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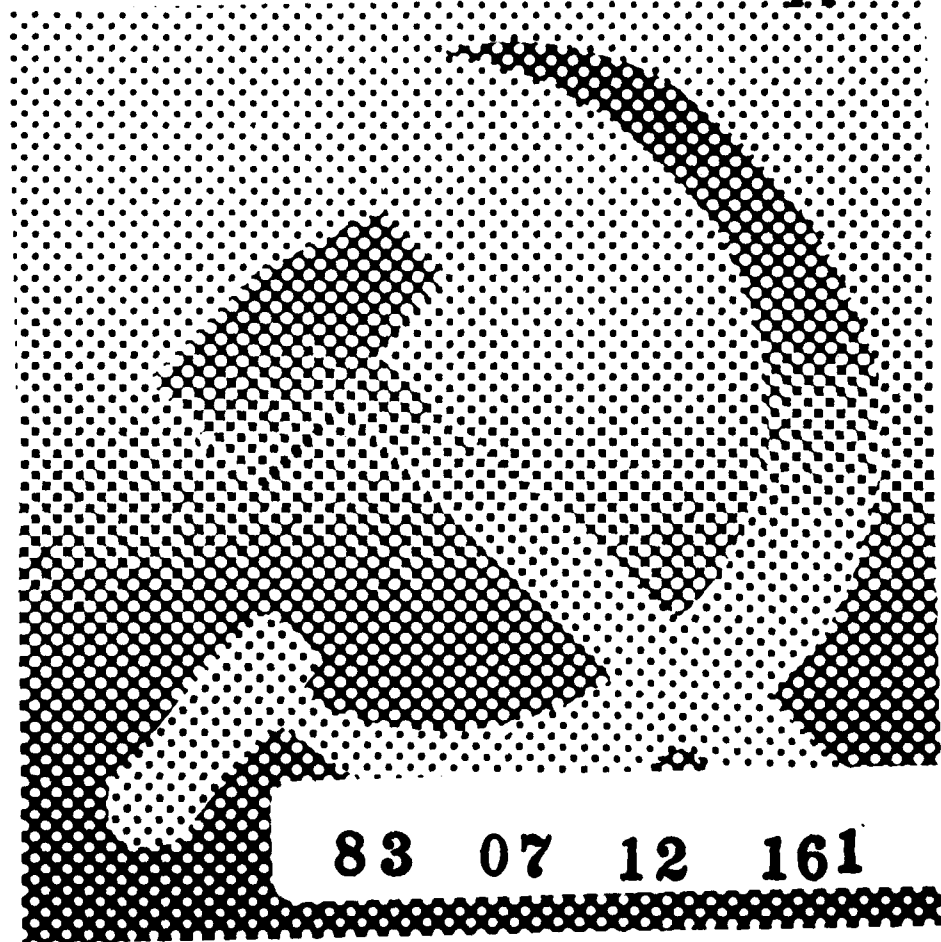
The Command and Staff of the Soviet Army Air Force in the Great Patriotic War 1941-1945

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АКАДЕМИЯ НАУК СССР
Институт военной истории Министерства обороны СССР

М. Н. КОЖЕВНИКОВ
Командование
и штаб ВВС
Советской Армии
в Великой
Отечественной
войне
1941—1945 гг.



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American Editor's Comments

This English language edition of *The Command and Staff of the Soviet Army Air Force in the Great Patriotic War 1941-1945* is the seventeenth volume in the "Soviet Military Thought" series, translated and published under the auspices of the United States Air Force. The Soviet edition was published in 1977 in 70,000 copies by the "Nauka" Publishing House and is intended "to demonstrate the activities of the Soviet Army Air Force command, the work of the staff, and the contribution made by Stavka representatives in coordinating the operations of the aviation of several fronts and Long-Range Aviation."

When Germany suddenly launched a massive attack on the Soviet Union in June 1941, Soviet Air Force units in the western border military districts found themselves in a serious situation because they were caught in the midst of an extensive rearmament program. New airfields were under construction in the border military districts and improved aircraft (MiG-3s) were being introduced to replace the huge, albeit largely obsolete, Soviet air fleet. Initial losses in aircraft were staggering. "Not enough work had been done," the author, M. N. Kozhevnikov recounts, "on the problems of repelling an enemy surprise attack, conducting joint VVS-ground troop actions in strategic defense, and bringing the troops and aviation to increased and full combat readiness." In addition, the lessons learned from fighting the Japanese along the Halhin Gol River in Mongolia in 1939 and from the Soviet-Finnish conflict were considered "unacceptable." In the dark months to follow, the remaining forces would valiantly attempt to stem the advancing German mechanized forces and a Luftwaffe flown by highly trained and experienced pilots who were well skilled in the use of airpower in coordinated operations with mechanized forces and quite aware of the importance of well-planned surprise attacks on enemy airfields to seize the initiative and win air superiority.

Forced on the defensive, the Soviet Air Force command and staff elements hastily instituted a reorganization of the Soviet Army Air Force to counter the rapidly advancing Germans. This reorganization, based on the valuable combat experience gained during the hard-fought initial six months, was to prove invaluable in the conduct of future air operations. The key was centralization. Military districts were organized into fronts and VVS commanders assigned to front staffs. Aviation assigned to army and front commanders was no longer distributed among the combined arms commanders and employed in an uncoordinated fashion. At the unit level, greater emphasis was placed on flexibility. Air regiments, for example, were made less unwieldy. The author, himself a member of the VVS command and staff during the Great Patriotic War, described the basis of the reorganization as the "unification of aviation efforts under the sole leadership of the senior air chief in the strategic sector. . . ."

Furthermore, the introduction of new and improved armaments in sufficient quantities gave rise to the development of the air army concept, which provided the command element the flexibility to mass "frontal aviation in the main sectors of troop operations, . . ." thus ensuring "centralized control and effective air strikes." This newly acquired flexibility allowed the air army to rapidly conduct offensive or defensive operations in any sector with the strength and composition necessary for the mission. Essentially, the creation of large air reserve formations, comprised of air corps and independent air divisions, provided the ability to achieve air superiority in a given area, which had been found to be necessary for the successful execution of the missions assigned to the ground forces.

The experience acquired and the new concepts were validated in the skies over Moscow and in the great counteroffensive at Stalingrad, in the battle for the Caucasus, in the decisive clash at Kursk in 1943, and ultimately, over the skies of Berlin. Chief Marshal of Aviation P. S. Kutakhov, current commander of the VVS, summed up the relevance of the experience learned: "The rich experience of VVS operational-strategic employment in the Great Patriotic War has not lost its value today, especially the experience of achieving air supremacy for development of strategic operations in theaters of military operations and in the war as a whole."

The following acronyms appear in this text and are discussed more fully on the first page of their occurrence, either in footnotes or in the body of the text:

ADD—Long-Range Aviation;
CC VKP (b)—Central Committee of the All-Union Communist Party (of Bolsheviks);
DBA—Long-Range Bomber Aviation;
NKO—People's Commissariat of Defense;
PTAB—antitank aviation bomb;
PVO—air defense;
RKKA—Workers' and Peasants' Red Army;
RVGK—Stavka Reserve (literally, Reserve of the Supreme High Command);
SNK—Council of People's Commissars;
VNOS—Air Observation, Warning, and Communication;
VVS—Air Force, air forces.

*The translation and publication of **The Command and Staff of the Soviet Army Air Force in the Great Patriotic War 1941-1945** does not constitute approval by any U.S. Government organization of the inferences, findings, and conclusions contained therein. Publication is solely for the exchange and stimulation of ideas.*

Abstract

-- This book is devoted to the activities of the Soviet Army Air Force command and staff and representatives of the Supreme High Command General Headquarters at the fronts of the Great Patriotic War. The activities of the Soviet Army Air Force command and staff, of many generals and officers of the central administration, of Long-Range Aviation, of the air armies, of Frontal Aviation, and of many formations and units are described against the backdrop of the past war's greatest operations. All actions of the VVS command and staff are examined in close association with the activities of the General Staff.

Introduction

The Great Patriotic War of the Soviet Union against fascist Germany and its allies in Europe and Asia was the greatest armed clash between socialism and the strike forces of imperialism, the hardest and cruelest of all wars ever experienced by our motherland. Under the guidance of the Communist Party the Soviet people and their armed forces destroyed Hitlerite Germany and its satellites, defended the liberty and independence of the socialist fatherland, accomplished their great mission of liberation, and honorably fulfilled their international duty. "The victory won in the encounters of the Great Patriotic War," L. I. Brezhnev noted, "was a victory of our heroic working class, the kolkhoz peasantry, and our intelligentsia, a victory of all the multinational Soviet people. This was a victory of the glorious Soviet Army, an army created by the revolution, nurtured by the party, and inseparable from the people. This was a victory of Soviet military science, of the combat proficiency of all branches of troops, of the art of great Soviet military leaders with their origins among the people."¹

The Soviet Air Force played a significant role in the defeat of fascist German troops. Coordinating closely with the ground forces and Navy, it participated most actively in all operations of fronts and all the largest strategic operations of the groups of fronts, and it conducted independent air operations. Concentration and massed action of the Soviet Air Force in the most important sectors increased the scope and decisiveness of the operations and constituted one of the most important factors imparting a maneuvering nature to the war. In the long and stubborn struggle, by summer 1943 the Soviet Air Force achieved strategic air supremacy in all of the most important sectors, thus creating favorable conditions for the ground forces to conduct major offensive operations. By its actions aviation cleared the way for infantry and tanks, assisted them in penetrating defenses more quickly and pursuing the enemy swiftly, encircling and annihilating his groupings, forcing rivers, and seizing and holding important beachheads, and it foiled the plans and intentions of the fascist German command.

The Soviet Army Air Force commander and his staff were tasked with organizing the struggle for strategic air supremacy, achieving coordination among the branches of aviation (frontal, long-range, air defense fighter aviation), coordinating their efforts in strategic operations conducted by groups of fronts and in independent air operations, managing the combat actions of Long-Range Bomber Aviation (DBA) at the beginning of the war, synthesizing the Air Force's combat experience, and developing proposals for its operational employment. The VVS* command was responsible for training aviation reserves, for supplying aircraft and equipment to units and formations, for developing the technical specifications on new types of aircraft and armament, for writing air-

*[VVS—Voyenno-Vozdushnyye Sily—Air Force—U.S. Ed.]

field construction and reconstruction plans, and for training and retraining air-crews and technicians. Its functions included synthesizing progressive methods on employment of different aviation branches and components in combat and operations, and introducing them into the units and formations.

Aviation representatives of the Stavka* coordinated the actions of Frontal Aviation in all strategic operations. These officers were the senior aviation chiefs in charge of the Air Force—the commander, the Military Council member, and the deputy commanders of the Soviet Army Air Force. Initially they were given the responsibility of organizing massed air strikes on behalf of just one front. Beginning in 1942 the Stavka aviation representatives coordinated the efforts of aviation on several fronts in cooperation with DBA (ADD) forces.² Jointly with front commanders and Air Force front commanders, Stavka representatives wrote the operation plans, monitored execution of aviation missions, redirected its efforts in the course of an operation, apportioned aviation reserves arriving at the fronts, and provided air logistical and airfield support to aviation forces participating in a given operation. Coordinating the VVS actions on from one to three fronts as Stavka representative, the VVS commander maintained constant operational contact with the General Staff and VVS staff. He was always aware of events occurring on all other active fronts and issued the necessary instructions via his operations group or via the VVS staff.

The author's objective in this work is to demonstrate the activities of the Soviet Army Air Force command, the work of the staff, and the contribution made by Stavka representatives in coordinating the operations of the aviation of several fronts and Long-Range Aviation.

This chronologically organized work embraces the period from September 1939 to September 1945, that is, from the beginning of World War II to the Soviet Army's victory in the Far East—the defeat of the Kwantung Army and total surrender of imperialist Japan. The book describes the combat operations of Western capitalist aviation preceding fascist Germany's attack on the USSR and examines the work of the VVS command and staff on the eve of and in the initial period of the Great Patriotic War; in operations of the 1941 summer-fall campaign; in the grandiose battles of Moscow, Stalingrad, the North Caucasus, and Kursk; and in the concluding offensive operations of the Great Patriotic War of 1941–1945. The work describes the structure of the VVS staff, its principal directorates and sections, the main purposes of their activities, the interaction of the VVS command and staffs with the General Staff and with the command and staffs of the fronts and air armies, and the role and place of the Air Force in defeat of fascist Germany and militarist Japan by the Soviet Armed Forces.

In writing this book the author made use of archival and published materials, his own experience as a participant in the described events, and numerous discussions held during and after the war with Chief Marshal of Aviation A. A.

*[The word Stavka will be employed throughout this translation to identify the Supreme High Command General Headquarters—U.S. Ed.]

Novikov, who headed the Soviet VVS during the Great Patriotic War, with his deputy General A. V. Nikitin, VVS Military Council members Generals P. S. Stepanov and N. S. Shimanov, and with many war veterans as well.

The author expresses his sincere gratitude to Generals V. I. Semenchikov and G. A. Pshenyanik, and to Colonels Yu. V. Plotnikov, V. Ye. Sokolov, V. S. Shumikhin, F. P. Shesterin, N. Ye. Platonov, and N. N. Azovtsev for their kind advice.

Notes

1. L. I. Brezhnev. *O vneshney politike KPSS i Sovetskogo gosudarstva. Rechi i stat'i* [The Foreign Policy of the CPSU and the Soviet State: Speeches and Articles] (Moscow, 1975), pp. 834–35.
2. In March 1942 Long-Range Bomber Aviation (*DBA*) was renamed Long-Range Aviation (*ADD*).

Chapter 1. On the Eve of the Great Patriotic War

The Capitalist Air Forces' Actions in the West

On 1 September 1939 Hitlerite Germany attacked Poland. At 0445 hours fascist German aviation made massed strikes against the airfields, transportation hubs, and economic and administrative centers of Poland. The Wehrmacht's ground forces crossed the border and invaded Polish territory from the north out of East Prussia, from the west out of East Germany, and from the south out of Slovakia. World War II had begun.

The forces of the belligerents were rather unequal on the ground and in the air. Hitlerite Germany launched some 2,000 combat aircraft against Poland (1,000–1,100 bombers, 600–650 fighters, and 200–250 reconnaissance aircraft). The Polish Air Force had only 824 combat aircraft, most of which were obsolete.¹

Polish air defenses were also very weak, having a strength of only about 400 medium and light anti-aircraft guns. Nevertheless Polish pilots courageously joined battle with enemy aviation, shooting down 14 German planes on the first day and 130 in subsequent operations.² Being numerically and qualitatively superior to Polish aviation, the German Air Force easily achieved air supremacy and supported the advance of the German ground troops.

The governments of England and France, which had signed treaties with Poland, were forced to declare war on Germany. At 11 o'clock on 3 September the government of England, and 6 hours later the government of France, declared war on Germany. Immediately following England's declaration, its dominions declared war on Germany. The U.S. and several European countries declared their neutrality. England and France declared war on Hitler's Germany not to help Poland, but in the interests of their own far-reaching plans. The imperialist circles of England and France did not give up hope that, after seizing Poland, Germany would go to war against the Soviet Union. Capitalizing on the connivances of England and France, the fascist German troops swiftly defeated the Polish armed forces and, in the first days of October 1939, mopped up the last centers of resistance by regular Polish units. The Wehrmacht's Polish campaign came to an end. The tremendous combat capabilities of aviation and tank troops were revealed in the German-Polish war. Massed employment of aviation and mechanized troops in narrow sectors made it possible to quickly collapse enemy defenses to their entire depth, commit mobile formations to the breakthrough, and exploit the breakthrough swiftly. The increased significance of air supremacy for ground forces operations became obvious.

After the defeat of Poland, fascist Germany began concentrating troops and aviation on its western borders with the objective of attacking the armies of the Anglo-French coalition. In the period from 3 September 1939 to 9 April 1940 neither side engaged in active combat operations. During this time the governments of England and France incited fascist Germany to attack the USSR. This explains the slow deployment of Anglo-French troops and their passive actions on the ground and in the air. English aviation conducted air reconnaissance of the ports and anchorage sites of the German Navy, while French aviation scouted groupings of German troops deployed along the French border. Fascist German aviation reconnoitered northern France, England, Belgium, and Holland. German bombers were active only sporadically against troops and industrial targets. On 9 April 1940 fascist Germany occupied Denmark and made a surprise attack on Norway, without a declaration of war. In its capture of Norway, Germany committed, in addition to ground formations, up to 1,300 combat aircraft (1,000 bombers and 300 fighters).³ The Norwegian Air Force possessed only 180 obsolete planes.⁴ The Norwegian capital of Oslo was captured by a German airborne assault party which landed unopposed at Oslo Airport. This force consisted of 1,500 enlisted men and officers armed with automatic rifles, machine guns, and light cannon. Abandoned by their allies (French units abandoned their positions on 5 June, followed 2 days later by the English), the Norwegian troops were forced to surrender on 10 June 1940.

The capture of Denmark and Norway by Hitlerite troops improved Germany's strategic position, placing all countries of Northern Europe under its control. The Western powers were unable to organize and conduct active opposition to fascist aggression in Norway. English aviation was found to be incapable of preventing the landing of fascist German troops in Norway, supporting and covering the actions of its own and Norwegian troops, or providing air cover to Norwegian shipping. Enjoying air superiority, German aviation provided effective support to German ground troops and once again demonstrated the growing significance of initial surprise massed strikes against troops, airfields, and ports.

Fascist Germany's aggression against Denmark and Norway did not interrupt the Wehrmacht's preparations for a Western offensive with the objective of defeating Belgian, Dutch, and Anglo-French troops. The plans of the German command provided for a strike by a strong grouping of ground troops into the center of the disposition of allied armies, cutting the allied front, isolation of the northern enemy grouping at the English Channel, and its annihilation. The core of the strike grouping was to consist of tank and motorized formations, whose operations were to be supported by major aviation forces. In accordance with the plan, three army groups consisting of eight armies were deployed (136 divisions in all, including 10 tank and 7 motorized divisions), to be supported by two German air fleets (the 2nd and the 3rd) with a strength of 3,824 combat aircraft.⁵

The command of the 2nd and 3rd Air Fleets was given the missions of achieving air supremacy, disorganizing enemy command and control, and pro-

viding direct support to advancing troops. Twenty minutes prior to the ground offensive, 1,200-1,400 planes were to strike Allied airfields, headquarters, communication centers, and transportation hubs near the front in Holland, Belgium, and France. From the beginning of the offensive all aviation efforts were directed at supporting the ground forces, primarily the tank formations.

France and England had 108 divisions on the Northeastern Front. In this area the French had 2,789 tanks (of these, 2,285 were modern) and 11,200 guns of 75 mm and above. The British Expeditionary Forces had 310 tanks and about 1,350 field guns. The French Air Force had 1,648 first-line combat aircraft, including 946 fighters and 219 bombers. In May 1940 British aviation had 1,837 first-line planes, including more than 800 fighters and 544 bombers. About 500 English planes were based on French airfields. The Belgian Air Force possessed 136 planes, while the Dutch Air Force had 120.⁶

The German offensive caught Allied troops and aviation unaware. It began with an air attack against airfields, command posts, military supply depots, and the most important war industry targets in Holland, Belgium, and France. In terms of their concept and methods of action, the operations of the German Air Force differed in no way from those during the invasion of Poland. At 0300 hours on 10 May 1940 a powerful air strike was made against about 100 airfields in Holland, Belgium, and northern France to a depth of up to 400 km. The first groups of German paratroopers were dropped in the rear of Dutch and Belgian troops at 0430 hours. At 0535 hours the Wehrmacht's ground troops began their invasion of Holland, Belgium, and Luxembourg.

The massed surprise attack on the airfields by German aviation played a major role in seizure of the initiative and air supremacy. As work began to attain air supremacy in the West, the high command of fascist Germany, thanks to its agents and air reconnaissance, possessed exhaustive data on the composition, basing, and the state of readiness of the enemy's aviation and air defense forces. The sudden massed raids on the airfields by German aviation inflicted great losses in planes and personnel on the air forces of Holland, Belgium, and France. During the ground offensive, fascist German aviation easily attained strategic air supremacy in all of the most important sectors. French and English aviation did not put up adequate resistance to the German Air Force attack.

The Dutch armed forces were almost totally inactive. The Belgian Army surrendered on 28 May. The attempts of the French Supreme Command to organize active ground troop opposition to the enemy were not crowned with success. Fascist Italy entered the war against England and France on 10 June. The French Navy did not engage in active operations at sea and prior to 20 June 1940 suffered no great losses. Petain's French government, however, hastened its decision to surrender, signing the surrender document at 1832 hours on 22 June 1940. On the day of France's surrender English aviation based on French airfields returned to its own airfields in England. On 24 June 1940 the French government signed a truce with Italy, after which all military actions by the French

armed forces halted. The Anglo-French Alliance once again suffered disaster.

What were the most typical features of fascist Germany's air force operations? They were as follows: concentration of large aviation forces for the initial powerful strikes against the principal airfields with the objective of seizing the initiative in the air; extensive use of transport aviation to drop numerous diversionary groups of paratroopers in the Netherlands, Belgium, and northern France; redirection of German Air Force efforts following suppression of enemy aviation to support and cover advancing tank and motorized troops, with concurrent intensified air reconnaissance.

Following France's surrender the Hitlerite leadership sought military and other ways to hasten the signing of a compromise peace with England to Germany's advantage and turn its sights to the East. "Our principal attention is toward the East. . . . We will probably have to again demonstrate our strength to England before she halts her struggle and frees our hands for the East."⁷

Hitler hoped that English ruling circles, considering the swift defeat of France, would be ready for peace talks with Germany and for sizable concessions. But, although the reactionary ruling circles of England were prepared to negotiate with fascist Germany, they could not take this step due to the antifascist mood of the broad masses and for fear of universal outrage. Without waiting for peace proposals, the fascist command decided to use its air force to bring pressure to bear on England. The Hitlerite command assigned the air offensive to the 2nd and 3rd Air Fleets, which had a strength of 1,480 bombers, 760 single-engine and 220 twin-engine fighters, and 140 reconnaissance aircraft.⁸

The two-month breathing spell enjoyed by England following Dunkirk (the defeat and evacuation of Allied troops from the Dunkirk beachhead—from 28 May to 3 June 1940) permitted the British command to strengthen its air force. While on 4 June 1940 English fighter aviation consisted of 446 combat-ready fighters, by 11 August the number had reached 704. The air force reserve fleet grew in size. The Air Defense Command had at its disposal about 2,000 antiaircraft guns of various calibers.⁹

Germany also augmented its air power. Beginning in July 1940 the fascist German Air Force initiated massed air raids on England. The raids were performed in daytime by large groups of bombers with fighter escort. Airfields, ports, petroleum dumps, supply depots, plants, marine shipping, and city residential districts were struck. English fighters offered stubborn resistance. Combat was continuous in the air. By 18 August 1940 fascist German aviation lost 367 planes, while English aviation lost 213. From 5 September 1940 the Hitlerite command concentrated all air strikes on London. The city was subjected to strikes almost every night from 9 in the evening until 6 in the morning. As an example, on the night of 15 September 1940 London was subjected to a massed raid by 1,000 planes. Repelling this air raid, English fighters and antiaircraft artillery shot down 60 German planes, while losing 26.¹⁰ Periodic night air raids

on English cities continued until the latter part of February. The German Air Force performed its final mass raids on London in late April and early May 1941. After this the main forces began to be transferred east. German aviation was unable to do very much harm to British industry. The hope of the German command to break English resistance through the actions of its air force turned out to be false. During the July-November 1940 raids alone, fascist German aviation lost 1,733 planes while the British lost 915.¹¹

The combat actions of the German Air Force lacked sufficient purpose. For a prolonged period it subjected too large a number of diverse targets to periodic attacks. Damage to or destruction of these facilities did not have a significant influence on the output of the war industry.

Nor did English bomber aviation operate purposefully. Strikes were made against German targets by small forces, mainly at night and at rather long intervals. Such bombing operations could not seriously harm the economy of fascist Germany or hinder its preparations for an attack on the USSR.

The Italians, who had seized Albania in 1939, invaded Greece in October 1940, but they were unable to defeat the Greek Army. At the beginning of April 1941 fascist Germany attacked Yugoslavia and occupied it. Striking airfields and cities with its bombers, in April 1941 German tank and motorized formations of the ground troops occupied Greece.

Having occupied Yugoslavia and Greece, in May 1941 the Germans undertook an airborne assault operation to seize the island of Crete. Encountering no active opposition on the part of England and the U.S., the fascist commanders continued their preparations for an attack on the Soviet Union.

The greater combat capabilities of the air force and its great role in support of the missions of the ground troops revealed themselves clearly in the military operations in the West. The Soviet command studied the operations of capitalist aviation in Western Europe. The Communist Party and Soviet government arrived at certain conclusions and took effective steps to strengthen the air force.

The Fascist German Air Force Prior to the Attack on the Soviet Union

By the moment of the attack on the Soviet Union the fascist German VVS had grown quantitatively and qualitatively in comparison with the situation in fall 1939. In June 1941 the German VVS had a strength of 10,000 combat aircraft, including reserve planes and trainers, Italy had 2,416, Finland had 307, Romania had 699, Hungary had 269, and the total strength of states in the fascist block was 13,690 planes.¹² Organizationally, the German VVS was subdivided into the air forces of the Main Command (air fleets), troop aviation (army and corps), and naval air forces. The composition of the air force included air defense forces and airborne assault troops. Air force rear services were organizationally

separate from the flying units. Commander in Chief Reichsmarschall H. Goering commanded the Air Force and General H. Jeschonnek was chief of the VVS general staff.

The air fleet was the highest major air formation of the air force. In all, by June 1941 there were five air fleets. Each had a strength of from 800 to 1,600 combat aircraft. The air fleet consisted of air corps (one or two), an antiaircraft corps, and an independent air squadron. The air corps was the highest tactical formation, and it usually included two or three bomber squadrons, one or two fighter squadrons, from one to three reconnaissance groups, and one or two airlift groups. The air squadron, the principal tactical air formation, contained two or three air groups. The air group had a strength of 39-47 planes, including the aircraft of reserve and organic subunits. Fascist German aviation was armed with aircraft of fully up-to-date design with relatively high technical specifications, as can be seen from table 1.

Preparing for its attack on the Soviet Union, the German leadership built and reequipped airfields at an accelerated pace. From summer 1940 to May 1941 more than 250 airfields and 160 landing strips were built on German territory. During this time 100 airfields and 50 landing strips were built and restored on Polish territory. Airfields were built in Romania and Hungary. The well-developed airfield network permitted dispersed basing and freedom of maneuver in all directions to the Luftwaffe. The strategic plan for the war against the USSR (Operation Barbarossa) provided for a surprise attack involving several powerful strikes by large air, tank, and motorized forces, surrounding and annihilating the main forces of the Soviet Army in the western Soviet Union, followed by a swift advance deep into the country to a line extending from Arkhangel'sk to Astrakhan'. The Hitlerite command allocated 190 divisions, including 19 tank and 14 motorized divisions, to Operation Barbarossa; this included their allied armed forces. The fascist German grouping had a strength of 5.5 million men, about 4,300 tanks, more than 47,000 guns and mortars, 4,980 combat aircraft, and 192 warships. Four of the five air fleets were targeted against the USSR. On 29 May 1941 the operational formations of the German Air Force and of troop aviation intended for action against the Soviet Union consisted of 306 combat squadrons, including 127 bomber and 89 fighter squadrons. The reserve contained about 400 planes.¹³ Bomber aviation made up the bulk of the German Air Force, contributing 57.8 percent of the entire aircraft inventory. Fighter aviation made up 31.2 and reconnaissance aviation 11 percent. Hitlerite strategists believed that, as had been the case in Poland and France, they would be able to annihilate Soviet aviation within the first days of the war with bomber strikes against airfields. Therefore, they paid a great deal of attention to developing bomber aviation.

The main strikes were to be made against Leningrad, Moscow, and Kiev. The resources of three strategic groupings were deployed in these sectors. In the Leningrad sector, Army Group North consisting of 29 divisions was to destroy Soviet troops in the Baltic states and capture Leningrad and Kronshtadt. The army group was supported from the air by the 1st Air Fleet, consisting of 760 aircraft.

Table 1. Technical Specifications of Germany's Principal Planes as of Summer 1941.*

Type of aircraft	General Data			Flight Characteristics			Armament			
	Year of production	Takeoff weight, kg	No. of engines	Crew, persons	Maximum speed, km/hr	Normal range, km	Practical ceiling, meters	No. of machine guns and cannon	Caliber, mm	Bomb load, kg
Bombers:										
Ju-88 A4 (Junkers)	1939	7,290	2	3-4	510	2,730	9,000	1	13.0	1,000-
He-111 H-6 (Heinkel)	1938	11,300	2	5	435	2,800	7,800	4	7.9	3,000
Do-217 E-2 (Dornier)	1939	8,600	2	3-4	500	2,400	9,000	1	20.0	1,000-
								6	7.9	2,000
								1	15.0	-
								2	13.0	
								3	7.9	
Ju-87 D-1 (Junkers dive bomber)	1939	4,250	1	2	400	1,920	7,500	2	15.0	Up to
								2	7.9	1,800
Fighters:										
Me-109 E-1 (Messerschmitt)	1939	2,505	1	1	570	Up to 1,000	10,450	2	20.0	
Me-110 F2 (Messerschmitt)	1939	6,700	2	2	570	1,200	10,500	2	7.9	
								2	20.0	
								5	7.9	

Reconnaissance:													
Hs-126 (Henschel)	-	-	1	2	253	710	9,000	2	7.9				
FW-189 A-1 (Focke-Wulf)	-	-	2	3	344	940	7,000	4	7.9				
Transports:													
Ju-52/3M (Junkers)	1939	-	3	3	290	1,286	6,300	2-3	7.9				2,000 or 17 para- troopers

*Sources: *Istoriya vtoroy mirovoy voyny 1939-1945* [History of World War II 1939-1945], III, 323. [Hereafter referred to as *World War II History* U.S. Ed.];
Istoriya Voenno-Vozdushnykh Sil Sovetskoy Armii [History of the Soviet Army Air Force], pp. 450-53. [Hereafter referred to as *SAF History* U.S.
Ed.]

Table 2. Number of Combat Aircraft Possessed by Countries of the Fascist Militarist Bloc and Assigned to Attack the USSR.*

Germany	Italy	Finland	Romania	Hungary	Total
about 4,000	70†	307	623	48	4,980

* *World War II History*, III, 328, 338.

† At the end of June 1941 Italy sent 70 combat aircraft against the USSR as an "expeditionary" corps.

In central Poland the strongest troop grouping—Army Group Center consisting of 50 divisions and 2 brigades—prepared for the offensive. With the support of the 2nd Air Fleet (1,670 aircraft) it was to cut the strategic defensive front, encircle and annihilate Soviet Army troops in Belorussia, and develop the offensive against Moscow.

Army Group South consisting of three German and two Romanian armies, a tank group, and a Hungarian mobile corps, 57 divisions and 13 brigades in all, supported by the 4th Air Fleet and Romanian aviation (1,600 aircraft), had the mission of annihilating Soviet troops in the right-bank Ukraine, reaching the Dnepr, and developing the offensive eastward.

German Army Norway and two Finnish armies—21 divisions and 3 brigades in all—were deployed on Norwegian territory and in Finland. With the support of the 5th Air Fleet and the Finnish Air Force (547 aircraft in all), these forces were to capture Murmansk and Polyarnyy and assist Army Group North in capturing Leningrad. The ground forces main command had 24 divisions in reserve.

The Hitlerite command assigned the following missions to the air force: attaining air supremacy and paralyzing the actions of Soviet aviation; disrupting communications and preventing the reserves from maneuvering; supporting the swift advance of ground troops.

Thus fascist Germany made comprehensive preparations for war against the Soviet Union, and it possessed sizable armed forces, including an air force outfitted with all types of combat equipment.

The State of the Soviet Air Force on the Eve of the War

The Communist Party and Soviet government were aware that an armed clash with the forces of imperialism could occur, and in the years of peaceful socialist construction they took the necessary steps to strengthen the country's

Table 3. Number of New Aircraft Types Produced by the Aircraft Industry at the Beginning of the Great Patriotic War.*

Type of aircraft	1940	1941, prior to 22 June	Total
Yak-1	64	335	399
MiG-3	20	1,289	1,309
LaGG-3	—	322	322
Pe-2	2	458	460
Il-2	—	249	249
Total	86	2,653	2,739

* *TsGASA* [Central State Archives of the Soviet Army], f. 130, op. 25, d. 199, ll. 4-5. [See footnote 17 at the end of this chapter for an explanation of these abbreviations—U.S. Ed.]

defense capabilities. Much attention was devoted to strengthening and developing the Soviet Air Force. In September 1939 the Politburo of the CC VKP(b)* adopted the decree "On Reconstruction of Existing and Construction of New Aircraft Plants." The plan was to build nine new plants and reconstruct nine old ones in 1940-41. By as early as 1940 the Soviet Union's aircraft plants were producing 19 percent more combat aircraft than in 1939.^{14,15}

In January 1940 the CC VKP(b) Politburo discussed the work of the People's Commissariat of the Aviation Industry. CC VKP(b) member A. I. Shakhurin was appointed People's Commissar of the Aviation Industry, and aircraft designer A. S. Yakovlev was appointed his assistant for experimental construction. By the end of 1940 significant organizational changes had been made in the aviation industry. Independent design teams led by V. M. Petlyakov, A. A. Arkhangel'skiy, P. O. Sukhoy, and V. M. Myasishchev were detached from the experimental design bureau headed by A. N. Tupolev. New aviation design bureaus headed by A. I. Mikoyan, M. I. Gurevich, S. A. Lavochkin, M. I. Gudkov, and V. P. Gorbunov were created. Existing engine design bureaus were expanded, and new ones were established.

The technical flight characteristics of the new Soviet combat aircraft satisfied modern requirements. For example, the MiG-3's combat characteristics were superior to those of English, American, and German fighters of the same class. The Pe-2 was better than German bombers of the same class, the Ju-87 and the Ju-88. Capitalist air forces did not possess ground attack planes of the Il-2 class. In 1939 and 1940 the Soviet Union produced more planes than Germany, but the German aircraft industry was producing new types of planes, while our aircraft industry was only just beginning to master production of new planes. Owing to this the western border military districts still had many obsolete planes as of 22 June 1941, for example, 1,762 I-16 and 1,549 I-153 fighters.¹⁶

*[CC VKP(b)—Central Committee of the All-Union Communist Party (of Bolsheviks)—U.S. Ed.]

On 25 February 1941 the CC VKP(b) and the USSR SNK* adopted a special decree "On Reorganization of the Red Army Air Force" that ratified the plan proposed by the People's Commissariat of Defense for development of the Air Force. The plans called for increasing the aviation strength in the border military districts, improving the training of aviation personnel, reorganizing the air force rear area, and implementing far-reaching measures to reconstruct and expand the airfield network to support the basing and combat employment of new aircraft. By as early as spring 1941, in comparison with the beginning of 1939, the number of aircraft increased by more than a factor of two, and the number of air regiments increased 80 percent.¹⁷ Formation of 106 new air regiments began in the Air Force at the start of 1941; of these, only 19 were formed by the beginning of the war, including 13 long-range bomber regiments.¹⁸

Reequipping the Air Force and improving its organization, the Communist Party did a great deal to develop high morale and combat qualities in the personnel. Sixty percent of the personnel in the Air Force were communists and Komsomol members. They played a leading role in combat training and political training and in the push for combat capability and combat readiness of their aviation units and formations.¹⁹

The combat capability and combat readiness of aviation units and formations and the effectiveness with which combat equipment was employed were directly dependent on the morale, skills, and creative initiative of the aviators. The high morale of Soviet pilots, being one of the most vital factors of the Air Force's power, was a product of our socialist social and state structure, the sociopolitical and ideological unity of the Soviet people, and the enormous ideological, political, organizational, agitational, and propaganda work of the Communist Party.

Much was also done to train cadres. A new principle was adopted in December 1940 for selecting cadets for military aviation schools. They were selected from routine drafts of young people for military service. A 25 February 1941 CC VKP(b) and USSR SNK decree established a new system for training pilots, aviation engineers, and technicians. Three types of military aviation schools offering shorter training courses were introduced: basic training schools offering a 4-month course in peacetime and a 3-month course in wartime; military pilot schools with a 9-month training course in peacetime and a 6-month course in wartime; aviation schools with a peacetime training course of 2 years and a wartime training course of 1 year.

Steps were taken to expand the training of aviation leadership cadres, giving them higher military education. For many years this training was conducted only at the N. Ye. Zhukovskiy Air Force Academy and at the Aviation Department of the M. V. Frunze Military Academy. In March 1940 the following departments were detached by order of the USSR People's Commissar of Defense from the N. Ye. Zhukovskiy Air Force Academy (chief—Division Commander Z. M. Pomerantsev, military commissar—Brigade Commissar M. I. Izotov): com-

*[SNK—*Sovet Narodnykh Komissarov*—Council of People's Commissars—U.S. Ed.]



N. Ye. Zhukovskiy Air Force Academy (Building A).

mand, operational, correspondence command, navigator, and refresher training courses for air force supervisory personnel. These departments were reorganized into an independent academy designated the Red Army Air Force Command and Navigator Military Academy. The last graduating class of the command department at the N. Ye. Zhukovskiy Air Force Academy in 1940 included P. I. Ivashutin, S. N. Grechko, S. A. Pestov, V. A. Novikov, A. I. Podol'skiy, N. N. Ostroumov, G. A. Pshenyanik, G. K. Prussakov, A. S. Kravchenko, A. A. Karyagin, N. P. Kuz'min, M. N. Kozhevnikov, P. N. Aseyev, M. V. Afanas'yev, A. V. Zhat'kov, A. V. Khramchenkov, A. F. Isupov, A. S. Bolotnikov, M. I. Maksimov, A. F. Matisov, M. M. Orkin, A. Ya. Ol'shvanger, G. M. Sokolov, A. T. Shevchenko, and others. During the Great Patriotic War, graduates of this department energetically performed command and staff duties, demonstrating excellent theoretical training, good organizational capabilities, skill in command and control of troops, and limitless devotion to the people and the Communist Party. The academy's faculty included command department chief Colonel M. D. Smirnov, department commissar Regimental Commissar A. T. Chumakov, navigator department chief Hero of the Soviet Union Brigade Commander I. T. Spirin, officer instructors N. A. Zhuravlev, A. S. Pleshakov, A. I. Chugunov, N. F. Kudryavtsev, M. D. Tikhonov, G. D. Ban'kovskiy, V. P. Kanokotin, T. M. Artemenko, V. S. Pyshnov, and many others.

In March 1941 the Air Force Engineering Academy was established in Leningrad, and subsequently named after A. F. Mozhayskiy. By the beginning of the war a total of three air force academies were in operation, training cadres by giving them a higher military education specifically for the Soviet Air Force. The Air Force Military Command and Navigator Academy became the principal source of trained command and staff cadres. Political officers were trained for

Table 4. Technical Specifications of the Principal Types of Aircraft in the Soviet Army Air Force as of Summer 1941.*

Type of aircraft	General Data			Flight Characteristics				Armament			
	Year entered inventory	Aircraft weight, kg	No. of engines	Crew, persons	Maximum speed, km/hr	Normal range, km	Practical ceiling, meters	Landing speed, km	No. of machine guns and cannons	Caliber, mm	Bomb load, kg
Bombers:											
SB	1935	6,500	2	3	445	1,000	9,000	130	4	7.62	600-1,500
Pe-2	1941	7,700	2	3	540	1,100	9,000	145	4	7.62	600-1,000
DB-3f	1937	8,000	2	3	440	2,700	6,960	125	3	7.62	1,000-2,500
TB-3	1931	19,200	4	8	288	4,000	6,960	116	8	7.62	2,000-4,000
TB-7	1940	27,000	4	10	443	4,700	10,300	116	6	7.62	2,000-4,000
									3	12.7	
									2	20.0	
Ground Attack Aircraft:											
Il-2	1941	5,340	1	1	412	510	7,500	140	2	20.0	400-600
									2	7.62	
									8	82.0†	



General Z. M. Pomerantsev.



General M. D. Smirnov.

VVS units and formations at the V. I. Lenin Military-Political Academy.

Extensive measures were implemented to prepare the theater of military operations. Runway construction, expansion, and reconstruction at more than 250 airfields assumed broad scope in spring 1941. A significant number of airfields was built in the new border zone formed due to the annexation of western Belorussian and Ukrainian regions and admission of new republics—Latvia, Lithuania, and Estonia—into the USSR. Some 164 airfields were built between 8 April and 15 July 1941.²⁰

There were plans to have three airfields (primary, auxiliary, and unimproved) for every air regiment to ensure high combat readiness and permit aviation maneuvering. One hundred airfield construction battalions were formed to accelerate airfield construction previously begun. In addition, 25,000 laborers were transferred at the end of March from railroad construction projects to construction of airfields.²¹ In western border military districts, where new types of planes were to be based, the runways were lengthened and paved with concrete, and fuel and ammunition dumps and airfield control posts were built at many existing airfields. Owing to this, new types of aircraft could not operate from these airfields temporarily, while use of obsolete aircraft was restricted.

VVS rear services were reorganized due to a 10 April 1941 decision adopted by the CC VKP(b) and the USSR SNK.²² Prior to this, aviation rear services units were components of air formations. Combat practice, especially in the Soviet-Finnish War, showed that this structure reduces the maneuverability of aviation and rear service units. To correct these shortcomings aviation rear serv-

ices were no longer subordinated directly to aviation formations and were organized on a territorial basis.

The entire territory of the western border military districts was divided into 36 aviation base areas (RAB). The aviation base area became the principal VVS rear service organ of the combined arms army and the military district (front), and was intended to provide logistical, airfield, and medical support for three to four air divisions. Each area contained air bases at a ratio of one for every division. The air base was directly subordinate to the area chief and, operationally, to the division commander. The base had three or four air base maintenance battalions (BAO). The air base maintenance battalion was a separate rear services unit intended to directly support one air regiment equipped with twin-engine planes or two air regiments equipped with single-engine planes. Operationally the battalion commander was subordinate to the air regiment commander. This rear services structure relieved the air units of cumbersome rear services, made all forms of rear support more consistent, and increased the capability for maneuvering air regiments and divisions. Restructuring of air force rear services was to be completed by 1 August 1941.



Brigade Commissar I. T. Spirin

Measures were planned to disperse and camouflage aircraft on the airfields. On 14-19 June 1941 the USSR People's Commissar of Defense ordered the command element of the border military districts to deploy the directorates of fronts in field command posts between 21 and 25 June. Orders were published on 19 June to camouflage airfields, military units, and important targets, to paint tanks and vehicles in protective colors, and to disperse aviation.²³

But the treacherous surprise attack of fascist Germany disrupted most of the measures aimed at fundamentally reorganizing and rearming the Soviet Air Force. It was precisely for this reason that aviation in the western border military districts found itself in an extremely difficult situation at the start of the war. Construction of many airfields was not completed, the possibilities for maneuvering aviation were limited, and air force rear services had not been fully reorganized into the new system.²⁴ Because the VVS command sent new types of aircraft coming from the plants directly to the airfields in the western border military districts, a larger number of obsolete aircraft accumulated at airfields located near the country's border.

There were 100 or more planes at some airfields of the Western and Kiev special military districts. During the upgrade period a great many of the obsolete aircraft at these airfields were left without crews. For this reason they could not take off when the enemy attacked and were defenseless against German aviation. All of this dramatically limited the combat capabilities of the Soviet Air Force.

The mission of repelling the aggressor's attack from the west was assigned by the Soviet Supreme Command to troops of the Leningrad Military District, the Baltic Special Military District, the Western and Kiev special military districts, the Odessa Military District, the Air Force, and three fleets—Northern, Red Banner Baltic, and Black Sea.

Formations and units of the National Air Defense forces, combined into five PVO* zones—Northern, Northwestern, Western, Kiev, and Southern—were to protect rear services facilities from air strikes in the western border zone. Forty VVS Fighter air regiments possessing about 1,500 planes were allocated on special assignment for air defense.²⁵

There were 170 divisions (103 rifle, 40 tank, 20 motorized, 7 cavalry) and two brigades in the western border military districts. This grouping had a strength of 2.68 million men, 37,500 guns and mortars, 1,475 new tanks (KV and T-34), 1,540 new combat aircraft, and a large number of obsolete combat aircraft.²⁶

At the beginning of the war the Soviet Army Air Force was composed of Aviation of the High Command (Long-Range Bomber Aviation), Frontal Aviation (the military district VVS), Army Aviation (the combined arms army VVS), and Troop Aviation (corps air squadrons). Of the total strength, 13.5 percent was with Aviation of the High Command, while 86.5 percent was with the ground troops (Frontal Aviation—40.5 percent, Army Aviation—43.7 percent, and Troop Aviation—2.3 percent).[†]

The ratio of aviation branches in the western military district VVS was 59 percent fighter, 31 percent bomber, 4.5 percent ground attack, and 5.5 percent reconnaissance.²⁷

The VVS in the border military districts were headed by: Leningrad—commander, Major General of Aviation A. A. Novikov, chief of staff, Major General A. P. Nekrasov; Baltic Special—commander, Major General of Aviation A. P. Ionov, chief of staff, Major General of Aviation S. P. Sinyakov; Western Special—Major General of Aviation I. I. Kopets and Colonel S. A. Khudyakov, respectively; Kiev Special—Lieutenant General of Aviation Ye. S. Ptukhin and Major General of Aviation N. A. Laskin; Odessa—Major General of Aviation

*[PVO—*protivovozdushnaya oborona*—air defense—U.S. Ed.]

†[Troop Aviation is that which is organic to ground units for their support—U.S. Ed.]

