significantly increased. The work by a group of authors "Voyska PVO strany v Velikoy Otechestvennoy voyne 1941-1945. Kratkaya khronika" [The National Air Defense Troops in the Great Patriotic War of 1941-1945. A Concise Chronicle] has become a useful contribution to the historiography of the Air Defense Troops.(7) It, in sequence, day by day, traces the heroic campaign record of the Air Defense Troops which during the war years fought on the entire territory of the nation. MSU P.F. Batitskiy in his book "Voyska protivovozdushnoy oborony strany" [National Air Defense Troops] has provided an exhaustive description of the present state of the troops and the prospects of their further development.(8) Of great interest also are the histories of two air defense districts which were published at one time. These contain rich factual material which with new information supplements the combat chronicle of the troops who during the war years defended the skies of Moscow and the Transcaucasus.(9)

Among works of an historical nature are the military memoirs the authors of which, in serving in the Air Defense Troops, followed a glorious campaign record and witnessed many events. The collections of memoirs by participants

in the heroic defense of Moscow, Leningrad, Stalingrad, and the ice Lifeline on Ladoga can be considered collective memoirs.(10) However, an analysis of the content of the historical and memoir literature devoted to the participation of the Air Defense Troops in the Great Patriotic War shows that with few exceptions all the publications have the same drawback: a very superficial description of the air enemy opposing the Air Defense Troops, that is, Nazi aviation.

In the literature about air defense a special place is held by the works devoted to the history of the birth and development of new equipment, and primarily antiaircraft artillery and radar (the aviation equipment and advances in it are described in literature on the history of the Air Forces.-- D.G.). Among these we must mention the book of V.F. Lender about the activities of his father who developed the first Russian antiaircraft cannon.(11) This is not merely a biographic essay but serious research on the development trends of antiaircraft artillery equipment from the moment of its appearance.

Here also we might put a work by one of the founders of Soviet radar, P.K. Oshchepkov "Zhizn i mechta" [Life and a Dream].(12) These are the reflections by a scientist about the life he lived, and his perception of scientific-technical progress in the area of one of the most important discoveries of modern times, radar. Nevertheless, a significant place in it has been given to treating the problem of the development of radar equipment in our nation and the equipping of the Air Defense Troops with this.

The influence of scientific and technical achievements on the strengthening of air defense has been examined in a work by a group of authors from the Military Air Defense Command Academy imeni MSU G.K. Zhukov "Razvitiye protivovozdushnoy oborony" [The Development of Air Defense].(13) The book shows the history of the rise and development of air defense in the USSR, the evolution of air defense abroad and its present state. The "Spravochnik ofitsera protivovozdushnoy oborony" [Reference of the Air Defense Officer] developed by the instructors at the same institution of learning has become an unique supplement to the work and a sort of concise encyclopedia on theoretical and technical questions.(14) It is a useful aid for specialists, as it contains the most diverse information contributing to an effective resolution to the problems of increasing the combat readiness of the units and subunits.

The use of the designated literature by the officers of the Air Defense Troops in training and indoctrinating subordinates, undoubtedly, will make it possible to increase the effectiveness of this work. At present, in the USSR Armed Forces, as throughout the nation, an active struggle is underway to carry out the ideas of the 27th CPSU Congress. For successfully carrying out the task of restructuring, the air defense troops must adopt all that is valuable and instructive from the acquired experience, including the experience of the Great Patriotic War.

FOOTNOTES

1. "Voyska protivovozdushnoy oborony strany" [National Air Defense Troops], Moscow, Voenizdat, 1960.
2. G.S. Desnitskiy, "Chasovyye vozdukhnykh prostorov Rodiny" [Sentries of the Motherland's Air Space], Moscow, Voenizdat, 1961.
3. "Deystviya Voysk protivovozdushnoy oborony strany v Velikoy Otechestvennoy voyne 1941-1945 gg." [Operations of the National Air Defense Troops in the Great Patriotic War of 1941-1945], Moscow, Izd. Voenno-politicheskoy Akademii imeni V.I. Lenin, 1965.
4. "Vsegda na strazhe" [Always on Guard], Baku, Azernershr, 1967; "Na strazhe neba stolitsy" [On Guard for the Skies of the Capital], Moscow, Voenizdat, 1968.
5. "Voyska protivovozdushnoy oborony strany. Istoricheskiy ocherk" [National Air Defense Troops. Historical Essay], Moscow, Voenizdat, 1968.
6. N.A. Svetlishin, "Voyska PVO strany v Velikoy Otechestvennoy voyne" [National Air Defense Troops in the Great Patriotic War], Moscow, Nauka, 1979.
7. "Voyska PVO strany v Velikoy Otechestvennoy voyne 1941-1945. Kratkaya khronika" [The National Air Defense Troops in the Great Patriotic War of 1941-1945. Concise Chronicle], Moscow, Voenizdat, 1981.
8. P.F. Batitskiy, "Voyska protivovozdushnoy oborony strany" [National Air Defense Troops], Moscow, Znaniye, 1977.
9. "Ordena Lenina Moskovskiy okrug PVO. Istoriya ordena Lenina Moskovskogo okruga protivovozdushnoy oborony" [The Order of Lenin Moscow Air Defense District. History of the Order of Lenin Moscow Air Defense District], Moscow, Voenizdat, 1981; "Bakinskiy okrug protivovozdushnoy oborony. Istoricheskiy ocherk" [The Baku Air Defense District. Historical Essay], Baku, Aerneshr, 1974.
10. D.A. Zhuravle, "Ognevoy shchit Moskvyy" [The Fiery Shield of Moscow], Moscow, Voenizdat, 1972; M.P. Botin, "S toboy, Ispaniya" [We Are With You, Spain], Moscow, Voenizdat, 1976; N.P. Mlichenko, "Zalpy nad Nevoy" [Volleys Over the Neva], Moscow, Voenizdat, 1983; M.M. Lobanov, "My--voyennyye inzhenery" [We Are Military Engineers], Moscow, Voenizdat, 1977; M.G. Kiknadze, "V nebe stolitsy" [In the Skies of the Capital], Moscow, Izd-vo DOSAAF, 1971; "Zalpy vomezdiya" [Volleys of Retribution], Volgograd, Nizhne-Volzhskoye Knizhnoye Izd-vo, 1977; Ya.K. Kekalo, "Sovetskiye zenitchiki" [Soviet Antiaircraft Gunners], Moscow, Voenizdat, 1959; G.S. Desnitskiy, "Podvigi zenitchikov" [Feats of Antiaircraft Gunners], Moscow, Izd-vo DOSAAF, 1966; K.G. Lavrentyev, "Gvardeyskaya zenitnaya" [Guards Antiaircraft (Unit)], Moscow, Voenizdat, 1984.

11. V.F. Lender, "Trud, ravnyy podvigu" [Labor Equal to a Feat], Moscow, Voenizdat, 1982.
12. P.K. Oshchepkov, "Zhizn i mehta" [Life and a Dream], Moscow, Moskovskiy Rabochiy, 1984.
13. "Razvitiye protivovozdushnoy oborony" [The Development of Air Defense], Moscow, Voenizdat, 1976.
14. "Spravochnik ofitsera protivovozdushnoy oborony" [Reference of the Air Defense Officer], Moscow, Voenizdat, 1981.

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