Table 5. Composition of the Western Border Military District VVS as of 22 June 1941.*

Military district	Air divisions				Air Regiments ^a					Corps air squadrons (KAE)
	Bomber (BAD)	Fighter (IAD)	Composite (SAD)	Total	Bomber (BAP)	Fighter (IAP)	Ground attack (ShAP)	Reconnaissance	Total	
Leningrad	1	3 ^b	4	8	9/1	13/4	1	1	24/5	4
Baltic Special	—	1	4	5	8/1	8/3	2/1	1	19/5	9
Western Special	2	1 ^c	3	6	13/2	12/5	2/1	2	29/8	8
Kiev Special (as of 1 June 1941)	3	2	5	10	11/4	17/5	2/1	2	32/10	11
Odessa (as of 1 June 1941)	—	— ^d	3	3	7/2	7/4	—	1	15/6	4

*50 let Vooruzhennykh Sil SSSR [Fifty Years of the USSR Armed Forces] (Moscow, 1968), pp. 238, 251.

^aNumerator—Total air regiments; denominator—those transitioned into new types of aircraft.

^bIncluding two air defense IADs.

^cTwo IADs and one BAD were undergoing formation.

^dTwo IADs were undergoing formation.

F. G. Michugin and Major General of Aviation A. Z. Ustinov. The commanders and chiefs of staff of the border military district VVS were experienced and operationally well-trained military leaders.

The VVS in the interior military districts located behind the border military districts were headed by: Moscow—commander, Colonel N. A. Sbytov, chief of staff, Colonel A. N. Burtsev; Oreł—Colonel N. F. Naumenko and Colonel A. F. Vanyushin, respectively; Khar'kov—Major General of Aviation S. K. Goryunov and Colonel M. A. Belishev; North Caucasus—Major General of Aviation Ye. M. Nikolayenko and Colonel N. V. Korneyev; Transcaucasus—Lieutenant General of Aviation S. P. Densov and Brigade Commander S. P. Lavrik.

In the Far East on the eve of the war there was the Far Eastern Front, in which the VVS commander was Lieutenant General of Aviation K. M. Gusev and the chief of staff was Major General of Aviation Ya. S. Shkurin.²⁸

The VVS of the interior military districts were composed of several air formations and units outfitted with obsolete aviation equipment, and a large number of aviation schools. Air regiments, divisions, and groups were formed in the interior military districts and sent to the front after the war began.



General P. F. Zhigarev.



Army Commissar 2nd Rank
P.S. Stepanov .

Long-Range Bomber Aviation underwent major organizational changes on the eve of the war. In order to improve command and control and eliminate a multilayered chain of command, the three special-purpose aviation armies (AON) of the High Command created back in 1936–1938 were reorganized into bomber air corps of two two-regiment air divisions each. In all, five air corps and three independent air divisions were created. Formation of one long-range escort fighter air division had begun in each air corps by the beginning of the war.

Four air corps and one independent air division were deployed in the vicinity of Novgorod, Smolensk, Kursk, Zaporozh'ye, and Skomorokha; this was a total of nine divisions (29 air regiments) with a strength of 1,346 planes and 931 combat crews.²⁹ Of the long-range bombers 86 percent were DB-3s, and 14 percent were TB-3s. There were only 11 of the latest aircraft—the TB-7s (or Pe-8s)—in the line units.³⁰ On the eve of the war the air corps were commanded by: I Bomber Air Corps—General V. I. Izotov, II Bomber Air Corps—Colonel K. N. Smirnov, III Bomber Air Corps—Colonel N. S. Skripko, IV Bomber Air Corps—Colonel V. A. Sudets, and 18th Independent Bomber Air Division—Colonel A. M. Duboshin. The V Air Corps was being formed in the Far East. Long-Range Bomber Aviation, a component of the Soviet Air Force, was headed by a specially created directorate of the aviation high command. Hero of the Soviet Union, Lieutenant General of Aviation I. I. Proskurov, a veteran of the war in Spain, served as the directorate chief until April 1941, after which he was replaced by Colonel L. A. Gorbatsevich.

On the eve of the war the Soviet Air Force was directed by the VVS Main Directorate. The chief of the Air Force Main Directorate was Lieutenant General of Aviation P. F. Zhigarev, who had replaced Lieutenant General of Aviation P. V. Rychagov on 12 April 1941.

Pavel Fedorovich Zhigarev was transferred to aviation from the cavalry. In 1927 he graduated from a military pilot school, and in 1932 he graduated from the N. Ye. Zhukovskiy Air Force Academy. He commanded air squadrons, an air brigade, and the VVS of the 2nd Independent Red Banner Army in the Far East. In December 1940 he was assigned as Deputy Chief of the VVS Main Directorate. Corps Commissar P. S. Stepanov was appointed to the post of VVS Main Directorate Deputy Chief for Political Affairs.³¹ Organizationally the VVS Main Directorate consisted of the VVS staff (chief of staff General D. N. Nikishev, and, as of May 1941, General P. S. Volodin), directorates, and independent sections. The DBA directorate and a number of other directorates were subordinate to the chief of the VVS Main Directorate. The VVS central administration did not have independent rear services at the beginning of the war. Directives concerning rear services in the military district VVS (or front VVS) came straight from the Soviet Army Air Force staff. These functions were performed by the staff rear services section, headed by General P. V. Korotayev.

At this time the Soviet Army Air Force staff consisted organizationally of several independent sections, Section One being the principal one. General B. L. Teplinskiy, the well-known Soviet military theoretician, was chief of Section One; he was at the same time a VVS deputy chief of staff.³² The VVS staff was undergoing reorganization, and new officers were assigned to the principal sections. Section and department chiefs included General D. D. Grendal', Colonels V. V. Storozhenko, and A. I. Bogdanov, and Majors N. F. Andrianov and D. K. Karpovich.

Highly skilled officers who in their time had flown combat aircraft and, for the most part had graduated from the command or navigator school of the air force academy, worked on the staff: I. P. Potapov, V. I. Artem'yev, V. P. Poshekhontsev, A. Ya. Ol'shvanger, I. M. Kuz'min, Ye. S. Chalik, A. M. Vlasov, and V. A. Dmitriyev. The work of the staff was structured in terms of operational sectors, with one or two officers working in each of them. They maintained maps of the VVS operational situation of several military districts, they studied the probable enemy, monitored and analyzed his combat strength and the airfield network, maintained constant communications with the staffs of the military district VVS, prepared draft instructions and orders to the troops and reports to the General Staff, monitored the work of reorganizing and reequipping the air force, and inspected air units.

After fascist invaders occupied Poland and France the situation on our western borders became very tense. The Germans began to violate our motherland's airspace with increasing frequency. Performing reconnaissance, between 1 Jan-

uary and 22 June 1941 the fascist German command crossed into USSR airspace and penetrated up to 300–350 km into our territory in some cases. A number of times Soviet fighters intercepted the German reconnaissance planes and forced them to land. Our fighters were prohibited at that time by the Soviet command from using machine gun fire against the intruders. Explosions often occurred automatically in the cockpits of German planes following a forced landing. This happened, for example, on 15 April 1941 near Rovno, when a Soviet fighter intercepted a Ju-86 reconnaissance plane and forced it to land. Two explosions occurred after the German pilots abandoned the plane. It caught fire, but the fire was extinguished. Three cameras were discovered on board, of which only one survived. Its film bore images of rail junctions on the Kiev-Korosten' line.³³

Sometimes German planes violating our airspace opened fire on fighter-interceptors that were demanding that they land, and then left our airspace. This was observed especially often on the eve of fascist Germany's attack on the USSR, in May and June 1941.

The intensity of violations of the USSR's western airspace by German aircraft increased significantly in May-June 1941.

“At the same time that they were developing Operation Barbarossa,” the history of the Communist Party of the Soviet Union reads, “in summer 1940 the fascist German command began deploying troops on the borders with the Soviet Union. Saboteurs and spies began to be sent into the USSR much more frequently, and the frequency of reconnaissance flights increased dramatically. In the first half of 1941 alone there were 324 documented cases of fascist planes violating USSR airspace.”³⁴

The General Staff and the VVS staff took steps to increase the number of fighters on alert at the airfields in all five western border districts. For example, the following fighter flights were placed on alert daily in summer 1941 in the Western Special Military District: 5 flights of I-153s and I-16s, 3 of the new MiG-3s, and 8 flights held in ambush, a total of 16 flights.³⁵ Somewhat fewer fighters were on alert in other border military districts. Fighters on alert played a major role early, when the treacherous surprise attack by fascist German aviation was repelled at dawn on 22 June 1941. Along with the border troops, Soviet pilots were the first to join the unequal battle against the aggressor, and they offered stubborn resistance to superior enemy forces.

In the central VVS administration, the principal directorates and the main sections of the VVS staff were hastily manned by officer pilots, navigators, and engineers who had graduated from military academies. The VVS staff and its operational section worked up directives and orders to the troops concerning operational and combat training. Preparation of all aviation manuals and regulations as well as the draft 1944 Field Service Regulations were also accomplished with VVS staff participation. We know that as early as January 1940 field manu-

als had been promulgated for bomber (BUBA-40) and fighter aviation (BUIA-40) by order of the USSR People's Commissar of Defense, and the troops used them as their guidelines. In that same year an order from the chief of the Soviet Army Air Force Main Directorate defined the list of individual theoretical topics to be developed by military district VVS commanders. In February 1941 the VVS staff developed a list of operational and tactical subjects for use in training officers on military district VVS staffs and in air divisions. On 28 February 1941 the chief of the VVS Main Directorate published an order indicating that development of an individual topic was one of the most important ways to improve the operational and tactical training of higher and senior aviation commanders.³⁶ These topics were fully in line with the requirements for waging war against a strong enemy, and they were sufficiently well defined and specific. The list of topics included VVS actions in attaining air supremacy in a frontal offensive operation; frontal VVS actions in breaking up enemy shipments and concentrations; frontal VVS actions to prevent advance of strategic enemy reserves to the location of a breakthrough; frontal VVS actions in a meeting encounter of a mechanized cavalry group; frontal VVS actions in annihilating major enemy mechanized formations penetrating deep into our disposition, in supporting an airborne landing operation, and in repelling an enemy naval assault landing.³⁷ The VVS commanders in the border military districts had to submit abstracts of their reports on the assigned topics to the VVS staff by 1 April 1941. This was postponed until June 1941 due to tension in the international situation and the measures taken at the troop unit level to reorganize and rearm VVS units and formations in the border military districts.

The Soviet Army Air Force staff also resolved the problems of organization and coordination among the aviation components and between aviation and the ground forces. As early as October 1940 the VVS commanders in four military districts (Western Special, Leningrad, Transcaucasus, and Far East) were tasked to draft instructions on coordination between aviation and the ground forces. The fundamental premises of this draft were utilized at the beginning of the war.

In January 1941 the USSR People's Commissar of Defense ordered the military district commanders and the chief of the VVS Main Directorate to attach the staffs of air formations (including the staffs of Long-Range Bomber Aviation air corps) to the appropriate army directorates, and some of the staffs to the military district staffs. The goal was to raise the training level of air formation staffs and improve the skills of higher commanders in employment of large air forces in operations.³⁸

The General Staff and the VVS command conducted a variety of air exercises. More than 130 regimental, divisional, and district exercises were conducted in 1940 with VVS aviation formations and units participating.³⁹

The theory behind operational employment of the Air Force in a future war was also rather well developed on the eve of the war. Soviet military science considered that aviation was to play a major role in the struggle for air supremacy and in supporting the ground forces and the Navy in their offensive and defensive

operations. The draft RKKA* Field Manual (1939) stated: "Aviation possesses powerful equipment, it is swift, and it has a large radius of action. It is a powerful weapon against enemy manpower and equipment; it can annihilate his aviation and destroy important targets. Aviation is linked strategically and tactically to the ground forces, it performs independent air operations against objectives deep in the enemy rear area, and it fights enemy aviation, securing air supremacy."⁴⁰ The VVS command and staff devoted special attention to resolving issues concerning aviation's participation in offensive operations, primarily in operations in depth. In accordance with the theory of the deep offensive operation, the troop offensive must "have the nature of suppression of the entire defensive zone, followed by penetration, encirclement, and annihilation of the enemy."⁴¹ It was believed that a simultaneous, powerful thrust by infantry, tanks, artillery, and aviation would make it possible to break enemy defenses to their entire tactical depth, and that subsequent commitment of mobile formations (mechanized and cavalry) to the breakthrough, with active support by aviation from the air in combination with decisive actions by airborne troops in the enemy rear area, would ensure encirclement and annihilation of the enemy."⁴² It was believed that the Air Force would perform the following combat missions in these operations: attain air supremacy, support ground troops in penetration of enemy tactical defenses, cover troops and rear facilities from air strikes, carry out strikes against operational and strategic reserves and targets in the enemy rear area, support the commitment of an exploitation echelon to a breakthrough, support the latter's combat actions in the operational depth of the enemy defenses, support airborne landing parties, supply friendly forces by air, and perform air reconnaissance."⁴³

Attaining air supremacy was considered one of the most important VVS missions. It could be achieved on strategic and operational scales. Air supremacy was attained in the sector of the main ground troop thrusts through the joint efforts of the VVS of two or several contiguous fronts, by Aviation of the High Command, and by ground-based PVO resources.

Enemy aviation was to be fought in two ways: through destruction of enemy aviation on airfields, coupled with a concurrent strike against his rear services—frontline bases, repair services, fuel and ammunition dumps, and destruction of enemy aviation in aerial combat.

The Air Force's independent air operations were subdivided into strategic and operational in accordance with prewar viewpoints. The former included air operations conducted by the Supreme High Command in the interests of the war as a whole. They were directed against the enemy's most important military, economic, and political centers, and their objective was to undermine his military and economic power, disorganize the work of the rear area, disrupt state

*[RKKA—*Raboche-Krest'yanskaya Krasnaya Armiya*—Workers' and Peasants' Red Army—U.S. Ed.]

administration and communications, and lower the morale of the population and the army.

Operational air operations were to be conducted on behalf of the ground and naval forces. Their principal objectives were: defeat of opposing aviation groupings; breakup of the enemy's maneuvering (or concentration); destruction of the enemy's operational-strategic reserves; weakening of the navy and destruction of large enemy naval assault landing parties. Professor, Brigade Commander A. N. Lapchinskiy, the author of a number of scholarly works including the famous work on military theory entitled *Vozdushnaya armiya*,* made a significant contribution to the theory of independent air operations. His basic premises were utilized in the practical activities of the Soviet Army Air Force command and staff on the eve of and in the course of the Great Patriotic War. In particular he wrote the following about the main mission facing the Air Force: "In the end, no matter what mission aviation performs in relation to the ground war, it is always faced with the problem of attaining air supremacy.

"Aviation entered the war as a new powerful offensive factor. Hence follows the logical conclusion that land and air forces must act together to achieve a common goal. . . . Aviation cannot set the stage for a triumphant procession of advancing massed armies, nor will it be able to perform triumphant flights. In all subsequent operations the fight between the air forces will be stubborn and savage. Aviation will help the land front to the extent that it offers it greater possibilities for offensive actions in comparison to the enemy by conducting a number of its own successive independent operations.

"When a massive offensive army is at hand, the main mission of an air army is to support the forward movement of this army, for which purpose all efforts must be concentrated. When a war of maneuver is waged, we must win air-land encounters that start in the air and end on the ground; this would require concentration of all air forces."⁴⁴

In the prewar years the combat employment of the VVS in various operations and in war overall had been quite thoroughly studied in a number of major works by Soviet military leaders and scholars.⁴⁵

There had been studies of employment of aviation in the initial period of war. The following were treated as the Air Force's main missions at the beginning of a war in the works of Corps Commander V. V. Khripin and Colonel P. I. Malinovskiy, written as early as 1936; suppression of the aerial enemy throughout the entire depth of his disposition with the goal of attaining air supremacy; prevention of the concentration of ground troops; support of the lead ground army's actions by a portion of the aviation resources.⁴⁶ Actions against the enemy's economic and political centers were not excluded here. The advisa-

*[*Vozdushnaya armiya*—The Air Army—U.S. Ed.]

bility of shifting aviation units from primary to unimproved airfields to preserve aviation in the initial period of war was also pointed out in the work. The first operations of World War II permitted the Soviet command to refine the principles of the initial period of war and determine its significance for the course and outcome of the armed struggle. The initial period was interpreted as the time interval from the beginning of military actions until commitment of the main body of armed forces into the encounter.⁴⁷

Problems of employing all services of the Armed Forces in war, including the Air Force, were discussed in detail at a conference of high-ranking commanders in December 1940 convened by Marshal of the Soviet Union S. K. Timoshenko by order of the CC VKP(b). General P. V. Rychagov, chief of the Air Force Main Directorate, gave the report entitled "The Air Force in an Offensive Operation and in the Struggle for Air Supremacy."⁴⁸

The report pointed out that only air supremacy would make it possible to dependably prepare a front's offensive, provide air cover to troops being brought up to the front, especially cavalry and mechanized troops, quickly and systematically penetrate an enemy fortified zone, and exploit a success in depth. "Attainment of air supremacy," the report read, "requires destruction of the enemy's aviation on his airfields coupled with a simultaneous strike against aviation rear services (frontline bases, repair services, fuel and ammunition dumps) and destruction of enemy aviation in the air above the battlefield."⁴⁹

But the leadership was unable to arrive at a common point of view on a number of issues concerning operational employment of the VVS in war, especially the problems of attaining air supremacy. Exaggerating the very limited combat experience of the war in Spain and their own personal experience, some conference participants understated the contribution made by the fascist German Air Force to the swift defeat of Polish and French aviation, attained mainly through surprise massed strikes against airfields. Summarizing the results of the conference, S. K. Timoshenko approved the basic premises stated in the conference reports, though he did critique several. In particular, he said the following about VVS employment: "We have accumulated a large amount of experience in VVS employment in operations, but this experience has yet to be synthesized and studied. Moreover, this situation is fraught with dangerous consequences. Our VVS leadership has been unable to arrive at common viewpoints on such issues as structuring and planning operations, assessing the enemy, the methods for conducting an air war and imposing one's will on the enemy, target selection, and so on."⁵⁰

Differences in interpretation of the problems concerning VVS operational employment in war also had a certain effect on the VVS organizational structure. It was concluded that aviation had to be subdivided into Army Aviation intended specifically for coordination with army troops, and Frontal Aviation operating in accordance with a front's plans. But the Great Patriotic War did not support this conclusion. It was based on combat experience acquired in combat in the battles at the Halhin Gol River (May-September 1939) and in the Finnish conflict

(30 November 1939 to 13 March 1940). Subdivision into army and frontal aviation was fully justified in minor wars such as these. But in a large war against a strong enemy, where massing of efforts and centralized control over all aviation participating in an operation were required, this organizational structure was unacceptable. Thus, in the prewar years Soviet operational art offered a basically correct interpretation of VVS operational employment in offensive and defensive operations. Many premises of the theory of VVS operational art were tested in major exercises and maneuvers conducted in the prewar years. But there also were poorly developed aspects in our military theory. Not enough work had been done on the problems of repelling an enemy surprise attack, conducting joint VVS-ground troop actions in strategic defense, and bringing the troops and aviation to increased and full combat readiness.

On the eve of the war the Soviet Army Air Force command and staff devoted considerable attention to improving the combat and political training of units and formations in Frontal and Long-Range Bomber Aviation. New requirements on the combat and political training of the troops were promulgated by the USSR People's Commissar of Defense in Order No. 30, dated 29 January 1941, and in the Soviet Army Main Political Propaganda Directorate "On Reorganizing Party-Political Work," published in August 1940. Troop training was based on the principle: "Teach the troops only that which they will need in war, and only the methods used in war." The Air Force was tasked to develop coordination with ground troops and the Navy, conducting active combat operations with large forces, and devoting more attention to mastering flying in poor weather and at night. One air squadron in every air regiment was tasked to take a night flying training course.

The combat and political training of air units and formations was systematically inspected by the Soviet Army Air Force command on the eve of the war. This can be seen from the following example. In April 1941 an inspection was conducted of the 12th Bomber Air Division of the Western Special Military District VVS, which was lagging considerably in upgrading to new types of aircraft. The group of VVS officers detailed for the inspection was headed by General A. V. Nikitin, chief of the Air Force Organization and Manning Directorate.

Aleksey Vasil'yevich Nikitin chose aviation as his career as early as 1921, enrolling in the military observer pilot school in Petrograd. He joined the Red Army in May 1919 and became a member of the Communist Party in 1925. In his aviation career he served as an observer pilot, flight commander, air detachment commander, and air squadron commander. Chief of staff of the pilot school in Lugansk, he had graduated from this school and, at the same time, acquired the specialty of a military pilot. Later he assumed the post of chief of staff of the Transcaucasus Military District VVS and chief of staff of the Transbaykal Military District VVS. He began working in the VVS central administration in 1939.

The inspection confirmed that 104 of the division's crews were still in transition training. The division command's fear of flying accidents was the reason. This explains why personnel were assigned more of the easier sorties in the combat training plan than the training level of the pilots would require. Naturally, this delayed the progress of the combat training. In the inspection critique General A. V. Nikitin pointed out that such a faulty transition method was unacceptable and that the air division command had behaved irresponsibly where the state of combat training was concerned. The division was ordered to accelerate the transition training and immediately begin on the applied combat training problems. During the inspection the VVS inspectors certified 20 of the division's pilots who had distinguished themselves in the inspection for solo flight aboard the new types of aircraft, and air regiment and squadron supervisory personnel began working on the combat training problems.

The inspection gave a solid push to accelerating applied aircrew combat training problems, having the positive effect of increasing the division's fighting efficiency. In the first days of the war the 12th Bomber Air Division distinguished itself in combat and was mentioned in an order of the Western Front Military Council.⁵¹

Long-Range Bomber Aviation units and formations underwent highly intense combat training on the eve of the war. In the first half of June 1941 alone the crews flew 8,614 hours, including 1,032 hours at night, and 679 hours were spent in high-altitude training. During this time 1,400 navigational sorties were flown, there were 1,839 bombing runs at practice ranges, and there were 1,560 aerial gunnery runs.⁵² Long-Range Bomber Aviation had also acquired some combat experience in the Soviet-Finnish conflict. In January-March 1940 it flew 2,129 combat sorties against rail terminals, stations, war plants, and ports.⁵³

On the eve of the war the Communist Party, the Soviet government, and the High Command did a great deal to strengthen the Soviet Air Force.

The initiation of World War II gave rise to a need to refine the viewpoints on combat employment of the Air Force. Attention was turned to the massing of aviation in the sector of the main ground thrust and to the exceptional importance of attaining air supremacy at the beginning of military actions. The requirement to attain air supremacy through independent air operations to destroy the enemy's aviation groupings was recognized.

The German-Polish war and the campaign in Western Europe confirmed that the VVS as a service of the armed forces could perform major operational-strategic missions.

Notes

1. *Istoriya vtoroy mirovoy voyny 1939–1945* [History of World War II 1939–1945], III (Moscow, 1974), p. 20. [Hereafter referred to as *World War II History*—U.S. Ed.]
2. *Ibid.*, p. 22.
3. *Istoriya Voyenno-Vozdushnykh Sil Sovetskoy Armii* [History of the Soviet Army Air Force] (Moscow, 1954), p. 399. [Hereafter referred to as *SAF History*—U.S. Ed.]
4. *World War II History*, III, 71.
5. *Ibid.*, p. 81.
6. *Ibid.*, pp. 86–87, 89.
7. F. Halder, *Voyennyy dnevnik* [War Diary], translated from the German, I (Moscow, 1968), p. 495.
8. *World War II History*, III, 132.
9. *Ibid.*, p. 133.
10. *Ibid.*, p. 134.
11. *Ibid.*, p. 135.
12. *Ibid.*, IV, 13.
13. *Ibid.*, III, 326, 328.
14. *Istoriya Velikoy Otechestvennoy voyny Sovetskogo Soyuz 1941–1945 gg.* [History of the Great Patriotic War of the Soviet Union 1941–1945], I (Moscow, 1961), p. 414. [Hereafter referred to as *Great Patriotic War*—U.S. Ed.]
15. *Ibid.*
16. *Voyenno-istoricheskiy zhurnal* [Military Historical Journal], No. 7, 1974, p. 88.
17. *Arkhiv MO SSSR* [USSR Ministry of Defense Archives. Hereafter referred to as *Archives*.] f. 35, op. 28401, d. 22, l. 34. [The preceding abbreviations are Soviet archival designations: f., fond; op., inventory; d. item; l. folio. The Russian word *fond* is retained because the concept has no exact English equivalent. Hereafter in this work the Russian abbreviations will be used for such references—U.S. Ed.]
18. *Ibid.*, f. 39, op. 11282, d. 17, l. 256.
19. *Sovetskiye Voyenno-Vozdushnyye Sily v Velikoy Otechestvennoy voyne 1941–1945 gg.* [The Soviet Air Force in the Great Patriotic War 1941–1945] (Moscow, 1968), p. 23. [Hereafter referred to as *SAF in World War II*—U.S. Ed.]
20. *Archives*, f. 35, op. 28737, d. 1, 11. 7, 33, 116.
21. *World War II History*, III, 423.
22. *Archives*, f. 35, op. 30807, d. 23, 11. 15–23.
23. *World War II History*, III, 441.
24. *Ibid.*, IV, 27.
25. *Ibid.*, III, 425.
26. *Ibid.*, IV, 25.
27. *SAF in World War II*, p. 13.
28. The Field Directorate of the Far Eastern Front was established on 21 June 1940.
29. *Archives*, f. 35, op. 107559, d. 5, 11. 169–70.
30. *Ibid.*, op. 11282, d. 20, l. 242.
31. *Ibid.*, op. 11235, d. 4, l. 67.
32. General B. L. Teplinskiy was responsible for the writing and publication of the following scholarly works: *Aviatsiya v boyu nazemnykh voysk* [Aviation in Support of Combat of the Ground Troops] (Moscow, 1940); *Osnovy obshchey taktiki VVS*. [Fundamentals of VVS General Tactics] (Moscow, 1940).
33. *Archives*, f. 35, op. 11285, d. 118, 11. 70–73.
34. *Istoriya Kommunisticheskoy partii Sovetskogo Soyuz 1941–1945 gg.* [History of the Communist Party of the Soviet Union], V, Book 1, p. 141. [Hereafter referred to as *CPSU History*—U.S. Ed.]
35. *Archives*, f. 35, op. 11285, d. 26, l. 1.
36. *Ibid.*, d. 1, l. 50.
37. *Ibid.*, 11. 28–45.
38. *Ibid.*, d. 1, l. 88.
39. *Ibid.*, 11. 6, 7.

40. *Polevoy ustav RKKA (PU-39). Proyekt* [RKKA Field Service Regulations (PU-39). Draft] (Moscow, 1939), pp. 23-24.
41. *Polevoy ustav Krasnoy Armii. Proyekt* [Red Army Field Service Regulations. Draft] (Moscow, 1941), p. 136.
42. *Ibid.*, p. 140.
43. *Archives*, f. 35, op. 29401, d. 10, l. 79.
44. A. N. Lapchinskiy, *Vozdushnaya armiya* [The Air Army] (Moscow, 1939), pp. 98, 119, 137, 144.
45. S. A. Mezheninov, *Vozdushnyye sily v voyne i operatsii* [The Air Force in War and in an Operation] (Moscow, 1927); A. S. Algazin, *Obespecheniye vozdushnykh operatsiy* [Support of Air Operations] (Moscow, 1928); A. V. Sergeyev, *Strategiya i taktika Krasnogo Vozdushnogo Flota* [Strategy and Tactics of the Red Air Fleet] (Moscow, 1935); P. P. Ionov, *Obshchaya taktika Voenno-Vozdushnykh Sil* [Air Force General Tactics] (Moscow, 1934).
46. *Archives*, f. 35, op. 23373, d. 2, ll. 5-7.
47. *World War II History*, III, 411.
48. *Ibid.*, p. 409.
49. *Archives*, f. 35, op. 29373, d. 2, ll. 5-7.
50. *Zaklyuchitel'naya rech' narodnogo komissara oborony Soyuz SSSR, Marshala Sovetskogo Soyuz S. K. Timoshenko 31 dekabrya 1940 g.* [Concluding Speech by USSR People's Commissar of Defense, Marshal of the Soviet Union S. K. Timoshenko on 31 December 1940] (Moscow, 1941), p. 35.
51. *Aviatsiya i kosmonavtika SSSR* [USSR Aviation and Cosmonautics] (Moscow, 1968), p. 92. [Hereafter referred to as *USSR Aviation and Cosmonautics*—U.S. Ed.]
52. *Archives*, f. 35, op. 11290, d. 34, ll. 12.
53. *Ibid.*, op. 11600, d. 380, l. 2.

Chapter 2. The Soviet Army Air Force Command and Staff at the Beginning of the War and in the 1941 Summer-Fall Operations

The Nature of Aviation Actions by the Belligerents in the First Days of the War

Violating the Nonaggression Pact, treacherously, without declaring war, at dawn on 22 June 1941 fascist Germany attacked the Soviet Union with armed forces previously prepared and concentrated at the borders of the USSR. Between 0330 and 0400 hours fascist German aviation made massed raids on our airfields, rail junctions, naval bases, troop groupings, and the cities of Murmansk, Kaunas, Minsk, Kiev, Odessa, and Sevastopol'. At the same time artillery opened a hail of fire on defensive fortifications and troop dispositions. Following powerful artillery and air preparation, enemy tank and motorized divisions went over to the offensive on a front from the Baltic to the Carpathians. Battles also began south of the Carpathians, along the Romanian border to the Black Sea. Fascist Germany was joined by Hungary, Italy, Romania, and Finland in its war against the USSR. Savage encounters developed, distinguished by great scope, high dynamism, and dramatic changes in the situation. The Great Patriotic War of the Soviet Union against fascist Germany and its European allies had begun.

The Communist Party and the Soviet government appealed to the Soviet people to repel the aggressor and expressed firm confidence in victory over the enemy. United by inviolable friendship, the peoples of the USSR all rose up as one for the holy war for the freedom and independence of their motherland.

The Hitlerite command committed up to 50 percent of its aviation concentrated at our border to destruction of Soviet aviation. Air raids were made on 66 airfields where 65 percent of the aviation of the Western border districts was based, including 26 airfields of the Western, 23 of the Kiev, and 11 of the Baltic special military districts and 6 airfields of the Odessa Military District. As a result, in the first day of the war the Soviet Air Force lost about 1,200 planes, 800 of which were parked on airfields.¹

Aviation from the Western and Kiev special military districts, where fascist German aviation managed to destroy and damage 1,015 planes in the first day of the war, suffered especially great losses. Out of 409 planes present at the beginning of the war, the 9th Composite Air Division of the Western Special Military District VVS lost 347, the 10th Composite Air Division lost 180 of 231,

and the 11th Composite Air Division lost 127 of 199. On the second day of the war these three first-echelon air divisions were rendered unfit for action and sent back to re-form. In air engagements, fighters of the Western Special Military District VVS shot down more than 100 fascist planes and dispersed large German bomber groups, but they were unable to halt their raids or even restrict the actions of enemy aviation. In one day the enemy destroyed 387 fighters and 351 bombers.²

The border military district VVS suffered great losses in their inventory of planes for the following reasons. The telegram from the USSR People's Commissar of Defense warning the military district commanders of the time of a possible attack by fascist Germany and containing instructions to make the troops combat ready and disperse aviation to unimproved airfields was not transmitted to the border military districts until just 4 hours before the enemy's invasion.³ Because many of the airfields were undergoing construction and reconstruction the extent to which aviation units and formations of the border military district VVS could be maneuvered was limited. The degree to which the airfields were camouflaged and the cover provided them by air defense resources were inadequate. Some aviation commanders inexperienced in repelling massed surprise raids were unable to protect their units from the strikes and organize decisive opposition to fascist aviation. Soviet pilots had to fight under unequal conditions. For the most part they were forced to fight in obsolete fighters against a numerically superior enemy armed with modern planes.

Despite the difficulty and complexity of the resulting situation, Soviet pilots acted boldly and selflessly in all sectors, astounding the world with their unprecedented steadfastness and unwavering courage and bravery. On the first day, for example, an air squadron of the Western Special Military District VVS 127th Fighter Air Regiment commanded by Senior Lieutenant I. I. Drozdov took to the air four times to repel enemy bomber raids in the vicinity of Brest, shooting down five fascist planes.

In the Southwestern sector at 0425 hours Senior Lieutenant I. I. Ivanov, a flight commander in the 46th Fighter Air Regiment, rammed and downed an enemy bomber after using up all of his ammunition in aerial combat.⁴ Pilots of the 91st and 252nd fighter air regiments also distinguished themselves here. Pilots of the 67th and 55th fighter air regiments honorably performed their duty to the motherland in the southernmost sector of the Soviet-German front. Major B. A. Rudakov, commander of the 67th Fighter Air Regiment, launched his first group of fighters against enemy bombers on receiving a report of their approach. Several enemy aircraft were shot down in aerial combat. That day the regiment's pilots repelled raids four times. They flew 117 combat sorties, broke up the bombing runs by the fascist German bombers, and shot down 13 planes. Lieutenant Colonel V. P. Ivanov, commander of the 55th Fighter Air Regiment, displayed resourcefulness and decisiveness. Receiving a report of the approach of 20 German bombers and 18 fighters, he launched his air squadron, on alert with its new MiG-3 fighters, ordering it to attack the enemy, while the regiment's

other fighters assisted in dispersing the German bombers and forcing them to turn back.⁵



Soviet Fighters on Patrol Over Moscow.

Combat actions began in the Leningrad sector at dawn on 22 June. At 0320 hours, while the people of Leningrad were still sleeping, the first aerial encounter occurred on the distant approaches to Leningrad. Fighter pilots Shavrov and Boyko engaged an Me-110 flight in combat.⁶

On the first day of the war Soviet pilots I. I. Ivanov, L. G. Butelin, S. M. Gudimov, A. S. Danilov, D. V. Kokorev, A. I. Moklyak, Ye. M. Panfilov, and P. S. Ryabtsev repeated the immortal feat of their compatriot, pilot P. N. Nesterov, who back on 26 August 1914 rammed and downed an enemy plane for the first time in the world. Later, many comrades-in-arms followed the example of the hero pilots. When they ran out of ammunition but the enemy continued to advance, they rammed the enemy planes, knocking them out of the sky.

At 0715 hours on 22 June 1941 the People's Commissar of Defense assigned the mission of a retaliatory strike at the enemy to the commanders of the border military districts. The directive stated:

"1. The troops are to attack enemy forces with all available forces and resources and annihilate them wherever they have violated the Soviet border. Ground troops are not to cross the border without special instructions.

"2. Reconnaissance and combat aviation are to establish the places of concentration of enemy aviation and ground troop groupings. Aviation on enemy airfields is to be destroyed with powerful strikes by bomber and ground attack aviation, and the main enemy ground troop groupings are to be destroyed by bombing. Air strikes are to be made to a depth of 100-150 km into German territory; Koenigsberg and Memel are to be destroyed by bombing. . . ."⁷

But, in view of the situation, the Baltic, Western, and Kiev special military district commanders were unable to organize a powerful retaliatory strike.

On 22 June 1941 Soviet pilots flew about 6,000 combat sorties and destroyed more than 200 German planes.⁸

Under terribly difficult conditions our country transformed itself into a military camp under the guidance of the Communist Party and the Soviet government within the very first days of the war. The national economy was placed on a war footing, and the Soviet Armed Forces, including the VVS, were strengthened and reorganized.

On 22–25 June 1941 frontal VVS were created from border military district aviation. The following were the VVS commanders of these fronts: Northern—General A. A. Novikov; Northwestern—General A. P. Ionov (General T. F. Kutsevalov after 1 July 1941); Western—General A. I. Tayurskiy (Colonel N. F. Naumenko after 2 July 1941); Southwestern—General Ye. S. Ptukhin (General F. A. Astakhov after 1 July 1941); Southern—General F. G. Michugin (General P. S. Shelukhin after 27 June 1941). The great losses suffered by aviation in the border military districts and most importantly the qualitative superiority of the bulk of German planes allowed the fascist German Air Force to seize the initiative in the decisive sectors. This significantly complicated the actions of ground forces in the border zone as they attempted to repel the developing enemy offensive. Nevertheless the Soviet Air Force remained combat capable. The Hitlerite command's attempts at destroying the Soviet Air Force by raids on airfields were not successful everywhere. Soviet aviation lost a large number of planes only in the western border military districts. Aviation formations of the Northern and Southern fronts and of the interior military districts, and Long-Range Bomber Aviation suffered almost no losses. Pilots in the border military district VVS that had lost their planes were reassigned to newly formed air regiments and divisions.

A few days prior to the war the Odessa Military District command element inspected the combat readiness of its troops and aviation on the southern sector of the front. The air units had been deployed to unimproved airfields, where the planes were dispersed and camouflaged. The personnel were at increased combat readiness. The military district VVS staff (chief of staff General A. Z. Ustinov) was transferred from Odessa to Tiraspol'. These measures made it possible to successfully repel the aerial attack. The enemy put 6 of our planes out of action, but he himself lost 30.

On the eve of and at the beginning of the Great Patriotic War the Soviet Army Air Force Main Directorate had among its command and operational functions management of the combat actions of Long-Range Bomber Aviation directly subordinate to it. Frontal, Army, and Troop Aviation were not subordinate to it in this respect, which had an unfavorable impact on the effectiveness with which the different branches of aviation were employed in combat. The chief



A Soviet Night Bomber Crew Prior To Takeoff.

of the VVS Main Directorate and the staff were responsible for the combat training of air units and formations, the operational training of the Frontal and Long-Range Bomber Aviation staffs, the training and employment of aviation cadres, development of the tactical and technical requirements on aviation equipment, timely supply of men and planes to air units and formations, logistical and medical support, and airfield preparation.

The border military district VVS commanders were subordinate to the chief of the Soviet Army Air Force Main Directorate only in a special respect, i.e., for combat training, retraining, manning, and logistics, but not in terms of the combat employment of aviation. This is why the Soviet Army Air Force command could influence Frontal Aviation combat actions at the beginning of the war only through instructions to the military district (or front) VVS commanders concerning concentration of aviation, its reinforcement, retraining of personnel, and supply of planes, aircrews, and technicians. Thus it is no accident that the first instructions sent to the border district VVS commanders by the Soviet Army Air Force command and staff at the beginning of the war concerned not Frontal Aviation combat employment, but mainly its reinforcement.

For example, on the morning of 22 June 1941 the Western Special Military District VVS commander was instructed under General P. F. Zhigarev's signature to receive, at the Orsha airfield, 99 MiG-3 planes for that district's VVS units and formations.

In subsequent days the General Staff allowed the Soviet Army Air Force command to instruct front VVS commanders to redeploy air divisions and regi-

ments from interior military districts to frontline airfields, to establish flight corridors for friendly aircraft, to utilize civilian line communications, to submit to the VVS staff daily combat reports and planned combat employment of Frontal Aviation for the following day, and to submit daily reports on the fighting strength and manning of VVS units and formations.

The order to make long-range bomber units and formations combat ready was transmitted by the Soviet Army Air Force command to the air corps at 0644 hours on 22 June 1941. Long-Range Bomber Aviation initiated its combat missions on 23 June 1941. The day before it was given the following missions: I Bomber Air Corps—destroy military targets near Koenigsberg and Danzig and, in one corps sortie, support the counterattack by the Northwestern Front troops against the flank and rear area of the enemy's Suwalki grouping; II Bomber Air Corps—destroy targets near Lublin and Katowice and, in one sortie, support the Southwestern Front troops attacking the enemy's Lublin grouping; III Bomber Air Corps—destroy military targets near Warsaw and, in one sortie, support troops of the Western Front attacking the enemy's Suwalki grouping. The IV Bomber Air Corps remained at the disposal of the Stavka, prepared to assist the Southwestern Front main troop grouping and, in part, the Black Sea Fleet. The 18th Independent Bomber Air Division was tasked to destroy targets near Krakow, and was a component of the Southwestern Front.⁹ Naval Aviation was tasked to strike enemy naval bases and ports and destroy military targets of Romania's petroleum industry.

Actions by Soviet aviation against enemy rear area targets were of great political significance. They proved wrong the German propaganda fabrications that Soviet aviation had supposedly been totally annihilated in the first 2 days of the war.

On 26 June 1941 at 1530 hours the Stavka ordered the commanders of Long-Range Bomber Aviation's III and I air corps to destroy enemy tanks advancing from Minsk on Orsha and Mogilev. Entire regiments were to simultaneously attack day and night, making their bombing runs at low altitude (400 meters).¹⁰

Executing their combat missions, the long-range bombers struck the enemy's tanks and mechanized columns on the move at crossings over the Western Dvina, Neman, Berezina, Drut', Prut, Dnestr rivers, and they attacked troops on the road. On 26 June 1941 enemy tanks were subjected to strikes by 58 crews west and north of Minsk, by 54 crews in the vicinity of Rava-Russkaya, by 60 crews near Lutsk, by 65 crews near Sokol', and by 15 crews in the region southwest of Dvinsk.¹¹

Long-Range Bomber Aviation performed its missions persistently and with great effectiveness, but did suffer considerable losses. For example, 43 crews flying the DB-3f failed to return from their mission on 26 June 1941.¹² The reasons for the losses included insufficient thought to the organization of day combat sorties by the VVS command, weak combat support by fighter escorts,



Soviet TB-3 Heavy Bombers on a Combat Mission.

and too low an altitude for day bombing, considering the high density of anti-aircraft resources possessed by enemy mechanized units. This is why the Stavka published an order on 3 July 1941 limiting the actions of Long-Range Bomber Aviation to high altitude night flying. Employment of Long-Range Bomber Aviation at moderate altitudes in daytime was permitted if fighter escort was present and enemy anti-aircraft artillery was suppressed.¹³

In the period from 23 June to 10 July 1941 Long-Range Bomber Aviation flew 2,112 combat sorties against enemy tanks and motorized columns.¹⁴

The German troops suffered losses due to the actions of Soviet aviation. In a number of cases attacks by large enemy forces were foiled owing to effective strikes by our bombers and ground attack aircraft. On the whole, however, the actions of Soviet aviation against enemy troops did not have a noticeable influence on the success of the ground troops' defensive actions in the initial period of the war. VVS efforts were often dispersed, planes were not massed adequately in the main sectors, the weapons selection and the methods and altitude of bomb strikes were not always appropriate, and the tactics of bomber and ground attack aviation did not fit the situation.

The situation was also aggravated by the fact that extensive construction of new and reconstruction of existing airfields, especially in the western Ukraine, western Belorussia, Latvia, Lithuania, and Estonia, where the airfield network was poorly developed, severely restricted Frontal Aviation maneuver. Moreover exercises held prior to the war and plans written at that time provided for Frontal Aviation maneuver only forward and to the flanks. Air terminals were not earmarked for the aviation in the rear in the event of a withdrawal by the

ground forces. In view of this, some air units and formations in the border military districts were forced to take to the air on their own and redeploy to the nearest unimproved airfields in the rear when fascist German tank or motorized columns approached our airfields in the first 2 or 3 days. Because communications were interrupted, the efforts of the front VVS commanders and the Soviet Army Air Force staff in the first days of the war to organize maneuver and timely redeployment of first echelon Frontal Aviation formations to auxiliary airfields did not always produce positive results. This is why air formation commanders had to make their own decisions in a number of cases. Credit should be given to our remarkable air formation and unit commanders and to all flight crews and technicians who made the correct decisions under such extremely difficult conditions and continued to stubbornly fight enemy aviation, making strikes of tangible proportions against enemy troops in some sectors.

Analyzing the evolved situation, on the third day of the war the Soviet Army Air Force staff recommended to the General Staff how to more effectively employ Frontal Aviation. The report pointed out serious shortcomings in the way aviation coordinated with the ground forces, and the fact that aviation was dispersed into small groups devoid of unified, centralized leadership by the front VVS commander. The suggestion was to have frontal and long-range bomber forces conduct a number of massed strikes against enemy airfields. The idea of using the aviation of neighboring fronts for this purpose was boldly proposed. Proposals were forthcoming on the need for organizing coordination between aviation and the troops more efficiently and the need for assigning aviation representatives with their own communication resources to the staffs of combined arms armies. The VVS proposals were accepted by the General Staff and promulgated to the front commanders and staffs in the appropriate directives.

In the first days of the war the Soviet Army Air Force command organized the struggle for strategic air supremacy as ordered by the General Staff. The initiative in the air was to be taken away from the enemy at all costs. Without this, it would have been impossible for ground forces to be successful or for the country's transportation and industry to work normally. The Hitlerites tried to destroy our aviation mainly at the airfields. At the beginning of the war the Soviet Command selected another form of combat, in which massed raids of the German Air Force were opposed by active offensive air engagements fought by fighters within the limits of each front, alternating with periodic strikes against airfields. In these air engagements, not only were planes destroyed but also the most experienced fascist pilots were killed. In some sectors where the situation was favorable, Soviet pilots engaging in active air engagements simultaneously made powerful strikes against enemy airfields. This was the situation that evolved in the first days of the war in the northern sector of the Soviet-German front, where fascist German troops did not go over to the offensive until 29 June 1941. In order to weaken the enemy air grouping in this sector and halt the preparations for a raid on Leningrad, the Stavka ordered the Air Force to prepare for and conduct massed strikes against airfields in Finland and northern Norway, where air units of the German 5th Air Fleet and Finnish aviation were based.

A plan to annihilate enemy planes at airfields in the northwestern sector was developed by the Northern Front VVS command (commander—General A. A. Novikov, deputy commander for political affairs—Brigade Commissar F. I. Usatyy, chief of staff—General A. P. Nekrasov) jointly with the Red Banner Baltic Fleet VVS (commander—General V. V. Yermachenkov) and the Northern Fleet VVS (commander—General A. A. Kuznetsov), and on 24 June was approved by the Northern Front Military Council. In all, 540 planes were committed to the operation.

Early in the morning of 25 June, 236 bombers and 224 fighters made the first massed strike against 19 airfields. The enemy did not expect such a strike; he was in fact caught by surprise and unable to organize any countermeasures. As a result Soviet pilots successfully bombed parked planes and fuel and ammunition dumps. They destroyed 41 enemy planes on the airfields. Our aviation suffered no losses. In the next 5 days a few more effective strikes were made against the same airfields and new ones discovered by air reconnaissance. According to aerial photography Soviet pilots attacking 39 airfields completed about 1,000 sorties, destroying and crippling 130 enemy planes.¹⁵ The fascist German command in Finland and northern Norway was forced to withdraw its aviation to airfields in the deep rear area and abandon plans for conducting raids against Leningrad in the near future. This was the first air operation by the Soviet Air Force. It had important military significance, and it confirmed that Soviet Frontal Aviation was still combat capable.

On 8 July 1941 the Stavka organized a massed strike against enemy airfields along almost the entire Soviet-German front.

A Stavka directive to front commanders and the Soviet Army Air Force commander on 7 July reported that the German Air Force might hit our airfields on the morning of 8 July 1941. The VVS was ordered to initiate combat operations at 0300 hours on 8 July with a strike against enemy airfields, and to subsequently transfer its efforts to the battlefield and support the defeat of German mechanized troops.¹⁶

At dawn on 8 July Long-Range Bomber Aviation formations struck 14 airfields, while the Northern, Northwestern, and Southwestern front VVS struck 28 airfields. In all, 429 combat sorties were flown. Many planes on enemy airfields were destroyed, including 54 German planes put out of action by the Western Front VVS.¹⁷

In the period from 22 June to 10 July 1941 the Soviet Air Force destroyed more than a thousand enemy planes on the ground and in the air.¹⁸

Former fascist generals and officers who wrote the book *The World War of 1939–1945* were forced to recognize the great losses German aviation suffered in the first days of the war on the Soviet-German Front: “. . . The German aviation losses were not as insignificant as some had believed. In the first 14 days of battle, more planes were lost than in any subsequent similar time intervals.

In the period from 22 June to 5 July 1941 the German Air Force lost 807 planes of all types, losing 477 from 6 to 19 July. These losses imply that, despite the Germans' achieving surprise, the Russians managed to find the time and strength for resolute opposition.¹⁹

In contrast to the first months of World War II, when after achieving air supremacy in actions against Poland, France, and other countries of Europe, fascist German aviation encountered no opposition whatsoever in the air, it met stubborn resistance on the Soviet-German Front.

Supporting the ground forces, the Air Force directed its main efforts at destroying enemy troops and equipment. The swift advance of enemy strike groupings in the most important strategic sectors forced the front commanders to employ the bulk of aviation against German mechanized columns and to support friendly defending troops. In the first 18 days of the war Soviet aviation flew 45,000 combat sorties to repel the enemy attack and support the ground forces (10,000 by the Northern Front VVS, more than 8,000 by the Northwestern Front VVS, about 7,000 by the Western Front VVS, more than 10,000 by the Southwestern Front VVS, more than 5,000 by the Southern Front VVS, and more than 2,000 sorties by Long-Range Bomber Aviation).²⁰

Many air units and formations distinguished themselves in these battles, receiving praise from the military councils of the combined arms armies and the fronts: on the Northern Front—the 2nd Composite Air Division (commander—Colonel P. P. Arkhangel'skiy), on the Northwestern Front—the 57th Composite Air Division (commander—Colonel K. A. Katichev), on the Western Front—the 12th, 13th, and 46th bomber air divisions (commanders—Colonel V. I. Aladinskiy, General F. P. Polynin, and Colonel B. R. Pisarskiy), on the Southwestern Front—the 62nd Bomber Air Division (commander—Colonel V. V. Smirnov), and on the Southern Front—the 21st Composite Air Division (commander—Colonel D. P. Galunov).²¹

Many pilots defending the socialist fatherland died in savage encounters, displaying unprecedented bravery and heroism. On 26 June 1941 Captain N. F. Gastello, commander of an air squadron in the 207th Air Regiment, 42nd Bomber Division, and his bomber crew—Lieutenant A. A. Burdenyuk and G. N. Skorobogatyy and Senior Sergeant A. A. Kalinin—in the sky above Belorussia performed an act of heroism of unparalleled bravery and selflessness. When the bomber caught fire in the air after being struck by an antiaircraft shell, rather than parachuting out, all of the crew members aimed the burning craft at an accumulation of German troops.

The 401st Fighter Air Regiment in the MiG-3 and commanded by Hero of the Soviet Union Lieutenant Colonel S. P. Suprun fought fascist German aviation successfully. On 4 July 1941 S. P. Suprun died in an aerial battle against superior enemy forces. He was awarded his second "Gold Star" medal posthumously for his bravery and heroism. This was the first Twice Hero of the Soviet Union in the Great Patriotic War. The first to be awarded the lofty title of Hero

of the Soviet Union at the start of the war were fighter pilots M. P. Zhukov, S. I. Zdorovtsev, and P. T. Kharitonov.

In a critical time for the Soviet Union, the Communist Party and the Soviet government implemented extraordinary measures to mobilize all of the country's resources to repel the aggression, and to fundamentally restructure the country's life and activity to a war footing. On 29 June 1941 a USSR SNK and CC VKP(b) directive to party and Soviet organizations in the combat zones presented a program for organizing the enemy's rebuff. Its basic premises were later presented and elaborated upon by J. V. Stalin in a radio broadcast on 3 July, and spelled out more specifically in a number of subsequent party and government decisions. The Soviet Armed Forces were given the mission of wearing down and exhausting Hitler's troops, defeating and expelling them from Soviet land, and helping the peoples of Europe to cast off the fascist yoke. Established on 30 June 1941, the State Defense Committee headed by J. V. Stalin became the organ in which all of the country's power was concentrated.

Organizational Consolidation of the Soviet Air Force

The High Command Stavka was created on 23 June 1941, with S. K. Timoshenko as chairman, to provide strategic direction to the Soviet Armed Forces. On 10 July it was reorganized as the Supreme Command Stavka chaired by J. V. Stalin. On 19 July J. V. Stalin became People's Commissar of Defense, and on 8 August became Supreme Commander of the USSR Armed Forces. From that time on the Stavka was called the Supreme High Command Stavka (SVGK).

A High Command Stavka order dated 29 June 1941 instituted the post of Soviet Army Air Force commander and created the VVS Military Council. General P. F. Zhigarev was appointed VVS commander, and Corps Commissar P. S. Stepanov was appointed member of the Military Council. The VVS Main Directorate and staff were subordinated directly to the VVS commander.

Establishment of the post of VVS commander and creation of the Military Council significantly broadened the command and operational functions of the VVS command and staff, which improved management of the Air Force, especially in relation to its operational-strategic employment, heightened the combat readiness of newly formed air units and formations, and improved their operational and logistical support. The Soviet Army Air Force commander and his staff were assigned organization of the struggle for strategic air supremacy, maintenance of coordination between the branches of aviation, coordination of their efforts in the strategic operations of groups of fronts and of VVS independent air operations, management of Long-Range Bomber Aviation combat actions, synthesizing of VVS combat experience, and development of proposals for VVS operational-strategic employment. Moreover the VVS command retained the functions of training air reserves, air logistics, developing proposals on creation of new types of planes and armament, managing construction of air-

fields, training and retraining flight crews and technicians, synthesizing VVS combat experience, and introducing it into the units and formations. These operational and command functions differed significantly from the functions assigned to the chief of the VVS Main Directorate on the eve of the war.²²

The Soviet Army Air Force Military Council was composed of the VVS commander and his deputies, the directors of the aviation departments on the CC VKP(b), the People's Commissar of the Aviation Industry, the chiefs of the VVS Aviation Engineering Service and Procurement directorates, and other executives. The Military Council was headed by the VVS commander who, as council chairman, jointly with the at-large Military Council member* coordinated and directed the work of all other Military Council members. The Military Council discussed and resolved many issues concerning aviation activities. The existing frontal VVS organizational structure still did not permit adequate massing of aviation and its centralized control in the main sectors. Frontal Aviation continued to be dispersed among combined arms armies, and its actions were often uncoordinated.

The problem of massing and centralized control of aviation was solved in part by the creation on 10 July 1941 of main commands for three sectors—Northwestern, Western, and Southwestern—and by the establishment of VVS commands in these sectors. The respective front VVS commanders were made VVS commanders of these sectors: Northwestern—General A. A. Novikov, Western—Colonel N. F. Naumenko, Southwestern—General F. Ya. Falaleyev. Such unification was advantageous to the Air Force. For example, the Northern and Northwestern front VVS, the Red Banner Baltic Fleet VVS, and part of the forces of the VII Fighter Air Corps of Leningrad PVO were combined in the Northwestern sector under the sole leadership of the Northwestern sector VVS commander. A common plan of the combat actions of all Leningrad aviation was developed and implemented. It not only made integration of aviation efforts possible, but also permitted more economic and rational expenditure of resources, plus the best results. At the end of July 1941, in 22 days of battle on Leningrad's distant approaches, 16,567 combined sorties were flown and significant losses were inflicted on the enemy.²³ Unification of aviation efforts under the sole leadership of the senior air chief in the strategic sector formed the basis for a new type of Air Force command and control. Aviation in the Western and Southwestern sectors engaged in active combat operations.

Aviation command and control by the Soviet Army Air Force command and staff also improved somewhat. On 7 July 1941 the VVS Military Council summarized and analyzed the losses our aviation suffered on airfields in the first 16 days of the war. It published a directive to front VVS commanders on mandatory camouflaging of airfields and measures for reducing aircraft losses due to strikes

*[At-large council member—*osvobodhennyy chlen*—a party representative to this council—U. S. Ed.]

against airfields by enemy aviation.²⁴ Implementation of this directive played a major role in reducing aircraft losses from enemy air strikes.

The first days of the war also revealed imperfections in the organizational structure at several levels within the Soviet Army Air Force staff. There were not enough officers in the VVS staff for 24-hour operations. For practical purposes some sections were still being established at this time.

The work of the VVS staff was extremely intense. As compared to the peacetime work volume, that of all VVS sections increased by several orders of magnitude. Section One needed at least three or four officers working in two shifts for every operating sector, and there were five such sectors in which combat actions were proceeding—the northern, northwestern, western, southwestern, and southern. Moreover there had to be two permanent officers to keep records on the fighting strength of the entire Air Force, two were needed to prepare wrap-up reports and operational summaries submitted three times a day to the General Staff, two to maintain maps of the overall ground and air situation, and several to handle VVS operations documents pertaining to the remaining border and internal military districts. On the third day of the war Colonel I. N. Rukhle, just assigned deputy chief of the VVS staff, became acting VVS chief of staff. New officers were appointed deputy chiefs of staff—Colonel N. I. Krolenko from the staff of a long-range bomber corps and Colonel B. A. Ageyev from a military academy. New officers, including several led by Colonel M. V. Shcherbakov from the instructor staff of the VVS Military Command and Navigator Academy, joined the staff to reinforce the principal sections. Colonels V. V. Storozhenko and M. V. Shcherbakov began to direct the operations of the VVS staff's main section in shifts. These replacements and transfers during the first days of the war had an adverse effect on the rhythmicity of the VVS staff's work, since the new officers were totally unfamiliar with the status of the troops, their disposition, or the situation at the front.

Organizational measures were implemented in VVS units and formations in July and August. The reason for these measures was that our air formations, corps, multiregiment divisions, and air regiments, which had 60 planes, were found to be unwieldy and cumbersome, making maneuvering combat difficult, and the cumbersome nature of these formations hindered aircraft dispersal at airfields and made it easier for the enemy to destroy them on the ground. VVS combat experience in the first weeks of the war demonstrated that air regiments with 30 planes, and divisions containing two air regiments without corps formations was the best organizational approach in terms of both facility of command and control and for maneuvering in response to an enemy attack. This is why the Stavka decided to gradually reorganize to air regiments with 32 planes and to 2-regiment air divisions.

The General Staff sent the appropriate directives to the front and VVS commands on the basis of the State Defense Committee's 7 August 1941 decision. The Soviet Army Air Force commander published the order on 10 August 1941.

In accordance with this order the short-range bomber regiments in Frontal Aviation were now organized into three squadrons of 32 planes (two bomber and one fighter air squadrons of 10 planes each, and two bombers assigned to the regimental headquarters). Ground attack air regiments also assumed the same organization, but each regiment had 33 aircraft.

Creation of composite air regiments was appropriate to the situation during the first months of the war, but subsequently they failed to justify their existence. Uniform regiments were created. A 20 August 1941 USSR NKO* order reorganized all air regiments receiving new planes—Il-2, Pe-2, Yak-1—into homogeneous regiments of two 9-aircraft squadrons each, with two assigned to regimental headquarters, a total of 20. Ways were also sought to create Frontal Aviation air reserves. The experience of the first months of the war showed that if aviation were to be concentrated in the main ground forces sector, if strikes by fascist German aviation were to be parried, if air groups were to be created in new sectors, and if other missions were to be accomplished, the Supreme Command would have to possess large, powerful, highly maneuverable air reserves.

The aviation in the interior districts was an air reserve of sorts at the beginning of the war. For example, two composite air divisions were transferred in June 1941 from the Moscow Military District VVS to the Western and Southwestern fronts, and one fighter and one composite air division were transferred from the Transbaykal and the Far East.^{25,26}

A USSR NKO order dated 21 July 1941 formed the basis for creating six organic reserve air groups (RAG) subordinate to the Stavka and used for independent missions and for assistance to the VVS of the fronts. In all by the end of 1941 six organic reserve air groups had been formed, each possessing 60–100 combat aircraft. Reserve air groups were utilized successfully, as follows: the 1st and 6th in the Bryansk and Southwestern fronts, the 2nd and 3rd in the Leningrad and Volkhov fronts, the 4th in the Southwestern Front, and the 5th in the Southern Front.

In addition to organic reserve air groups, temporary (nonorganic) reserve air groups were created in fall 1941 from frontal aviation units and newly formed air regiments commanded by Generals I. F. Petrov and G. P. Kravchenko.

An intense struggle evolved against fascist German troops on the left wing of the Western Front in July 1941 in the region between the Dnepr and Berezina rivers. The Central Front, composed of the 13th and 21st armies and frontal VVS (front VVS commander General G. A. Vorozheykin), was formed in this sector on 24 July 1941 by decision of the Stavka. To strengthen the position and create deeper defenses on the Western axis, a Stavka order dated 30 July formed the

[*NKO—*Narodnyy komissariat oborony*—People's Commissariat of Defense—U.S. Ed.]

Reserve Front, which consisted of six combined arms armies and frontal VVS (front VVS commander General B. A. Pogrebov, after 1 August General Ye. M. Nikolayenko). The Bryansk Front (front VVS commander General F. P. Polynin) was created on 14 August to cover the Bryansk sector. The mission of the Bryansk Front was to perform two counterstrikes—one against the flank of the 2nd Tank Group near Starodub and another in the vicinity of Roslavl' in coordination with troops of the Reserve Front—and to delay the enemy's offensive. The Central Front was disbanded by Stavka decision on 25 August 1941. Its troops were transferred to the Bryansk Front.

To aid the front's troops in their mission, on 27 August the Stavka ordered the Soviet Army Air Force commander to prepare an air operation to defeat Guderian's tank group in the vicinity of Pochep, Starodub, and Shostka and to halt his advance on Bryansk. This operation was to be conducted between 29 August and 4 September 1941 through the joint efforts of the aviation of three neighboring fronts, the 1st Reserve Air Group, and part of the forces of Long-Range Bomber Aviation.²⁷ The plan for the operation was developed by the Bryansk Front desk officers on the VVS staff. The Bryansk Front VVS contributed 95 aircraft, the former Central Front VVS contributed 54, the Reserve Armies Front VVS contributed 120, the 1st Reserve Air Group contributed 95, and Long-Range Bomber Aviation contributed 100 bombers, for a total of 464 combat aircraft (230 bombers, 55 ground attack planes, and 179 fighters). The plan was reviewed by the VVS Military Council and signed by VVS deputy commander General I. F. Petrov, Military Council member Corps Commissar P. S. Stepanov, and acting VVS chief of staff Colonel I. N. Rukhle.

While approving the air operation plan on 27 August 1941, the Supreme Commander wrote: "The enemy columns must be hit constantly, wave after wave, all day from morning till night to keep the enemy from enjoying a breathing spell or regaining his senses in general."²⁸ The VVS staff sent these directives of the Supreme Commander to the appropriate front VVS commanders. General I. F. Petrov, who was in charge of the aviation resources, contributed to the operation, implemented the Supreme Commander's directives concretely through daily orders prepared by his operations group of VVS staff officers. The air operation lasted 6 days. Beginning on 29 August, bombers and ground attack planes made constant strikes against enemy tank columns. Thus on 30 and 31 August our pilots flew two sorties per night aboard heavy 4-engine TB-3 bombers, three or four per day in the Pe-2, and Il-2 medium bombers, and six or seven sorties per day in fighters. During the entire operation Soviet aviation flew more than 4,000 sorties.²⁹

Recalling the actions of aviation, Marshal of the Soviet Union A. I. Yeremenko wrote: "Thus on 30 and 31 August . . . as many as 1,500 sorties were flown, 4,500 bombs of various types were dropped, more than 100 tanks, over 800 motor vehicles, 180-290 wagons, 20 armored vehicles, and a fuel dump were destroyed, 40 fires were started in enemy columns, and 55 planes were shot down and destroyed." (Our losses were 42 planes.)³⁰



Repulsing an Enemy Bomber Night Raid on Moscow on the Night of 22 July 1941.

General Guderian, commander of the German 2nd Tank Group, wrote in his memoirs: "On 29 August large enemy forces initiated an offensive against the XXIV Tank Corps from the south and west with the support of aviation. The corps was compelled to halt the advance of the 3rd Tank Division and the 10th Motorized Division."^{30a}

The Supreme Commander was interested in the progress of the air operation aimed at halting the offensive by the enemy's 2nd Tank Group. On 4 September 1941 he sent the following telegram: "Bryansk. To Petrov via Yeremenko. Aviation is operating well, but it could operate better if reconnaissance planes would call in the bombers quickly by radio, rather than upon returning to their landing points. Stay with the Bryansk Front until the end of the operation to defeat Guderian. I wish you success. Regards to all pilots. J. Stalin."³¹

As a result of the strong counterstrikes by our troops and the active aviation operations, the enemy's tank strike grouping suffered significant losses and its rate of advance was sharply reduced. But despite heroic resistance and powerful strikes by our aviation, the front's troops could not halt the enemy. Enemy tank formations broke through the left flank of the Bryansk Front beyond the Desna River and reached the Konotop-Chernigov line on 10 September.³² At the same time savage battles were going on south of Smolensk, where, with air support, troops of the Western and Reserve fronts were holding back enemy troops. Although Smolensk had been abandoned by our troops as long ago as 16 July, the encounter to the east lasted another month. The Supreme High Command called upon long-range bomber corps to organize powerful strikes against the advancing enemy and to support the front's troops in destroying the enemy Smolensk-



The Yevgeniy Vakhtangov Theater Following a Fascist Air Raid on the Night of 23-24 July 1941.

Yartsevo grouping. Thus, between 26 and 28 July 1941, 100 aircraft from the I Bomber Corps, 120 from the II and III Bomber Air Corps, and 100 bombers and 150 fighters from the Reserve Front were allocated for this mission. As a result of the strikes by these forces the enemy suffered great losses of men and equipment. The actions of Soviet aviation were also highly effective in other sectors of the Western Front. An order from Marshal of the Soviet Union S. K. Timoshenko, the front commander, stated the following concerning the actions of our aviation: "On 21 and 22 August the enemy attempted to halt the movement of our troops; he committed large tank forces and mechanized troops, presumptuously attacking our units. But the days of easy victories for the enemy were in the past. . . . The glorious 64th and 50th rifle divisions and the valorous 47th Air Division (61st and 215th Ground Attack and 129th Fighter air regiments) destroyed the fascist tanks and compelled the Germans to retreat in disorder. The enemy lost as many as 130 tanks, more than 100 motor vehicles, many guns, much ammunition, and 1,000 killed and wounded."³³

During the Smolensk operation, which lasted 2 months, the Soviet Air Force flew about 20,000 sorties. The air forces of the Western and other neighboring fronts and Long-Range Bomber Aviation destroyed 700 enemy planes in air combat and on the ground.³⁴

The front line changed every day. Enemy troops moved deeper and deeper into our country. The enemy began bombing raids on Moscow and Leningrad. The mission of the Germans was to destroy Moscow from the air. The first raid on the capital was made on the night of 22 July 1941, with 250 enemy planes participating.³⁵ The raid continued for 5 hours. The beams of dozens of search-

lights crisscrossed the night sky. Antiaircraft artillery threw up intense defensive fire, and fighters attacked enemy bombers in their assigned zones. On this night our fighters shot down 12 fascist German planes while antiaircraft artillery destroyed 10. Only occasional enemy bombers penetrated to Moscow, and although they did manage to unload their bombs, they did not cause significant damage. A few buildings and structures in the city center and on its outskirts were destroyed. And yet serious shortcomings were revealed as the enemy raid was repulsed.

Emergency measures implemented by the General Staff and the Soviet Army Air Force command to correct the revealed shortcomings made it possible to repel subsequent enemy air raids on Moscow with greater organization and effectiveness.

German planes succeeded less and less often in penetrating the screens of antiaircraft fire and patrolling fighters and reaching Moscow. Between 22 July and 15 August 1941 the enemy flew 18 night raids on Moscow. From 100 to 120 bombers participated in each of eight of them and from 50 to 80 planes participated in each of the rest. Most by far of the enemy bombers were unable to penetrate to the city. Only about 70 of 1,700 planes participating in the raids made it to the capital.³⁶

Because German aviation was making systematic raids on Moscow and Leningrad, the Soviet Supreme High Command decided to make retaliatory raids on the capital of fascist Germany—Berlin. This mission was given to an air group of the 1st Mine-Torpedo Regiment of the Red Banner Baltic Fleet VVS commander by regimental commander Ye. N. Preobrazhenskiy. This group of DB-3 aircraft made the first raid on Berlin on the night of 8 August 1941 from an airfield on Saaremaa Island.³⁷

In addition to Red Banner Baltic Fleet aviation, the 81st Air Division from Long-Range Bomber Aviation under the command of brigade commander M. V. Vodop'yanov (Colonel A. Ye. Golovanov as of 17 August) bombed Berlin.³⁸ Jointly with the VVS Fifth Directorate the Soviet Army Air Force staff developed the combat missions for the 81st Air Division and ensured safe passage through the front line for the bombers. In all, prior to 4 September 1941, Soviet pilots in small groups of heavy bombers made 10 raids on Berlin. Several hundred heavy high-explosive bombs were dropped on military targets in Berlin.

From 10 July to 30 September 1941 Long-Range Bomber Aviation and bombers from the Red Banner Baltic and Red Banner Black Sea fleets struck enemy industrial facilities in Koenigsberg, Danzig, Helsinki, Warsaw, Ploesti, Bucharest, Sulina, and in other cities. Between 10 and 30 July pilots of the IV Bomber Air Corps alone made eight raids on petroleum industry enterprises in Ploesti, Constanta, and Bucharest. As a result the productive capacity of the Romanian petroleum industry dropped by 30 percent.³⁹



Another Fascist Vulture Shot Down, July 1941.

A 13 August 1941 ukase of the Presidium of the USSR Supreme Soviet awarded the title of Hero of the Soviet Union to 10 airmen. Of these, five were naval pilots—Colonel Ye. N. Preobrazhenskiy and Captains V. A. Grechishnikov, A. Ya. Yefremov, M. N. Plotkin, and P. I. Khokhlov, and five were valourous airmen in long-range aviation—Majors V. I. Shchelkunov and V. I. Malygin, Captains V. G. Tikhonov and N. V. Kryukov, and Lieutenant V. I. Lakhotin.⁴⁰

The aviation of the fronts, of the Red Banner Baltic Fleet, of the VII Leningrad Air Defense Corps, and of Long-Range Bomber Aviation played a great role in defensive troop encounters on the distant and near approaches to Leningrad. It actively supported and covered the ground forces, fought fascist German aviation in the air and destroyed enemy aircraft on the ground, and struck enemy facilities in the strategic rear area. Between the start of the war and 30 September 1941 Soviet pilots flew about 60,000 combat sorties in the Leningrad sector.⁴¹

General Grigoriy Alekseyevich Vorozheykin was appointed Soviet Army Air Force chief of staff in August 1941. He began army service as a private back in 1915, volunteered for the Red Army in 1918, participated in the Civil War, and became a Communist Party member in 1927. At the end of 1932 Vorozheykin was transferred to aviation from his post as commander of the 16th Rifle Division, Leningrad Military District.⁴² In 1933 he graduated from the operations department of the Zhukovskiy Air Force Academy and was appointed commander of the 200th Light Bomber Air Brigade. Soon G. A. Vorozheykin was appointed assistant commander of the Special Red Banner Far Eastern

Army. On the eve of the Great Patriotic War he was serving as commander of the Volga Military District VVS. When the war began he was given command of the 21st Army VVS, and then the Central Front VVS. It was from this post that G. A. Vorozheykin transferred to the Soviet Army Air Force staff. The work of the VVS staff was made more efficient.

The post of chief of VVS rear services was established on 19 August by a USSR NKO Order. The post was filled by General N. N. Sokolov-Sokolenok. The directorates of rear area organization, airfield construction, and quartermaster and the field supply section were within his jurisdiction. Creation of a central aviation rear service agency played a positive role in reinforcing and improving the overall system of rear area support to air units and formations. As before, questions of supplying aircraft, equipment, and ammunition remained within the responsibility of the VVS Directorate of Procurement and Technical Supply subordinate to the Soviet Army Air Force commander.

The Senior VVS Aviation Chiefs at the War Fronts

Fall was approaching. The enemy moved deeper and deeper into our country. The enemy's thrusts grew very strong. The situation was becoming critical at Moscow, at Leningrad, and in the Ukraine.

By the end of September 1941 the overall operational-strategic situation was not to our advantage. German troops had reached Leningrad, captured Vitebsk and Smolensk, and reached the Melitopol'-Zaporozh'ye-Krasnograd line in the south. In the western sector the enemy concentrated new forces near Dukhovshchina, Yartsevo, Smolensk, Roslavl', Shostka, and Glukhov, preparing for a new offensive on Moscow. On 30 September the enemy began a new major offensive with a thrust by the 2nd Tank Group against the troops of the Bryansk Front from the vicinity of Shostka and Glukhov in the direction of Sevsk, and on 2 October the main forces of Army Group Center attacked positions on the Western Front. The great Battle of Moscow had begun.

As early as on the first day of the offensive the German 2nd Tank Group penetrated our defenses and reached the 13th Army rear area.⁴³ The next day the Hitlerites also broke through into the zone of the 50th Army.⁴⁴ Troops of the Bryansk Front found themselves in a difficult situation. The Stavka took emergency steps to bring in the main Long-Range Bomber Aviation forces for strikes against the enemy's advancing tank grouping. On the night of 2 October 1941 the General Staff ordered the Soviet Army Air Force commander to immediately assign destruction of the enemy tank grouping that had broken through in the vicinity of Glukhov and Sevsk to the 40th, 42nd, 51st, and 52nd Bomber Air divisions of Long-Range Bomber Aviation (the division commanders were, respectively, Colonels V. Ye. Baturin and M. Kh. Borisenko, Lieutenant Colonel Ye. F. Loginov, and Colonel A. M. Duboshin), and to the 81st Special Purpose Air Division (commander, Colonel A. Ye. Golovanov). Command of aviation resources was assigned to VVS deputy chief of staff Colonel I. N. Rukhle,

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who was ordered to report to the Bryansk Front commander on 2 October. Fighter cover for the bombers was assigned to General F. P. Polynin, commander of the Bryansk Front VVS.⁴⁵

That same night the VVS staff formed a small operations group commanded by Colonel I. N. Rukhle, which left by air for the Bryansk Front on 2 October. A warning order from the VVS staff assigned the mission of striking the enemy tank grouping to the bomber air divisions listed above, and details concerning place and times were later specified from the command post of the Bryansk Front commander. Bryansk Front aviation, which included the just-formed 6th Reserve Air Group (commander, General A. A. Demidov), struck enemy tank columns on roads and aircraft on the ground during the day, and the bomber divisions from *Long-Range Bomber Aviation* conducted their operations at night. Fighters were also brought in for this mission. Aviation's active continuous operations day and night created bottlenecks on the roads, reduced the enemy's rate of advance, and won time for the Stavka Reserves to regroup and occupy defensive lines. General Guderian, former German commander of the 2nd Tank Group, wrote the following in his book *Memoirs of a Soldier* in his description of the events of 4 October 1941: "I was rather impressed by the assertiveness of Russian aviation. A raid by Russian aviation occurred immediately after I landed at Sevsk Airfield. . . . Then enemy aviation bombed the corps staff. . . . Then I set off for the road on which the 3rd Tank Division was advancing. Once again we were subjected to several bomb strikes by Russian bombers."⁴⁶ Despite the assertiveness of our aviation, the Bryansk Front troops could not hold the enemy back. Troop command and control by the frontal command was seriously disrupted. Events developed swiftly. Stavka attempts to help the front with aviation support did not produce the desired result.

The Soviet Army Air Force command and staff attentively monitored the operation to repel the enemy offensive. Great shortcomings could be seen in the coordination between aviation and the troops. On 6 October 1941 a directive calling for improvement in coordination between aviation and the troops was sent to the front VVS, independent combined arms army, and reserve air group commanders. The directive stated the need for either the commanders of the coordinating air divisions personally or their deputies, with operational groups, to visit the command posts of the combined arms chiefs. Coded maps, procedure charts, and set signals were to be identical to those of the troops; checkpoints containing air communication posts intended for transmission of commands to planes in the air to attack ground targets or to halt an attack had to be organized in the vicinity of the combined arms commander's command post.⁴⁷

A difficult situation also evolved in the main sector of the Western Front. The enemy managed to penetrate our troop defenses. The enemy's strike groupings advanced swiftly, enveloping the entire Vyaz'ma grouping from the south and north. The enemy achieved a breakthrough at the boundary between the Western Front's 30th and 19th armies. On 6 October his mobile formations reached Vyaz'ma from the north. Simultaneously the Hitlerites broke through along the Warsaw Highway within the zone of the Reserve Front's 43rd Army.

On 4-5 October they captured the area of Spas-Demensk and Yukhnov, having enveloped the Vyaz'ma Soviet troop grouping from the south. By 7 October the Western Front's 19th and 20th armies and the Reserve Front's 24th and 32nd armies were encircled west and northwest of Vyaz'ma. The surrounded troops continued to offer stubborn resistance, pinning down 28 enemy divisions in this area. On 3 October the Hitlerites captured Orel and raced toward Tula. On 6 October the enemy occupied Karachev and Bryansk. On 7 October 1941 at 0540 hours the chief of the General Staff, by order of the Stavka, issued an order to the commander of the Western Front, and to the Soviet Army Air Force chief of staff and member of the Military Council obliging Corps Commissar P. S. Stepanov to report to Western Front commander I. S. Konev and organize massed air strikes against enemy troops operating against the Western Front.

All Western Front aviation was subordinated to him for these purposes for the duration of the mission, and four air regiments (one regiment of ground attack planes, two regiments of rocket-carrying MiG-3s, and one regiment of Pe-2 bombers) were allocated from the Stavka Reserve.⁴⁸ Permission was given to call in resources of the Moscow Military District VVS and of Long-Range Bomber Aviation. Our aviation completed its missions under difficult conditions. In 9 days it flew 2,850 sorties and inflicted losses on the fascist German troops, but it could not stop their advance.

The enemy continued to reign supreme in the air. In the first 9 days of the October offensive about 4,000 overflights by German aviation were noted within the zone of the Western Front.⁴⁹ Stubborn encounters and engagements took place on land and in the air. The enemy's strike groupings wedged themselves deeply into the defenses of Soviet troops in some sectors. On 5 October the State Defense Committee made a special decision on Moscow's defense. The Mozhaysk line of defense, which passed from Volokolamsk to Kaluga, was set as the main line of resistance of the Western Front's troops. On 10 October the Western and Reserve fronts were combined by the Stavka into the single Western Front commanded by Army General G. K. Zhukov. The aviation of these fronts was combined in the same way. The Stavka and the VVS command took emergency steps to strengthen the Soviet Air Force operating in the western sector. Two long-range bomber air divisions were transferred from the Transcaucasus Front, and newly formed air units arrived from the country's rear area.

The Moscow Military District VVS formed the basis for an air group commanded by N. A. Sbytov; this group was reinforced by the 46th High-Speed Bomber Regiment flying the Pe-2, the 65th and 243rd ground attack regiments flying the Il-2, and a squadron flying the Po-2. The group provided tangible air support to the 5th Army troops covering the Mozhaysk line of defense.⁵⁰

By Stavka order the neighboring Northwestern Front VVS and some of the forces of the PVO VI Fighter Corps (commander Colonel A. I. Mitenkov) were called in to cover the Western Front troops and to strike enemy troops and airfields. As of 10 October 1941 the PVO VI Fighter Corps had one bomber and

17 fighter air regiments, 344 serviceable aircraft, and 416 pilots. Of the latter, 118 were capable of flying night missions in bad weather.⁵¹

In this difficult period of the war, night air regiments flying the PO-2, R-5, and R-Z began to be formed from military school instructors and pilots who had graduated from the Osoaviakhim schools.* Between October and December 1941, 71 air regiments with PO-2s, 27 with R-5s, and 5 with R-Zs were formed in the VVS. By decisions of the Stavka the Kalinin Front and a frontal VVS consisting of five air regiments (front VVS commander Major General of Aviation N. K. Trifonov) were formed on 17 October from armies on the right wing of the Western Front for the purpose of combining the troops covering Moscow from the northwest. The command did everything to alter the correlation of forces in the air in our favor and, through air strikes, to make a maximum impact on fascist German troops attempting to break through to Moscow.

At the beginning of October 1941 the Stavka became aware of preparations being made for a mass air attack by Hitlerite aviation.

On 10 October 1941 the Stavka issued a directive to the Soviet Army Air Force commander stating that information from agents indicated the enemy was to make a massed air raid on industrial and aviation centers, rail terminals, bridges, crossings, headquarters, supply stations, and troop combat formations along the entire Western Front with a force of 1,000-1,500 planes on 12-13 October 1941. The VSS commander was ordered to organize, during the night of 11-12 October and in the morning and day of 12 October, decisive destruction of enemy aviation on the ground in the Northwestern, Western, and Southwestern sectors; to take steps to disperse friendly aircraft on the ground; to increase the readiness of air defense resources for repelling enemy air raids.⁵² In conformity with this directive the Soviet Army Air Force command and staff developed an urgent plan for the VVS to destroy enemy aircraft on the ground in the period from 11 to 18 October. Long-Range Bomber Aviation formations and the Northwestern, Western, Bryansk, Southwestern, and Southern front VVS were called in for this mission. The VVS plan was reported via the General Staff to the Stavka and, after approval, fragmentary orders were issued to the appropriate front VVS commanders and to the long-range bomber air formation commanders. In terms of scope, the forces allocated, and the results attained, the VVS actions against the airfields were in essence a VVS air operation, conducted on a broad front, within a short time, and with decisive goals. Its results were extremely good. The VVS commander reported to the Stavka: "In the period from 11 to 18 October 1941 the Red Army Air Force made a number of bomb strikes against enemy airfields in the Northwestern, Western, and Southern sectors. In just 2 days (11 and 12 October) and on the night of 13 October, 166 planes were destroyed on the ground at Vitebsk, Smolensk, Orel, Orsha, Siverskaya,

*[*Osoaviakhim*--Society for Assistance to the Defense, Aviation, and Chemical Construction of the USSR--U.S. Ed.]

Novodugino, etc. And, according to incomplete data, at least 500 enemy planes were destroyed on the ground between 11 and 18 October. . . . The strikes against the airfields caused significant enemy aviation losses, thus foiling the enemy's plan for a mass attack."⁵³

Fascist German aviation reduced its strikes against our troop combat formations. But the front continued to approach Moscow. Another line of defense was created at the immediate approaches to Moscow by a 12 October State Defense Committee decision. The city's and oblast's laborers took an active part in its construction. Responding to a party appeal, 450,000 persons, women for the most part, participated in construction of the defensive installations on the approaches to Moscow and within the city itself. Enterprises providing weapons and ammunition to the capital's defenders worked in three shifts.^{53a}

Party-political work took on special significance in those days. Its content was defined by decisions of the party Central Committee. The following slogans were publicized: "We Are Defending Our Capital!" and "Defeat of the Fascist German Occupiers Must Begin at Moscow!"^{53b}

All of the activities of the capital's party organization were subordinated to the interests of Moscow's defense. Within several days 25 independent communist and workers' companies and battalions, 75 percent manned by communists and Komsomol members, were formed in Moscow. Within the first half of October alone Moscow gave the front 50,000 soldiers.^{53c}

In mid-October 1941 personnel on the General Staff and the VVS Staff were divided into two echelons in compliance with a Stavka decision to ensure dependable troop command and control. The first echelon remained in Moscow while the second was evacuated eastward, to the vicinity of Kuybyshev.

The first (field) echelon of the operating army's VVS staff consisted at that time of VSS commander General P. F. Zhigarev, Military Council member Army Commissar 2nd Rank P. S. Stepanov, VVS chief of staff General G. A. Vorozheykin, staff military commissar Brigade Commissar A. V. Galichev, and deputy chief of staff Colonel A. P. Belyayev.

The following generals and officers were the chiefs of directorates and sections, their deputies, and principal officers of the VVS field staff: M. V. Shcherbakov, V. V. Storozhenko, V. I. Artem'yev, A. M. Vlasov, M. N. Kozhevnikov, I. M. Kuz'min, P. N. Poluektov, V. P. Poshekhontsev, V. M. Pikulin, S. V. Sychev, Yu. A. Veliko-Ivanenko, G. T. Korol'kov, N. A. Strelkov, V. I. Lugovoy, D. D. Grendal', A. I. Sokoloverov, G. K. Gvozdkov, D. K. Karpovich, F. G. Fedorov, V. I. Al'tovskiy, A. G. Prokudin, V. G. Tairov, A. G. Doroshenko, A. V. Nikitin, A. S. Shatskiy, D. S. Filatov, A. V. Vinokurov, M. P. Konstantinov, L. A. Gorbatsevich, P. P. Belichenko, N. N. Ishchenko, and V. B. Shemborskiy.

All of the rest of the officers and employees on the VVS staff and directorate were evacuated to Kuybyshev on 15 October 1941 under the command of Brigade Engineer Ya. L. Bibikov, Division Commissar L. G. Rudenko, and VVS deputy chief of staff Colonel B. A. Ageyev.

After the bulk of the officers and the absolute majority of employees of the VVS staff and directorate left, the generals and officers on the VVS field staff worked around the clock. This was due to the complexity of the evolved situation in the Moscow sector and growing volume of work. The VVS field staff operations group commanded all aviation concentrated in the Western sector, collected data on the ground and aerial situations on other fronts, maintained operational situation maps, developed aviation employment plans and fragmentary orders, and prepared daily VVS operational summaries and special reports for the Supreme Commander.

Things became tougher in Moscow as well in those days. The city and its contiguous regions were placed in a state of siege as of 20 October by a 19 October 1941 State Defense Committee decree. This was necessary so that the troop rear services could be strengthened and the subversive activities of enemy agents could be halted. The Communist Party appealed to the people in the capital to be calm, to comply with law and order, and to render all possible support to troop units. Defense of lines 100–120 km west of Moscow was assigned to the Western Front commander, General G. K. Zhukov, while that of the city's immediate vicinity was given to General P. A. Artem'yev, the garrison chief. Amalgamation and coordination of all aviation resources operating in the Western sector was assigned by the Stavka to the Soviet Army Air Force commander, General P. F. Zhigarev. The CC CPSU Politburo, the State Defense Committee, Stavka, and the General Staff operations group were in Moscow. Leadership of the entire country and the combat actions at the fronts was exercised from here, and it was here that the main problems of the war were solved.

At the end of October the Hitlerite troops were halted on a line extending from Volzhskoye Reservoir east of Volokolamsk along the Nara and Oka rivers as far as Aleksin. Soviet aviation actively helped the troops repel enemy attacks. During the defensive encounter, between 30 September and 31 October 1941, the VVS flew 26,000 combat sorties, including 80 percent for troop support and cover.⁵⁴ Soviet pilots fighting fascist German aviation displayed extreme bravery and heroism. On 29 October Junior Lieutenant B. I. Kovzan, a pilot in the 184th Fighter Air Regiment, rammed and downed a German plane near Zaraysk after expending all his ammunition.⁵⁵

The advance of the fascist German troops was finally halted within the Bryansk Front zone in the second half of October. The Bryansk Front's 3rd and 13th armies fought hard battles in the enemy rear area for 3 weeks, containing the main forces of the German 2nd Field and 2nd Tank armies. By 23 October they extricated themselves from encirclement on the Belyayev-Mtsensk-Ponyri-

L'gov line. Considering their state, the Stavka ordered the front's troops to withdraw to a line east of Dubna, Plavsk, Verkhov'ye, Livny, Kastornoye, concentrating the main efforts in the vicinity of Tula and in the Yelets sector. On 30 October German 2nd Tank Army formations reached Tula, where they met organized resistance from troops of the 50th Army and the Tula Workers' Regiment. Soviet aviation flew 3,750 sorties in 20 days in support of the Bryansk Front troops.⁵⁶ Destroying enemy troops and equipment, the Soviet Air Force also stubbornly fought enemy aviation. The main burden of the fight against enemy aviation in the air was placed on the VVS fighters of the fronts, especially the VI Fighter Air Defense Corps.

In October fascist German aviation made 31 raids on Moscow. About 2,000 planes participated, but only 72 were able to reach their targets.⁵⁷ Some 278 planes were shot down in air engagements and by antiaircraft fire during repulsion of the raids.⁵⁸ In early November the enemy offensive on Moscow was halted in almost all sectors.

Failing to reach its goal in October, the German command prepared a new offensive for the middle of November. The goal was to make two simultaneous enveloping thrusts on Moscow with mobile groupings from the north and south, with air support from the 2nd Air Fleet. In all, the fascist German command allocated 51 divisions for the capture of Moscow, including 13 tank and 7 motorized divisions.⁵⁹

Troops of the Kalinin, Western, and the right wing of the Southwestern fronts occupied defensive lines at the near approaches to Moscow. Despite the fact that the Western Front had been reinforced, in November the fascist German Army still had overall numerical superiority in manpower and combat equipment in the Moscow environs. Soviet aviation operating in the Moscow sector was reinforced, and in total the number of friendly aircraft surpassed enemy aviation by a factor of 1.5.⁶⁰

Considering this, and attaching great significance to achieving operational air supremacy, the Stavka ordered the Soviet Army Air Force commander to conduct an air operation between 5 and 8 November to destroy German aircraft on the ground. The VVS command and staff, which had gained experience in organizing such air operations, developed a plan requiring 32 planes from the Kalinin Front VVS, 46 from the Western Front VVS, 56 from the Bryansk Front VVS, 32 from aviation of the Moscow Defense Zone, 80 from Long-Range Bomber Aviation, and 54 from the Supreme High Command's 81st Independent Bomber Division—300 aircraft in all for a simultaneous strike on 19 airfields.⁶¹ The plan was approved by VVS Commander General P. F. Zhigarev and VVS Military Council member Army Commissar 2nd Rank P. S. Stepanov, and was signed by VVS Chief of Staff General G. A. Vorozheykin. Instructions to the front commanders concerning the allocation of aviation were written by the VVS staff, signed by the General Staff, and issued to the troops. Concurrently instruc-

tions were given by the Soviet Army Air Force command to front VVS commanders on the procedures for making the airfield strikes.

Thirteen enemy airfields were struck on 5 November, 15 on 6 and 7 November, and on 12 and 15 November strikes were made repeatedly against 19 airfields. As a result more than 100 planes were destroyed and damaged, and 61 planes were shot down in aerial combat.⁶² The two air operations conducted by the Soviet Air Force in October and November 1941 to destroy fascist German aviation on the ground were to have a positive influence on attaining operational air supremacy in the Moscow sector by the beginning of December 1941.

After a 2-week pause fascist German troops resumed their offensive on Moscow. At the price of high losses they managed to reach the near approaches to Moscow at the end of November. Soviet troops offered stubborn resistance, making strong counterstrikes with the active support of aviation. After Klin and Solnechnogorsk were captured the enemy attempted to exploit his gains northwest of Moscow. On the night of 28 November he managed to cross small forces to the east bank of the Moscow-Volga Canal in the vicinity of Yakhroma, north of Iksha.

The Stavka, the Western Front command, and the Soviet Army Air Force command took emergency steps to eliminate the resulting danger. Reserve formations and troops from neighboring sectors were transferred to the vicinity of Kryukovo, Khlebnikovo, and Yakhroma. An air group commanded by Soviet Army Air force deputy commander General I. F. Petrov (chief of staff Colonel N. P. Dagayev) was operating in this sector. It had a strength of 160 combat aircraft. Operating against enemy troops in the vicinity of Yakhroma, Klin, and Solnechnogorsk, the air group flew 150–180 combat sorties daily. General I. F. Petrov's air group played an extremely great role in supporting the troops of the 1st Shock Army, the forward units of which counterattacked and pushed enemy troops penetrating in the vicinity of Yakhroma back to the canal's western bank. With its active support, at the end of November and the beginning of December the 1st Shock Army and the newly formed 20th Army made a number of counterblows against fascist German troops, and together with the 30th and 16th armies finally stopped their advance. The threat of an enemy breakthrough to Moscow from the northwest and north was eliminated.

On 18 November the enemy broke through defenses on the left wing of the Western Front southeast of Tula, and in 17 days reached Venev and Kashira. The Soviet Army Air Force command quickly formed an air group commanded by Colonel M. V. Shcherbakov with the mission of supporting the 50th Army near Tula. An air group formed near Ryazhsk and commanded by Twice Hero of the Soviet Union General G. P. Kravchenko and Long-Range Bomber Aviation units were brought in to reinforce units operating against the enemy. Supported by the front's tanks and aviation, one long-range bomber division, and a part of the forces of the VI Fighter Air Corps, on 27 November the I Guards

Cavalry Corps counterattacked enemy troops breaking through to Kashira, forcing them to retreat in haste. As a result of the active operations of troops and aviation on the left wing of the Western Front, the enemy's offensive was finally halted. On 4-5 December 1941 the defensive period of the battle of Moscow ended.

Long-Range Bomber Aviation operated against battlefield targets, interdicted enemy railroad activity, and bombed enemy trains in Vyaz'ma, Sukhinichi, Mtsensk, and Zmiyevka and planes at airfields near Vyaz'ma, Vitebsk, Smolensk, and Sukhinichi. All actions of Frontal, Long-Range Bomber, and PVO Aviation, as well as of air groups were coordinated by the VVS command, were planned, were sufficiently purposeful, and highly effective. During the entire period of the defense of Moscow the Soviet Air Force flew 51,300 combat sorties—86 percent on behalf of the troops and 14 percent to cover Moscow. It destroyed up to 1,400 enemy planes, and by the beginning of December 1941 had attained firm operational air supremacy in the Moscow sector.⁶³ It was attained through systematic destruction of enemy aviation on the ground and in active offensive air engagements fought by our fighters. Attainment of operational air supremacy in the Moscow sector was a great victory for the Soviet Air Force and for the Armed Forces as a whole. The Supreme High Command could now regroup its troops and concentrate reserves without significant interference from enemy aircraft.

The situation changed dramatically on the entire Soviet-German front at the beginning of December 1941. The first victories at Moscow, Tikhvin, and Rostov set the stage for assumption of a counteroffensive by the Soviet Army on the main axis—the Moscow sector. The Stavka concept provided for making the main thrust in a westerly direction with the goal of destroying the main forces of Army Group Center and decisively improving the position of Soviet troops. Troops of the Kalinin, Western, and the right wing of the Southwestern fronts, aviation from the Moscow Defense Zone, the PVO VI Fighter Corps, two Supreme High Command reserve air groups, and the main forces of Long-Range Bomber Aviation were allocated for the counteroffensive. All allocated aviation resources were combined under Soviet Army Air Force commander General P. F. Zhigarev and his field staff.

The greater share of the mission of destroying the enemy at Moscow was assigned to the Western Front commanded by General G. K. Zhukov. Eighty percent of all aviation concentrated in the vicinity of Moscow was assigned missions within the Western Front's sector. In the counteroffensive the Air Force was to support ground troops through active operations, maintain the air supremacy it had achieved, cover Moscow against enemy raids, interdict the enemy's rail shipments, and perform air reconnaissance. Preparations were made during the defensive encounter, which permitted the Soviet command to concentrate sufficient men and materiel. But the strength of troops allocated to the counteroffensive was lower than that of the enemy—by a factor of 1.5 in personnel, 1.4 in artillery, and 1.6 in tanks. We were superior only in aviation. Soviet aviation

strength was about 1,200 combat aircraft, while that of the enemy was about 700.⁶⁴ In the moral-political sense Soviet soldiers were highly superior to the fascist German troops. Limitless love for the Motherland and an unshakable will for victory were also a decisive force which compelled the Hitlerites to flee Moscow.

At dawn on 5 December 1941 the left wing of the Kalinin Front went over to the counteroffensive, and on 6 December it was joined by strike groups of the Western and Southwestern fronts. They struck the enemy within a sector from Kalinin to Yelets, which was about 1,000 km long. The Soviet Air Force command employed about 1,000 combat aircraft in concentrated strikes against the enemy grouping north and northwest of Moscow and only 200 aircraft against troops on the left flank.⁶⁵

With the active support of our aviation, the troops penetrated the tactical zone of the enemy defenses and began to exploit the offensive successfully in all sectors.

On 9 December 1941 air reconnaissance established the fact of a massive enemy withdrawal on the Klin-Teryayeva Sloboda highway. This permitted the Supreme High Command and the VVS command to direct the efforts of our aviation at annihilating the retreating enemy columns. To cut off the withdrawal route of the German troops the Soviet command dropped a tactical airborne assault party of 415 enlisted men and officers on the night of 15 December in an area west of Teryayeva Sloboda. The airborne troops were highly successful in their mission, cutting off the enemy's withdrawal route on the roads and thus making it possible for our aviation to strike the great accumulation of enemy motor vehicles and equipment on the roads. The airborne assault party joined up with troops of the 30th Army at the end of December.

Here is what Marshal of the Soviet Union G. K. Zhukov writes about this in his memoirs: "The counteroffensive actions of the Western Front's right wing continued constantly. Its actions were supported actively by Frontal Aviation, by PVO Aviation, and by Long-Range Aviation, commanded by General A. Ye. Golovanov. Aviation made powerful strikes against artillery emplacements, tank units, and command posts, and when the Hitlerite troops began to withdraw, it attacked and bombed infantry, armored, and motor transport columns. As a result, following the enemy retreat all westward roads were congested by the enemy's combat equipment and motor vehicles."⁶⁶

In the course of pursuing the enemy, General I. F. Petrov's air group operated actively in the Klin sector, and General Ye. M. Nikolayenko's air group was active in the Kaluga and Sukhinichi sectors.

Until 7 December Long-Range Bomber Aviation operated against enemy



Dropping an Airborne Assault Party in the Enemy Rear Area in the Moscow Sector.

troops. Later its efforts were turned to strikes against rail terminals, trains, and sidings with the goal of blocking deliveries of troops and equipment to the front. It was pointed out at that time in a report of the Soviet Army Air Force Military Council to Supreme Commander J. V. Stalin on 22 December 1941 that after 7 December the mission of the High Command's aviation was to destroy rail terminals and trains with the objective of interdicting deliveries of ammunition and enemy troops to the front. From 8 to 18 December the air divisions flew 251 sorties and dropped 156 tons of bombs in poor weather (poor visibility, snowfall, fog, icing of the planes). As a result of the bombing 32 rail stations, 85 ammunition and troop trains, and up to 83 tanks and vehicles were destroyed and damaged. A proposal was also made to subsequently employ Long-Range Bomber Aviation against large objectives in the enemy rear area.⁶⁷

The counteroffensive by troops of all three fronts in the Moscow sector lasted 33 days. In extremely poor winter weather the Soviet Air Force flew about 16,000 combat sorties, 50 percent of them with the mission of destroying enemy troops and combat equipment.⁶⁸ In the counteroffensive, aviation was massed in the main sectors. Seventy percent of all Frontal Aviation sorties had the goal of destroying the northern enemy grouping. Massing of aviation in the main sector and Frontal and Long-Range Bomber Aviation operations against centers of resistance, the enemy's withdrawing groupings and control posts, rear services, and lines of communication created favorable conditions for accelerating the pace of the offensive.

As a result of the joint actions of troops and aviation of the fronts, enemy strike groupings threatening Moscow from the north and south were destroyed

by the end of December 1941. The direct threat to the capital was eliminated. The battle of Moscow revealed the excellent combat capabilities of the Soviet Air Force which, with centralized control of the combined aviation forces, played an extremely great role in the enemy's defeat. The experience of employing the VVS in combat, accumulated during the counteroffensive, was subsequently utilized extensively by the Soviet command to better control combined aviation efforts in offensive operations conducted by groups of fronts.

The Communist Party and Soviet government gave a high assessment to the Air Force's actions. On 6 December 1941 six air regiments were reorganized as Guards regiments—the 29th, 129th, 155th, and 526th fighter regiments (commanders Majors A. P. Yudakov, Yu. M. Berkal', A. F. Shpak, and N. P. Metelkin), the 215th Ground Attack Air Regiment (commander Major L. D. Reyno), and the 31st Bomber Air Regiment (commander Lieutenant Colonel F. I. Dobysh). Thousands of airmen were awarded orders and medals.⁶⁹ Fifty-two brave pilots were awarded the title Hero of the Soviet Union, including V. A. Shishov, S. G. Get'man, A. F. Loktionov, A. I. Molodchiy, A. G. Rogov, F. M. Fatkulin, A. N. Katrich, Ye. M. Gorbatyuk, V. Ye. Kovalev, V. V. Talalikhin, and others.⁷⁰ During the battle of Moscow pilot V. V. Talalikhin rammed an enemy plane at night for the first time in the war, and pilot A. N. Katrich rammed an enemy plane at high altitude for the first time.

It is difficult and perhaps even impossible to overstate the great significance of our victory over fascist German troops and the vaunted German aviation in the battle of Moscow. This was a historic victory inscribed on the unfading pages of not only the chronicle of the Great Patriotic War but also world history. The defeat of the enemy troops at Moscow strengthened the faith the Soviet people and their Armed Forces had in ultimate victory and raised the fighting spirit of peoples in countries of Europe occupied by the fascists. The people of the world now saw that the Hitlerite army could be and would be defeated.

Victory was achieved at Moscow because of the advantages of the socialist social and state structure, the selfless labor of our people, and the unparalleled acts of heroism and bravery of soldiers of the Soviet Army led by the Leninist Communist Party. "The historic victory at Moscow," noted L. I. Brezhnev, "inspired the Soviet people to new acts of heroism and strengthened their confidence that the enemy would inevitably be defeated."⁷¹

The experience gained from VVS combat actions in the battle of Moscow confirmed the need to seek out and employ a new form of aviation command and control—the combination of allocated aviation resources under the command of a senior air chief. There was a clear need to improve the organizational structure of Frontal and Long-Range Bomber Aviation units and formations and of the Soviet Army Air Force staff and directorates, and to create large, highly maneuverable Supreme High Command air reserves. Actuality demanded synthesizing of the combat experiences of all aviation branches and components,

and the fastest possible dissemination of this information to the troops, academies, and scientific institutions. The organization of aviation coordination with ground force field forces and formations required further improvement. The enemy still held the technical edge in aviation equipment and armament. Solution of these major problems required great efforts on the part of the CC CPSU and the government, the General Staff, and the VVS command, Military Council, and staff. Most of the solutions were worked out early in 1942, submitted to the Supreme High Command Stavka, and implemented in 1942.

Notes

1. *SAF in World War II*, p. 29.
2. *USSR Aviation and Cosmonautics*, p. 89.
3. The directive of People's Commissar of Defense S. K. Timoshenko and Chief of the General Staff G. K. Zhukov was transmitted to all border military districts on the night of 22 June 1941 at 0030 hours.
4. *SAF in World War II*, p. 34.
5. *Ibid.*, p. 35.
6. A. A. Novikov, *V nebe leningrada* [In Leningrad's Skies], (Moscow, 1970), p. 45.
7. *Great Patriotic War*, II, 17-18.
8. *USSR Aviation and Cosmonautics*, p. 87.
9. *Archives*, f. 35, op. 11285, d. 16, 11. 63-66.
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53. *Ibid.*, f. 35, op. 30802, d. 8, ll. 1–2.
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Chapter 3. Further Consolidation of the Soviet Army Air Force

The Situation at the Fronts as of Spring 1942

The victory of the Soviet Armed Forces at Moscow in the winter of 1941–1942 was the outstanding military-political event of the first year of the Great Patriotic War. As a result of the counteroffensive and the general offensive, Soviet troops subjected the armed forces of fascist Germany to their first major defeat in the course of all of World War II. The enemy was pushed back several hundred kilometers. The Soviet Army seized the initiative in the main strategic sector and retained it for almost half a year. The historic victory of the Soviet Armed Forces at Moscow marked the beginning of the fundamental turning point in the course of the Great Patriotic War.

The victory of Soviet troops at Moscow raised the international authority of the Soviet Union even higher and promoted unification of the states and peoples of the anti-Hitler coalition for the struggle against fascist aggression. On 1 January 1942, 26 states including the USSR, the U.S., and England signed a declaration pooling military and economic resources for the defeat of the fascist bloc.

The bulk of the troops of fascist Germany and its satellites remained on the Soviet-German front as before. Some 176 divisions of German ground troops (including 21 tank and 14 motorized) and 9 brigades, 14 Finnish divisions and 8 brigades, 7 Romanian divisions and 7 brigades, 3 Hungarian divisions and 2 brigades, and 3 Italian, 2 Slovak, and 1 Spanish division were operating on this front as of 1 April 1942.¹

On 1 May 1942 the strength of the fascist bloc armies on the Soviet-German front was 6,198,000 men, 56,941 guns and mortars (not including 50-mm mortars), 3,229 tanks and assault guns, and 3,395 combat aircraft (2,815 German, 295 Finnish, 165 Romanian, 50 Hungarian, and 70 Italian).²

In May 1942 the army of the Soviet Armed Forces in the field had a strength of 5.5 million persons, 43,640 guns and mortars, 1,220 rocket launchers, 4,065 tanks, and 3,160 combat aircraft (not counting 320 obsolete reconnaissance planes and 375 U–2 light night bombers).³

The situation had stabilized on the Soviet-German front by spring 1942.

The front line passed from Leningrad along the Volkhov River east of Staraya Russa, skirted the Demyansk area on the east and west, then proceeded along a line east of Kholm, Velikiye Luki, Velizh, Demidov, and Belyy, north of Yartsevo, formed the Rzhev-Vyaz'ma salient, embraced terrain west of Yukhnov and Kirov, then followed a line east of Lyudinovo, Zhizdra, and Bolkhov, west of Verkhov'ye, Tim, and Volchansk, protruded as a westward salient in the vicinity of Balakleya, Lozovaya, and Barvenkovo, fell short of Krasnyy Liman, Debal'tsevo, and Kuybyshevo, and then followed the Mius River.

The Soviet command harbored no doubts that fascist German troops would resume active offensive actions in early summer.

The forthcoming intense struggle demanded completion of the process of rebuilding the country's national economy, an increase in war production, and further development of all services of the Soviet Armed Forces.

Organizational Changes in the Soviet Army Air Force Central Administration, Operational Field Forces, and Formations

The increased scope of the Great Patriotic War, continuous quantitative and qualitative growth of the Soviet Air Force, and the ever-increasing scale of its operations on the fronts required improvements in the organizational structure of the VVS central administration, numbered air forces, formations, and units. The Communist Party Central Committee perpetually kept all problems associated with strengthening and building the Soviet Air Force within its purview. Selection and placement of senior officers and generals was managed by the CC VKP(b) Aviation Section headed by General N. S. Shimanov.

The CC VKP(b) granted a major role to the VVS Military Council in solving all major problems of the life and combat actions of Air Force personnel. Combining the functions of military and political leadership, it bore the entire responsibility for combat training, the political-moral state, the selection, training, and placement of VVS command and staff personnel, flight crews, and technicians, and for equipment supply.

Under the guidance of the Military Council, in the first half of 1942 the VVS central administration developed and implemented major measures to improve the resources and methods of aviation command and control, and to improve the organizational structure of the VVS central administration, operational numbered air forces, formations, and units. The VVS Military Council displayed constant concern for political indoctrination of airmen and for improving the level of party-political work. Much was done to strengthen discipline and elevate the political-moral level of VVS personnel. The Military Council was continually informed of party-political work going on in VVS of the fronts and armies, in Frontal and Long-Range Bomber Aviation formations and units, and exerted its influence in this area. Various issues concerning supplying equipment to the Air Force were also discussed at Military Council meetings. Thus on 31 March

1942 the Military Council examined progress made in repairing planes and engines, on 2 April it examined glider production and use, and on 19 April it reviewed the status of spare parts for planes and engines.⁴ Military Council members were deeply involved in the work of the staff and all VVS control organs, rear services, and central administration directorates and services.

In February 1942 General Aleksandr Aleksandrovich Novikov, a participant in the Civil War and a CPSU member since 1920, was appointed Soviet Army Air Force first deputy commander.⁵ He graduated from the M. V. Frunze Military Academy in 1930. A. A. Novikov was transferred to aviation from the XI Rifle Corps staff, Belorussian Military District. Aircraft construction

developed swiftly and aviation equipment production increased significantly during the First Five-Year Plan. The number of air units and formations increased. Aviation needed experienced cadres. Many experienced combined arms commanders, including A. A. Novikov, were transferred to the VVS in the early 1930s. Serving as chief of staff of an air brigade, in 1933 A. A. Novikov passed a special exam for observer pilot and in 1935 became squadron commander. In March 1936 he was promoted to colonel. In June 1938 A. A. Novikov was appointed chief of staff of the Leningrad Military District VVS and in July 1940, following the military conflict with Finland, became district VVS commander. He was serving in this capacity when the Great Patriotic War began.

After A. A. Novikov was appointed deputy commander of the Soviet Army Air Force, the Stavka immediately sent him to the fronts to render assistance in combining the aviation forces and employing them in mass in the main ground forces sector of operations.

In the second half of February 1942 A. A. Novikov headed the VVS representatives developing the plan for the Air Force operations in the western sector. This plan was developed jointly by the Soviet Army Air Force staff and the Western Front VVS staff, was signed 28 February 1942 by A. A. Novikov, and approved by the Western Sector Military Council.

At the beginning of March 1942 the Stavka sent A. A. Novikov to the Volkhov Front. On 8 March 1942 the Stavka published a directive ordering the commanders of the Volkhov and Leningrad fronts and the Soviet Army Air Force deputy commander to organize and perform, from 10 to 20 March, massed air strikes against enemy combat formations and defensive fortifications on the for-



Soviet Army VVS Commander
General A. A. Novikov.

ward edge and deep within the zones of advance of the 4th, 59th, and 2nd shock armies of the Volkhov Front and the 54th Army of the Leningrad Front, as well as against enemy lines of communication.

Organization and performance of the air strikes was assigned to Soviet Army Air Force Deputy Commander A. A. Novikov and to his subordinate, Major General of Aviation A. Ye. Golovanov, Long-Range Bomber Aviation commander.⁶

The Stavka decision to allocate combined aviation forces for massed strikes against enemy troops was spurred on by the need for annihilating the enemy's Lyuban' grouping as soon as possible.⁷ By the end of February 1942 the situation had evolved in the following way in this sector. Back in early January the Volkhov Front's 4th and 59th armies went over to the offensive towards Lyuban' and Tosno. Arriving formations of the 2nd Shock Army were also committed to the encounter. By the end of January the 2nd Shock Army had advanced 75 km, cut the Novgorod-Leningrad rail line, and had reached the approaches to Lyuban'. Offensive actions of the Volkhov Front's other armies were unsuccessful. The Leningrad Front's 54th Army, which attacked toward Lyuban' from near Pogost'ya, advanced slowly. The 2nd Shock Army's attempts at widening the breach and seizing Lyuban' were unsuccessful. Powerful air support was required. To complete this mission A. A. Novikov was permitted to allocate 8 air regiments from the Stavka Reserve, a portion of Long-Range Aviation assets, and the aviation of the indicated fronts. To the extent necessary, employment of combined arms army aviation was also permitted. The Leningrad Front had 12 air regiments in the frontal and combined arms army VVS, including 8 fighter, 1 ground attack, and 3 bomber regiments. The Volkhov Front VVS had 23 independent air regiments; of these 13 were combined into 2 reserve air groups—the 2nd and 3rd, which coordinated with the front's 59th and 4th Combined Arms armies, respectively.

A. A. Novikov developed the plan for the actions of all aviation with the help of the Volkhov Front VVS command and staff (VVS commander General I. P. Zhuravlev), General S. I. Rudenko accompanying him, and his operations group consisting of three VVS staff officers. The plan was worked out, coordinated, and submitted to the front commanders. Considering the situation and the absence of a divisional level in the VVS of the fronts, a decision was made to create a temporary air group (commander General S. I. Rudenko, chief of staff Major M. N. Kozhevnikov) from eight air regiments for operations mainly on the right flank within the 54th Army's zone.

The actions of our aviation rendered significant assistance to troops of the Leningrad and Volkhov fronts. For the first time in the war aviation actions were coordinated by the senior air chief in support of the troops of not just one but two fronts. This was a new phenomenon in strategic coordination between the Soviet Air Force and ground forces.

A USSR Council of People's Commissars decree dated 11 April 1942 appointed General A. A. Novikov commander of the Soviet Army Air Force and, concurrently, USSR Deputy People's Commissar of Defense for Aviation.⁸

Immediately on assuming his post of Soviet Army Air Force commander, A. A. Novikov devoted a great deal of attention to improving the organizational structure of the VVS central administration, the numbered air forces, formations, and units of Frontal and Long-Range Bomber Aviation. Staff proposals to alter the organizational structure of VVS sections and directorates were examined at meetings of the VVS Military Council.

Section One was elevated to the status of a VVS staff directorate in April 1942 in accordance with a General Staff directive. Colonel N. A. Zhuravlev was appointed chief of the directorate, and as of 27 May 1942 Regimental Commissar A. I. Kozlov was appointed military commissar.

This VVS staff directorate consisted of several sections headed by Colonels K. T. Burak, Ye. G. Moiseyev, and V. V. Storozhenko.

Creation of a section for analyzing and synthesizing war experience on the VVS staff was of extremely great significance to the Air Force. Its mission was to study and synthesize the combat experience of the troops, and to write directions, instructions, and information bulletins with the goal of rendering practical assistance to units, formations, academies, and military educational institutions. Its functions also included bringing to light the weak and strong points of the employment of Soviet and enemy aviation and of the application of aviation equipment and weapons, and developing proposals on introducing new tactics and procedures for units, subunits, and individual aircraft. Officers A. A. Vasil'yev (section chief as of the beginning of 1943), A. G. Drozdov, M. D. Tikhonov, N. N. Ostroumov, I. V. Boldyrev, A. S. Kravchenko, I. V. Pimenov, and others worked in the section with extremely great effectiveness throughout the entire war. The work of the war experience analysis and synthesis section was extremely useful, and it had a direct impact on increasing the effectiveness of our aviation's actions. Discussing the need for synthesizing and disseminating combat experience, *Pravda* wrote in 1942: "The accumulated combat experience and the skill in warfare are precious treasures belonging to our entire army, to all of our people."⁹

This was the organizational structure of the Soviet Army Air Force staff until 1944. There were changes in the section chiefs, their deputies, and a small proportion of the officers. In particular, in 1942 Colonel N. P. Dagayev was appointed chief of staff of the Kalinin Front VVS, Colonel V. V. Storozhenko was appointed chief of staff of the Northwestern Front VVS, and Colonel M. V. Shcherbakov was appointed commander of the reserve air group. New officers joined Section One: Colonels P. F. Korotkov and G. V. Vinogradov, Majors V. B. Shemborskiy and A. S. Bolotnikov, Captains F. Ya. Panyushkin, V. I. Izvalov, and G. I. Glazunov, and Senior Lieutenants A. I. Popkov and I. Ye.

Savkin; new officers in other sections included Colonel P. V. Ratanov, Lieutenant Colonels M. N. Karpuk and V. M. Bogdan, Captain G. I. Kopylov, and others.

In April 1942 General Sergey Aleksandrovich Khudyakov became chief of staff of the Soviet Army Air Force. While chief of staff of the 8th Cavalry Regiment, in 1931 S. A. Khudyakov was transferred to the command department of the N. Ye. Zhukovskiy Air Force Academy. In November 1932 he passed the flight tests and was awarded the rank of observer pilot. After graduating from the academy he was appointed a department chief on the 5th Heavy Bomber Air Brigade staff. Serving as chief of rear services in the Belorussian Military District VVS Directorate, in 1939 he retrained as a pilot without leave from his principal work, and in February 1940 was appointed chief of staff of the Belorussian Military District VVS. This was followed by his appointment as a front VVS commander in February 1942. It was from here that S. A. Khudyakov was transferred to the Soviet Army Air Force staff. But he was not destined to work for very long on the staff. In July 1942, by request of the Western Front Military Council, he was appointed commander of this front's 1st Air Army.

General G. A. Vorozheykin, VVS chief of staff, was appointed Air Force first deputy commander in April 1942.

VVS rear services were also reorganized. The rear services included the rear area organization, airfield construction, and technical supply directorates, the special motor transport and mechanization resource operation, fuel supply, and combined arms supply sections, and central aviation supply depots. General L. G. Rudenko was appointed chief of rear services.

Party organization of the Soviet Army Air Force staff was strengthened. Major G. M. Shnyrev was elected secretary-at-large of the party bureau of the VVS staff party organization.

Organizational changes in the VVS central administration in accordance with a Supreme High Command decision improved the quality of VVS leadership.

Concurrently Long-Range Bomber and Frontal aviation underwent major organizational changes. The combat experience of aviation in the summer-fall campaign of 1941 and especially in the battle of Moscow demonstrated the need for creating large air reserves and operational numbered air forces in Frontal Aviation which would permit massed employment of aviation in the most important sectors of ground forces operations, and their extensive maneuvering, not only within a front but also between fronts. "One of the decisive conditions for a successful air war," *Pravda* stated in 1942, "is skillful maneuvering of air forces. The ability to quickly concentrate a strong fist for a powerful surprise attack, to direct it at the most vulnerable point or, on the other hand, to regroup one's forces with lightning speed to repel an enemy strike, and, on another occasion, to disperse them at the blink of an eye—that is what warfare requires today."¹⁰

A 5 March 1942 State Defense Committee decree reorganized Long-Range Bomber Aviation units and formations into Long-Range Aviation (ADD),* subordinate directly to the Stavka. Major General of Aviation A. Ye. Golovanov was appointed ADD commander, Divisional Commissar G. G. Gur'yanov was appointed Military Council member, and Lieutenant General of Aviation M. I. Shevelev was appointed chief of staff.

Aleksandr Yevgen'yevich Golovanov's fate in the Great Patriotic War was quite noteworthy. He began his fighting career in 1941 as commander of the 212th Special Purpose Long-Range Bomber Air Regiment intended for action against targets deep in the enemy rear area in bad weather and at night.

The 212th Air Regiment began the war with combat missions assigned directly from the Stavka, against the enemy's deep targets. The regiment proved itself capable of successfully accomplishing complex missions. That is why in August 1941 A. Ye. Golovanov became commander of the independent 81st Special Purpose Long-Range Bomber Air Division subordinate directly to the Stavka, and in March 1942 ADD commander.

Generals and officers who served in the Long-Range Aviation command and staff during the war distinguished themselves greatly in organizing the combat missions of air formations. These included Deputy Commander General N. S. Skripko, Section Chief N. G. Khmelevskiy, Section Chief I. M. Talanin, navigators I. I. Petukhov, V. I. Sokolov, and S. F. Ushakov, Chief Engineer I. V. Markov, and others.

The Main Directorate of the Civil Air Fleet (GVF)[†] (chief General F. A. Astakhov) was subordinated to the Soviet Army Air Force commander by a 26 April 1942 State Defense Committee decree. The GVF was given the mission of transporting cargo to the front, evacuating casualties from the front, and maintaining air communication with partisan detachments in the enemy rear area.

The authority of the Soviet Army Air Force command and of the front and combined arms army commanders steadily expanded. By Stavka direction, beginning in January 1942 the Soviet Army Air Force commander was permitted to call in PVO Aviation located near the front to cover the front's forward units as necessary. Front and army VVS commanders were designated deputy front and army commanders for aviation, as well as members of the front and army military councils, while retaining the rights and responsibilities of front and army VVS commanders. At the same time army VVS commanders were given responsibility for timely redeployment of fighters to airfields abandoned by the enemy

*[ADD—*Aviatsiya dal' nego deystviya*—U.S. Ed.]

†[GVF—*Grazhdanskiy vozdushnyy flot*—U.S. Ed.]

and for making them ready to serve as bases. It was for this purpose that a combined arms army VVS was instructed to maintain two or three reserve air base maintenance battalions (BAO) reinforced by combat engineers from the ground forces.¹¹

At the same time the General Staff and the Soviet Army Air Force command sought ways to improve the Frontal Aviation organizational structure. Its dispersal among combined arms armies prevented unification of all of the front's aviation resources and their massed employment in the main ground forces sector of operations. Combined arms army commanders felt an acute need for aviation assistance on the battlefield, and they could not release any forces at all from subordinate air units to perform missions on behalf of an adjacent unit or the front as a whole. This led to dispersal of aviation and constriction of its combat capabilities, which had an unfavorable impact on the effectiveness of its strikes. In March 1942 the Soviet Army Air Force staff wrote and the VVS Military Council examined proposals for improving the Frontal Aviation organizational structure. The VVS commander forwarded these proposals to the State Defense Committee. The proposals suggested that our aviation lacked the organizational unity and the unity of command required for successfully countering the enemy. With aviation dispersed as it was, it could strike anywhere, but all of the strikes were weak. The suggestion was to combine aviation into large formations.¹² The State Defense Committee approved the idea of creating large air formations.

In March 1942 a decision was made to form 10 air assault groups (UAG)* of composite structure, each containing six to eight air regiments; their mission was to reinforce the front VVS that had begun the general offensive in the first half of 1942. The air assault groups were formed in accordance with General Staff directives, on the basis of which the VVS staff prepared the appropriate orders and instructions.

Orders of the Soviet Army Air Force commander published 16 and 17 March 1942 created the first four air assault groups, the other six being created later. Their composition varied from three to eight air regiments. For example, the first group formed had two bomber air regiments flying the Pe-2, two ground attack air regiments flying the Il-2, two fighter air regiments flying the Yak-1 and LaGG-3, and two heavy bomber air regiments flying the DB-3f.¹³ All 10 air assault groups were created by May 1942 and assigned on the following fronts: Volkhov—1st and 6th, Northwestern—2nd, Southern—3rd, Western—4th and 5th, Bryansk—7th, Southwestern—8th, Crimean—15th, and North Caucasus Front—16th. They were committed to battle as the air regiments were made ready. The idea of creating air assault groups was basically correct. But the altered situation, which required unification of all front aviation resources, required a change in viewpoints on organization of reserves as well. Air assault groups existed until early June 1942. A new, more effective air reserve organizational structure was sought.

*[UAG—*Udarnaya aviatsionnaya gruppya*—U. S. Ed.]

By spring 1942 the resources for a new Frontal Aviation structure were created. The number of planes in the operational army increased constantly. While in December 1941 the operational army possessed 2,495 planes, by May 1942 the figure had climbed to 3,164. The aviation industry increased the growth rate of aircraft production. In December 1941 the industry provided 693 planes, it provided 976 in January 1942, 822 in February, 1,532 in March, and 1,432 planes in April 1942.

By this time our aviation industry was producing aircraft of predominantly new design—LaGG-3, Yak-1, and Yak-7b. Production of new Tu-2 bombers and Yak-9 fighters began. New Pe-2, Yak-1, Yak-7b, and Il-2 aircraft made up more than 50 percent of the line unit strength. In 1941 the USSR aviation industry produced 15,735 planes, including 12,377 combat aircraft. It produced 3,301 combat aircraft in the first quarter of 1942, 4,967 in the second, 6,219 in third, and 7,124 in the fourth, a total of 21,681 planes produced in 1942.^{14,15}

Considering all of this as well as Frontal Aviation combat experience, in April 1942 the Soviet Army Air Force Military Council examined the problem of a new Frontal Aviation organizational structure and decided to create air armies to replace the previously existing front and army VVS. These air armies were large numbered air forces permitting the massing of frontal aviation in the main sectors of troop operations, and they ensured centralized control and effective air strikes. These proposals were submitted by the VVS commander to the Stavka, which approved and ordered the General Staff and the VVS command to implement them.

The first air army* was created by a 5 May 1942 USSR NKO order. The order read: "For the purposes of improving the striking power of aviation and permitting successful employment of massed air strikes, combine the aviation resources of the Western Front into a single air army and designate it the 1st Air Army."¹⁶

Initially the 1st Air Army's composition included: two fighter air divisions of four fighter air regiments each; two composite air divisions of two fighter, two ground attack, and one bomber air regiment each; a training air regiment, a long-range air reconnaissance squadron, a liaison squadron, and a night air regiment flying the U-2. Each front combined arms army was left with one composite air regiment operationally subordinate to the army commander, but for special and aviation support, subordinate to the air army commander.¹⁷ All other VVS in the operational fronts were reorganized into air armies during 1942. The 1st, 2nd, 3rd, 4th, and 8th armies were formed in May, the 5th and 6th in June, the 14th and 15th in July, the 16th in August, and the 7th, 13th, and 17th air armies were formed in November. By November 1942 combat aviation was no

*[The Frontal Aviation formation was designated an air (*vozdushnaya*) army, while the reserve formation was called an aviation (*aviatsionnaya*) army. See below for the latter term—U.S. Ed.]

longer subordinate to the combined arms armies. They were each left with one composite air regiment for air reconnaissance and liaison missions. It would be difficult to overstate the extreme importance of this measure to the Soviet Air Force. The air armies turned out to be the most successful Frontal Aviation organizational structure.

Implementing the new Frontal Aviation structure, the Supreme High Command and the VVS Military Council continued to seek the most appropriate organization for powerful air reserves. A USSR NKO 1 July 1942 order initiated the formation of two fighter (commanders Generals Ye. M. Beletskiy and V. G. Ryazanov) and one bomber aviation army (commander General V. A. Sudets). The plan was for each of these armies to contain three to five air divisions with a strength of 200—300 planes each.¹⁸ But in reality only the 1st Fighter Aviation Army, based near Yelets, was formed and took part in combat. Due to the difficult conditions of July 1942 it was formed hurriedly and, although not prepared for combat, was committed to the encounter at Veronezh. In coordination with the 5th Tank Army, it fought savage battles on the ground and in the air, covering the troops against enemy air strikes and striking ground targets in individual groups. The following report on 12 July 1942 to the Soviet Army Air Force commander by General Ye. M. Beletskiy, indicates the intensity of its combat actions: "In 7 days the army's fighters fought in 104 air engagements and shot down 91 enemy planes. Out of 231 planes received by the army, 93 failed to return from their combat missions and 23 made forced landings on friendly territory following battle. Forty-nine are down for repairs, and, as of the end of 12 July 1942, 66 planes are serviceable."¹⁹ Combat employment of the 1st Fighter Aviation Army revealed serious shortcomings in its organizational structure. It was found to be cumbersome and insufficiently maneuverable, and because an air army was part of the front, it was extremely difficult to control its formations.

Only part of the 1st Bomber Aviation Army was committed to battle with the mission of interdicting rail shipments and halting enemy reserves in the Western sector.²⁰ In early August 1942 two bomber air divisions were operationally resubordinated to the 1st Air Army commander for actions against enemy troops near Yartsevo and Vyaz'ma, and one bomber division was transferred to Long-Range Aviation.²¹

During its formation the 2nd Fighter Aviation Army was divided into two groups of two air divisions each, which were transferred to the 1st and 3rd Air Armies as reinforcements on 27 July 1942.

Combat experience showed that it was not advisable to have an air army and aviation army within a single front. When there were two armies not under a common senior air chief, many difficulties arose in organizing coordination between them and the front's troops. The Soviet Army Air Force commander concluded that the Supreme High Command air reserves must be no less power-

ful in composition than the aviation armies, but in terms of organizational structure they should be more mobile and maneuverable. Upon joining a front they should freely enter the organizational structure of the air army of the front and, after completing their combat missions, they should be detached.

The air corps was found to be the required form of Supreme High Command air reserve organization. The Stavka decided to create Supreme High Command Reserve* air corps and independent air divisions from the extant aviation armies and from the reserve air groups, and air assault groups.

Formation of RVGK air corps was started under the guidance of the VVS Military Council in response to a USSR NKO 26 August 1942 order. The first four fighter air corps were formed by the end of 1942. The I Fighter Air Corps was commanded by General Ye. M. Beletskiy, the II Fighter Air Corps by General A. S. Blagoveshchenskiy, the III by General Ye. Ya. Savitskiy, and the IV Fighter Air Corps by General I. D. Podgorny.

The air corps participated in two-sided tactical air exercises between 5 and 15 October 1942 under the command of the Soviet Army Air Force commander with the goal of demonstrating the tactics employed by large groups of aircraft over the battlefield and developing the fundamental principles of their employment in operations.²²

In all by the end of 1942, 13 air corps were formed, including four fighter, three ground attack, three bomber, and three composite corps. Nine RVGK air corps were sent to the front during that year. The air corps were formed and manned under the direct control of the CC VKP(b). Workers of the Central Committee's aviation section, the General Staff, and the VVS command systematically reported to Communist Party leaders, to members of the State Defense Committee, and to the Stavka on formation and training of the reserve air corps, and always received assistance quickly from them. The air corps consisted of two or more divisions, and their strength ranged from 120 to 270 planes. At first they were created as both homogeneous (fighter, ground attack, bomber) and composite corps, but later the composite air corps failed to justify their existence, and they were replaced by homogeneous corps. At this time also the composite air divisions and air regiments were converted into homogeneous units. The RVGK air corps received new types of aircraft. They were used to reinforce Frontal Aviation and to create powerful air groupings in the most important strategic sectors.

Responding to Stavka direction, the Soviet Army Air Force commander concentrated RVGK air corps in the indicated sectors within a short time in ac-

*[rezerv verkhovnogo glavnokomandovaniya, hereafter referred to as Stavka Reserve or RVGK—U.S. Ed.]

cordance with the concept of strategic defense or offense. After the operation was completed the corps were transferred to other sectors.

Being a powerful Stavka Reserve, the air corps permitted extensive maneuvering of aviation and dramatic alteration of the correlation of forces in the air to our favor.

For the Soviet Air Force, 1942 was a year of organizational consolidation, qualitative and quantitative growth of the fleet of aircraft, improvement of the combat skills of personnel, and maturation of commanders and staffs at all levels of troop command and control.

Coordination of VVS Activities by Stavka Aviation Representatives in the 1942 Summer-Fall Operations

The Stavka provided strategic direction to the Air Force. It determined and assigned missions to the Air Force in accordance with the objectives and concept of the strategic operations of groups of fronts and air operations, it distributed its resources among different sectors, it organized coordination with other services of the armed forces, and it directed aviation activities through the General Staff, the VVS command, and its own representatives.

The functions of Stavka aviation representatives at the front were not spelled out officially on paper. In each individual case they were indicated by Stavka directives and orders. Stavka representatives were right on the scene of combat actions and, guided by the Supreme High Command decisions, assumed direct responsibility for organizing and achieving coordination between the VVS and the ground forces. They coordinated the activities of the fronts and of allocated aviation in terms of target, place, and time; they concentrated the principal efforts in the main sector; and they determined the Frontal and Long-Range Aviation flying sectors.

In the operations of 1942 the functions of Stavka aviation representatives were broadened. By the end of the first period of the war they were coordinating the efforts of aviation on behalf of two, three, and more fronts. A Stavka aviation representative was assisted by an operations group consisting of three to five officers from the VVS staff. This group maintained the situation maps, drafted instructions to air army commanders, refined the Long-Range Aviation missions, coordinating them with the ADD commander's operational group, monitored accomplishment of aviation missions, and drafted daily reports to the Supreme Commander on the results achieved by aviation resources allocated to the operation.

Intense work was done in spring 1942 by the Soviet Army Air Force central administration to direct VVS combat actions. Members of the Air Force Military

Council visited the fronts with small groups of staff and directorate officers to render assistance to the command in forming air armies, air corps, and RVGK independent air divisions. The VVS staff helped to write the plans for regrouping aviation resources in the southern sector. It also provided help locally in organizing coordination with the ground forces and maintained control over airfield construction and storage and delivery of bombs, shells, and fuel to the fronts.

In March-June 1942 the Soviet Army Air Force command published a number of directives addressed to front VVS and air army commanders.

In March 1942 the shortcomings in aviation coordination with front and army troops were pointed out to all front VVS commanders. These directions were prepared by Section One of the VVS staff. They pointed out the need for concentrating aviation efforts within strictly delimited sectors and on only the most important missions. The recommendation was made to plan and conduct aviation combat actions as a maximum effort only when ground forces were engaged in active operations. The results of the activities of aviation coordinating with the troops were to be assessed based on the successes of the forces on the ground and the effectiveness of coordination on the ground and in the air, as confirmed by photographs or inspection flights.²³ These directions played a positive role in improving aviation coordination with the troops and in bettering its results.

On 27 March 1942 new regulations on intensified use of radio communications to control aviation on land and in the air were implemented by order of the Soviet Army Air Force commander.

In May 1942 the VVS main staff published a directive requiring correction of shortcomings in the organization and exercise of control of fighter aviation in the course of air engagements. The directive was written on the basis of an analysis of serious shortcomings in the Southwestern Front VVS. It emphasized that control of the fighters meant not only providing the necessary manpower and equipment on time and monitoring the takeoffs, but mainly commitment of additional forces to combat at the proper time, thus having an influence on the course and outcome of the battle. The directive also pointed out the need for organizing surveillance of the air situation over the battlefield from forward control posts, and for guiding the fighters from the ground.²⁴

At the beginning of June 1942 the VVS staff prepared a directive concerning the appearance of the new German Me-109f at the front and sent it over the signature of the Soviet Army Air Force commander to the front and combined arms army VVS commanders. It gave the tactical flight characteristics of the Me-109f.²⁵

The belief was that the Yak-1 fighter, which was faster at an altitude of 3,000 meters, had the same rate of climb, and maneuvered horizontally better, was the most suited to combat the Me-109f. Thus considering these qualities,

pilots flying Yak-1s could successfully fight the Me-109f. Specific recommendations tested at the VVS Scientific Research Institute on the means of successful air engagement with the new type of enemy fighter were provided, i.e., the directive had great significance.

A directive to air army, front VVS, and combined arms army VVS commanders published in July 1942 by the Soviet Army Air Force commander stated that the principle of concentration of forces was not yet being observed as the foundation for fighter aviation employment. The art of the commander employing and controlling fighters lay precisely in his ability to achieve numerical superiority at the proper time and place even with small forces, since the most success could be achieved through a combination of the skill of the troops and the commander's ability to command.

A June 1942 USSR NKO order prepared by the Soviet Army Air Force staff concerning employment of the Il-2 as a day bomber had great significance for the Air Force.

The order stated that we possessed Il-2 ground attack planes, which were the most effective short-range day bombers against enemy tanks and personnel. No other army possessed such short-range day bombers. . . . We could and should significantly increase the frequency of our day bombing strikes against the enemy, but to do so we would have to immediately do away with the harmful practice of underrating Il-2s as day bombers and see to it that not a single Il-2 took off for battle without a full bomb load.

A plan for Soviet Air Force actions in the summer and fall of 1942 was examined and approved at the end of March 1942 at a joint meeting of the State Defense Committee and the Stavka. Considering the enemy's superiority of forces and the absence of ready reserves, the Stavka decided to foil enemy strikes through active defensive operations at prepared lines, inflict losses on the enemy, and create favorable conditions for a subsequent transition to the offensive by the Soviet Army. Concurrent with the transition to strategic defense in the central sector, offensive operations were to be conducted at Leningrad, in the vicinity of Demyansk, in the Khar'kov sector, and in the Crimea. During this time the Air Force continued its air reconnaissance, covered the troops against air strikes, improved its combat readiness, and waged a stubborn fight in the air.

At the beginning of May 1942 both sides initiated a struggle for the strategic initiative on the Soviet-German front. This went on for almost 2 months. Enemy aviation intensified its strikes against troops and rear area targets. In May 1942, 48,180 enemy overflights were observed on the Soviet-German front, while in June the figure climbed to 83,949, i.e., 12 times more than in December 1941.^{26,27,28}

Between 30 May and 9 June 1942 the air armies made a number of effective strikes against enemy airfields in a broad sector from Pskov to the Crimea with

the mission of reducing German Air Force activity.²⁹ In general, however, events were proceeding unfavorably for the Soviet Army. Troops of the Crimean Front suffered defeat in May. This front was formed at the beginning of 1942 with the mission of liberating the Crimea, and in May it was defending the narrowest part of the Kerch' Peninsula, at the so-called Ak-Monaysk positions. On 12 May 1942 the Stavka ordered the temporary subordination of the Crimean Front's aviation and Long-Range Aviation operating in this sector to ADD Deputy Commander General N. S. Skripko.³⁰

The Crimean Front's attempts at conducting the offensive were unsuccessful. On 8 May 1942 the enemy went over to the offensive with the intention of pushing Soviet troops off the Kerch' Peninsula and then with all of his forces attacking Sevastopol', which was defending itself heroically.

On 15 May the enemy occupied Kerch'. The loss of the Kerch' Peninsula dramatically worsened the position of Sevastopol's defenders. The heroic defense of the hero-city went on for 250 days and nights. But the forces were uneven. On 4 July 1942 Soviet troops abandoned Sevastopol' with Stavka permission.

The Southwestern Front's Khar'kov offensive operation began on 12 May 1942. It developed successfully for the first 3 days. The Soviet Command placed its main hope on preemptive strikes. In 3 days Soviet troops with active air support advanced 25 km in the vicinity of Volchansk and 50 km southeast of Khar'kov. Favorable conditions for exploiting the success at the Barvenkovo salient were created on 15 May.

However, on 17 May a German assault grouping concentrated near Kramatorsk made a powerful northward thrust against the flank of the advancing Soviet troop grouping and advanced several dozen kilometers in the direction of Barvenkovo. The situation in the Southwestern Front deteriorated dramatically. There were no strong reserves to parry the enemy's thrust. In the second half of 19 May the commander in chief of the Southwestern sector ordered his troops to go over to the defensive along the entire Barvenkovo salient, repel the enemy thrust, and recover the initial position. But this decision came too late. Troops of the Southwestern Front and of the Southern Front's right wing suffered great losses. The Soviet offensive operation near Khar'kov ended in failure.

On 26 June 1942 General A. M. Vasilevskiy became chief of the General Staff. He arrived at the end of the month at the Southwestern Front with Soviet Army Air Force Deputy Commander General G. A. Vorozheykin to provide practical assistance to the front command.

Savage battles were being waged at Leningrad and in the vicinity of Demyansk in May and June, concurrently with the encounter in the Khar'kov sector and the Crimea. The offensive initiated on 3 May by troops of the Northwestern Front to destroy the enemy Demyansk grouping ended without results. Nor were troops of the Leningrad and Volkhov fronts able to penetrate the Leningrad

blockade in a joint operation. The situation on the Soviet-German front changed in favor of the enemy due to the failure of operations conducted by Soviet troops in May and June 1942.

In the second half of June 1942 the fascist German command concentrated and deployed assault groupings in areas northwest of Kursk and northeast of Khar'kov.

On 28 June enemy troops went over to the offensive from the region east of Kursk, penetrated defenses at the boundary between the 13th and 40th armies of the Bryansk Front, and in 2 days penetrated 40 km. The Stavka reinforced the Bryansk Front with three tank corps. A tank corps from the front reserve was brought into the breakthrough sector. Army Commissar 2nd Rank P. S. Stepanov with a VVS staff operations group was sent to the Bryansk Front from VVS staff as Stavka representative to organize massed strikes against the penetrating enemy grouping. He was permitted to employ all front aviation resources and 100 bombers from Long-Range Aviation for this purpose. The Stavka assigned the principal missions of aviation to P. S. Stepanov in a 29 June directive: "The main mission of the front's aviation is to achieve air supremacy, to create our overwhelming superiority, and to force German aviation, especially bombers, to leave the battlefield.

"The second mission is to employ all of our ground attack and bomber aviation to destroy the enemy's tank and motorized columns, annihilate his manpower, and thus support our troops.

"The third mission is for our fighter aviation not only to cover our troops but also to bomb enemy manpower to the extent possible."³¹

In this same directive the Supreme Commander required that he and A. A. Novikov receive reports on the actions of our aviation and enemy aviation twice a day. Jointly with the front VVS command P. S. Stepanov took all of the necessary steps to accomplish these missions. Our pilots fought courageously, displaying unprecedented heroism.

Strikes against advancing enemy troops were made by groups of ground attack aircraft and bombers. The enemy suffered losses in personnel and equipment, but in view of his great superiority of forces on the ground and in the air, he continued to advance. Moreover the three tank corps attached to the front by the Stavka were committed piecemeal to battle by the front command, and moreover, not so much to make a simultaneous counterblow on the penetrating enemy as to close the breach. In view of this, even though it did operate at high intensity, the front's aviation could not make major massed strikes against enemy troops, as required by the Stavka directive. Maintaining the offensive, by the end of 2 July the enemy had advanced 80 km. On the morning of 30 June fascist German troops of the 6th Army struck formations on the right wing of the Southwestern Front from Volchansk. As a result a breach formed at the

boundary between the Bryansk and Southwestern fronts.³² By the end of 15 July the Germans managed to penetrate defenses between the Don and the Northern Donets 170 km and reach the great bend of the Don. On the night of 12 July the enemy penetrated to the edges of Stalingrad Oblast.* The German assault groupings drove toward the Caucasus and Stalingrad. There was also a threat of an air attack on Stalingrad.

The Stavka ordered P. S. Stepanov to leave for Stalingrad immediately. His mission was to determine on the spot the possibilities for basing and providing logistical support to arriving air units and formations, and to determine our capabilities to counter an enemy air attack on Stalingrad.

P. S. Stepanov's operations group included Soviet Army Air Force staff officers M. N. Kozhevnikov, I. I. Osipov, A. N. Mal'tsev, M. N. Karpuk, I. P. Selivanov, S. A. Tyurev, and P. G. Grigor'yev.³³

Stalingrad was leading a productive life, all too peaceful a life it seemed. Plants, enterprises, and institutions were operating. All movie houses were open, children played in the squares and on the boulevards, and the loudspeakers blared music and at certain times summaries from the front. The city was brim full of citizens from various regions of the southern part of the country. Everyone had found housing and settled in. The public food supply was good. None of Stalingrad's residents even had any idea at that time that a terrible threat was already hanging over the city, that the cruelest encounters of the war against fascist German troops were to begin at Stalingrad within a short time. It was clear to the Soviet command, however, that the enemy was breaking through to the Volga, to the Stalingrad area. The Communist Party and Soviet government took emergency defensive steps. A 14 July ukase from the Presidium of the USSR Supreme Soviet established martial law in Stalingrad Oblast. Construction of three defense perimeters about Stalingrad, which had been started in fall 1941, was resumed in late June and early July in the sector between the Volga and the Don. A decision was made to build a fourth (city) perimeter on 15 July. On 11 July the Stalingrad Oblast Party Committee and Executive Committee adopted a decree creating a people's militia. On 15 July the oblast party committee ordered all rayon[†] committees to immediately create partisan detachments and make them combat ready. Hospitals and children's institutions were evacuated from the city.

"Everything for the defense of Stalingrad!" This was the motto under which party, state, and military agencies implemented their measures in the July and August days of 1942.

*[*oblast'*—Soviet political-administrative unit—U.S. Ed.]

†[*rayon*—Soviet political-administrative unit—U.S. Ed.]

The Stalingrad Front was created from the administrative apparatus of the Southwestern Front in compliance with a 12 July 1942 Stavka decision. The 62nd, 63rd, and 64th reserve armies were moved quickly to the great bend of the Don. In addition to these armies, the 21st Combined Arms Army and the 8th Air Army from the former Southwestern Front were assigned to the Stalingrad Front. In the second half of July the 28th, 38th, and 57th armies, which had retreated into the Stalingrad Front's sector, were also added. The Volga Military Flotilla was operationally subordinated to the front. The front thus established had the mission of halting the enemy's advance, preventing him from reaching the Volga, and firmly defending a line passing along the Don River from Pavlovsk to Kletskaya and then to Surovikino, Suvorovskiy, and Verkhnekurmoyarskaya.³⁴

The enemy advanced with the forces of 14 divisions of the German 6th Army (about 270,000 men, 3,000 guns and mortars, and about 500 tanks). They were supported by the 4th Air Fleet, which had a strength of up to 1,200 combat aircraft. On 30 July the German Command also sent the 4th Tank Army, which began its advance on the Caucasus back on 12 July, in the direction of Stalingrad. The fascist German troops outnumbered Soviet troops by a factor of 1.7 in personnel, 1.3 in artillery and tanks, and by a factor of more than 2 in planes.³⁵ The complexity of the situation faced by the Soviet troops also lay in the fact that to create a new defensive front, formations arriving from deep within the rear area had to occupy positions from the march in areas devoid of prepared lines of defense. Enemy air activity was high. The forward detachments of the 62nd and 64th combined arms armies were the first to encounter the advancing enemy. They began to retreat in battle to the main defense zone.

On arriving in Stalingrad P. S. Stepanov's group surveyed the airfields by air and established communication with the command of the Stalingrad PVO Corps Area and the commander of the 102nd PVO Fighter Air Division, which was covering Stalingrad against air strikes. After studying and assessing the situation and all contingencies, P. S. Stepanov sent a report containing his conclusions and suggestions to the Supreme Commander and the commander of the Soviet Army Air Force. The report stated that the city's air cover was weak. The 102nd PVO Fighter Division had 80 planes, mostly of obsolete types (I-16, I-15bis, I-153), and an insignificant number of Yak-1 fighters. The far approaches to the city were not covered by fighters. At least one good fighter regiment armed with new aircraft was needed initially. A thorough report was also given on the state of the airfield network and its readiness to receive VVS air units.

These conclusions and suggestions did not go unheeded. In a few days a fighter air regiment subordinate at that time directly to the Soviet Army Air Force commander and manned by the best Yak-1 pilots arrived at Stalingrad from Moscow. The regiment was tasked to defend Stalingrad from the air at the far approaches. P. S. Stepanov's operations group remained in Stalingrad to direct the fighter aviation combat actions in the area and to make preparations to receive new air formations and units scheduled to arrive.

With the participation of one Soviet Army Air Force staff directorate, the General Staff developed measures to reinforce the troops and aviation of the Stalingrad Front. The Stavka sent in 10 air regiments to reinforce the 8th Air Army; 75 percent of the planes in these regiments were new—Yak-1, Yak-7b, Il-2, and Pe-2.³⁶ Long-Range Aviation air divisions were brought in to make strikes against advancing enemy troops.

In July 1942 Major General of Aviation Fedor Yakovlevich Falaleyev was appointed chief of staff of the Soviet Army Air Force. Before coming into aviation he was a combined arms commander. He began his Air Force service in 1932 as an air brigade inspector. Understanding that if he was to perform the diverse functions of an air chief he had to be an expert and a good air specialist, he enrolled in the Kacha Military Flight School, from which he graduated successfully in December 1933. He soon thereafter graduated from the operations department of the N. Ye. Zhukovskiy Air Force Academy. His arrival at the VVS staff resulted in many innovations. He focused his main attention on thoroughly analyzing the combat actions of our aviation and on efficiency and coordination in all VVS directorates and services. In July 1942 under Falaleyev's guidance the VVS staff published a directive addressed to the air army and front VVS commanders. The directive pointed out that Frontal Aviation employment in an offensive operation must be based on the most decisive concentration of aviation in the sector of the main troop thrust, and that it must be employed in a limited number of combat missions. Operations were to be conducted in secondary sectors and in support of secondary troop missions only to the extent permitted by the availability of untasked aviation resources.

The directive noted further that such support would be possible only through centralized control of all aviation, which should not be taken to an extreme or become an end in itself. The tendency of some senior commanders to take charge of the operations of all units even down to individual flights and planes, to completely exclude initiative on the part of junior commanders, could in no way be justified. It was recommended to air army commanders that aviation combat actions be supported by extensive air reconnaissance and observation over the battlefield; it was also recommended that when planning combat actions, the commander should designate an aviation reserve which would be committed to battle at the decisive moment. The great significance of operational air supremacy for the success of an operation was indicated, and recommendations on how to achieve and maintain it were given.³⁷

VVS staff work was improved. At F. Ya. Falaleyev's direction, General N. A. Zhuravlev supervised development of proforma combat reports and operational summaries based on combat experience. In July 1942 these were dispatched to air army and front VVS staffs.³⁸

In order to correct shortcomings in VVS staff work, in July 1942 the VVS staff recommended that air army and front VVS commanders reinforce the aviation staffs, prohibit transfer of staff workers without the permission of higher



A Downed Fascist Aircraft, August 1942, in the Stalingrad Sector.

authorities, and initiate short courses at the Air Force Academy for inadequately trained staff officers. It was pointed out that the principal mission of the staffs was to monitor execution of the commander's orders and instructions. The chiefs of staff were ordered to see that reports were submitted precisely on schedule.

Close ties were established between the VVS staff, the ADD, the National Air Defense Forces, and the Naval VVS staffs. By order of the General Staff, beginning in July 1942 reports concerning Long-Range Aviation activities began to be submitted to both the Supreme Commander and the VVS commander.

Daily briefs on the results of Soviet Air Force activities were prepared for the Supreme Commander by the VVS staff's Main Directorate. They usually indicated the principal Air Force missions of the previous day, the focus of its principal efforts, the fronts with which it had coordinated, the number of sorties flown during the day, the number of air engagements, and the number of enemy planes shot down; the distribution of air engagements among the principal sectors of Air Force and ground forces operations; our losses in the air and on airfields, and the reasons for them. The actions of our VVS and enemy aviation in the sectors of the ground forces main thrusts and their effectiveness were reported in terse form. Changes in enemy air groupings and appearance of new aircraft types and weapons were indicated. These briefs were usually prepared by two VVS staff officers singled out for this job. During the day they studied and accumulated reports from the troops and coordinating staffs and kept special records on the results of the actions and the losses. General N. A. Zhuravlev, who had the ability to say a great deal in a few words, usually wrote the final version of these briefs. Officers V. M. Pikulin, F. Ya. Panyushkin, and P. F. Korotkov successfully prepared the draft VVS staff operational summaries and combat reports



General A. A. Novikov (right), General S. I. Rudenko, and Colonel A. S. Vinogradov Developing a Combat Action Plan.

during the war. Officers G. V. Vinogradov and A. S. Bolotnikov handled their work in an outstanding manner.

The Soviet Army Air Force command and staff riveted its main attention on Stalingrad in July-August 1942. The defensive encounter at the far approaches to Stalingrad ended on 10 August.

The Hitlerite command's plan to break through to Stalingrad with one swift strike from the march was foiled by the stubborn resistance of the troops and the actions of aviation. In 3 weeks of the offensive, enemy troops were able to advance only 60-80 km.

The 8th Air Army and Long-Range Aviation provided great assistance to the ground forces. Possessing 150-200 serviceable combat aircraft, each day the 8th Air Army flew 400-500 sorties. Pilots of the 434th Fighter Air Regiment led by Major I. I. Kleshchev fought in 144 air engagements and shot down 36 enemy planes in 18 days.

The 150th Bomber Air Regiment flying Pe-2 dive bombers also distinguished itself. This regiment was led by Lieutenant Colonel I. S. Polbin, a master of sniper attacks. In just 4 days the regiment's pilots destroyed 40 enemy tanks and 50 motor vehicles.¹⁹

The heroic struggle of the Soviet troops and aviation at the far approaches to the city blocked the enemy's way and gained time for the command to organize defenses at the near approaches to Stalingrad and within the city itself. The great length of the Stalingrad Front (up to 800 km) forced the Supreme High Command

to divide it into two fronts. On 5 August the Stalingrad and Southeastern fronts were formed within new boundaries. The 8th Air Army became part of the Southeastern Front, and the 16th Air Army (commander General P. S. Stepanov and, as of 28 September, General S. I. Rudenko) was formed for the Stalingrad Front.

On 12 August G. M. Malenkov, a member of the State Defense Committee and secretary of the Communist Party Central Committee, arrived in Stalingrad along with chief of General Staff General A. M. Vasilevskiy serving as Stavka representative. Also arriving to coordinate the actions of Frontal Aviation and allocated Long-Range Aviation assets was Air Force Commander General A. A. Novikov, the Stavka aviation representative.⁴⁰

The Stavka reinforced the Stalingrad sector with aviation. Between 20 July and 17 August 23 air regiments, or a total of about 450 planes, were transferred to the 8th Air Army.⁴¹

Five Long-Range Aviation air divisions were redeployed closer to Stalingrad from near Moscow by 20 August. Long-Range Aviation commander General A. Ye. Golovanov was in charge of the combat actions of these divisions, and after his departure for Moscow he was replaced by his deputy, General N. S. Skripko. The latter with an operations group of staff officers ironed out coordination problems locally, assigned the division missions, which were coordinated with the Soviet Army Air Force commander, and participated directly in writing joint battle plans for aviation and the troops.

Concurrently, from 19 August to 14 September 1942, in accordance with a Stavka decision, part of the Long-Range Aviation forces struck the capitals of fascist Germany and its satellites—Hungary and Romania. Raids were made on Berlin on 27 and 30 August and 10 September, and 212 sorties were flown. Two raids were made on Budapest on 5 and 10 September with 122 sorties flown; one raid was made on Bucharest on 14 September, in which 46 sorties were flown. Moreover three raids were made on Danzig and against military-industrial targets in Warsaw, Koenigsberg, Stettin, Tilsit, Fuerstenwalde, Treptow, Ploesti, and Galati.^{42,43}

On 17 August fascist German troops began to force the Don in the vicinity of Vertyach'iy and Peskovatka. This became immediately known to Generals A. M. Vasilevskiy and A. A. Novikov on their arrival at the front. A decision was made to transfer the efforts of the 8th Air Army to annihilating the enemy's crossings. Soviet Army Air Force commander A. A. Novikov demanded that all aviation forces—ground attack, fighter, and bomber—direct their efforts at annihilating the enemy and preventing him from crossing the Don. Groups of 10–30 Pe-2 bombers and Il-2 ground attack aircraft were organized. Each group was covered by 10–15 Yak-1 and La-5 fighters. In the hot days of battle Soviet fighters and ground attack aircraft flew as many as three sorties per day while bombers flew as many as two sorties. From 18 to 22 August our pilots

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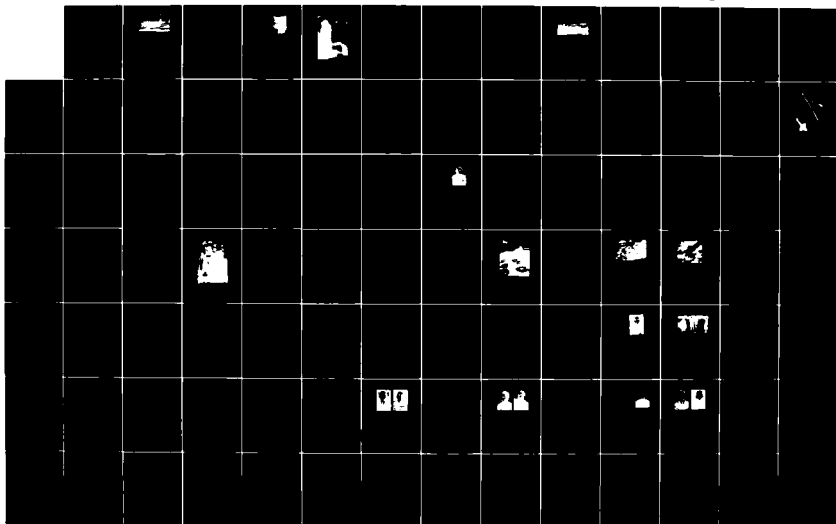
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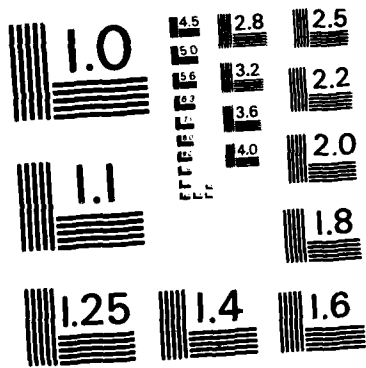
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Soviet Pe—2 Bombers on a Combat Flight to Strike Enemy Troops.

flew about 1,000 sorties against the crossings. The actions of our aviation slowed down the crossings of enemy troops. But our strength was insufficient. Despite heroic resistance by our troops and aviation, the enemy managed to concentrate at a beachhead near Peskovatka in a sizable force (6 divisions, about 250–300 tanks), and with strong air support he broke through to the Volga on 23 August south of Stalingrad. These were the most critical days. Our aviation operated at maximum intensity, covering the cities against enemy raids and engaging in air engagements at the near approaches to Stalingrad.

Capitalizing on his air superiority, in the second half of 23 August the enemy made a very powerful massed strike against Stalingrad with about 400 planes. The German planes flew in several waves, and a person looking up from the ground could imagine the difficulty of repelling this raid. The roar of our fighters could already be heard in the air, and a large quantity of flak appeared in front of the assault echelon of German planes. Disabled German planes fell to the ground but the enemy continued to approach the city without changing course, the roar of the planes increasing constantly in intensity. As soon as the enemy's assault echelon dropped its high-explosive and incendiary bombs a major fire began in the city. Enemy aviation flew up to 2,000 sorties against Stalingrad before darkness. Hundreds of buildings were destroyed, and thousands of defenseless women, children, and wounded soldiers recovering in the hospitals and unable to be evacuated from the city in time were killed. Destruction of the city and its peaceful population of thousands was barbaric. Repelling the raid, our fighters took part in 25 air engagements above the city, shooting down 90 planes and, together with antiaircraft artillery, 120 fascist planes.⁴⁴ Late at night on the same day the 8th Air Army staff and the command post of the air force commander were transferred outside the city. The Stalingrad Front command took the necessary steps to oppose enemy troops penetrating to

the Volga. Between 23 and 28 August troops on the front's left wing made a number of counterblows with active air support. On the night of 28 August the enemy was halted at the northwestern approaches to Stalingrad.

By mid-September enemy troops reached the city's defense perimeter, wedged themselves into the defenses at the boundary between the 62nd and 64th armies, captured a number of important hills, and approached to within 3-4 km of the city center. In this situation the Stavka assigned the Stalingrad and South-eastern fronts the mission of stubbornly defending the city, exhausting the enemy with counterblows from the north and south, holding a beachhead on the right bank of the Don, and building up forces for a subsequent transition to a decisive counteroffensive.⁴⁵

Aviation was assigned the mission of supporting the troops making the counterblows and providing direct air support to units and formations of the 62nd and 64th armies fighting inside Stalingrad for every block, street, and house. This required extremely meticulous organization of the coordination between aviation and the troops. General T. T. Khryukin's aviation in the 8th Air Army and Long-Range Aviation destroyed enemy troops breaking into the city. Bomber aviation struck troops, artillery in fire positions, and the enemy's rear area facilities 2-3 km from the forward edge.

The air strikes were successfully shifted from one region of the city to another. On 23 September Frontal Aviation and Long-Range Aviation struck fascist German troops in the center of the city, and on 24 September it was already operating in the southern part of the city. Air officers using rockets, smoke signals, and tracer shells guided our planes, especially ground attack aircraft, to point targets from the control posts of rifle divisions and regiments.

Operational groups and aviation representatives were sent from the air army staff to combined arms armies operating northwest of Stalingrad. Thus, a 16th Air Army operations group was sent to the 1st Guards Army to support the frontal counterblows northwest of Stalingrad, and aviation representatives were sent to the 24th and 66th armies operating on the flanks. Possessing their own radio equipment, they quickly transmitted the requests of the combined arms commanders for air action against newly discovered targets to the air army commander, and when the groups of planes arrived at the battlefield they guided them to their assigned targets. Soviet aviation rendered considerable assistance to ground troops in their counterblows against the enemy. Here is how Marshal of the Soviet Union G. K. Zhukov evaluated these actions: "We must give credit to soldiers of the 24th, 1st Guards, and 66th armies of the Stalingrad Front, and to pilots of the 16th Air Army and Long-Range Aviation who, regardless of the sacrifices, provided invaluable assistance to the Southeastern Front's 62nd and 64th armies in holding Stalingrad. . . ."⁴⁶

The Soviet Army Air Force command took steps to improve the effectiveness of fighter aviation. In September 1942 the VVS commander ordered the

air army commanders to see that "fighter-hunter" groups were created in each fighter air division and that "fighter-hunter" tactics were developed. The "fighter-hunters" were to be volunteers from among the best pilots. These had to be not only valorous pilots but also men that had perfect mastery of piloting techniques, were excellent aerial marksmen, cold blooded, calculating, and confident of themselves, their planes, and their weapons.⁴⁷



Soviet Fighters Attack Fascist Bombers.

The intense nature of the battle of Stalingrad, the great length of the frontal defense zones, the increased number of armies in each of them, and the preparations for a counteroffensive started in mid-September made it necessary to subordinate the fronts directly to the Stavka. On 28 September the Stalingrad Front was redesignated the Don Front, while the Southeastern Front was renamed the Stalingrad Front. Soviet aviation operated continuously against enemy troops. Between 27 September and 8 October the 8th Air Army flew about 4,000 sorties.

Air actions against the enemy did not cease at night in Stalingrad. On 22 October 1942 the Soviet Army Air Force commander ordered the air army commanders to significantly intensify bomber aviation night activities and to train five crews in each ground attack and fighter air regiment for actions at night and in bad weather.⁴⁸ This mission was accomplished successfully. During the defensive period II-2s flew 406 night sorties. They attacked individual centers of resistance, troop groupings, and enemy equipment in the city.

By order of the VVS commander an experimental ground radio network intended to guide fighters to their aerial targets was organized and tested by the Don Front's 16th Air Army during the defensive encounter. While serving as front VVS commander in Leningrad, A. A. Novikov and his assistants made the first attempt at guiding fighters to aerial targets by means of ground-based radio stations. General V. N. Zhdanov, the deputy commander of the 13th Air Army, Leningrad Front, and chief of the Soviet Army Air Force staff Signal Directorate, General G. K. Gvozdikov, accompanied by a group of officers, were sent to the 16th Air Army to organize the effort and share their experience. These officers helped the 16th Air Army command write draft instructions on controlling, informing, and guiding fighters by radio and submitted them to the Soviet Army Air Force commander.

Fighter guidance radio stations were dispersed along the front line 2-3 km



Soviet Fighters on Patrol Over Stalingrad.

from the forward edge at a spacing of 8–10 km. These stations maintained radio communication with pilots in the air and at airfields, and with the air army command post. Twenty-five commanders and deputy commanders of reserve fighter air regiments (brigades) were called up and sent to the front by the VVS command to guide fighters to aerial targets via ground-based radio stations. Their mission was to set up and check out this new system, acquire combat experience, and subsequently implement the system to train flight crews. The radio station guidance net was subdivided into command and information stations. In addition to providing information on the aerial situation, guiding fighters to enemy aircraft, and controlling air engagements from the ground, they also began to be used to guide ground attack aircraft to ground targets.

The experiment was used by the VVS staff to develop and introduce the first Soviet Army Air Force instructions on guiding frontal fighters to aerial targets from ground-based control posts—“Instructions to the Air Force on Controlling, Informing, and Guiding Airplanes by Radio.”

The struggle for air supremacy occupied a special place in the Stalingrad defensive operation. It became fiercer after fascist German troops reached the outskirts of Stalingrad. Air engagements were the principal means of fighting the enemy air force. During the defensive operation our fighters participated in 1,792 air engagements and shot down 1,636 enemy planes. Simultaneous strikes were made against airfields. Thus for example between 31 October and 2 November the air army made a number of successive raids on airfields, destroying and damaging 31 enemy planes.^{49,50} All necessary measures were taken to weaken the enemy's air grouping. A special air operation was conducted from 27 to 29 October by forces of the 8th Air Army and three Long-Range Aviation divisions (24th, 53rd, and 62nd; commanders—Lieutenant Colonel B. V. Bitskiy and Colonels I. V. Georgiyev and G. N. Tupikov). Some 173 Frontal Aviation and 141 Long-Range Aviation aircraft participated in it, for a total of more than 300 planes. Thirteen airfields were attacked. Some 502 sorties were flown. The operation was successful, several dozen enemy planes being put out of action.⁵¹

In the defensive operation at Stalingrad Soviet aviation flew 45 percent of all of its sorties in its struggle for air supremacy. Between 17 July and 18 November 1942 enemy aviation lost more than 2,100 planes at Stalingrad.⁵²

The Stavka prepared for a powerful counteroffensive during the defensive encounter at Stalingrad. The Stavka made the basic decision for a counteroffensive as early as 13 September 1942. The front commands were ordered to begin the actual work of planning the counteroffensive in early October. On 9 October the front commanders submitted their initial ideas to the Stavka.

VVS Commander General A. A. Novikov, his deputy General G. A. Vorozheykin, and Long-Range Aviation commander General A. Ye. Golovanov led the efforts to work out the operational employment of the Air Force in the

counteroffensive at Stalingrad. The Stavka played the principal role in planning and supporting this operation. The VVS was given the missions of continuing the fight for strategic air supremacy and supporting the front strike groupings in the offensive. By November 1942 the Soviet Air Force had grown considerably, with a strength in the operational army of 4,544 combat aircraft, while that of the enemy was 3,500.⁵³ Ten RVGK air corps had been formed by this time. New manning tables were written for Frontal Aviation regiments, which now consisted of three rather than two air squadrons. A transition from the 3-plane flight to a flight consisting of two pairs of planes was completed in fighter aviation.

Preparations of the aviation resources called in for the counteroffensive were intense. There were delays, however, in concentrating aviation at airfields in the vicinity of Stalingrad. There were problems in accumulating aviation fuel and ammunition.

General A. A. Novikov reported to Marshal of the Soviet Union G. K. Zhukov, who was in the vicinity of Stalingrad, that aviation was not yet ready for the counteroffensive. There was fuel for only two refuelings available and ammunition was short. Air units intended as reinforcements had not finished concentrating. The marshal reported this to the Supreme Commander. The Stavka response received on 12 November read as follows: "If air preparation for the operation is unsatisfactory at Yeremenko and Vatutin's locations, the operation will end in failure. Experience in fighting the Germans shows that we can win an operation against them only if we have air superiority. In this regard our aviation must accomplish three missions:

"First—concentrate the actions of our aviation in the area of advance of our strike units, suppress German aviation, and provide solid cover to our troops;

"Second—open the way for our advancing units through systematic bombing of the enemy troops opposing us;

"Third—pursue retreating enemy troops with systematic bombing and ground attacks so as to fully confuse them and prevent them from digging in at their nearest lines of defense.

"If Novikov believes that our aviation is not in a position to accomplish these missions now, then it would be better to postpone the operation for a certain amount of time and accumulate more aviation.

"Speak to Novikov and Vorozheykin, explain this to them, and inform me of your general opinion."⁵⁴

The Supreme Commander's response not only contained specific directions as to how to organize the Air Force actions in the counteroffensive at Stalingrad but also presented the fundamental principles of Soviet military art based on the

experience of the first period of the war. These principles formed the basis of subsequent aviation employment in all frontal and strategic offensive operations of the Soviet Armed Forces.

The 125-day defensive battle at Stalingrad ended on 18 November. With it ended the most difficult first period of the Great Patriotic War. The Soviet Air Force played an extremely important role here. Assisting the troops and fighting a continuous battle for air supremacy, it flew 77,000 combat sorties, dropped 23,000 bombs on the enemy, launched 38,000 rockets, fired up to 1.2 million cannon shells and about 4 million machine gun rounds, and inflicted tremendous losses on the enemy.⁵⁵

The acts of heroism of Soviet pilots filled yet another brilliant page of the chronicle of the Great Patriotic War. Our heroes rammed enemy planes 16 times. The names of V. V. Zemlyanskiy, I. P. Zazulinskiy, A. A. Rogal'skiy, M. A. Presnyakov, I. P. Vedenin, and L. Obukhovskiy, who repeated the immortal deed of Captain N. F. Gastello, will remain in the memory of the people forever.

The battle of Stalingrad also brought glory to I. S. Polbin, I. I. Kleshchev, M. D. Baranov, V. M. Golubev, V. D. Lavrinenkov, L. A. Shestakov, A. V. Alelyukhin, I. N. Stepanenko, V. S. Yefremov, S. D. Luganskiy, Amet-Khan Sultan, P. Ya. Golovachev, B. M. Gomolko, I. P. Motornyy, V. N. Makarov, Z. V. Semenyuk, and many others.⁵⁶

The plan for the counteroffensive at Stalingrad finally was approved by the Stavka on 13 November 1942. According to the plan the main thrust was to be made by troops of the Southwestern and Stalingrad fronts. The Southwestern Front was to penetrate enemy defenses from beachheads in the vicinity of Serafimovich and Kletskaya and swiftly advance in the direction of Kalach and Sovetskiy. Troops of the Stalingrad Front were to attack from the region of the Sarpinskiye Lakes and also advance in the direction of Sovetskiy and Kalach. The forces of the 6th Army and the 4th Tank Army were to be encircled in the area between the Volga and the Don by means of powerful converging thrusts. The Don Front made two thrusts: one from the vicinity of Kletskaya to the southeast and another from the vicinity of Kachalinskaya along the left bank of the Don to the south.

VVS resources allocated to participate in the counteroffensive included the 17th Air Army, Southwestern Front (commander General S. A. Krasovskiy, deputy commander for political affairs Brigade Commissar V. N. Tolmachev, chief of staff Colonel K. I. Tel'nov); the 2nd Air Army, Voronezh Front (commander General K. N. Smirnov, deputy commander for political affairs Brigade Commissar S. N. Romazanov, chief of staff Colonel N. L. Stepanov), operationally subordinate to the commander of the Southwestern Front; the 16th Air Army, Don Front (commander General S. I. Rudenko, deputy commander for political affairs Regimental Commissar A. S. Vinogradov, chief of staff General M. M. Kosykh); and the 8th Air Army, Stalingrad Front (commander General



Soviet Fighters Cover a Troop Crossing Over the Volga River Near Stalin-grad.

T. T. Khryukin, deputy commander for political affairs Brigade Commissar A. I. Vikhorev, chief of staff Colonel N. G. Seleznev).

Seven independent air divisions and two composite air corps were sent from the Stavka Reserve to reinforce the air armies. The I Composite Air Corps (commander General V. I. Shevchenko) was assigned to the 17th Air Army, and the II Corps (commander General I. T. Yeremenko) to the 8th Air Army. In the second half of November 1942 the 16th Air Army was reinforced by the II Bomber Air Corps (commander General I. L. Turkel'), and the 8th Air Army was reinforced by the III Composite Air Corps (commander General V. I. Aladinskiy). As before, Stalingrad was covered from the air by the 102nd Air Defense Fighter Division (commander I. G. Puntus).

In sum, our aviation had a strength of 1,414 planes, including 426 that were obsolete (Po-2, R-5, SB). In this sector the enemy had 1,216 planes.⁵⁷ In addition, five Long-Range Aviation divisions were allocated.

The Soviet aviation missions in the counteroffensive were spelled out in a 12 November 1942 telegram sent by the Supreme Commander.

Prior to the combat actions, aviation had to cover the front strike groupings in the regions of their concentration, and, when the troops went over to the offensive, aviation's mission was to support the troops penetrating enemy defenses, support commitment of tank and cavalry corps to the breakthrough, and support their actions at operational depth. Much significance was attached to fighting enemy reserves.

Long-Range Aviation was to be employed within the sector of the Southwestern Front. It was assigned important missions—fighting operational shipments and reserves, and destroying enemy planes on airfields.

Being the Stavka aviation representative, A. A. Novikov participated in the development of the plans for the front counteroffensive, determined the intensity of aviation combat actions, distributed air reserves based on Stavka directions, and involved himself a great deal with the problems of organizing coordination between aviation and the troops, and of logistical support to aviation combat actions.

All of the VVS commander's work was conducted in close coordination with Stavka representatives G. K. Zhukov, A. M. Vasilevskiy, and N. N. Voronov, as well as with the front commanders and directly with the air army and Long-Range Aviation commanders. Here is what Marshal of the Soviet Union G. K. Zhukov writes about this. "From 1 to 4 November we examined and made adjustments in the plans of the Southwestern Front, and then we examined and coordinated the battle plans of the 21st Army and the 5th Tank Army in all details.

"In addition to me, other Stavka representatives were involved in writing the battle plan on the Southwestern Front's staff: artillery problems—General N. N. Voronov, aviation—Generals A. A. Novikov and A. Ye. Golovanov, armored troops—General Ya. N. Fedorenko; these officers were helpful in achieving a fuller understanding of the problems of the employment and coordination of the most important branches of troops."⁵⁸ This made it possible to correctly plan aviation employment in the counteroffensive of the troops of the front, to react promptly and effectively during the counteroffensive to changes in the situation, to retarget reserve air corps and ADD formations to the necessary sectors, and thus influence the success of the troop offensive.

Typically the actions of aviation in the 8th Air Army were planned in the form of an air offensive, the definition of which was spelled out in the Red Army Infantry Field Manual approved by the USSR People's Commissar of Defense on 9 November 1942. It discussed continuous support to infantry by the massed, efficient fire of artillery, mortars, and aviation throughout the entire period of the troop offensive.⁵⁹ The Red Army Field Manual of that same year indicated that "the actions of aviation in an offensive battle essentially take the form of an air offensive, which consists of two periods: preparation for the attack, and support of the attack and action of infantry and tanks deep within enemy defenses."⁶⁰ The principle of massing air power in the sectors of the main thrusts by troops of the front formed the basis of planning the combat actions of all air armies; for example, all air power of the 17th Air Army was assigned the mission of covering and supporting the 5th Tank Army and the 21st Army, which advanced in the main sector. Formations of the 2nd Air Army were to be used within the zone of advance of the 1st Guards Army, while the 16th Air Army concentrated its efforts on the breakthrough sector of the 65th Army. Up to 75 percent

of the 8th Air Army aircraft were given the mission of supporting the 50th Army. Continuous aviation support to penetration of enemy defenses by troops of the front and to exploitation of the offensive in depth was provided for. Air cover and support of tank and mechanized corps intended to exploit the breakthrough were meticulously planned.

The Soviet Army Air Force commander visited almost all airfields at which units were preparing for battle, he talked with pilots, gave instructions to commanders as to how to best solve one problem or another, and ordered his operations group to ensure compliance with his instructions. He had a phenomenal memory; he could recognize almost all air division commanders; he remembered the first and middle name of each of them; and he was aware of their shortcomings and their good sides. He remembered many air regiment and squadron commanders. All instructions and copies of orders issued by the Soviet Army Air Force commander at the front were concurrently transmitted to Moscow, to the VVS staff. Thus members of the Military Council and the VVS staff were always aware of all instructions issued by the VVS commander and his operational group. This made it possible to coordinate the actions of the staff and the appropriate VVS directorates with decisions made concerning aviation employment on other fronts.

During the counteroffensive of our troops, which began on the morning of 19 November 1942 within the zone of the Southwestern and Don fronts, and on 20 November within the zone of the Stalingrad Front, the Soviet Army Air Force commander stationed himself at the forward command post together with A. M. Vasilevskiy, to whom the Stavka assigned the mission of coordinating the actions of all three fronts. The commander from time to time also visited the forward control posts of the 17th and 16th air armies, from which he exerted his influence on aviation actions.

On 23 November the IV Tank Corps, Southwestern Front joined units of the IV Mechanized Corps, Stalingrad Front in the vicinity of Sovetskiy, thus encircling the enemy grouping of 330,000 men. Frontal Aviation played a great role in the swift advance of our troops, actively covering and supporting the troops from the air. In 7 days (from 24 to 30 November) the 17th, 16th, and 8th air armies flew 5,760 combat sorties, which exceeded by a factor of 5 the number of enemy sorties flown in the same time interval. As a result of this and the losses the enemy suffered, the activity of his aviation decreased dramatically.

The fascist German command began transferring reserves on an emergency basis from other sectors and from Western Europe to the Stalingrad sector. Troops of Army Group Don went over to the offensive on 12 December with the goal of breaking through the encirclement. The enemy made it more than halfway to the encircled grouping, but was halted on the Myshkovka River by the 51st Army, which had been joined by the 2nd Guards Army from the Stavka Reserve. The 8th Air Army provided active assistance to these armies. During the engagement on the Myshkovka River it flew more than 750 sorties and helped our troops halt the enemy by striking enemy columns.

From 24 to 29 December the 8th Air Army flew 1,358 combat sorties in the offensive operation undertaken by frontal troops to defeat the enemy's Kotel'nikov grouping.⁶¹

In order to weaken the enemy air grouping during the offensive of the Southwestern Front and the 6th Army of the Voronezh Front, from 3 to 15 December the 2nd and 17th air armies made a number of concentrated strikes against enemy airfields, destroying 140 fascist planes on the ground and in the air.⁶²

The struggle for air supremacy continued to be intense during the operation. Strikes were made against Morozovskiy, Tatsinskaya, Starobel'sk, and Voroshilovgrad airfields, where up to 65 planes were destroyed.⁶³

The tank troops assisted the Soviet Air Force in destroying fascist aviation in this sector. On 24 December the XXIV Tank Corps commanded by General V. M. Bogdanov captured the airfield at Tatsinskaya from the march following a 240-km raid. The tank crews destroyed and captured a large number of German aircraft. During the operation, which ended on 31 December with the defeat of the Italian 8th Army and left flank of Army Group Don, the 2nd and 17th air armies flew 4,177 combat sorties, more than 80 percent on behalf of the troops of the fronts.⁶⁴

At the same time our aviation found itself faced with an entirely new mission—conducting an active struggle against enemy transport aviation attempting to supply the encircled Stalingrad grouping by air. In the first few days the enemy used at least 600 Ju-52s, FW-200s, and other planes to carry the cargo. Later, due to high losses the enemy was forced to use He-111 and Ju-88 bombers for this purpose.

On 30 November 1942 A. A. Novikov instructed General S. I. Rudenko, 16th Air Army commander, to detach one fighter and one ground attack air regiment specifically for the fight against enemy transport aviation. The instructions spelled out the mission of destroying the enemy transport planes at their terminal airfields and in the air, and blockading the most important airfields from the air—Bol'shaya Rossoshka and Podsobnoye Khozyaystvo.⁶⁵

On 4 December 1942 the Soviet Army Air Force commander instructed the 8th and 16th air army commanders to organize operations against enemy air transportation in the vicinity of Stalingrad. The mission of interdicting transport aviation was the Air Force's most important one. Specific directions on issuing special orders to assign fighters and ground attack planes specifically for this purpose were given, the air army boundary lines and zones of operations were established, and the specific missions of blockading and photographing airfields within the ring of encirclement were assigned. The last part of the directive required that the pilots who had distinguished themselves be immediately recommended for government awards and required immediate telephone notification to the command post of the VVS commander concerning the transport aircraft that had

been shot down and destroyed, while detailed reports were to be telegraphed in by 2200 hours.⁶⁶

Creation of a network of radio broadcasting and guidance stations around the ring of encirclement and use of the radio resources of the aviation representatives in the troop units for these purposes played a major role. For example, on the morning of 11 December 18 fighters of the 3rd and 9th Guards fighter air regiments took off under the command of Colonel I. D. Podgorny, commander of the 235th Fighter Division, in response to a signal from a guidance radio station. In the vicinity of Bol'shiye Chepurniki they attacked 16 Ju-52s and He-111s carrying cargo towards Stalingrad under the cover of four Me-109 fighters. As a result 15 enemy transports were shot down.

Suffering high losses, in mid-December the enemy switched to sorties at night and in bad weather. By direction of the Soviet Army Air Force commander these moves were opposed by night fighters of a special-purpose regiment of the 102nd PVO Fighter Air Division, and by intense activity by our light night bombers, which shut down all enemy airfields with their attacks.

Concurrently the Soviet Army Air Force commander refined the missions of the 17th Air Army, the 102nd PVO Fighter Air Division, and Long-Range Aviation air formations in fighting enemy transport aviation. Communications were established and coordination was organized with antiaircraft artillery units, and the operation of the VNOS* system was put in order. A map showing the zones in which transport aviation was being fought was located at the command post of the VVS commander and of the commanders of the fronts and air armies. It was compiled and reconciled with the front commanders on the basis of the Stavka representatives' directions.

The 17th Air Army and Long-Range Aviation formations operated within the first zone, behind the external front of the encirclement. At the end of December 1942 these formations were joined by the 8th Air Army. Our aviation made a considerable impact on enemy airfields at Morozovskiy, Tatsinskaya, Sal'sk, Novochoerkassk, and Rostov.

The strike made by Frontal Aviation against the airfield at Sal'sk on 9 January was the most typical. The strike was made by seven Il-2s commanded by I. P. Bakhtin, escorted by one squadron of Yak-1 fighters commanded by Senior Lieutenant Belousov. According to air reconnaissance data more than 300 enemy transport and combat aircraft had accumulated on the Sal'sk airfield. The first attack by our planes was undetected, bold, and extremely skillful. Our pilots completed the next five passes extremely successfully as well, with every plane hitting its preassigned target. As a result 72 German transport planes were destroyed on the airfield and three enemy fighters were shot down in the air. We lost four planes.⁶⁷

*[VNOS—*Vozdushnoye nablyudeniye, opoveshcheniye i svyaz'*—Air Observation, Warning, and Communication—U.S. Ed.]

The second zone was circular. It was located between the outer and inner fronts and subdivided into five sectors with one fighter division each from the 16th and 8th air armies and the 102nd PVO Fighter Air Division in each sector. Two belts of radio guidance stations were set up around the encircled area, with command representatives from the fighter divisions at the main stations. They notified the fighters of the enemy transports and aided the fighter pilots in acquiring and destroying the aerial targets.

The third zone bordered the entire area of encirclement, having a width of 16–20 km in the southwestern and up to 30 km in the southern sectors. Enemy transports here were destroyed by antiaircraft artillery fire. By 20 December 1942 this zone contained 235 medium and light antiaircraft guns and 241 machine guns subordinate to the combined arms armies and to the Stalingrad PVO Corps Area.⁶⁸

The fourth zone encompassed the entire area of encirclement. The 16th and 8th air armies and a specially allocated PVO air night regiment from the 102nd Fighter Air Division operated here. The fighters blockaded the enemy airfields during the day and Po-2 aircraft did so at night. When the enemy turned the night runway lights on, our Po-2 night bomber aircraft on airborne alert immediately bombed the fields. Po-2 night bombers put 15 Ju-52s out of action on the airfields and landing strips on 30 November 1942, 13 on 1 December, 31 on 10 December, and 58 on 11 December. In all during the time of the air blockade, 250 enemy planes were destroyed and put out of action on the airfields and landing strips of the fourth zone.⁶⁹

This air blockade of the encircled enemy grouping at Stalingrad, maintained by the combined forces of aviation and antiaircraft artillery, operated extremely effectively. In terms of the content of our aviation activities, the quantity of forces allocated, and the results, this was an Air Force air operation, conducted by the combined forces of three Frontal Aviation air armies and Long-Range Aviation formations. The results of this operation were extremely great. About 1,200 enemy planes, 80 percent transports and bombers, were destroyed on the airfields and in the air.⁷⁰

The Hitlerite command's attempts at supplying the grouping encircled at Stalingrad via an "air bridge" were unsuccessful. "Every day the 6th Army received an average of 50–80 tons of cargo, rather than the 300 tons promised to it."⁷¹

In all during the counteroffensive between 19 November 1942 and 2 February 1943, the Soviet Air Force flew 35,920 sorties. Enemy aviation was credited with about 18,500 sorties.⁷²

Having attained operational air supremacy at the beginning of the counteroffensive, our aviation provided effective assistance to ground forces in encircling a large enemy grouping, repelling strong enemy counterattacks, and de-

stroying enemy troops in the ring of encirclement. Soviet aviation achieved air supremacy by means of a stubborn struggle. During the counteroffensive the number of sorties flown against enemy airfields was increased in comparison with those flown during the defensive period, comprising about 33 percent of all sorties flown directly for the purposes of attaining air superiority. The number of enemy planes destroyed increased from 23.8 percent during the defensive period to 55.9 percent during the counteroffensive.⁷³ The enemy's best air units were defeated in air engagements and on airfields. General H. Doerr, a German commander who had participated in the battle of Stalingrad, was forced to recognize that in this operation German aviation suffered the greatest losses since the air offensive on England. "Not only the ground troops," he wrote, "but also aviation lost an entire army at Stalingrad."⁷⁴

The Soviet Air Force was able to successfully accomplish three vital missions—attaining operational air supremacy, active air support to the ground forces, and an air blockade of encircled fascist German troops—because of the combined efforts of the 2nd, 8th, 16th, and 17th air armies and Long-Range Aviation under the sole centralized command of Stavka representative General A. A. Novikov, the competent leadership of the formations and units by air army commanders Generals S. A. Krasovskiy, S. I. Rudenko, G. G. Khryukin, and K. N. Smirnov and by Generals A. Ye. Golovanov and N. S. Skripko commanding Long-Range Aviation, and because of the acts of heroism by commanders, political workers, and all flight crews and technicians. For the first time in the war four air armies and five Long-Range Aviation air divisions coordinated in an organized fashion on a large scale, and for the first time we witnessed a new form of VVS operational employment—the air offensive. An air blockade was organized and conducted extremely successfully, and the problems of organization and control were solved in an entirely new way.

"In the battle of Stalingrad our Air Force destroyed the better part of the best German squadrons, and then it brilliantly maintained an air blockade of the encircled German armies in Stalingrad."⁷⁵

The heroic deeds of the airmen were highly regarded by the Communist Party and the Soviet government. Nine air divisions were reorganized as Guards divisions, 17 pilots earned the lofty title Hero of the Soviet Union, and 1,000 were awarded orders and medals.

The Hitlerite command was forced to recognize its total defeat not only on land but also in the air. "The German Air Force suffered great losses at Stalingrad. From 19 November 1942 to 31 December 1942 the Germans lost about 3,000 planes. This figure includes not only planes shot down but also those captured by the Russians on airfields. An enormous amount of ammunition as well as much equipment and other property was lost."⁷⁶

The victory won by the Soviet Armed Forces at Stalingrad fundamentally altered the situation on land and in the air. "When we recall the decisive events

of the Great Patriotic War," said L. I. Brezhnev at a gathering to observe the 20th anniversary of the Soviet people's victory in the Great Patriotic War on 8 May 1965, "we remember the famous battle of Stalingrad, those bloody engagements of summer and fall 1942. In this battle the Red Army displayed heroism and military proficiency that had never known equals in the history of war, and it won a brilliant victory. This laid the basis for the fundamental turning point in the entire world war."⁷⁷ A fundamental turning point clearly took shape in the struggle for strategic air supremacy along the entire Soviet-German front. The battle of Stalingrad, and especially its second period, contributed a great deal to further development of VVS operational art and organizational structure. On arriving in Moscow, Soviet Army Air Force commander A. A. Novikov gave specific directions to General N. A. Zhuravlev on what to write in a report to the Supreme Commander concerning the results of and conclusions on VVS actions at Stalingrad. On 3 February 1943 the VVS commander submitted the summary report to J. V. Stalin. It presented the fundamental principles of aviation actions at the time of the enemy's penetration of our defenses. It was suggested that during artillery preparation, aviation should be released from actions on the forward edge and targeted to destroy headquarters and communication centers with the goal of disrupting command and control. During ground troop attacks, aviation should direct its efforts at destroying artillery and mortars. To fight reserves, the air army commander should have at his disposal an air reserve comprising up to one-fourth of all forces. Commitment of mobile groups (mechanized and tank corps) to a breakthrough should be supported by ground attack air formations and units attached directly to the corps, which should have aviation representatives present with their own communications for calling in and guiding aviation. The report suggested that we abandon patrolling as the means of covering troops on the battlefield, resorting to it only in exceptional cases, and that we adopt as the principal method placing fighters on alert at forward airfields, to be called in. It was concluded that fighter and ground attack aviation was the best resource to be used against transport aviation. It was suggested that special formations and units be assigned to the fight against transport aviation, freeing them from all other missions.

Presence of a composite air regiment in each combined arms army means dispersal of aviation forces; thus it was suggested that these air regiments be disbanded and replaced by liaison air squadrons with 12 Po-2's. A number of proposals were made on improving the organizational structure and on designing a new frontal bomber to replace the Pe-2 with its limited radius of action (450 km maximum). A Pe-2 bomber division should consist of two regiments of 32 planes each, as opposed to three with 20 planes each. It was pointed out that when it was necessary to coordinate the actions of aviation from two or three fronts, because of their short range we could not use bombers based in one front to strike targets in a neighboring front.

It was advisable to have composite air corps consisting of two fighter and one ground attack or bomber division. In this case one fighter air division could coordinate with the ground attack or bomber air division while the second could be used in the struggle for air supremacy.

Moreover our aviation actions in the battle of Stalingrad were synthesized by the war experience analysis section and broadly disseminated in information bulletins published by the Soviet Army Air Force staff and sent to commands and staffs at all levels. These bulletins placed special emphasis on the air offensive as a new form of Frontal Aviation operational employment in the offensive operations of frontal troops. It was noted that for the first time aviation was used jointly with tank and mechanized corps to exploit an offensive in depth. The system employed at Stalingrad for organizing aviation coordination with the ground forces was recommended for use in all air armies. Recommendations were also made on making broader use of ground-based radio stations to guide fighters to aerial targets.

After the battle of Stalingrad the Soviet Army initiated an offensive in other sectors of the front, from Leningrad to the Caucasus. On 18 January 1943 troops of the Leningrad and Volkhov fronts broke the blockade of Leningrad with the active support of the 13th Air Army (commander General S. D. Rybal'chenko) and the 14th Air Army (commander General I. P. Zhuravlev). The Hero-City once again had direct land communication with the rest of the country. The victory of Leningrad, which was besieged by the fascist occupiers for 16 months, created favorable conditions for destroying the enemy's beachhead near Demyansk. On 15 February troops of the Northwestern Front went over to the offensive in coordination with the 6th Air Army (commander General F. P. Polynin). Fearing destruction of its partially encircled grouping, the fascist German command withdrew it to the east bank of the Lovat' River. The Demyansk beachhead, which the Germans had held for almost a year and a half, was eliminated. Great credit belongs to our aviation for this. In addition to conducting active operations against the enemy grouping it maintained an air blockade, causing the enemy to suffer significant losses in transport aviation. German historians recognize that transport aviation losses were about 265 planes.⁷⁸ The actions of aviation were coordinated in this sector by General G. A. Vorozheykin and, in February, by General A. A. Novikov, who on 17 March 1943 was the first ever to be awarded the rank of marshal of aviation.

Pursuing the enemy with active support from the 3rd Air Army (commander General M. M. Gromov) and the 1st Air Army (commander General S. A. Khudyakov), troops of the Kalinin and Western fronts liberated Rzhev on 3 March 1943 and, 3 days later, Gzhatsk; on 12 March they liberated Vyaz'ma, and by 1 April they had reached a line east of the cities of Dukhovshchina and Spas-Demyansk.

Offensive actions by Soviet troops in the North Caucasus continued until mid-February with the support of the 4th and 5th air armies (commanders Generals N. F. Naumenko and S. K. Goryunov). By this time the troops had moved 160-600 km forward and liberated the greater part of the North Caucasus and Rostov Oblast.

At the same time strikes were made on the upper Don near Ostrogzhsk, Rossosh', and Voronezh. By 27 January 1943, 15 fascist divisions had been to-

tally destroyed and 6 had suffered large losses. More than 86,000 enemy enlisted men and officers were captured.⁷⁹ In coordination with the left wing of the Bryansk Front and with active Frontal Aviation support (2nd Air Army commander General K. N. Smirnov, 15th Air Army commander General I. G. Pyatykhin), in late January 1943 the Voronezh Front penetrated fascist German defenses and began an offensive in the Kursk sector while making simultaneous strikes in the direction of Kastornoye. As a result of the Voronezh-Kastornoye operation the enemy grouping was destroyed and the greater part of Voronezh and Kursk oblasts was liberated. Continuing their offensive, the Voronezh Front troops liberated Kursk, Belgorod, and Khar'kov, and in the first days of March 1943 they reached the Sumy-30 km west of Akhtyrka-Okhocheye line. Here our troops were halted by a large enemy force.

The situation did not evolve favorably for us in the Donets Basin and at Khar'kov. With the support of the 17th Air Army (commander General S. A. Krasovskiy), troops of the Southwestern Front had gone over to the offensive back on 29 January 1943. In the first half of February they liberated the northern part of the Donets Basin and mobile formations reached the vicinity of Krasnoarmeyskoye; actively supported by the 8th Air Army (commander General T. T. Khryukin), troops of the Southern Front went over to the offensive on 5 February, broke enemy resistance at the lower reaches of the Don and the Northern Donets, and by 17 February 1943 had reached the river Mius. On 19 February a large enemy force made two strikes from areas northwest of Krasnograd and south of Krasnoarmeyskoye against the right wing of the Southwestern Front. As a result, in March 1943 troops of the right wing of the Southwestern Front were forced to withdraw across the Northern Donets where the enemy's advance was halted. On 4 March a strong grouping of fascist German troops southwest of Khar'kov began a counteroffensive against troops of the Voronezh Front. Outnumbered, troops of the Voronezh Front abandoned Khar'kov on 15 March, and Belgorod 3 days later. By the end of March 1943 the front's troops had withdrawn and were dug in on a line from Krasnopol'ye north of Belgorod down along the left bank of the Northern Donets. This formed the southern face of the so-called Kursk salient, fated to play such a great role in subsequent actions of the Soviet Armed Forces.

Notes

1. *World War II History*, V, 25.
2. *Ibid.*, p. 121.
3. *Patriotic War Short History*, p. 155.
4. *Archives*, f. 35, op. 11250, d. 91, ll. 7-18.
5. *Dvazhdy Geroyi Sovetskogo Soyuz* [Twice Heroes of the Soviet Union] (Moscow, 1973), p. 144. [Hereafter referred to as *Twice Heroes*—U.S. Ed.]
6. *Voyenno-istoricheskiy zhurnal*, No. 2, 1974, pp. 33-34.
7. *World War II History*, IV, 315.
8. *Bol'shaya sovetskaya ensiklopediya* [Great Soviet Encyclopedia], 3rd ed., XVIII, (Moscow, 1974), p. 64; *Twice Heroes*, p. 144.
9. *Pravda*, 28 September 1942.
10. *Ibid.*, 25 July 1942.

11. *Archives*, f. 132-A, op. 2642, d. 12, 11. 166-67.
12. *Ibid.*, f. 35, op. 30809, d. 50, 11. 4-6.
13. *Ibid.*, op. 11285, d. 519, 11. 28-35.
14. *World War II History*, V, 48.
15. *Ibid.*
16. *Archives*, f. 290, op. 517179, d. 7, 1. 27.
17. *Voyenno-istoricheskiy zhurnal*, No. 9, 1972, p. 69.
18. *Ibid.*, No. 5, 1974, p. 55.
19. *Archives*, f. 35, op. 11285, d. 555, 11. 2-6.
20. *Ibid.*, d. 567, 1. 1.
21. *Ibid.*, 11. 1-6.
22. *Ibid.*, f. 1, op. 517117, d. 1, 1. 11.
23. *Ibid.*, f. 319, op. 826, d. 37, 1. 36.
24. *Ibid.*, f. 346, op. 52133, d. 3, 11. 147-48.
25. *Ibid.*, f. 35, op. 30802, d. 54, 11. 11-20.
26. I. V. Timokhovich, *Operativnoye iskusstvo Sovetskikh VVS v Velikoy Otechestvennoy voyne* [Soviet Air Force Operational Art in the Great Patriotic War] (Moscow, 1976), p. 33. [Hereafter referred to as Timokhovich—U.S. Ed.]
27. *Ibid.*
28. *Ibid.*
29. *Archives*, f. 132-A, op. 2642, d. 41, 11. 152-53.
30. *Ibid.*, 1. 139.
31. *Ibid.*, d. 12, 11., 253-54.
32. *Patriotic War Short History*, p. 166.
33. *Archives*, f. 35, op. 11285, d. 546, 1. 113.
34. *World War II History*, V, 157.
35. *Ibid.*, p. 158.
36. *Patriotic War Short History*, p. 168.
37. *Archives*, f. 319, op. 8026, d. 37, 11. 141-46.
38. *Ibid.*, f. 35, op. 11285, d. 514, 11. 28-37.
39. *World War II History*, V, 165.
40. *Ibid.*, pp. 168, 169.
41. *Ibid.*
42. *Archives*, f. 35, op. 11519, d. 270, 11. 19-20, 27-28.
43. *Ibid.*
44. *Ibid.*, 1. 14; *World War II History*, V, 174.
45. *World War II History*, V, 179.
46. Zhukov, II, 89-90.
47. *Archives*, f. 366, op. 21852, d. 1, 1. 87.
48. *Ibid.*, f. 368, op. 14985, d. 2, 1. 39.
49. *Ibid.*, op. 6476, d. 4, 11. 114, 115.
50. *Ibid.*
51. *SAF Collection*, No. 1, p. 34.
52. Timokhovich, p. 35.
53. *World War II History*, VI, 20.
54. Zhukov, II, 109-10.
55. *SAF in World War II*, p. 114.
56. *Voyenno-istoricheskiy zhurnal*, No. 7, 1972, p. 33.
57. *SAF in World War II*, p. 136.
58. Zhukov, II, 107.
59. *Boyevoy ustav pekhoty Krasnoy Armii* [Red Army Infantry Field Manual], Part 1 (Moscow, 1942), p. 8.
60. *Polevoy ustav Krasnoy Armii. 1942. Proyekt* [Red Army Field Service Regulations. 1942. Draft], Moscow, 1942, p. 12.
61. *Archives*, f. 228, op. 505, d. 2, 11. 506-31.
62. *Ibid.*, f. 379, op. 142207, d. 1, 1. 10.
63. *Ibid.*, 11. 15-16.

64. *SAF in World War II*, p. 144.
65. *Archives*, f. 368, op. 21852, d. 3, l. 91.
66. *Ibid.*, ll. 91, 93–94.
67. *Ibid.*, f. 346, op. 118418, d. 10, ll. 8–9.
68. *Voyska protivovozdushnoy oborony strany. Istoricheskiy ocherk* [National Air Defense Forces: A Historical Outline] (Moscow, 1968), p. 204.
69. *Great Patriotic War*, III, 383.
70. *SAF in World War II*, p. 147.
71. *Mirovaya voyna 1939–1945 gg.* [The World War of 1939–1945], translated from the German, (Moscow, 1957), p. 480.
72. *SAF in World War II*, p. 151.
73. L. Korets, *Sovetskiye VVS v bitve pod Stalingradom* [The Soviet Air Force in the Battle of Stalingrad] (Moscow, 1959), p. 262.
74. H. Doerr, *Pokhod na Stalingrad* [The Stalingrad Campaign], translated from the German (Moscow, 1957), p. 118.
75. *Pravda*, 20 August 1944.
76. *Mirovaya voyna 1939–1945 gg. Sbornik statey* [The World War of 1939–1945: A Collection of Articles], p. 481.
77. L. I. Brezhnev, *Leninskim kursom* [Following Lenin's Course], I (Moscow, 1970), p. 126.
78. *Mirovaya voyna 1939–1945 gg.*, p. 476.
79. *Patriotic War Short History*, p. 228.

Chapter 4. The Struggle for Strategic Air Supremacy in Spring and Summer 1943

During the winter campaign of 1942–1943 the Soviet Air Force achieved significant successes in the struggle for strategic air supremacy. Enemy aviation suffered serious losses, more than 4,300 planes being destroyed.¹ Fascist German aviation lost its strategic air supremacy in the Stalingrad sector. The Luftwaffe command could not accept the situation, and it perpetually increased the forces of aviation in the East. From 15 March to 1 July 1943, 13 air groups were transferred from Germany, France, and Norway to reinforce the 6th and 4th air fleets. The command intended to recapture the lost initiative on the front's southern wing and retain strategic air supremacy from the Barents to the Black Sea. There were 2,620 German planes (1,710 bombers, 555 fighters and 355 reconnaissance planes) on the Soviet-German front in spring 1943, not counting reserve units. Moreover, 335 planes from the Finnish, Romanian, and Hungarian air force were operating in this area. In all, the Soviet Air Force was opposed by about 3,000 enemy combat aircraft. The Hitlerite command tried to compensate for the shortage of planes and flight crews by introduction of a new aircraft, the Focke-Wulf-190a.² The Henschel-129 began to be used as a ground attack plane on the battlefield.³ But the new planes could not significantly influence the change in the correlation of forces in the air, which was constantly turning in favor of the Soviet Air Force. The Soviet Air Force greeted the spring of 1943 with much higher strength. The air armies created in 1942 turned out to be the most successful form for organizing major Frontal Aviation operational air formations. By April 1943, 13 air armies were operating within the fronts. By this time 19 RVGK air corps had also been formed (four fighter, nine composite, three ground attack, and three bomber), with a total strength of more than 2,600 combat aircraft.⁴ As a rule the RVGK air corps were attached to frontal air armies for the duration of the ground and air operations, and thus they enlarged their aircraft inventory. While at the end of 1942 the average air army strength did not exceed 350–400 planes, by summer 1943 the attached air corps increased the combat strength of the air armies by a factor of two and that of air armies operating in the main sector by a factor of three.

Long-Range Aviation experienced quantitative and qualitative growth as well. On 30 April 1943 the State Defense Committee decided to organize eight air corps to replace the existing 11 independent Long-Range Aviation air divisions. The total number of planes within ADD increased to 700. The following were appointed corps commanders: I—General D. P. Yukhanov, II—General

Ye. F. Loginov, III—General N. A. Volkov, IV—Colonel S. P. Kovalev, V—General I. V. Georgiyev, VI—General G. N. Tupikov, VII—General V. Ye. Nestertsev, and VIII Air Corps—General N. N. Buyanskiy. Soviet Air Force command cadres acquired experience in command and control of numbered air forces, formations, and units in modern warfare.

Preparing new strategic offensive operations in spring 1943, the Stavka tasked the Air Force to carry out a decisive attack on enemy aviation and achieve strategic air supremacy once and for all. Attainment of strategic air supremacy was one of the important prerequisites for achieving a fundamental turning point in the Great Patriotic War. All of the necessary conditions for accomplishment of this mission existed.

The Soviet operating army's Air Force possessed more than 5,500 combat aircraft in the spring of 1943, surpassing enemy aviation by a factor of 1.8.⁵ The Soviet Army Air Force command and staff acquired a great deal of experience in organizing the fight against enemy aviation, both in terms of daily combat actions within the frameworks of defensive and offensive operations, and in regard to the conduct of special air operations.

The turning point in the struggle for strategic air supremacy that first manifested itself at Stalingrad developed further during air encounters in the Kuban' and in the spring-summer Soviet Air Force air operations, and it was achieved in the summer of 1943 at Kursk.

Air Encounters in the Kuban'

Air encounters in the Kuban' in spring 1943 entered history as one of the most important stages in the Soviet Air Force's struggle for strategic air supremacy on the entire Soviet-German front.⁶ They were most intimately associated with ground forces operations and they developed in the unique situation which evolved in response to military-political and physico-geographic factors.

The North Caucasus Front had to complete the destruction of fascist German troops in the Caucasus and liberate the Taman' Peninsula. In turn the fascist German command pursued the goal of retaining occupied positions at all costs and wiping out the beachhead southwest of Novorossiysk, where back on 4 February 1943 a naval assault landing party commanded by Major Ts. L. Kunikov landed in the vicinity of the fishing village of Stanichka. The assault landing troops, who were subsequently reinforced by troops of the 18th Army, held firmly to their beachhead with active support from North Caucasus Front and Black Sea Fleet aviation.

The German 17th Army, which had a strength of 16 divisions, was defending itself at the lower reaches of the Kuban' River and on the Taman' Peninsula. It occupied east of Krymskaya a line, consisting mainly of strongpoints and

pockets of resistance in population centers and on hills. The village of Krymskaya was the enemy's most important center of defense, since the main lines of communication to Novorossiysk, Anapa, Taman', and Temryuk passed through it. The German Supreme Command reinforced the 17th Army with two German infantry divisions and one of Romanian cavalry.

Troops of the North Caucasus Front were superior to the enemy in infantry and tanks by a factor of 1.5, and in artillery by somewhat less.

Feeling the shortage of troops, the enemy placed his hopes on halting the preparations for the Soviet offensive and destroying our assault landing group at Myskhako with the assistance of aviation. It was with this goal that up to 1,000 combat aircraft of the 4th Air Fleet (510 bombers, 250 fighters, 60 reconnaissance, and 170 transport planes) were concentrated at the airfields of Crimea and Taman' in mid-April.⁷ In addition the enemy allocated 200 bombers based in the Donets Basin and in the southern Ukraine for strikes against troops of the North Caucasus Front. The enemy's air grouping in this sector consisted of the best German Air Force units—the Udet Fighter Squadron and the 5th Moelders Fighter Squadron, manned by experienced flight crews and equipped with new Me-109 and FW-190a aircraft.

Prior to 23 April the North Caucasus Front VVS consisted of the 4th Air Army with 250 planes (commander General N. F. Naumenko) and the 5th Air Army with a strength of 200 planes (commander General S. K. Goryunov). In addition the troops of the North Caucasus Front were assisted by 70 planes from the Black Sea Fleet VVS (commander General V. V. Yermachenkov) and one Long-Range Aviation division with a strength of 60 planes.⁸ The North Caucasus Front VVS was headed by General K. A. Vershinin.⁹ The offensive previously started by the North Caucasus Front's troops was resumed on 4 April. The concept of the operation envisioned bypassing Krymskaya on the north and south, capturing it, and, exploiting the offensive with troops of the right wing and center toward Varenikovskaya and with troops of the left wing toward Verkhne-Bakanskiy and Anapa, destroying the main enemy grouping on the Taman' Peninsula piecemeal. Fierce battles raged near Krymskaya and Myskhako throughout April.

By direction of the Supreme Commander on 18 April 1943 Stavka representatives Marshal of the Soviet Union G. K. Zhukov and Marshal of Aviation A. A. Novikov arrived at Taman'.

"I was ordered," wrote Marshal of the Soviet Union G. K. Zhukov in his memoirs, "to fly to the North Caucasus Front on 18 April. The troops of this front were involved in intense engagements with the objective of liquidating the enemy's Taman' grouping, the nucleus of which was the well-equipped German 17th Army.

"Liquidating the enemy on the Taman' Peninsula was of great importance to the Soviet command. In addition to destroying a large enemy grouping (14-16

divisions or about 180,000–200,000 men were operating in this area), as a result of the operation we liberated Novorossiysk. Here on a small beachhead a heroic detachment of soldiers of the 18th Army and seamen of the Black Sea Fleet had fought since early February.

“I arrived at the headquarters of General K. N. Lesilidze’s 18th Army with People’s Naval Commissar N. G. Kuznetsov, VVS commander A. A. Novikov, and General S. M. Shtemenko from the General Staff.”¹⁰

The VVS commander’s operations group included Colonels N. F. Andrianov and A. N. Mal’tsev and Lieutenant Colonel M. N. Kozhevnikov. There was also a small operations group made up of several officers from the General Staff. The Soviet Army Air Force staff had worked out the measures for concentrating air formations of the Stavka Reserve in the southern sector back in the beginning of April.

By 20 April the North Caucasus Front VVS was reinforced from the Stavka Reserve by the II Bomber Air Corps (commander General V. A. Ushakov), III Fighter Air Corps (commander General Ye. Ya. Savitskiy), II Composite Air Corps (commander General I. T. Yeremenko), and the 282nd Fighter Air Division (commander, Colonel S. P. Danilov).¹¹ Long-Range Aviation sent the 50th Air Division (commander Colonel S. S. Lebedev). The 62nd Air Division (commander Colonel G. N. Tupikov) also arrived in April. The allocated Long-Range Aviation forces were led by General N. S. Skripko. Including the newly arrived air formations and Black Sea Fleet aviation, our air grouping now consisted of 900 combat aircraft, including 800 planes in Frontal Aviation (270 fighters, 170 ground attack planes, 165 day bombers, and 195 night bombers.)¹²

Thus when we include aircraft brought in from the VVS of the neighboring fronts, the correlation of forces in the air was approximately equal. Overall leadership and coordination of aviation actions was the responsibility of Marshal of Aviation A. A. Novikov.¹³ The combat capability of our aviation was extremely high. There were many well-trained air formations and units in the North Caucasus Front VVS. The proportion of new types of planes in bomber aviation was 65 percent. Fighter aviation had been almost totally rearmed with new planes—the Yak-1, Yak-7b, and La-5. In all, 11 percent were planes produced in America and England—B-20 and B-3 bombers, and Aerocobra and Spitfire fighters. In regard to the correlation of forces, we had the advantage in fighters, while the enemy was superior to us in bomber aviation and enjoyed better basing and more airfields for maneuvering.

The following missions were assigned to the Air Force in the North Caucasus sector: attain air supremacy, reliably cover the ground forces, support the offensive of the 56th Army and the stubborn defense of our assault landing units southwest of Novorossiysk.

With the rich combat experience in employing aviation at Stalingrad as a basis, the plan for an air offensive was written in full scope here for the first time.

It was signed by the North Caucasus Front commander General I. I. Maslennikov, front Military Council member General A. Ya. Fominykh, and by the front VVS commander General K. A. Vershinin. On 20 April 1943 the plan for the air offensive by the North Caucasus Front Air Force with attached aviation from the Stavka Reserve to destroy the enemy grouping on the Taman' Peninsula was approved by Marshal of the Soviet Union G. K. Zhukov and Marshal of Aviation A. A. Novikov.

The plan provided for attaining air supremacy; destroying enemy manpower and artillery by bomber and ground attack strikes to support the stubborn defense of our assault landing units southwest of Novorossiysk and the advance of the 56th Army; and performing air reconnaissance on behalf of the front's troops and aviation.

The following were allocated to accomplish these missions: 733 planes from the North Caucasus Front VVS, 79 from the Black Sea Fleet, 36 from the Southern Front VVS, and 200 planes from Long-Range Aviation—1,048 planes in all (508 bombers, 170 ground attack planes, and 370 fighters)—plus a portion of the Southwestern Front aviation resources.¹⁴ In the event the enemy was especially active on the ground and in the air against the assault landing group southwest of Novorossiysk, all aviation was to be retargeted for its support.

During preparations for and conduct of the operation the command devoted a great deal of attention to organizing and achieving coordination between the aviation elements and branches and with the ground forces. Frontal Aviation coordination with the Black Sea Fleet VVS was to involve distribution of areas and times of action and transfer of the operational subordination of some of the 5th Air Army fighters to the Black Sea Fleet VVS commander. The front VVS auxiliary control post was deployed with the front command post near the village of Abinskaya to control all aviation over the battlefield. The auxiliary control posts of the 4th and 5th air armies were deployed and moved to the front line. Aviation representatives were assigned to the rifle divisions.

Five radio stations were deployed at the front line to control fighters over the battlefield; three were in the sector of the 56th Army, including one main control radio station.¹⁵ A. A. Novikov, K. A. Vershinin, 216th Fighter Air Division commander General A. V. Borman (in charge of fighter guidance), and a group of officers from the 4th Air Army were present in the main control radio station during the air encounters.

The first air encounter began on 17 April when the enemy attempted to wipe out the assault landing units on the beachhead near Myskhako. At 0630 hours, following intense artillery and aerial preparation, the enemy went over to the offensive. The enemy launched 450 bombers and about 200 fighters against troops of the 18th Army defending a beachhead with a total area of 30 square km. To oppose the enemy offensive near Myskhako, the Soviet command allocated 500 planes, including 100 bombers. On that day German bombers flew more than

1,000 sorties against Myskhako. Soviet fighters responded with active resistance.¹⁶ On 20 April the enemy once again undertook a powerful offensive against the defenders of the "Little Land." About 30 minutes before the beginning of the enemy's offensive, Frontal Aviation made an effective strike with a force of 60 bombers and 30 fighters against enemy troops preparing for the attack. After a short interval of time the offensive of the enemy troops was halted for all practical purposes by a second strike by a group of 100 planes. General K. N. Leselidze, commander of the 18th Army, wrote in this regard: "The massed strikes by our aviation against the enemy trying to destroy the assault landing units near Myskhako foiled his plans. Personnel of the assault landing group gained confidence in their strength."¹⁷

The high morale of the defenders of the "Little Land," their steadfastness, and their bravery were constantly bolstered by party-political work conducted intensively by the 18th Army's political department, which was headed by Colonel Leonid Il'ich Brezhnev.

On subsequent days the power of our air strikes against the enemy grew continuously due to commitment of RVGK air corps arriving at the front. The enemy launched large fighter forces against our bombers and ground attack aircraft, and he continued bombing the defenders of the "Little Land." Fierce air engagements went on continuously. On 20 April Soviet fighters shot down 50 German planes. Having lost 182 planes (152 shot down by fighters and 30 by antiaircraft artillery) in 8 days of battle (from 17 to 24 April), the fascist German squadrons were compelled to abandon the battlefield to our aviation.¹⁸ A turning point occurred in the air situation. Fascist German aviation activity declined noticeably. The Hitlerites were forced to halt the offensive started on 17 April and withdraw to their initial position, and German aviation went over to defensive operations.

"Our aviation played an important role in repelling all enemy attacks at Myskhako," wrote Marshal of the Soviet Union A. A. Grechko in his memoirs. "By its massed actions, it contained the enemy offensive and forced enemy aviation to reduce its activity. The 17th Army Command was forced to report to the Army Group A staff: 'Today's Russian air offensive initiated against Novorossiysk from the area where the assault party landed, and the strong attack by the Russian air fleet on the airfields demonstrated the great potential of Russian aviation.' The first air encounters in the Novorossiysk sector were won by our aviation."¹⁹

Our pilots displayed great courage and heroism. On 21 April pilot N. V. Rykhlin of the 805th Ground Attack Air Regiment in his Il-2 was attacking ground targets. Suddenly four German fighters ambushed him. In an unequal air engagement over the battlefield pilot N. V. Rykhlin and gunner I. S. Yefremov shot down two enemy fighters. The Il-2 had been hit many times, but the pilot managed to return the crippled plane to his territory and land successfully on an unimproved airfield at the front. Marshal of Aviation A. A. Novikov



Aerial Combat.

witnessed the entire battle from the forward command post. The pilot and gunner were ordered to report to the forward post, and the two men were awarded battlefield promotions for bravery and valor by an order signed on the spot. Junior Lieutenant N. V. Rykhlin was promoted to senior lieutenant and Senior Sergeant I. S. Yefremov was promoted to junior lieutenant.²⁰

The glory of outstanding combat aces resounded over the Kuban' in those days—A. A. Pokryshkin, the brothers D. B. and B. B. Glinka, V. I. Fadeyev, V. G. Semenishin, G. A. Rechkalov, and others. After the enemy's offensive near Novorossiysk was halted, the North Caucasus Front's aviation was reassigned to support troops of the 56th Army in their offensive near the village of Krymskaya. Concurrently, by Stavka directive the Soviet Air Force made systematic strikes against enemy airfields on the Taman' Peninsula, in the Crimea, and in the southern Ukraine between 17 and 29 April. These actions evolved into an air operation. Its goal was to weaken enemy aviation in the southern sector of the Soviet-German front and thus promote attainment of air supremacy.

In addition to the 4th Air Army, the participants of the operation included formations of the 8th Air Army of the Southern Front, the 17th Air Army of the Southwestern Front, the Black Sea Fleet VVS, and Long-Range Aviation. Airfields at Saki, Sarabuz, Kerch', Taman', and Anapa were subjected to massed attacks. Long-Range Aviation alone destroyed 170 planes at the Saki and Sarabuz airfields. In all, between 17 and 29 April Soviet pilots put 260 planes out of action on enemy airfields.²¹

The savage battles on the "Little Land" were followed by a lull on the entire North Caucasus Front until 29 April. On that day at 0740 hours, following artillery preparation and with active air support, troops of 56th Army resumed their offensive with the objective of splitting the enemy grouping on the Taman' Peninsula with a strike on Krymskaya and Anapa and then annihilating it. The 56th Army's offensive was preceded by aerial preparation, which later evolved into air support. Just during the first 3 hours alone, 144 of our bombers, 82 ground attack planes, and 265 fighters operated over the battlefield. Enemy bombers tried to halt the 56th Army's offensive. Engagements lasting hours on end went on in the air. Forty-two group air engagements, in which Soviet fighters shot down 75 enemy planes, occurred on that day. In the course of the day our aviation flew 1,268 sorties.²²

By attacking north and south of Krymskaya, troops of the 56th Army threatened the enemy's Crimean grouping with encirclement, forcing it to withdraw its troops from this area. Krymskaya was liberated on 4 May. Due to lack of resources, the 56th Army had to abandon any further offensive action. Engagements on the ground died down, while the fight in the air flared up with new, incredible force. On a relatively narrow sector of the front (25–30 km) up to 40 group air engagements occurred in a single day, with 50–80 planes from both sides participating in each of them. The intensity of the air struggle persisted even longer.

In all, between 29 April and 10 May the 4th Air Army, the Black Sea Fleet VVS, and Long-Range Aviation flew about 10,000 sorties, 50 percent of them against enemy troops and equipment on the battlefield. During this period 368 of the enemy's planes, i.e., more than one-third of his initial grouping, were destroyed. North Caucasus Front aviation losses were 70 planes.²³

After liberation of Krymskaya, troops of the North Caucasus Front began preparing for a new offensive operation with the goal of penetrating the enemy's "Blue Line," defeating the German 17th Army, and liberating the entire Taman' Peninsula. On the morning of 26 May, following powerful artillery and aerial preparation, troops of the 56th and 37th armies went over to the offensive in the sector between the settlements of Kiyevskoye and Moldavanskoye. Aerial preparation consisted of one massed attack by 338 planes (84 bombers, 104 ground attack planes, and 150 fighters).²⁴

The enemy resisted savagely, especially in the air, concentrating up to 1,400 aircraft in a radius of up to 500 km from Krasnodar, i.e., within range of Kiyevskoye and Moldavanskoye, against troops of the North Caucasus Front; this required him to transfer bombers in from the Ukraine.²⁵ In the first 3 hours of the offensive, enemy aviation flew more than 1,500 sorties. He managed to seize the initiative in the air temporarily, and in the second half of the day was able to make a strong attack against our troops with about 600 planes.²⁶ A major encounter once again took form in the air. Our fighter pilots fought enemy aviation heroically. The 4th Air Army command took steps to heighten the effectiveness of fighter aviation. Enemy bombers began to be intercepted by fighters at the far approaches, and the "free hunting" tactic came into wider use. The number of night strikes against enemy airfields was increased. Between 26 May and 7 June 845 sorties were flown against enemy airfields.

The steps taken made it possible for our aviation to recover the initiative in the air within a relatively short time. In early June enemy air activity began to show signs of a decline. Soviet fighters once again became the masters of the Kuban' skies. The third major air encounter in the Kuban' was once again won by our aviation. Stubborn battles continued on the ground and in the air until 7 June. But troops of the North Caucasus Front were unable to penetrate the entire depth of enemy defenses and the offensive actions were halted by Stavka directive.

Air engagements in the Kuban' lasted more than 2 months. They evolved into three large air encounters during the period of active ground forces actions. They were the largest of the entire war in terms of the number of air engagements and aircraft participating in them on a narrow sector of the front. During the air encounters our aviation flew approximately 35,000 sorties, 77 percent by Frontal Aviation, 9 percent by Long-Range Aviation, and 14 percent by Black Sea Fleet aviation. The enemy lost 1,100 aircraft, including more than 800 destroyed in the air.²⁷

Air engagements and encounters in the Kuban' demonstrated the growing mastery of flight crews and air commanders. Extensive use was made of vertical maneuvering, echeloning of combat formations by altitude, commitment of reserves to the encounter, and control of a group air engagement from ground-based control posts. The fighter warning and guidance system was well organized, and intensification of the air activity during an air encounter was broadly employed. Fighters often employed the "free hunting" tactic, and

blockaded airfields. Bombers were intercepted by strong maneuvering groups of fighters at the far approaches to the front line. After fighters were equipped with radios, they were able to abandon dense, closed combat formations. While formerly a commander could control his subunit in the air only by maneuvering his own aircraft or by personal example, which required visual communications, in the battle of Stalingrad and especially here in the Kuban' he exercised control by radio alone. Owing to this the fighter combat formations could be echeloned by altitude and front; this came to be called the 'Kuban' stack.'

In the Kuban' battles Soviet pilots displayed bravery, boldness, inventiveness, and extreme devotion to their people and their Communist Party. Fifty-two pilots were awarded the Hero of the Soviet Union title. The names of those who distinguished themselves in air encounters over the Kuban'—A. I. Pokryshkin, who shot down 20 enemy planes over the Kuban', G. G. Golubev, A. F. Klubov, N. F. Smirnov, V. G. Semenishin, V. I. Fadeyev, B. B. Glinka, D. B. Glinka, G. A. Rechkalov, and many others—have been inscribed on a glorious page in Soviet Air Force history.

The victory in the Kuban' was a new, important stage in Soviet aviation's fight for strategic air supremacy along the entire front of armed conflict. The outcome of the air encounters in the Kuban' altered the subsequent course of the struggle for strategic supremacy in favor of the Soviet Air Force.

Speaking at a conference of air division and corps commanders and supervisory personnel of the 4th Air Army, North Caucasus Front on 11 May 1943 at the village of Pashkovskaya near Krasnodar, Marshal of Aviation A. A. Novikov praised the actions of our aviation near Myskhako and within the 56th Army's sector of advance. He also dwelt on three vital problems in the theory and practice of aviation actions, as revealed in the battles at Stalingrad and here in the Kuban'—air supremacy, the air offensive, and how to control aviation via radio. In his statements he defined operational air supremacy and the air offensive. Summarizing two air encounters that had occurred over the Kuban' between 17 April and 10 May, A. A. Novikov pointed out that the 4th Air Army enjoyed all the conditions for retaining the operational air supremacy it had won over the Kuban' and for successfully conducting a powerful air offensive on behalf of the front's troops in the future. He noted that the struggle for air supremacy is the most important Frontal Aviation mission, successful completion of which would deprive enemy bombers of the opportunity to make accurate bomb runs against our combat formations and ensure accomplishment of the missions of our bombers and ground attack aircraft. In such a case fighter aviation could destroy enemy bombers with less interference and force them to drop their bomb loads on their own troops. He once again confirmed that the air offensive concept includes the entire complex of missions performed by an air army in an offensive operation by frontal troops. He devoted special attention to organizing and exercising control of aviation by responsible air commanders guiding their aircraft from radio stations located at forward control posts at the front line—wherever the ground forces troops are engaged in active operations, wherever they are striking the main blow.²⁸

A. A. Novikov's speech at the commanders' conference was subsequently published in an informational bulletin by the Soviet Army Air Force staff and disseminated to all air army supervisory personnel.

Aviation actions in the Kuban' demonstrated that the VVS command and the commanders of the air units and formations had increased their skill in controlling these formations and units.

Soviet Air Force Air Operations to Destroy Enemy Air Groupings in Summer 1943

By summer 1943 the center of gravity of the struggle for strategic air supremacy had shifted to the central sector of the Soviet-German front. Preparing the country's armed forces for the summer-fall encounters, the Stavka attached extremely great significance to completing the struggle for strategic air supremacy and disorganizing German troop concentrations in the Kursk sector. The conditions favored large VVS air operations along a broad front. Being a combination of single or successive massed strikes and air engagements (or encounters) according to a single concept and plan, a VVS air operation seriously weakened opposing enemy aviation groupings and improved the air situation.

In May and June 1943 the Stavka decided to conduct two large air operations to destroy the enemy's main air groupings. At the same time, it was decided to attack enemy rail and motor transportation in the front's central sector. The decision to conduct the first air operation was made by the Stavka at the beginning of May. By order of the Stavka, on 4 May 1943 Chief of General Staff A. M. Vasilevskiy directed the military councils of the Western, Bryansk, Central, Voronezh, Southwestern, and Southern fronts to destroy enemy planes on the ground and in the air, to interdict rail shipments, and to disorganize motor traffic on highways and dirt roads. The concept was to contain the actions of fascist German aviation through simultaneous surprise attacks on airfields along a broad front 1,200 km long from Smolensk to the shores of the Sea of Azov and defeat the enemy groupings near Seshcha, Bryansk, Orel, Khar'kov, and Stalino. The time for the first massed attack against the airfields was set as 0430 to 0500 hours for the 1st, 15th, 16th, 2nd, 17th, and 8th air armies, with subsequent actions against these airfields for a period of 3 days. After a 2-day break, the enemy airfields were to be struck once again by the Soviet Air Force for 3 days. Actions against rail facilities, highways, and dirt roads were to continue for 10 days.²⁹

Air reconnaissance was given an important role in the air operation. Its purpose was to determine the locations of aircraft at airfields, the disposition of air defense resources, and the locations of ammunition and fuel dumps, and to determine the most concealed routes to and from the airfields for our ground attack planes and bombers. Beginning in early May, the enemy's main airfields were subjected to air reconnaissance three times a day—in the morning, in the afternoon, and at twilight—without disturbing the established pattern of reconnaissance. Lengthy surveillance revealed where all of the planes were parked, the

disposition of antiaircraft resources, and the times when all enemy aircraft and personnel were present at most of the airfields.

The VVS command and staff actively participated in development of the air operation plan by the General Staff. A 5 May 1943 directive from the VVS commander issued specific directions to the frontal air army commanders on how to accomplish the assigned missions. The directive stated: "Fulfilling the Stavka order, you must simultaneously attack all of the enemy's main airfields at which aircraft are present in number. The bulk of the enemy's aviation must be suppressed the first day. Thus the enemy airfields must be subjected to repeat attacks that same day, and night bombers must operate against them at night. In the next 2 days, without reducing the stubbornness and persistence of the actions, continue hitting enemy aviation both on the main airfields and on new ones discovered by air reconnaissance. . . . Strike the airfields in large groups, allocating enough aircraft from the air resources available to suppress enemy air defenses."³⁰

In accordance with the directives of the Stavka and the Soviet Army Air Force commander, the air armies were to operate against the following numbers of airfields: 1st Air Army—six, 15th—two, 16th—five, 2nd—eight, 17th—two, and 8th Air Army—three airfields.

To accomplish these missions, the air armies were to fly the following number of sorties in 10 days: 1st Air Army—2,800, 15th—650, 16th—1,050, 2nd—1,900, 17th—2,300, and 8th—1,600, for a total of 10,300.³¹

The covert nature of and careful preparations for the air operation ensured complete surprise and a highly effective first massed strike. Some 434 planes participated in it, simultaneously attacking 17 enemy airfields. Caught unaware, the enemy was unable to offer organized resistance and lost 194 planes on the ground and 21 in air engagements. Soviet aviation lost 21 planes.³² On the average it took two of our sorties to destroy one enemy plane. A repeat strike was made on 6 May at 1500 hours by 372 planes against 20 airfields. The enemy offered serious resistance in the second strike. He had all of his air defenses at full readiness. Fighters were patrolling in the air, and antiaircraft artillery covered the airfields with defensive fire. The Soviet command had expected this. Additional resources were allocated to counter the enemy's air defenses and blockade airfields where fighters were based. Surmounting savage resistance, Soviet pilots destroyed and damaged 134 planes on the ground and shot down 24 German fighters in the air, losing 46 of their own aircraft.

In the third massed attack made on the morning of 7 May, 405 Soviet planes attacked 22 airfields and put 122 enemy planes out of action, including 29 in air engagements. Our losses were 46 planes.

The Soviet Army Air Force command and staff continually monitored air army progress in accomplishing the missions of the operation. On 8 May 1943

the VVS commander published a directive stating, "Our 6 May 1943 attack on enemy airfields was successful owing to surprise. The situation on 7 May 1943 was different. Enemy fighter aviation was alert, at a higher combat readiness, closer to the front line. . . . In such a situation the actions should be directed only at well-reconnoitered airfields, and the number of fighters covering the strike groups should be increased. Ground attack groups must be constantly strong so that they can not only strike aircraft at airfields but also dependably suppress air defenses. . . . Raid tactics should now be based on strength and cunning, since we can no longer count on surprise."³³

On 8 May the Soviet Air Force made a fourth strike with 181 planes. But this strike produced the poorest results. Our aviation destroyed only six enemy planes. The initial surprise was lost, and the Stavka ordered a temporary cessation of strikes against the airfields.³⁴ On 13 May 1943 the Soviet Army Air Force commander reported the following revised summary to the Supreme Commander concerning the actions of our aviation in the air operation of 6, 7, and 8 May 1943. "In 3 days our VVS flew 1,392 sorties, destroyed 373 enemy planes on the ground, damaged 51, shot down 67 in air engagements, and damaged 10 in the air. In sum the enemy lost 501 planes. These data are based on pilot debriefings, information from partisans, and photographs. Our losses were 122 planes, including 21 in air engagements and 8 shot down by enemy antiaircraft artillery; 93 planes failed to return from their missions."³⁵ The report stated that an analysis of the results of the Soviet Air Force's actions demonstrates the great effectiveness of a simultaneous massed strike against enemy airfields situated along a broad front.

In the first massed attack two sorties were flown for every enemy plane destroyed, 2.4 were flown in the second, as many as 3.2 were flown in the third, and 30.2 were flown in the fourth attack. This means that the enemy's opposition increased. In the first massed attack one Soviet plane was lost per 21.7 sorties, one per 8.1 sorties in the second attack, and one per 8.4 sorties in the third. The fourth attack on 8 May turned out to be totally ineffective.³⁶ Thus it was correctly concluded that simultaneous surprise attacks against enemy airfields by large numbers of our planes were the most suitable. The report analyzed the reasons for the lower effectiveness of the subsequent strikes—the higher combat readiness of enemy aviation, especially fighter aviation, and rebasing of enemy aviation at auxiliary airfields, which were extremely difficult to attack without preliminary detection and reconnaissance. This is why the report suggested simultaneous surprise strikes by large aviation forces as the strategy to be employed in actions against enemy airfields when the objective was the destruction of his aviation.

The results of the air operation improved the air situation for the Soviet Armed Forces in the central and southern sectors of the front. But the power of fascist German aviation had not been broken yet. It supported its troops and raided important rail terminals and industrial centers in our country and our airfields.

By Stavka decision on 8–10 June 1943 the Soviet Air Force conducted another very large planned air operation to destroy enemy aviation on airfields. Its objective was to destroy bomber aviation making night raids on important industrial regions in our country—Gor'kiy, Saratov, and Yaroslavl'. The 1st, 15th, and 2nd air armies and Long-Range Aviation formations participated. First 15, and later another 13 airfields were struck. The main attention was turned to destroying planes at the airfields of Seshcha, Bryansk, Karachev, Orel, Olsuf'yevo, Khar'kov, Stalino, and Zaporozh'ye, where air reconnaissance detected the greatest accumulation of enemy bombers. There were unique features to the planning and preparation of this air operation. The Soviet Army Air Force command and staff possessed data indicating that the fascist German command had taken into account the shortcomings of their air defense against our airfield strikes in May, and that they had significantly strengthened airfield cover. This is why in his directives the VVS commander ordered the air army commanders to allot larger forces to the support echelon intended for suppression of anti-aircraft resources. Fighters were tasked to engage enemy fighters in combat in the air and to blockade forward airfields. Up to 160 planes participated in strikes against individual airfields, half of them operating as fighter cover. As a result of the massed Frontal and Long-Range Aviation strikes 141 enemy planes were destroyed and damaged on 8 June, 92 on 9 June, and 16 on 10 June. In all, during the air operation fascist German aviation lost 168 planes on the ground and 81 in air engagements.³⁷

In all, three air operations conducted in spring and at the beginning of summer 1943 the Soviet Air Force destroyed a total of more than 1,000 planes, which significantly accelerated our attainment of strategic air supremacy in summer 1943.

In May and June the fascist German Air Force attempted a number of retaliatory strikes against our airfields. About 300 raids were made against Soviet airfields, with more than 1,200 aircraft participating. But owing to dispersal and meticulous camouflage of planes on the ground, creation of dummy airfields, and strong air defenses, their effectiveness was low. Here is what the VVS commander reported to the Supreme Commander on 22 July 1943 in this regard: "We are employing dummy airfields with great success as one airfield air defense measure. For example, the enemy has dropped 2,214 bombs weighing 46,755 kg on 8th Air Army dummy airfields on the Southern Front in the last month and a half, dropping 61 bombs weighing 2,750 kg on real airfields during this time." The enemy struck dummy airfields, the report went on, supplied with good mock-ups which could not be distinguished from real planes in photographs. It was requested in this connection to have the People's Commissariat of the Aviation Industry build 100 dummy Pe-2s, 300 dummy Il-2s, and 500 dummy fighters.³⁸

Thus the air operations conducted with the objective of destroying the enemy's air groupings were distinguished by great scope, decisiveness of goals, and great effectiveness. They were conducted in periods of relative calm on the

front, when the ground forces were making preparations for forthcoming encounters. Consequently the aviation of the air armies was not busy supporting troops of the fronts and armies. This permitted the VVS to concentrate its efforts on independent missions. Nevertheless the air operations were conducted mainly to support forthcoming strategic offensive operations by groups of fronts.

During the air operations enemy aviation was simultaneously suppressed along a broad front and to a great depth; close coordination was achieved between the Frontal Aviation air armies and Long-Range Aviation formations. During the operation the enemy was deprived of the capability of maneuvering his aviation, concentrating his efforts in the sector of the main strikes made by our VVS, and making retaliatory strikes on a broad front. All of this permitted the Soviet Army Air Force command and staff to reach the correct conclusion that air operations were an effective form for attaining strategic air supremacy.



General N. S. Shimanov.

As a result of the fierce struggle for strategic air supremacy in spring and early summer 1943 the power of fascist German aviation was sapped away. It lost about 3,700 planes on the Soviet-German front between April and June 1943.³⁹ The enemy was already losing the strategic initiative in the air, but he continued to try to maintain his grasp on it with all of his forces. The struggle was resumed with new force at the beginning of July 1943, when the Hitlerites went over to the offensive in the Kursk sector.

Soviet Air Force Actions to Interdict Rail Shipments and Disorganize Enemy Motor Traffic

The most important mission of the Soviet Air Force was to fight the enemy's rail shipments and disorganize his motor traffic on highways and dirt roads. It acquired especially great significance during preparations for the decisive summer encounters of 1943. An order by People's Commissar of Defense J. V. Stalin on 4 May 1943 stated: "Strikes against railroad trains and attacks on motor columns are to be the most important missions of our VVS."⁴⁰

The air armies of seven fronts and Long-Range Aviation were allocated for these missions.

Air Army	Rail Shipments	Motor Shipments
3rd, Kalinin Front	On the line: Sebezh, Novo-Sokol'niki, Polotsk-Nevel', Vitebsk-Nevel'	East of the line: Pustoshka, Nevel', Gorodok
1st, Western Front	East of the line: Vitebsk, Mstislavl', Pochep	East of the line: Smolensk, Roslavl', Bryansk
15th, Bryansk Front	From Bryansk to Orel and on to the front line	East of the line: Karachev, Dimitrovsk-Orlovskiy
16th, Central Front	From Unecha to Mikhaylovskiy and from Konotop to Vorozhba	East of the line: Trubachevsk, Konotop
2nd, Voronezh Front	From Poltava to Khar'kov	East of the line: Belopol'ye, Akhtyrka, Nov. Vodolaga
17th, Southwestern Front	On the lines: Novo-Moskovsk, Merefá, Krasnograd, Slavyansk, Pavlograd, Merefá	East of the line: Krasnograd, Krasnoarmeyskoye
8th, Southern Front	On the lines: Chaplino, Krasnoarmeyskoye, Gorlovka, Debal'tsevo; north of the lines Gorlovka, Debal'tsevo, Mariupol', Stalino, Gorlovka, Taganrog	East of the line: Krasnoarmeyskoye, Mariupol'

A 4 May Stavka directive assigned the mission of interdicting rail shipments and disorganizing motor traffic to the frontal air armies; the table above shows the sectors assigned.

The Frontal Aviation targets included locomotives, railroad trains, and motor vehicles. One ground attack and one fighter air regiment were allocated from each air army for destruction of these targets by order of the Soviet Army Air Force commander. Operating in small groups using the "free hunting" method, these regiments effectively destroyed the assigned targets. A fixed group of "hunters" was assigned to each rail route. Owing to this, within a short time the pilots managed to determine the traffic pattern of enemy trains, the terrain, and the air defenses along each line, and to successfully fight enemy shipments. Pilots of the 16th and 2nd air armies alone flew about 2,000 sorties for this purpose, destroying 6 railroad trains, up to 260 loaded cars, 7 locomotives, and more than 120 motor vehicles.⁴¹

Long-Range Aviation systematically disrupted enemy rail shipments in the spring of 1943. In March, in accordance with a Stavka directive, it conducted a special air operation for the purpose of destroying shipments deep in the enemy's rear area.

For the next three months railway junctions and stations and trains on the

roads were struck. The depth of Long-Range Aviation activities reached 450–600 km, and the width of the zone in which the strikes were made, 350–400 km.

In this period, railway junctions were subjected to intense night raids: Bryansk–2,852 sorties, Orel–2,325, Gomel'–1,641, Unecha–762, Smolensk–523, Orsha–483, Vyaz'ma–427, and Novozybkov–400 sorties. Certain railway junctions were struck repeatedly. For example, the Bryansk junction was struck 11 times in April, 7 times in May, and 4 times in June; in those months Orel was hit 19 times, once, and twice; Gomel'–3 times, 4, and once; Unecha–4 times, once, and twice. In all, Long-Range Aviation flew 9,400 sorties in April, May, and June 1943.⁴²

The effectiveness of aviation activities was great. On 6 March 1943 aviation, together with the partisans, put out of action for several days a section of the Unecha-Bryansk track and in April a section of the Roslavl'-Bryansk track. As a result of a strike on the Gomel' railway junction on 7 March, 17 tank cars with fuel and 24 cars of provisions were burned and 28 cars with ammunition blown up.⁴³

Due to the joint activities of Frontal Aviation and Long-Range Aviation, the enemy suffered significant losses, and his communications were systematically disrupted. At the same time, Long-Range Aviation struck military-industrial and administrative centers deep in the enemy's rear area.

In April the city of Koenigsberg was subjected to air attacks five times, Danzig–twice, Insterburg–once, and Tilsit–three times. In all of April Long-Range Aviation flew 920 sorties against the above cities, dropping nearly 700 tons of bombs.⁴⁴ On the night of 29 April for the first time a 500-ton bomb (the FAB-500) was dropped on Koenigsberg. The strikes by Long-Range Aviation on industrial and administrative centers deep in the enemy's rear area, although not causing any significant material damage, forced the fascist command to keep air defense personnel and equipment in combat readiness and had a definite effect on the enemy's morale.

The actions of the Soviet Air Force in disrupting rail shipments and disorganizing motor-vehicle traffic slowed the concentration of enemy troops in the Kursk sector, complicated their maneuvering, and, in the final analysis, influenced the postponement of the enemy's offensive from June to July 1943.

Notes

1. *World War II History*, VI, 160.
2. A multipurpose fighter having a maximum speed of over 600 km/hr at 6,000 meters; armament—four cannon and two machine guns.
3. A two-engine single-seat plane possessing powerful cannon and machine gun armament.
4. *World War II History*, VII, 101.
5. Timokhovich, p. 41.
6. Air engagements occurred from 17 to 24 April, from 29 April to 10 May, and from 26 May to 7 June.

7. A. A. Grechko, *Bitva za Kavkaz* [The Battle of the Caucasus] (Moscow, 1973), p. 362. [Hereafter referred to as Grechko—U.S. Ed.]
8. *SAF in World War II*, p. 155.
9. In response to a Stavka directive, on 24 April 1943 the 5th Air Army directorate transferred its air formations to the 4th Air Army and withdrew to Kursk, placing itself at the disposal of the Steppe District (Front) command. General K. A. Vershinin assumed command of the 4th Air Army. The North Caucasian Front VVS staff was disbanded.
10. Zhukov, II, 149.
11. *Archives*, f. 319, op. 4798, d. 70, l. 9.
12. Grechko, p. 372.
13. *Ibid.*, p. 363.
14. *Archives*, f. 224, op. 214836, d. 5, ll. 105–7.
15. *SAF in World War II*, p. 158.
16. *Archives*, f. 6598, op. 12475, d. 140, l. 134.
17. *Ibid.*, f. 371, op. 13995, d. 2, l. 180.
18. *Great Patriotic War*, III, 388.
19. Grechko, p. 367.
20. *SAF in World War II*, pp. 161–62.
21. *Great Patriotic War*, III, 388.
22. Grechko, p. 376.
23. *Great Patriotic War*, III, 388.
24. *Archives*, f. 319, op. 4798, d. 47, l. 73.
25. *Ibid.*, l. 74.
26. *Ibid.*
27. *Ibid.*, l. 81.
28. *Ibid.*, f. 35, op. 11280, d. 88, ll. 27–42.
29. *Ibid.*, f. 48–A, op. 2, d. 8, ll. 103–4.
30. *Ibid.*, f. 290, op. 3280, d. 50, l. 58.
31. Including 2,500 sorties flown by light night bomber aviation.
32. *SAF in World War II*, p. 175.
33. Timokhovich, p. 80.
34. *Archives*, f. 48–A, op. 2, d. 8, l. 136.
35. *Ibid.*, f. 35, op. 226133, d. 1, l. 99.
36. *Ibid.*
37. Timokhovich, p. 83.
38. *Archives*, f. 35, op. 11285, d. 807, ll. 89–90.
39. *Ibid.*, op. 22614, d. 8, l. 164.
40. *Voyenno-istoricheskii zhurnal*, No. 1, 1975, p. 78.
41. *SAF in World War II*, p. 177.
42. *Archives*, f. 35, op. 283235, d. 94, l. 4.
43. *Ibid.*, f. 39, op. 11495, d. 13, l. 33.
44. *Ibid.*, op. 11519, d. 649, ll. 52–62.

Chapter 5. The Soviet Army Air Force Command and Staff in the Battle of Kursk

The Operational-Strategic Situation in the Kursk Sector in July 1943

By summer 1943 the center of gravity of the armed conflict shifted to the central sector of the Soviet-German front.

The victory of the Soviet Armed Forces in winter and spring 1943 shook the foundation of the fascist bloc. By this time Germany's general situation had deteriorated considerably. Displeasure with the war intensified in the satellite countries. The prestige of Germany in the eyes of its allies fell. Italy was on the verge of quitting the war. But despite these undeniable facts Hitlerite politicians and strategists felt that the war was not yet lost. The fascist German command decided to conduct a major summer offensive on the Soviet-German front with the goals of improving the army's morale, preventing disintegration of the fascist bloc, and recovering prestige. The fascist German Army was still a large force in summer 1943. There were about 4.8 million men on the Soviet-German front, or about 72 percent of all the German army's forces in the field. In addition there were 525,000 men on this front in satellite armies. In all, countries of the Hitlerite bloc had 5.325 million men on the Soviet-German front.¹ However, the correlation of forces still did not favor the Hitlerite troops. The Soviet army in the field had a strength of 6.442 million men. We surpassed the enemy by a factor of 1.2 in manpower. The superiority of the Soviet Armed Forces was even greater in terms of equipment. We had 98,790 guns and mortars as opposed to 54,300 enemy weapons, 9,580 tanks and self-propelled guns as opposed to the enemy's 5,850, and 8,290 combat aircraft as opposed to the enemy's 2,980.² The front line extended from the Barents Sea to Lake Ladoga, then along the Svir' River to Leningrad, and from there south. At Velikiye Luki it turned southeast, forming a huge salient in the vicinity of Kursk extending deep into the German troop disposition. Next from the vicinity of Belgorod the front line passed east of Khar'kov, then followed the Northern Donets and Mius rivers to the east shore of the Sea of Azov. On the Taman' Peninsula the front line passed east of Temryuk and Novorossiysk.

Preparing for his offensive in the Kursk sector, the enemy concentrated about 50 of the most combat capable divisions—up to 900,000 men, about 10,000 guns and mortars, and 2,700 tanks and self-propelled guns.³

By striking toward Kursk on converging sectors, the Hitlerite command planned to encircle and destroy Soviet troops at the Kursk salient, crush our strategic reserves on the Livny-Novyy Oskol line, and regain the strategic initiative.

The Hitlerite command placed high hopes on massed employment of heavy Tiger and Panther tanks and Ferdinand self-propelled guns, which had sound armor protection and powerful armament, and on its air force.

The fascist German command created two powerful air groupings to support troops from the air near the Kursk salient. The 6th Air Fleet was to support the strike groupings in the area south of Orel. Between 15 March and 1 July the fleet was reinforced by five air groups transferred from Germany, France, and Norway.

The 4th Air Fleet supported the strike group north of Khar'kov. At the beginning of the offensive the fleet was reinforced by five bomber groups and one fighter group and by two groups of dive bombers, each containing 30 planes.

In all, the enemy air grouping at Kursk had a strength of 2,050 planes (1,200 bombers, 100 Hs-129 ground attack planes, 600 fighters, and 150 reconnaissance planes).⁴

Troops of the Central and Voronezh fronts occupied the lines of defense of the Kursk salient. Their strength was more than 1.3 million men, 19,300 guns and mortars, and more than 3,300 tanks and self-propelled guns.^{5*} The Steppe Front, which, included the VVS, had a strength of 573,000 men, 3,397 guns, 4,004 mortars, and 1,550 tanks and SPGs,⁶ was concentrated in the second strategic echelon.

The air grouping consisted of the Central Front's 16th Air Army, the Voronezh Front's 2nd Air Army, and the Southwestern Front's 17th Air Army (commanded respectively by Generals S. I. Rudenko, S. A. Krasovskiy, and V. A. Sudets), and the main forces of Long-Range Aviation. The Steppe Front included the 5th Air Army (commander General S. K. Goryunov). The air armies were reinforced by RVGK air corps. The 16th Air Army contained three air corps and six independent air divisions, a total strength of 1,000 planes; the 2nd Air Army had two fighter, one ground attack, and one bomber air corps and two independent air divisions, a total of 880 planes; the 17th Air Army had three composite air corps and two independent air divisions, a total strength of 735 planes. In all, our air grouping had 2,900 planes (1060 fighters, 940 ground attack planes, 550 day bombers, and 400 night bombers). If we consider Long-Range Aviation, our strength was greater by a factor of 1.4 than that of the enemy air force.⁷

*[SAU—*samokhodnaya artileriyskaya ustanovka* or, in English, SPG—U. S. Ed.]

The Soviet Army Air Force Command and Staff During Preparations for the Battle of Kursk

The Soviet Supreme High Command discovered the enemy's plans for a summer offensive in time. To defeat the enemy with the lowest possible losses to ourselves, as early as 12 April 1943 a preliminary decision was made to first wear down and bleed the German strike groupings white with an active defense, then go over to a decisive counteroffensive and rout them. All services of the Soviet Armed Forces were prepared with this in mind. On receiving the basic instructions from the General Staff, the Soviet Army Air Force command and staff began major preparations for air operations. These preparations consisted mainly of creating a strong air grouping, preparing the airfield network, manning the units and formations, and creating the necessary logistical reserves. Concurrently the VVS command and staff carefully studied the enemy and the combat capabilities of the air forces of the belligerents, and took steps to ensure more effective employment of the aviation resources allocated to the operation.

The constantly increasing deliveries of new types of planes, radio sets, and logistical supplies from industry made this possible. In 1943 the average monthly output of combat aircraft increased from 2,100 in 1942 to 2,900 in 1943. The Soviet Air Force aircraft inventory underwent fundamental renovation. By the beginning of the battle of Kursk basically only night bomber air units still had obsolete aircraft. Especially great changes occurred in the fighter fleet. Several modifications of the new La-5fn and Yak-9 assumed dominance in 1943.⁸ By July 1943 all regiments in ground attack aviation had the Il-2, and the overwhelming majority of them were two-seat ground attack planes. The bomber fleet was almost completely replaced with the Pe-2. By 1943 Frontal Aviation fighters were armed with M. Ye. Berezin's heavy machine guns (12.7 mm), which replaced the ShKAS* machine guns. In addition to heavy machine guns, 20-mm cannons designed by B. G. Shpital'nyy and S. V. Vladimirov (ShVAK)[†] were installed aboard all aircraft. Beginning with spring 1943 the 37-mm cannons designed by A. E. Nudel'man and A. S. Suranov (NS-37) were being installed aboard the Yak-9. The Germans did not have an aircraft gun as powerful as this.

Invention of the PTAB-2.5-1.5[‡] hollow-charge antitank bomb by engineer I. A. Larionov in 1943 had extremely great significance in increasing the effectiveness of ground attack aviation. This bomb was highly destructive, light and small, and inexpensive to manufacture. By USSR GKO[§] decision, radio transceivers began to be installed in about half of the fighters beginning in October

*[ShKAS—Shpital'nyy-Komarnitskiy aviatsionnyy skorostrel'nyy (pulemet)—7.62-mm rapid-fire aircraft machine gun designed by Shpital'nyy and Komarnitskiy—U. S. Ed.]

†[ShVAK—Shpital'nyy-Vladimirov aviatsionnaya krupnokalibernaya (pushka)—20-mm heavy aircraft cannon designed by Shpital'nyy and Vladimirov—U. S. Ed.]

‡[PTAB—protivotankovaya aviabomba—antitank aviation bomb—U. S. Ed.]

§[GKO—Gosudarstvennyy Komitet Oborony—State Defense Committee—U. S. Ed.]

1942.⁹ In 1943 every new plane was outfitted with a radio. The ZOS* service underwent extensive development. The number of radio communications stations it possessed increased from 180 in 1942 to 420 in 1943. Redut and Pegmatit radar devices were adopted in Frontal Aviation.

In the first half of 1943 the Soviet Army Air Force commander's support apparatus underwent further improvements in organizational structure and in the methods of troop command and control. Many sections were enlarged into directorates (the Navigator Service Directorate and others). A PVO service, a rear service, an air gunnery service directorate, and a Main Directorate of Frontal Aviation Combat Training were created. Two directorates were created within the VVS Main Directorate of the Aviation Engineering Service—the Field Repair Directorate and the Major Overhaul Directorate. The VVS Main Organizational Directorate was renamed the VVS Main Organizational and Training Directorate.¹⁰

The Soviet Army Air Force Military Council was made stronger. General Nikolay Sergeevich Shimanov was appointed member at large of the VVS Military Council in March 1943; he concurrently performed the duties of director of the CC VKP(b)'s Aviation Section. N. S. Shimanov remained at these posts for the rest of the war. During the war the VVS Military Council membership included P. F. Zhigarev, A. A. Novikov, P. S. Stepanov, L. G. Rudenko, N. S. Shimanov, G. A. Vorozheykin, F. Ya. Falaleyev, A. V. Nikitin, A. I. Shakhurin, A. K. Repin, S. A. Khudyakov, and other troop commanders.

The VVS Military Council discussed and resolved the most important issues concerning the life and combat actions of the Soviet Air Force. All fundamental issues pertaining to the organizational development and future of the Air Force were discussed as a rule at meetings of the Military Council, and decisions made by the VVS commander were reported to the General Staff, the Stavka, or the State Defense Committee.

In its practical activity the Air Force Military Council relied on commanders, political agencies, party-political staffs, and the party organizations of air units and formations and training institutions.

In May 1943 General S. A. Khudyakov was reappointed VVS chief of staff. General F. Ya. Falaleyev was appointed at-large Soviet Army Air Force deputy commander.

The VVS command and military council did a great deal to organize reserve air regiments. Creation of reserve air regiments began back in the early days of

*[ZOS—*zemnoye obespecheniye samoletovozhdeniya*— ground-based navigational aides— U.S. Ed.]

the war in compliance with a USSR NKO order dated 11 July 1941. The most important task for the reserve air regiments was to learn to operate new planes. As suggested by the VVS command, on 7 May 1943 the USSR GKO adopted a decree calling a halt to the practice of withdrawing air units from the front to bring the reserve air regiments and brigades up to strength. Replacements were now sent to the air units at the front from air squadrons, flights, and individual crews trained in reserve regiments. As a result of this measure the number of air units which cycled through the reserve regiments decreased by a factor of four as compared to 1942. This put an end to the hasty training of flight personnel that had often occurred in previous years.

The VVS command attached great significance to proper employment of the RVGK air corps. On 29 March 1943 the Soviet Army Air Force commander instructed the air army and air corps commanders that RVGK air corps operationally attached to air armies were to be employed only in the sectors of the main blows, and under no circumstances were they to be dispersed for simultaneous strikes against a large number of targets or for accomplishment of many missions.

Discussing the results of air activities in the Kuban', the VVS Military Council devoted much attention to making broader use of radio and ensuring that the air army staffs were mutually informed on the operational situation. The Soviet Army Air Force commander published an order on 20 April 1943 requesting the air army commanders to make broader use of radio resources to control aviation on the ground and in the air. Another order from the VVS commander dated 11 May 1943 introduced a regulation requiring the air army staffs to inform each other about the operational situation at the front every day. These orders had a positive influence, improving control over aviation and promoting better staff work. The results of fulfilling these orders had an effect in the battle of Kursk, in which Stavka representatives had to organize and coordinate the activities of aviation from several fronts and of Long-Range Aviation.

Just like the frontal troops, the Soviet Air Force capitalized on the 3-month pause in active ground forces operations preceding the battle of Kursk to make preparations for the forthcoming encounter.

At the end of June the Stavka ordered A. M. Vasilevskiy to put all of his efforts into preparing troops of the Voronezh Front, and G. K. Zhukov to coordinate the actions of the Central, Bryansk, and Western fronts. Soviet Army Air Force Commander A. A. Novikov and his deputies, Generals G. A. Vorozheykin and S. A. Khudyakov, who were present in the frontal air armies with small operational groups of VVS staff and rear services officers, were ordered to prepare aviation and coordinate its actions.

Preparations had perhaps never been so methodical, so systematic, and of such a great scale in any previous operation. In compliance with a Stavka deci-

sion, the RVGK air corps and independent air divisions were rebased. On 1 May 1943 the command and an operations group from the 5th Air Army staff came from the Caucasus to the vicinity of the city of Usman'. By that time formations of the II Fighter, IV Ground Attack, and VII and IX composite air corps were completing their redeployment to Steppe Front airfields.^{11,12} RVGK air corps and independent divisions from the Stavka Reserve and from other sectors of the front were concentrated in the Kursk sector. The plans for combat employment of the aviation of the 16th and 2nd air armies and from Long-Range Aviation were developed right at the troop unit level.

The plans for combat employment of aviation were written in accordance with the plans of the frontal troops, in four versions taking account of the probable sectors of the enemy's main blows against the northern and southern faces of the Kursk salient. Much attention was devoted to organizing coordination. In order that aviation could be employed effectively, plans were written for coordination between the 16th and 2nd and between the 2nd and 17th air armies. The coordination plan for the 2nd and 17th air armies in the defensive operation of the Voronezh and Southwestern fronts was signed by General G. A. Vorozheykin and by the air army commanders, Generals S. A. Krasovskiy and V. A. Sudets. The plan provided for mutual assistance among the air armies. The 17th Air Army allocated 180 planes tasked to fly 990 sorties in the first 3 days. The 2nd Air Army allocated 170 aircraft tasked to fly 930 sorties in the first 3 days in support of the Southwestern Front. The plan also provided for maneuver of aviation, utilizing the airfields of neighboring air armies for these purposes.¹³

Air reconnaissance was intense. As early as 14 May 1943 A. A. Novikov reported to the Stavka that photographic air reconnaissance by the 4th Reconnaissance Air Regiment had established the existence of a large accumulation of enemy tanks and motor vehicles near Orel and Kromy at the end of 14 May. The report contained the conclusion that the enemy was obviously preparing for a powerful offensive by tank and mechanized formations and was creating a strong air grouping on airfields in the Kursk sector.¹⁴

Air reconnaissance revealed the concentration areas of the enemy's main troop groupings, the locations of enemy air bases and the composition of fascist German aviation, the airfield air defense system, the nature of defensive fortifications, and the locations of strongpoints, artillery positions, and enemy reserves. All of this helped the Soviet command reveal the enemy's concept better, take steps to organize a stubborn defense in time, and more purposefully prepare for the forthcoming offensive.

The efforts of air and combined arms field forces and formations were coordinated in place and in time during the preparations.

Operational air groups were assigned to the combined arms armies and aviation representatives to the rifle corps in the most highly threatened sectors.



At a Forward Control Post. Left to Right: Marshal of Aviation A. A. Novikov, General A. Ye. Golovanov, Lieutenant Colonel M. N. Kozhevnikov.

By order of the air army commanders, the air corps and division commanders moved to the main line of resistance to reconnoiter the terrain, define the targets for strikes, and coordinate with the troops on the ground on the signals to be used for mutual identification and target designation.

Much was done by VVS political organs and by party and Komsomol organizations, which directed their activities mainly at enhancing the combat capability of the air units and formations, and at strengthening friendship between airmen and personnel of the combined arms and tank armies.

Air army rear services and their attached engineering battalions worked intensively to prepare the airfield network and accumulate reserves of munitions and materiel. With the active assistance of the populace, 154 airfields were built within the zones of operation of the 16th and 2nd air armies; in addition they built 50 dummy airfields.¹⁵ To permit maneuver of aviation, reserve air base maintenance battalions were created in the air armies. Logistical reserves supporting 10-15 days of active aviation combat operations were created.

The aviation of the air armies did not halt its combat actions during the preparations for the forthcoming encounter. It covered the troop concentration, repelled enemy raids on rail junctions and airfields with the help of fighters and antiaircraft artillery, periodically struck enemy reserves, and maintained purposeful air surveillance over all enemy troop movements.

During preparations for the summer offensive, fascist German aviation intensified its activities against rail junctions, stations, bridges, and sidings near the Kursk salient, attempting to paralyze the communications of the Soviet troops. The Kursk rail terminal was the principal target of enemy aviation. The first massed raid on Kursk was undertaken by enemy aviation on 22 May. About 170 bombers participated in this raid. The raid was opposed by fighters of the 16th and 2nd air armies and of the 101st PVO Fighter Air Division. Most of the bomber groups were dispersed by fighter attacks at the approaches to the city.

Fascist German aviation made its largest raids on the Kursk rail terminal during the day on 2 June and on the night of 3 June. More than 500 planes participated in the day raid, including 424 bombers. Some 280 fighters of the 16th and 2nd air armies, forces of the 106th and 101st PVO fighter divisions, and antiaircraft artillery of the Kursk PVO Group were called in to repel the raid.

The first enemy aviation echelon, consisting of more than 160 planes (137 bombers and 30 fighters) and flying from the direction of Orel via Patezh was intercepted by fighters from the 16th Air Army, which boldly attacked the enemy and shot down 58 aircraft. Only a very few enemy bombers penetrated to the city. There were 175 planes (120 bombers and 55 fighters) in the second and third echelons coming from the same direction. Eighty-six Soviet fighters took off to repel the raid by these two echelons. The Soviet fighters attacked the enemy air columns unceasingly and shot down 34 aircraft. A disorganized group of about 55 penetrated to the city.

The fourth and fifth echelons contained more than 180 enemy planes (167 bombers and 14 fighters). They came from a new direction, from Oboyan', at an altitude of 6,000-7,000 meters.

The Soviet command allocated major fighter forces—about 205 aircraft—to repel the enemy raid, but they were unable to intercept all bomber groups. About 100 enemy planes struck the Kursk rail terminal and put it out of action for 12 hours. The enemy air losses were tremendous in the 2 June raid. The enemy lost 145 planes, including 104 shot down by fighters and 41 brought down by antiaircraft artillery fire. Soviet aviation lost 27 fighters.¹⁶

The mass air raid on Kursk was the Great Patriotic War's last major day raid by fascist aviation against rear area targets. The Hitlerite command was forced to abandon subsequent activities against rear area targets during the daytime, and to shift the actions of its bomber aviation to nighttime.

Thus the Stavka and the Soviet Army Air Force command did a great deal of purposeful work to prepare troops and aviation for the forthcoming encounters in the central sector of the Soviet-German front. During the 3 months of preparations the 16th and 2nd air armies and Long-Range Aviation flew more than 42,000 combat sorties, accomplishing all the missions with which they had been tasked.¹⁷

Soviet Aviation Actions in the Battle of Kursk

On 5 July 1943 powerful fascist German troop groupings went over to the offensive on the northern and southern faces of the Kursk salient. It was not a surprise to our ground forces and aviation. On 2 July the Stavka warned Central and Voronezh front troop commanders that the enemy might go over to the offensive in the next few days. Thus the troops and aviation were combat ready.

Interrogation of prisoners captured by our scouts revealed not only the day but also the hour of the attack—5 July at 0300 hours. At dawn on 5 July a powerful artillery counterpreparation was initiated by order of Marshal of the Soviet Union G. K. Zhukov. Simultaneously, 417 ground attack aircraft and fighters of the air formations of the 2nd and 17th air armies made a massed strike against seven of the most important airfields (Mikoyanovka, Sokol'niki, Pomerki, Osnova, Rogan', Barvenkovo, Kramatorskaya) with the objective of weakening the enemy air grouping and disorganizing his activities, destroying 60 enemy aircraft on the ground. The Hitlerite forces were weakened by the artillery counterpreparation and the strikes against the airfields. The surprise the fascist command had so counted on was not there. The fascist German troops had to postpone the beginning of the offensive from 0300 hours to 0530 hours. The enemy troop offensive began with the support of major aviation forces. Under the cover of fighters, fascist bombers flying in groups of 100-150 planes attacked the Soviet positions. They were met initially by pilots of the VI Fighter Air Corps (commander General Ye. Ye. Yerlykin) and the 1st Guards Fighter Air Division (commander Lieutenant Colonel I. V. Krupenin) of the 16th Air Army, as well as of the IV and V fighter air corps (commanders Generals I. D. Podgorny and

D. P. Galunov) of the 2nd Air Army.

An air encounter took place over the troop positions. In the first half of 5 July Soviet fighters shot down 79 fascist aircraft.¹⁸ At the same time, pilots of the III Bomber Air Corps (commander General A. Z. Karavatskiy) and the VI Composite Air Corps (commander General I. D. Antoshkin), and of the 2nd Guards (commander Colonel G. I. Komarov) and the 299th Ground Attack air divisions (commander Colonel I. V. Krupskiy) attacked enemy tanks and infantry on the battlefield and near Yasnaya Polyana, Ozerki, and Arkhangel'skiy in groups of six to eight planes. This was the first day our ground attack aircraft used the new PTAB-2.5-1.5 antitank bombs. They were able to penetrate the armor of fascist Tiger and Panther tanks. Pilots of the 291st Ground Attack Air Division (commander Colonel A. N. Vitruk) alone destroyed 30 enemy tanks with these bombs in 1 day at Voronezh.¹⁹ General F. Mellenthin, former chief of staff of the German XLVIII Tank Corps, later wrote: "Many tanks became the victim of Soviet aviation, and Russian pilots were extremely bold."²⁰

During 5 July our aviation actively helped troops on the Central and Voronezh fronts repel savage attacks by enemy infantry and tanks. Coordinating with the 2nd Air Army from the Voronezh Front, the 17th Air Army, Southwestern Front struck enemy tanks and infantry crossing the Northern Donets in the vicinity of Solomino and Bezlyudovka, while units of the 15th Air Army, Bryansk Front helped the 16th Air Army, Central Front repel bomber aviation raids on our troops.

Within the zone of the Central Front there were simultaneously up to 300 German bombers and at least 100 fighters over the battlefield on 5 July. On this day 16th Air Army pilots flew 1,232 combat sorties, fought in 76 group air engagements, and shot down 106 enemy planes. In all, the four Frontal Aviation air armies flew 3,385 sorties on this day. Enemy aviation flew 4,526 sorties, to include 108 within the Bryansk Front zone, 1,737 within the Central Front zone, 2,561 within the Voronezh Front zone, and 120 in the Southwestern Front zone.

On 5 July Soviet pilots shot down 260 enemy planes in air engagements and destroyed 60 on the ground.²¹ Our losses were 176 planes.

As a result of the opposition of our fighters and the losses suffered, the enemy aviation activity declined somewhat on the Central Front in the second half of 5 July, while on the Voronezh Front the enemy was totally unable to surmount the resistance of our fighters. However, not everything went so smoothly. Shortcomings were revealed in the actions of our fighters. They were lured into battles with fighters, sometimes leaving enemy bombers untouched. The system for signaling the approach of German bombers was not organized well enough. Actions by small groups of our ground attack aircraft and bombers against enemy troops prevented effective action against the enemy's antiaircraft artillery, and large numbers of fighters had to be assigned to cover these small air groups.

Evaluating all this, on the following day the VVS command and the air army commanders changed the forms and methods of action by our aviation, switching to massed strikes against advancing enemy troops. Utilizing refined air reconnaissance data, aviation of the 16th Air Army made a massed strike on 6 July against advancing enemy tanks and motorized infantry in the vicinity of Podolyan' and Soborovka; 450 planes of the VI Composite Corps and the 2nd and 299th Ground Attack air divisions participated in the attack. Results were very good and ensured the success of the counterblow made by the front's troops. On that day the 16th Air Army performed two more massed strikes. As a result of the counterblows by our troops and the massed actions of aviation, the enemy suffered serious manpower and equipment losses. The offensive spirit of the enemy troops declined noticeably. Strikes by the 2nd and 17th air armies were no less successful on that day in the Belgorod-Kursk sector.

At the same time, major adjustments were also made in the organization of fighter combat actions. Fighter air formation commanders traveled to forward control posts, from which they controlled subordinate units directly. Fighter patrol zones were extended into enemy territory. The fighters now began to be guided to enemy aircraft, mainly to bombers, by radio. Competent guidance and the buildup of forces in the air engagement, the presence of air fighter formation commanders at the control posts, and pilot familiarity with the voices of their commanders on the radio network exerted an influence, dramatically altering the air situation.

German aviation drastically reduced its activity as a result of great losses. While 4,298 sorties were noted on 5 July on the Central and Voronezh fronts, only 2,100 occurred on 6 July.²²

On the Central and Voronezh fronts Soviet pilots flew 2,800 combat sorties and shot down 217 enemy aircraft in air engagements. Our losses were 171 planes.

On 7 July 1943 the enemy concentrated the main aviation efforts against troops of the Central Front. Here the enemy operated in groups of 80-120 planes, but once again was unable to achieve air supremacy. Operating with the 15th Air Army, the 16th Air Army flew 1,370 sorties, while the enemy flew slightly more than 1,000. On the Voronezh Front the 2nd Air Army, supported by some of the forces of the 17th Air Army, flew 1,400 sorties, while the enemy flew 560. The actions of the I Ground Attack Air Corps (commander General V. G. Ryazanov) were especially effective. With two powerful strikes the corps foiled an attack by major enemy tank forces and infantry in the vicinity of Syrtsevo and Yakovlevo.

The same day 233 enemy aircraft were shot down and 12 were destroyed on the ground in the Central and Voronezh fronts. Our losses were 122 planes.²³

From this day on Soviet fighters firmly held the initiative in the air. Most enemy bombers were intercepted and destroyed by our fighters at the approaches



I1-2 Ground Attack Aircraft Strike Targets on the Battlefield.

to the targets they were covering. Fascist German aviation activity of the Luftwaffe declined with each passing day.

On 8 July aviation of the 16th Air Army flew 1,070 sorties, shot down 88 enemy planes in 48 air engagements, and lost 43 planes. On the Voronezh Front German aviation had flown only 118 sorties by 1300 hours. Soviet pilots flew 1,210 sorties, shot down 78 enemy planes in air engagements, losing 54.²⁴

A massed strike made by the 16th Air Army on 9 July was typical of the aviation actions. Under fighter cover, 150 ground attack planes and bombers struck the enemy 9th Tank Division near Soborovka; the strike was so successful that it halted the enemy's advance, and afterwards the enemy exhibited no activity whatsoever throughout the rest of the day.

Thus the gigantic battle that had taken shape on the ground and in the air began to gradually abate. Enemy aviation activity declined with every day. By 10 July the offensive capabilities of fascist German troops in the Orel-Kursk sector were exhausted. Suffering tremendous losses, the Hitlerites went over to the defensive once and for all.

The battle went on for another few days in the Belgorod-Kursk sector. After the enemy's plan for breaking through to Kursk via the shortest route from the south through Oboyan' failed completely, he began seeking vulnerable places in the defenses in other sectors, and he concentrated his main efforts in the Prokhorovka sector. Attempting to foil the enemy's plan, with Stavka approval the Voronezh Front command decided on 12 July to make a powerful counterblow employing forces of the 6th Guards and 1st Tank armies, which were advancing from a line north of Melovoye and Kruglik in the direction of Yakovlevo. General P. A. Rotmistrov's 5th Guards Tank Army and part of the forces of General A. S. Zhadov's 5th Guards Army made the principal thrust from the vicinity of Prokhorovka in the direction of Yakovlevo. Three rifle divisions of the 7th Guards Army went over to the offensive east of Belgorod.

For 2 nights prior to the offensive, ADD formations and night bombers from the air armies constantly bombed enemy troops on the battlefield and destroyed railroad sidings. Aerial preparation began 1 hour before the counterblow of our troops. The I Bomber Air corps (commander Colonel I. S. Polbin), the I Fighter Bomber Air Corps (commander General V. G. Ryazanov), and the 291st Ground Attack Air Division participated, striking accumulations of enemy tanks and artillery in fire positions. Following 15 minutes of artillery preparation, at 0830 hours on 12 July formations of the 5th Guards Army and 5th Guards Tank Army went over to the offensive. About 1,200 tanks from both sides took part in the encounter at Prokhorovka. Stubborn engagements lasting the entire day took shape in the air during this time. Ground attack planes and bombers from the 2nd Air Army actively supported the tanks. As a result of joint actions by ground forces and aviation, the German armored wave was halted. The enemy lost more than 350 tanks and over 10,000 enlisted men and officers.²⁵

The final enemy attempt at breaking through to Kursk was foiled by the efforts of our ground forces and aviation. By 23 July troops of the Voronezh Front had restored the position they had occupied before 5 July. The defensive period of the great battle had come to an end.

In the defensive period the Soviet Air Force flew more than 28,000 sorties, providing considerable assistance to the ground forces in repelling this powerful enemy offensive. In the air, Soviet Aviation fought about 1,000 air engagements, in which it shot down more than 1,400 enemy aircraft, including 517 in the Orel-Kursk sector and 899 in the Belgorod-Kursk sector. The defeat of the advancing enemy groupings created favorable conditions for the Soviet troops' counteroffensive. The plan for this counteroffensive was developed and approved by the Supreme Commander back in May, after which it was discussed



Bomb Craters Resulting From a Long-Range Bomber Strike.

many times by the Stavka and adjusted by the General Staff. Two groups of fronts were to conduct the operation. The enemy Orel grouping was to be destroyed by troops of the Western Front's left wing and the main forces of the Bryansk and Central fronts, while the Belgorod-Khar'kov grouping was to be destroyed by troops from the Voronezh and Steppe fronts. Powerful fascist German troop groupings were operating forward of the Soviet fronts. Despite the tremendous losses they suffered during their offensive, the total strength of their armies in this sector was 900,000 men when our counteroffensive began. The troops possessed about 10,000 guns and mortars, up to 1,800 tanks and assault guns, and 2,100 combat aircraft. This concentration of forces was attained by transferring in new divisions and by march reinforcement.* The strength of the Soviet troops was 2,226,500 men, over 33,000 guns and mortars, 4,800 tanks and SPGs, and over 4,300 combat aircraft.²⁶ The Soviet Air Force was assigned the following missions: maintaining air supremacy and dependably covering the strike groupings; supporting the ground forces in their penetration of enemy defenses; preventing fascist German troops from occupying defensive positions on intermediate lines; foiling enemy attempts at maneuvering reserves; disrupting troop command and control. This was to be an air offensive in the full sense of the term. Long-Range Aviation was tasked to participate in the aerial preparation and to strike rail junctions and other targets in the enemy rear area. PVO fighter air formations were allocated to cover frontal troops and targets in the rear area.

The counteroffensive of the troops of the Western and Bryansk fronts in

*[*marshevoye popolneniye*—reinforcements from reserve regiments located in the rear area—U.S. Ed.]



Soviet Tanks, With Air Support, Attack the Enemy.

the Orel sector began with active air support on 12 July. Troops of the Central Front went over to the offensive on 15 July.

In addition to three Frontal air armies, long-range bombers from the I, II, and III Guards air corps (commanders General D. P. Yukhanov, Ye. F. Loginov, N. A. Volkov), the V and VII air corps (commanders, Generals I. V. Georgiyev, V. Ye. Nestertsev), and the 45th Air Division (commander Colonel V. I. Lebedev) actively participated in the Orel sector.

Fifteen minutes prior to the attack 70 Pe-2 bombers and 48 Il-2 ground attack planes of the 1st Air Army made a concentrated strike against enemy artillery and strongpoints in the breakthrough sector within the zone of advance of the 11th Guards Army, Western Front. Long-Range Aviation formations and the 1st Air Army's 213th Night Bomber Air Division also operated in this area during the night. Aerial preparation was conducted at night in the breakthrough sector of the 61st Army, Bryansk Front by Long-Range Aviation and the 15th Air Army's 313th Night Bomber Air Division. As a result of the aerial and artillery preparation, enemy defenses were significantly weakened in the breakthrough sectors of both fronts. Frontal troops exploited the offensive during the day with the support of aviation. On 12 July our Aviation flew 2,174 sorties, and in 72 air engagements shot down 86 enemy aircraft, but we also lost 59 of our own.²⁷

The fascist German troops offered stubborn resistance. In 8 days troops of the Western Front advanced 70 km, while the Bryansk Front troops advanced

20 km. Between 18 and 25 July the XXV Tank Corps, the 11th Army, the 4th Tank Army, and the II Guards Cavalry Corps were committed in succession to the encounter. Their commitment to the encounter and their operations in depth were supported by all the forces of the 1st and 15th air armies. The enemy's Bolkhovo grouping was destroyed by 29 July. Troops advanced simultaneously in the Orel and Kromy sectors. Some 120 ground attack aircraft, 112 bombers, and 200 fighters from the 15th Air Army supported the 3rd Guards Tank Army in the Orel sector, accomplishing their missions of covering and supporting the tank army quite successfully. Fighter pilots from the French Normandie Air Squadron fought valorously along with Soviet pilots in this sector. Arriving at the front on 25 March 1943 and joining the 1st Air Army, the French volunteers displayed their high skill and courage in the very first skirmishes with the enemy. On 2 July 1943 a Presidium of the USSR Supreme Soviet ukase awarded Soviet orders to the first five French pilots (J. Tulasne, A. Littolff, A. Durand, M. Lefevre, L. Duprat) for exemplary accomplishment of their combat assignments and the bravery and valor they displayed. By the end of July 1943 the French pilots were credited with shooting down more than 30 enemy planes.²⁸ On 5 July 1943 the French air squadron was reorganized as the Fighting French Normandie 1st Independent Fighter Air Regiment (regimental commander Major Pierre Pouyade).

During the offensive, troops of the Central Front regained their 5 July positions, and on 6 August they liberated the city of Kromy. The 16th Air Army provided effective support to the troops during the offensive, flying 1,000 and more sorties every day. On 5 August troops of the Bryansk Front with the support of troops of the Western and Central fronts on the flanks liberated the city of Orel. Subsequently taking Bolkhovo and Kromy, troops of these fronts organized the pursuit of enemy troops with the support of aviation, and by 18 August they reached the line Zhizdra-Karachev-Dmitrovsk-Orlovskiy.

Troops of the Voronezh and Steppe fronts went over to the counteroffensive in the Belgorod-Khar'kov sector on 3 August. On the night prior to the offensive, Long-Range Aviation formations and the 2nd Air Army's 208th Night Bomber Air Division operated intensively against enemy defensive structures and troops in the breakthrough sector. They flew 370 sorties. Ground attack planes and bombers were committed to action 2 hours prior to the attack of the troops. Enemy troops and strongpoints within the zones of the Voronezh Front's 6th Guards and 5th Guards armies were suppressed and partially destroyed by powerful artillery fire and air strikes. The troops of these armies captured the battle position during the first half of the day. In the second half of 3 August the 1st and 5th Guards tank armies were committed to the encounter within the 5th Guards Army zone of operations. They were supported by the main forces of the 2nd Air Army. Our aviation flew 2,670 sorties that day.²⁹

By 11 August the tank armies reached the vicinity of Vysokopol'ye and Kovlyagi. By this time troops of the Steppe Front had liberated Belgorod, reached the outer Khar'kov perimeter, and begun the fight to penetrate it.

On 5 August 1943 our Motherland's capital—Moscow—gave the first salute in honor of a major victory—the liberation of the cities of Orel and Belgorod. An order by the Supreme Commander dated 5 August 1943 stated: "Today, 5 August, troops of the Bryansk Front took the city of Orel following savage battles in which troops of the Western and Central fronts provided support on the flanks. Today also, troops of the Steppe and Voronezh fronts broke enemy resistance and captured the city of Belgorod. Today, 5 August, at midnight our Motherland's capital, Moscow, will salute our valorous troops who have liberated Orel and Belgorod with 12 artillery salvos by 12 guns. . . ."

In the period from 11 to 17 August 1943 troops of the Voronezh Front repelled a counteroffensive in the vicinity of Bogodukhov with active air support from the 2nd Air Army, and between 18 and 20 August they repelled a counteroffensive in the vicinity of Akhtyrka. Suffering tremendous losses and failing to achieve his objective, the enemy was forced to withdraw. On 23 August Soviet troops liberated the city of Khar'kov from the fascist German occupiers. By 23 August the operation to rout the Belgorod-Khar'kov grouping was completed.

During the Belgorod-Khar'kov operation Soviet aviation flew 28,265 combat sorties. The enemy lost 800 planes in savage air engagements and on the ground.³⁰

For the Soviet Air Force, the battle of Kursk was a time of further improvement in operational art and tactics.

A full-scale air offensive was conducted by the air army commanders and coordinated by Stavka aviation representatives Generals G. A. Vorozheykin and S. A. Khudyakov during the counteroffensive on all fronts in the Kursk sector. After the aerial preparation, ground attack and bomber aviation immediately switched to support of the advancing troops throughout the entire depth of the operation.

The efforts of our aviation were concentrated on narrow sectors of the front against the most important targets, mainly enemy tanks and artillery. Through continuous pressure on enemy troops, Frontal Aviation reduced their capability to resist, inflicted great losses on them, and thus promoted the success in penetration of enemy defenses by our troops. General Z. Z. Rogoznyy, commander of the XLVIII Rifle Corps, Steppe Front, wrote in a report dated 3 August that ground units were able to advance successfully only because of well-organized coordination and the massed strikes by ground attack pilots.³¹ When tank field forces and formations were committed to the encounter, the air armies directed their efforts at suppressing enemy antitank defenses, at isolating the encounter area to prevent resources from moving up, and at providing air cover for tank and mechanized corps. From 50 to 80 percent of the air army forces were shifted to supporting and covering these corps and to fighting antitank resources. For example, the 1st and 5th Guards tank armies were supported by the V Ground Attack (commander General N. P. Kamanin) and the X Fighter (commander General M. M. Golovnya) air corps, as well as by the 202nd Bomber (command-

er General S. I. Nichiporenko) and the 291st Ground Attack (commander Colonel A. N. Vitruk) air divisions.

Soviet aviation took the most active part in pursuit of the withdrawing enemy troops. During the counteroffensive our aviation successfully accomplished its mission of interdicting enemy rail and motor shipments. When the fascist command began transferring tank and motorized divisions from the Donets Basin and other sectors to the vicinity of Bogodukhov and Akhtyrka on an emergency basis, the 8th Air Army, Southern Front was committed to action first by order of the Soviet Army Air Force commander. As the reserves moved along the front line, the 17th, 5th, and 2nd air armies successively went into action against them, destroying enemy trains at the rail stations of Gorlovka, Slavyansk, Barvenkovo, and Pavlograd, and motor columns on the roads. In this same period aviation of the IV and VI Long-Range Aviation air corps operated against rail junctions and stations at Poltava, Lyubotin, Krasnoarmeyskoye, Krasnograd, and Merefa. Between 4 and 12 August our aviation flew more than 7,100 sorties to interdict the enemy's rail movements. Air formations of the 8th and 17th air armies alone burned 16 trains and destroyed 20 tanks and about 30 motor vehicles on the roads.³² As a result of the combined actions of Frontal and Long-Range Aviation, transfer of enemy troops was delayed and entailed great losses. During the counteroffensive at Kursk, Soviet aviation flew more than 90,000 sorties. In 1,700 air engagements it destroyed 2,100 enemy planes; in addition, 145 were destroyed and damaged on the ground, and 780 were shot down by anti-aircraft artillery.³³

The great battle of Kursk ended with the brilliant victory of the Soviet Armed Forces over the fascist German Army. "The gigantic battle in the Orel-Kursk salient in summer 1943," said L. I. Brezhnev, "broke the backbone of Hitlerite Germany and turned its armored troops to ashes. Our army's superiority in combat skills, in armament, and in strategic leadership became clear to the entire world."³⁴ The battle of Kursk had tremendous significance for the subsequent development of events on the Soviet-German front. It created favorable conditions for a general offensive by the Soviet Army, which resulted in the liberation of the left-bank Ukraine, the Donets Basin, western oblasts of the RSFSR,* and eastern regions of Belorussia; the Dnepr was crossed, beachheads were captured on its right bank, and, on 6 November, the Ukrainian capital of Kiev was liberated. This was the fundamental turning point, marked by outstanding victories of the Soviet people and their army, which dramatically altered the military-political situation in the international arena.

For the Soviet Air Force the battle of Kursk was an intense struggle for strategic air supremacy in the concluding stage. Up to 35 percent of all sorties were flown to accomplish this mission. This struggle, which lasted for almost a month and a half, culminated in defeat of the main enemy air forces and attainment of

*[RSFSR—Russian Soviet Federated Socialist Republic, the largest of the 15 union republics which form the USSR—U.S. Ed.]

strategic air supremacy by the Soviet Air Force.

Soviet pilots displayed mass heroism and great combat skill in the battles. On 6 July 1943 pilot communist A. K. Gorovets performed an immortal act of heroism. He shot down nine enemy bombers in a single air engagement. This was the only time such a thing every happened in the world. A. K. Gorovets was posthumously awarded the title Hero of the Soviet Union. The citation accompanying his award read: "In this air engagement comrade Gorovets displayed exceptional flying skill, valor, and heroism, he personally shot down nine enemy planes, and he himself died the death of the brave."³⁵ Pilots S. D. Luganskiy, M. S. Tokarev, V. I. Andrianov, A. P. Mares'yev, A. N. Yefimov, N. D. Gulyayev, A. V. Dobrodetskiy, and many others fought selflessly. Junior Lieutenant I. N. Kozhedub, who subsequently went on to earn the title of Hero of the Soviet Union three times, experienced his baptism of fire here.

The battle of Kursk demonstrated that the tactics employed by the branches of aviation in our VVS actions had improved. The tactic of ground attack aviation flying in large groups enjoyed further development. Bomber aviation accumulated a great deal of experience in dive bombing and in making concentrated attacks in units of as high as division strength.

Fighter aviation displayed greater skill in conducting group air engagements and air encounters.

On the whole, VVS operational art and the tactics of the branches of aviation were enriched with many new premises at the battle of Kursk and were raised to a new level in their development.

The Soviet Army Air Force command, commanders, staff, and political organs of the frontal air armies broadly utilized the lessons learned by aviation in the battle of Kursk and in other sectors. Measures were implemented to further improve the organizational structure of air units, to synthesize and disseminate combat experience, and to raise the level of logistical support. In October 1943 new manning tables were introduced for fighter and ground attack air regiments by decision of the VVS Military Council. Amalgamation of the air regiments satisfied the growing requirements of VVS tactics and operational art.

In December 1943 the VVS Military Council held a meeting of the military district VVS commanders, commanders of reserve air brigades, and representatives from the air armies in the field devoted to upgrading the quality of pilot training in reserve air regiments. The proceedings of the conference were utilized to develop new combat training courses for fighter, ground attack, and bomber aviation, to be introduced in 1944.

Ways of improving the combat skills of flight crews such as tactical flying conferences enjoyed extensive support in many air armies. In December 1943, as troops of the 3rd Ukrainian Front prepared to liberate the right-bank Ukraine,

a conference was held in the IX Composite Air Corps, 17th Air Army. It was attended by the commanders of air divisions, regiments, air squadrons, and flights, by pilots, by chiefs of staff, and by party-political workers. Stavka representatives Marshal of the Soviet Union A. M. Vasilevskiy and General F. Ya. Falaleyev, front commander General R. Ya. Malinovskiy, and General V. A. Sudets, commander of the 17th Air Army, took an active part in the conference proceedings. The conference played a positive role in preparing commanders and flight crews for the offensive operations.³⁶

Commanders, political organs, and party and Komsomol organizations of units and formations in the field utilized the intervals between battles to train flying personnel. Recalling this, Chief Marshal of Aviation Pavel Stepanovich Kutakhov, an active participant in air engagements in the North, wrote the following in the newspaper *Krasnaya zvezda*: "The engagements were stubborn. One would have thought that we were too exhausted to train in the short intervals between them. Nevertheless we managed to fight and to train. . . . A bunker containing a wick lamp made from a spent shell casing served as the classroom, and the auditorium in which we took our examinations was the air, the engagement. The bunker where we took our theoretical training had a magnetic attraction for us. We often studied there at the expense of sleep and rest."³⁷

VVS political organs reorganized the primary party organizations in June 1943 in accordance with an RKKA Main Political Directorate directive dated 4 June 1943, "On the Structure of Red Army Party Organizations."³⁸ Some 237 new VVS primary organizations were created. Their number was increased by 13 percent. All flying subunits had their own party organizations. More party organizations, growth of party membership, and encouragement of fresh party forces to lead and participate in party life resulted in more active party-political work. It became even more effective and more closely associated with combat mission accomplishment.

Generals and officers of the Main Directorate of Frontal Aviation Combat Training headed by General D. F. Kondratyuk did an enormous amount of fruitful work to improve the combat qualities of the personnel of VVS units and formations operating at the fronts. This directorate was created by State Defense Committee decision back in January 1943. In 1 year it held more than 2,000 lectures, military games, group exercises, and various lessons in air army units and formations. More than 4,500 demonstration and training flights were flown for the purpose of teaching the tactics of single and group air engagements and demonstrating the combat formations used by new types of aircraft. Various methods of attacking small mobile ground targets and guiding aircraft by radio to enemy air and ground-based targets were tested.³⁹

Notes

1. *Patriotic War Short History*, p. 237.
2. *Ibid.*
3. *Great Patriotic War*, III, 241.
4. *SAF in World War II*, p. 174.
5. *Patriotic War Short History*, p. 239.
6. *Archives*, f. 13-A, op. 504, d. 310, 11. 4-160.
7. *SAF in World War II*, p. 174.
8. At an altitude of 2,000-4,000 meters the La-5fn had a level velocity 40-80 km/hr greater than that of the German FW-190, and it was more maneuverable.
9. *Archives*, f. 35, op. 11250, d. 47, 1. 52.
10. *Ibid.*, op. 11285, d. 5, 1. 33.
11. *Ibid.*, op. 11268, d. 5, 1. 33.
12. *Ibid.*
13. *Ibid.*, f. 302, op. 4196, d. 24, 11. 67-70.
14. *Ibid.*, f. 35, op. 92815, d. 59, 11. 22-23.
15. *Ibid.*, f. 368, op. 11538, d. 3, 1. 114; f. 302, op. 20739, d. 16, 11. 39, 117.
16. *SAF in World War II*, p. 177; *Great Patriotic War*, III, 395.
17. *Archives*, f. 368, op. 11588, d. 3, 1. 214.
18. *USSR Aviation and Cosmonautics*, p. 155.
19. *Ibid.*, p. 157.
20. F. Mellenthin, *Tankovyye srazheniya 1939-1945 gg.* [The Tank Encounters of 1939-1945], abridged, translated from the English (Moscow, 1957), p. 192.
21. *USSR Aviation and Cosmonautics*, pp. 155, 157.
22. *Archives*, f. 35, op. 11285, d. 822, 1. 36.
23. *Ibid.*, 1. 47.
24. *Ibid.*, 1. 58.
25. *Great Patriotic War*, III, 274.
26. *Patriotic War Short History*, p. 250.
27. *SAF in World War II*, pp. 188-89.
28. *USSR Aviation and Cosmonautics*, p. 162.
29. *SAF in World War II*, p. 195.
30. *Ibid.*, p. 197.
31. *Archives*, f. 317, op. 48734, d. 1, 1. 110.
32. *Ibid.*, f. 35, op. 283444, d. 12, 11. 60-63.
33. *Great Patriotic War*, III, 403.
34. L. I. Brezhnev, *Velikaya pobeda sovetskogo naroda* [The Great Victory of the Soviet People] (Moscow, 1965), p. 13.
35. *Archives*, f. 33, op. 793756, d. 11, 1. 268.
36. *Ibid.*, f. 370, op. 6548, d. 38, 11. 42, 43.
37. *Krasnaya zvezda*, 25 May 1968.
38. *KPSS o Vooruzhennykh Silakh Sovetskogo Soyuza. Sb. dokumentov (1917-1968)* [The CPSU on the Armed Forces of the Soviet Union: A Collection of Documents (1917-1968)] (Moscow, 1969), pp. 323-24.
39. *Archives*, f. 35, op. 11291, d. 8, 11. 6-7; d. 63, 11. 1-7.

Chapter 6. The Soviet Army Air Force in Operations in the Concluding Period of the War

The Situation at the Fronts at the Beginning of 1944. Soviet Army Air Force Command and Staff Measures to Improve Management of Aviation

Two and a half years of difficult engagements and encounters had passed. The year of the fundamental turning point had gone by. By the beginning of 1944 the situation on the fronts was taking shape in favor of the USSR. The great victories of the Soviet Army in 1942-43 demonstrated to the entire world the increased military might of the socialist state and its Armed Forces. It had become obvious that the Soviet Union was capable of bringing the war to a victorious conclusion with its own forces. This resulted in further growth of the USSR's prestige. The war economy grew even stronger. Soviet industry continued to supply first-class combat equipment to the Armed Forces on ever-increasing scales. The strength of the Soviet Army in the field was 6,165,000 men, 88,900 guns and mortars, 2,167 rocket launchers, about 4,900 tanks and self-propelled guns, and 8,500 planes. Although the German armed forces had suffered considerable losses on the Soviet-German front and experienced a certain reduction in strength, nevertheless they were powerful. On the Eastern front the enemy had 4,906,000 men, over 54,000 guns and mortars, 5,400 tanks and assault guns, and 3,000 planes.¹

The strategic initiative was in the hands of the Soviet command. The Stavka made plans for an offensive along the entire front, involving a number of powerful, successive strategic operations in separate, widely spaced vital sectors of the Soviet-German front. The main thrust was to occur in the southwestern sector, with the objective of destroying the largest enemy grouping and liberating the right-bank Ukraine and the Crimea. The mission in the northwestern sector was to destroy the enemy grouping, relieve blockaded Leningrad, and reach the approaches to the Soviet Baltic republics. In the western sector, Army Group Center was to be defeated and the enemy was to be cleared from a significant part of Belorussia. As before, the Hitlerite command considered the Eastern front to be the main front. It planned to concentrate its troops in those sectors where thrusts by the Soviet Army were expected and, maneuvering its reserves and aviation, to halt the advance of Soviet troops. In the West, fascist Germany made preparations to repel the assault landing in northern France, to seize the initiative, and to achieve victory in the war. The idea of seizing the initiative and achieving victory in the war was adventuristic; it did not correspond to the

real situation that had evolved on the Soviet-German front at the beginning of 1944.

The Soviet Air Force entered the third and final period of the Great Patriotic War outfitted with the latest equipment and with a tremendous amount of accumulated combat experience. It had mastered new forms for operational employment of large numbered air forces and methods of action for all aviation components and branches, both in independent air operations and in actions jointly with the ground forces. The Soviet Air Force firmly held the strategic initiative and air supremacy along the entire Soviet-German front. Our aviation industry produced 35,000 combat aircraft in 1943. As of 1 January 1944 the demand of Soviet Army Air Force air units and military educational institutions for planes was satisfied by more than 100 percent. As of 1 January 1944, 86.7 percent of the planes in fighter aviation, 100 percent in ground attack aviation, and 74.3 percent in bomber aviation were new.²

Frontal Aviation air divisions of the services shifted from a two-regiment to a three- and four-regiment composition, and 50 ground attack and 36 fighter air regiments converted to an authorized strength of 40 aircraft.³

The growing might and the superiority of Soviet weapons and Soviet military science were demonstrated most clearly in the operations of the final period of the Great Patriotic War, conducted on the central and southern wings of the Soviet-German front. Typical features of Soviet Air Force actions in this period of the war included concentration of large aviation forces in the main sectors of ground forces operations, massing of the efforts of aviation within a narrow sector to accomplish its primary missions, extensive maneuvering of RVGK air corps and divisions, allocation of significant Long-Range Aviation forces to accomplish missions in direct support of frontal troops, and coordination of the actions of several Frontal Aviation air armies and Long-Range Aviation actions under the sole leadership of a senior chief of aviation.

New typical characteristics in the actions of Soviet aviation manifested themselves most clearly in such major offensive operations as the Korsun'-Shevchenkovskiy, Belorussian, Vistula-Oder, East Prussian, and Berlin operations. The Soviet Army Air Force command and staff took a most active part in these operations. Creation of new aviation equipment, its rapid assimilation by flight crews, and its proper employment on the war fronts were the daily concerns of the VVS commander and all members of the Military Council. At the beginning of January 1944 the VVS Military Council reviewed the availability of new types of planes in Frontal Aviation and concluded that the upgrading of aviation in progress in the Far East had to be continued.

A report addressed to the Supreme Commander stated: "We have accumulated a reserve of fighter aircraft ensuring replenishment of losses and complete equipping of units placed in the reserve and of newly formed units. Considering these favorable conditions, we believe it possible to continue upgrading fighter aviation of the Far Eastern and Transbaykal fronts, whose air units have

the obsolete I-16, I-153, and I-15bis."⁴ In response the Supreme High Command ordered that aviation in the Far East be upgraded with new types of aircraft.

On 7 February 1944 the VVS Military Council discussed progress in creating new aviation equipment and decided to submit a plan for experimental construction of aircraft and armament in 1944-45 to the USSR People's Commissariat of Defense. The problems of upgrading the quality of aircraft and armament produced by industry were discussed many times as well.⁵

In February 1944 the Soviet Army Air Force held a conference of supervisory personnel from military district VVS and VVS military educational institutions. At this conference the VVS Military Council demanded that participants take efficient steps to eliminate the preconditions for flying accidents, to strengthen military discipline, and to intensify party-political work, viewing these as the most important prerequisites for high-quality training of cadets in flight schools.⁶ In March the VVS Military Council held a conference of the chiefs of technical schools, advanced training courses, and air mechanic and junior specialist schools. The decision was made at this conference to improve technician training, taking the war experience into consideration.⁷ The Soviet Army Air Force staff provided the command with continuity in air army command and control, it participated in the writing of plans, it synthesized the experience of aviation combat actions, and disseminated it to the troops.

In the first half of 1944 the generals and officers on the VVS staff wrote and submitted to the Soviet Army Air Force command a number of directives addressed to air army commanders on improving command and control of aviation and achieving its more effective combat employment. On 15 April 1944 the VVS commander published a directive on countering enemy air reconnaissance. It stated that individual German air scouts had recently been penetrating deeply into our rear area and monitoring our movements. All air army commanders were ordered to develop special measures on countering enemy air reconnaissance; to assign particular zones to air fighter corps and divisions for actions against enemy reconnaissance aircraft; to organize fighter ambushes on probable routes used by enemy air reconnaissance and to make broad use of radio guidance. Fighters in the air were ordered to pursue and annihilate the enemy aircraft.⁸

On 15 May 1944 the VVS commander published a directive requiring that air army commanders abandon the practice of assigning combat missions to RVGK air corps and divisions as single sorties; instead, they were to assign missions for a particular period of time, for the day of an operation as a minimum. Missions could be assigned as single sorties to air corps and divisions only in exceptional cases.⁹ In 1944 specific air force staff officers were appointed to write summaries on the air situation on the Soviet-German front every 10 days, to be reported to the commander and Military Council members. This summary indicated the composition of the air groupings of the belligerents, and their quantitative and qualitative changes; the concentration of aviation in strategic sectors and the use of new tactics; the number of sorties flown and the intensity of combat actions by aviation branches and elements; the total number of air engage-

ments, and new tactics employed in them. The summaries ended with conclusions and proposals concerning more effective VVS employment.¹⁰

In addition, VVS staff officers capably prepared timely monthly reports for the General Staff on Air Force actions. An overall large-scale map of the operational situation was constantly maintained by two highly qualified officers, the senior being Colonel I. M. Kuz'min. Usually by 2200-2300 hours they had completed the work of plotting the data on the situation map and of writing draft reports to the Supreme Commander and the situation report on the results of Soviet Air Force actions the previous day. At this time the VVS commander and Military Council members usually came to a large room in one of the directorates where all of the summary data were brought together. There, the directorate chief briefed the strategic and operational situation, the changes that had occurred in the correlation of forces in the air, and the preliminary data on the results of VVS actions the previous day. Decisions were often made here in regard to a number of problems associated with enhancing the effectiveness of the actions of the various aviation branches and elements, and these decisions were put in official form on the spot by VVS staff officers. A new section for staff operational training was created on the VVS staff. General M. D. Smirnov was appointed chief of the section, and his deputy was Colonel N. A. Sokolov. Favorable conditions were created for more purposeful and integrated solution of many problems concerning the operational employment of the Air Force.

The Soviet Army Air Force command and staff significantly improved the level of supervision of numbered air forces and formations on the war fronts in 1944, and they acquired a great deal of experience in maneuvering air reserves and concentrating the efforts of aviation in the most important sectors of ground forces operations and in providing comprehensive support to combat operations.

The Korsun'-Shevchenkovskiy Operation

In compliance with the overall concept of the Supreme High Command, troops of the four Ukrainian fronts initiated an offensive on the southern wing of the Soviet-German front in late December 1943 and in early January 1944.¹¹ Stavka representatives coordinated the actions of the fronts—Marshal of the Soviet Union G. K. Zhukov on the 1st and 2nd Ukrainian fronts, and Marshal of the Soviet Union A. M. Vasilevskiy on the 3rd and 4th Ukrainian fronts. The actions of allocated aviation were coordinated by Marshal of Aviation A. A. Novikov. Troops of the 1st Ukrainian Front were the first to begin combat actions at the end of December 1943, with the active support of aviation of the 2nd Air Army (commander General S. A. Krasovskiy). By 14 January they had almost completely liberated the Kiev and Zhitomir oblasts and many rayons in the Vinnitsa and Rovno oblasts. The 2nd Ukrainian Front, supported and covered by the 5th Air Army (commander General S. K. Goryunov), went over to the offensive on 5 January 1944. The front's troops liberated Kirovograd by mid-January. The right flank of the enemy grouping in the vicinity of Korsun'-Shevchenkovskiy was threatened.

The 3rd and 4th Ukrainian fronts undertook an offensive on 10-11 January 1944 with the objective of destroying the enemy at the Nikopol' beachhead and in the vicinity of Nikopol'. The fronts were covered and supported from the air by the 17th Air Army (commander General V. A. Sudets) and the 8th Air Army (commander General T. T. Khryukin) respectively. The offensive actions of the troops of the 1st and 2nd Ukrainian fronts resulted in envelopment of both flanks of the Korsun'-Shevchenkivskiy grouping. The Stavka ordered the commanders of these fronts, Generals N. F. Vatutin and I. S. Konev, to encircle and annihilate the enemy's Korsun'-Shevchenkivskiy grouping. Troops of the 2nd Ukrainian Front assault grouping began combat actions at Korsun'-Shevchenkivskiy on 24-25 January, and on 26 January the 1st Ukrainian Front assault grouping attacked on a converging sector. The troops of the fronts were supported by the 5th and 2nd air armies. The latter possessed 768 combat aircraft, being inferior in numbers to the enemy, who concentrated about 1,000 planes in this sector.¹² The assault groupings of both fronts attacked on converging sectors and met near Zvenigorodka. Ten of the enemy's divisions and one of his brigades were encircled. By 3 February Soviet troops had created an inner and outer front of encirclement. The actions of our aviation proceeded in extremely bad weather. Moreover a thaw set in in late January and early February 1944, meaning the dirt landing strips could no longer be used. By this time the air armies had only two or three operable airfields left for all practical purposes, with 50-100 of our planes based at each. But even despite these conditions the ground troops received considerable assistance from the air. Between 29 January and 3 February 1944 our aviation flew 2,800 combat sorties in the vicinity of the Korsun'-Shevchenkivskiy enemy grouping, while enemy aviation flew half that number.¹³

A. A. Novikov, before leaving Moscow, had reported to the Supreme Commander his suggestions concerning employment of aviation to destroy the enemy's Korsun'-Shevchenkivskiy grouping. By the former's direction, extensive use was made of high-explosive bombs by Il-2 ground attack aircraft, and Po-2 light night bombers were widely used. They were especially helpful in repelling enemy counterblows in the outer front of encirclement in the vicinity of Tolmach and Lisyanka. On 4 February, when enemy tanks wedged themselves into the defenses of the 53rd Army, 2nd Ukrainian Front, enemy attempts at penetrating into the encircled area were foiled by the efforts of ground attack aircraft and artillery. Ground attack aviation of the 2nd Air Army made two powerful strikes against enemy tank groupings attempting to relieve the encircled grouping. German divisions managed to penetrate to the vicinity of Lisyanka at high cost, while the encircled troops pushed toward the latter near Shenderovka. The two formations were separated by a strip only 12 km wide. But they were unable to cross it.

After hope for assistance from without was lost, the encircled fascist German troops attempted to break out of the encirclement independently. On the night of 17 February 1944 the enemy troops formed into columns and began marching southwest from Shenderovka. Crews of the 312th Light Bomber Air Division led by Colonel V. P. Chanpalov constantly bombed the Hitlerite columns. Fleeing the air strikes, they fell under intense rocket artillery fire. Most

were annihilated, and only a small group of tanks and armored personnel carriers was able to break out of the encirclement during the intense hail of fire. The air blockade of the encircled enemy grouping was organized and maintained well, and there was much to be learned from it. Following the experience of Stalingrad, jointly with the 2nd Air Army commander, General S. A. Krasovskiy, and General L. G. Rybkin, commander of the X PVO Fighter Corps, A. A. Novikov created four zones for destruction of enemy transport aviation attempting to supply the encircled troops by air. German aviation was destroyed in the four zones by fighters from the 2nd Air Army and the X PVO Fighter Air Corps. Beyond the outer front of encirclement, airfields at Uman', Vinnitsa, and Nova-Ukrainka were struck. Enemy airfields and landing strips were struck simultaneously. The 5th Air Army provided support to troops destroying the encircled enemy.

Between 31 January and 18 February during the air blockade, our aviation shot down 257 enemy planes, including 31 transports. During the entire period of the destruction of the encircled grouping 457 fascist German planes were destroyed in air engagements and on the ground.¹⁴ As a result of the air blockade, the encircled grouping was isolated and deprived of external assistance, which to a significant degree facilitated its liquidation.

Some 49 tons of gasoline, 65 tons of ammunition, and 525 rockets for the guards mortars were delivered between 8 and 16 February to forward units of the 2nd and 6th tank armies by the 326th Night Bomber Air Division. This was invaluable assistance to troops operating in thaw conditions, when stuck vehicles cluttered the roads and tractors were not always able to travel. The Korsun'-Shevchenkovskiy operation ended. Some 55,000 German soldiers and officers were killed and wounded, and more than 18,000 were taken prisoner.¹⁵ The Korsun'-Shevchenkovskiy operation entered the history of the Great Patriotic War as a remarkable example of encirclement and annihilation of a large enemy grouping. Once again the Soviet Army demonstrated its ability to conduct an encircling operation, which is one of the most complex forms of combat actions. Soviet aviation demonstrated its total superiority over enemy aviation, isolating the encircled grouping from external assistance by air. In the winter and spring of 1944 troops of the 1st, 2nd, 3rd, and 4th Ukrainian fronts with active air support inflicted a major defeat on the enemy. The right-bank Ukraine was totally liberated. The Soviet Armed Forces entered the territory of Romania. In the first 3 months of 1944 the Soviet Air Force flew more than 700,000 sorties and dropped thousands of tons of bombs on enemy targets. It destroyed 1,467 enemy planes in air engagements and on the ground.¹⁶

On 21 February 1944 a ukase of the USSR Supreme Soviet Presidium awarded the highest rank in aviation—chief marshal of aviation—to Aleksandr Aleksandrovich Novikov for his exemplary military service to the Communist Party and our socialist Motherland.

The Belorussian Operation

In the winter and spring of 1944 the Soviet Armed Forces subjected the enemy to serious defeat and reached the eastern regions of the Baltic, Belorussia, the western oblasts of the Ukraine, and northeastern Romania. In the second half of April 1944 the Soviet Army halted its offensive by Stavka order. Troops of the 1st Belorussian and 1st Ukrainian fronts went over to the defensive on 17 April, troops of the 2nd Baltic Front went over to the defensive on 18 April, and troops of the Leningrad, 3rd Baltic, and 3rd and 2nd Belorussian fronts went over to the defensive on 19 April. An order was published on 22 April to strengthen defenses within the sector of the 1st Baltic Front, and on 6 May the 2nd and 3rd



Chief Marshal of Aviation A. A. Novikov.

Ukrainian fronts went over to the defensive. Intense preparations began for the summer strategic offensive operations. In winter and spring 1944 the Soviet Union constantly increased its military might. In the first half of the year about 14,000 medium and heavy tanks and self-propelled guns, 26,000 guns with calibers of 76 mm and higher, and more than 90,000,000 shells, bombs, and mortar shells were produced. In the first half of 1944 the aviation industry produced 16,000 planes, which replenished losses and made it possible to form new VVS units and formations.¹⁷ In the first 5 months of 1944 the number of aircraft in the army in the field increased 25 percent.¹⁸ Multimillion-man armies continued to oppose each other on a front 4,450 km long from the Barents to the Black Sea. The Soviet Army in the field had a strength of about 6.5 million men, 83,200 guns and mortars, about 8,000 tanks and self-propelled guns, and 11,800 combat aircraft. Troops of the fascist bloc on the Eastern front had 4 million men, about 49,000 guns and mortars, over 5,200 tanks and assault guns, and about 2,800 combat aircraft.¹⁹ Despite the landing of American and English troops in Northern France on 6 June 1944, the Soviet-German front continued to be the decisive front of the war. Fifty-six percent of all of the Wehrmacht's ground forces were operating here, and if we include satellite troops the figure climbs to 63 percent.²⁰

In summer 1944 the Communist Party and the Soviet government assigned the following mission to the Armed Forces—clear the occupiers from all Soviet land, and begin the liberation of the peoples of Poland, Czechoslovakia, Bulgaria, and other European countries from fascist enslavement.

The Belorussian operation occupies a special place among the offensive operations of the second half of 1944. Preparations for it began in spring 1944.



General M. M. Gromov, 1st Air Army Commander, at a Combat Airfield.

Its objective was the destruction of the German Army Group Center and liberation of the Belorussian SSR and its capital, Minsk. The plan for the Belorussian offensive operation was written by the General Staff and discussed in the Stavka on 22 and 23 May. Participants in the discussion included G. K. Zhukov, A. M. Vasilevskiy, I. Kh. Bagramyan, K. K. Rokossovskiy, A. A. Novikov, N. N. Voronov, N. D. Yakovlev, A. V. Khrulev, M. P. Vorob'yev, I. T. Peresypkin, and A. I. Antonov.²¹ On the 1,100 km front from Lake Nesherdo to Verba, the fascist German grouping in Belorussia was opposed by four Soviet fronts—the 1st Baltic and the 3rd, 2nd, and 1st Belorussian, as well as the Dnepr Naval Flotilla; Belorussian partisans were active in the enemy rear area. The main idea of the operation was to penetrate enemy defenses in six sectors using frontal strikes, encircle and annihilate the enemy flank groupings at Vitebsk and Bobruysk, destroy enemy troops near Orsha and Mogilev, and, by a swift maneuver of troops of the 3rd and 1st Belorussian fronts in the general direction of Minsk, encircle and annihilate the German 4th Army. Partisan activity was to be coordinated with the powerful strikes of the four fronts from the east.

The Soviet Supreme High Command concentrated the main Air Force grouping of five air armies in the central sector of the front: the 3rd Air Army (commander General N. F. Papivin), the 1st Air Army (commander General T. T. Khyrukin), the 4th Air Army (commander General K. A. Vershinin), and the 16th Air Army (commander General S. I. Rudenko).

The 6th Air Army under the command of General F. P. Polynin operated in the second phase of the operation on the left wing of the 1st Belorussian Front; back in April this air army had been assigned to the front (the 3rd Guards Ground Attack Air Division, the 242nd Night Bomber Air Division, and two independent air regiments). In all, these five air armies possessed about 6,000 planes,

including more than 1,100 day and night bombers and 2,000 ground attack aircraft.²² In addition, eight Long-Range Aviation corps were allocated—about 1,000 bombers.

Fascist German troops of Army Group center were supported by air formations of the 6th Air Fleet, which had 1,342 combat aircraft.²³ Its air squadrons were based at airfield complexes at Minsk, Baranovichi, and Bobruysk. Placing aviation closer to the center of the Belorussian salient, the fascist German command intended to employ it as the most mobile reserve in any sector of the front from Vitebsk to Kovel'.

Thus the air situation evolved favorably for our VVS at the outset of the Belorussian operation. The VVS had the opportunity for successfully making powerful strikes against the enemy and actively supporting the ground forces offensive. The Soviet Army Air Force commander sent a directive to all air armies at the beginning of June 1944 concerning the results of Air Force activities in the winter and spring of 1944 and the missions of the summer. The directive contained a detailed analysis of shortcomings, it explained their causes, and it *proved specific instructions on how to correct them*. Flight crews were ordered to constantly study their targets, and air staffs were encouraged to work more carefully on the planning tables of coordination of aviation with tank and mechanized formations, especially at the time of the latter's commitment to the encounter and in actions in the operational depth. In July 1944 all fighter division commanders, their deputies, chiefs of staff, and supervisors on air army staffs were ordered to acquaint themselves with the work of fighter air corps (or division) command posts and gain the practical skills of controlling aviation in the air by radio. It was *recommended that ground attack aviation be controlled over the battlefield in accordance with the principle of fighter aviation control*. Air army commanders were *categorically prohibited from controlling the sorties and actions of individual groups of aircraft*. Instead, it was recommended that they *assign specific missions only to air corps and divisions, granting them the authority to manage the lower echelons*. The chiefs of staff of the air armies and air corps were obligated to visit their subordinate staffs systematically and provide concrete assistance to them in planning and organizing command and control.

A fighter air corps or division was to be assigned by special order in each air army to counter enemy aviation, and radio resources were to be provided. The fight was not to be limited to air engagements. Strikes against airfields were to be mandatory.²⁴

In compliance with a Stavka decision, Stavka representatives traveled to the front to coordinate the efforts of frontal troops and aviation in the operation—on 5 June, Marshal of the Soviet Union G. K. Zhukov to coordinate the actions of the 1st and 2nd Belorussian fronts and, somewhat later, Chief Marshal of Aviation A. A. Novikov, Marshal of the Soviet Union A. M. Vasilevskiy and Stavka aviation representative General F. Ya. Falaleyev reached the 1st Baltic and 3rd Belorussian fronts on 4 June. The hard work of preparing for the operation went on for 22 days in all air units and formations. Ten air corps and eight air divisions

arrived in the first half of June to reinforce the air armies. Their deployment required the construction of 70 airfields. They were built by airfield engineering units from aviation rear services under the supervision of air army chiefs of rear services generals I. M. Giller, V. N. Uspenskiy, P. V. Korotayev, A. S. Kirillov, and I. I. Semenov.

The 1st Air Army, 3rd Belorussian Front and the 16th Air Army, 1st Belorussian Front received the largest numbers of reinforcements. For example, in May and June the 1st Guards and the 273rd Fighter air divisions returned to the 16th Air Army after being brought back up to strength. New units included the VIII Fighter Air Corps (commander General A. S. Osipenko), the IV Ground Attack Air Corps (commander General G. F. Baydukov), the 132nd Bomber Air Division (commander General I. L. Fedorov), the 300th Ground Attack Air Division (commander Colonel T. Ye. Kovalev), and the 19th Independent Fighter Air Regiment (commander Colonel P. F. Chupikov). All of them were directly subordinate to the Soviet Army Air Force commander. The air regiment was manned by top-class aces and outfitted with the latest fighters.²⁵ Seventy percent of all planes and all day bombers (three air corps and two independent air divisions) were in the 1st and 16th air armies. Such massing of forces was in keeping with the concept of the Belorussian operation.

The political organs and party organizations of the air armies and air formations and units did a great deal of fruitful work. Prior to the offensive a conference of unit supervisory personnel and active party and Komsomol members was held. All indoctrination was conducted in the spirit of selfless devotion to the socialist fatherland and hatred of the fascist German occupiers. Much attention was devoted to increasing Communist Party membership. Communists had the leading role in preparing the units and formations, and they cemented the ranks of the airmen.

A group of generals and officers from the VVS staff directorates, including generals I. L. Turkel', P. P. Ionov, G. K. Gvozdokov, and B. V. Sterligov, was sent to the 16th Air Army by order of the VVS commander to render assistance in basing the formations, organizing command and control, and putting logistical support in order. During preparations for the operation, in several days of actual flying the organization of massed strikes by bomber air corps was worked out at airfields in the rear area. This work was headed jointly by General S. I. Rudenko, commander of the 16th Air Army, and General B. V. Sterligov, Soviet Army Air Force chief navigator. This was the first experience in bringing together and forming entire bomber corps in the air. After detailed analysis of all the positive and negative aspects of this measure, the decision was made that it would be more advantageous to make a massed strike against ground targets by the forces of divisions and air regiments.

Plans were outlined for a powerful large-scale air offensive during the operation. Enemy fortifications in the breakthrough sectors were to be razed by bomber strikes on the night prior to the offensive, and at the beginning of the attack enemy fire positions on the battlefield, artillery, and reserves were to be

destroyed in coordination with the ground troops in place and in time. Significant forces were allotted to maintain air supremacy. During the preparations for the operation, aviation had the important mission of conducting air reconnaissance. Dependable data had to be acquired on the composition and grouping of fascist troops, on the nature of their defensive structures, and on the locations of fire positions. Long before the beginning of the operation from 30 to 50 percent of all sorties were flown with this goal. Photography of terrain in the breakthrough sectors permitted combined arms commanders to study all details of the disposition of enemy defenses beforehand.

The air armies provided a great deal of assistance to partisan detachments and formations by delivering armament, ammunition, and food to them and evacuating casualties. Aviation provided fire support to partisans in their engagements with punitive detachments in the vicinity of Ushache, Lepel', Borisov, and Begoml'.

By 20 June 1944 the bulk of the planning work for the powerful air offensive and preparing the units and formations for the operation was completed. Frontal Aviation and Long-Range Aviation were assigned the following missions: firmly maintaining air supremacy; supporting frontal troops in their penetration of enemy defenses, encirclement, and destruction of the Vitebsk and Bobruysk groupings, and encirclement and annihilation of the main forces of Army Group Center east of Minsk; preventing the approach of enemy reserves to the battlefield and disorganizing westward retreat of enemy troops, constantly conducting air reconnaissance.

Because the 1st Belorussian Front was to make two thrusts simultaneously (in the Rogachev-Bobruysk and Parichi sectors), the forces of the 16th Air Army were divided into two groups. Thirteen air divisions were placed in the northern group and seven in the southern.²⁶ Formations of the 1st Air Army, 3rd Belorussian Front were also divided into two groups. Six air divisions were to operate in the Bogushevsk sector, and 11 in the Orsha sector.²⁷

In the 3rd and 4th air armies, all aviation was to be used in the sectors of the main thrusts of the 1st Baltic and 2nd Belorussian fronts. The time for the 1st Belorussian Front to go over to the offensive was postponed 1 day by Stavka decision so that the efforts of Long-Range Aviation could be concentrated successively in support of the advance of the four fronts. Thus all Long-Range Aviation forces could be concentrated initially to support the 1st Baltic and the 3rd and 2nd Belorussian fronts, and then they could be transferred to the zone of operations of troops of the 1st Belorussian Front. We can see from this that the Stavka attached great significance to the actions of our aviation.

"A. A. Novikov, A. Ye. Golovanov, S. I. Rudenko, and K. A. Vershinin and I," writes Marshal of the Soviet Union G. K. Zhukov in his memoirs, "thoroughly discussed the situation, the goals, missions, and plans for employing air armies and their coordination with Long-Range Aviation, the strikes of which were aimed at the headquarters, the communication centers of major operational

field forces, reserves, and other vital targets. In addition we examined the problems of maneuvering Frontal Aviation in the interests of all."²⁸

At A. A. Novikov's suggestion and with the approval of Marshal of the Soviet Union G. K. Zhukov, 10 days before the start of the operation Long-Range Aviation conducted an air operation lasting 4 nights with the objective of destroying enemy planes on the ground. Between 13 and 18 June seven enemy airfields were struck—Brest, Belostok, Orsha, Minsk, Baranovich, Bobruysk, and Luninets—where up to 60 percent of the 6th Air Fleet's aircraft were based. Heavy bombers flew 1,472 sorties to accomplish this mission.²⁹

Problems of employing Long-Range Aviation directly in the Belorussian offensive operation were refined by A. Ye. Golovanov with the front commanders and staffs.

On 14 and 15 June 1944 the 1st Belorussian Front commander had the 65th and 28th armies rehearse the forthcoming operation for G. K. Zhukov. A miniature reproduction of the sector of the front where the operation was to take place was prepared in the forest, away from the roads. The front line boundaries between combined arms armies and divisions, and all targets, pockets and resources of resistance were depicted. Army, division, and regiment commanders demonstrated their decisions right there on the terrain and answered G. K. Zhukov's questions. This allowed the command to "play out" the planned operations with commanders at all levels and work out all details of coordination in a situation as close to real as possible.

Aerial preparation for the offensive began on the night of 23 June in the breakthrough sectors of the 1st Baltic and the 3rd and 2nd Belorussian fronts. Some 147 long-range bombers operated within the breakthrough sectors of the 3rd Belorussian Front, and 258 operated within the breakthrough sectors of the 2nd Belorussian Front.³⁰ In addition female pilots of the 46th Guards Taman' Night Bomber Regiment led by Major Ye. D. Bershanskaya operated successfully on the 2nd Belorussian Front.

Prior to the infantry attack in the Orsha sector, 162 bombers made a concentrated strike against enemy pockets of resistance.³¹

The bomber strikes were followed by continuous actions by ground attack planes, which destroyed gun positions hindering the advance of our infantrymen and tanks and annihilated enemy reserves. In the initial days pilots of the three air armies flew more than 4,500 combat sorties, fought in 42 air engagements, and shot down 19 enemy planes.³² General F. Ya. Falaeyev, the Stavka aviation representative to the 1st Baltic and 3rd Belorussian fronts, coordinated the actions of air formations from the 3rd and 1st air armies. While an enemy grouping encircled west of Vitebsk was being mopped up, at his direction the efforts of the 3rd Air Army were concentrated on the outer front of encirclement while part of the forces of the 1st Air Army assisted in the fastest possible liquidation of the enemy grouping by means of air strikes. When it became necessary in early

July to intensify air support to troops of the 1st Baltic Front, Stavka representatives Marshal of the Soviet Union A. M. Vasilevskiy and General F. Ya. Falaleyev decided to transfer a few air formations from the 1st Air Army to the 3rd; these formations played a major role in making the offensive of the front's troops successful.³³

On 24 June, when troops of the 1st Belorussian Front went over to the offensive, the scope of air force actions increased even more. Some 303 long-range bombers participated in the night aerial preparation, and 250 sorties were flown by two night bomber air divisions from the 16th Air Army.³⁴ During the day of 24 June, at 1200 and 1700 hours, bomber and ground attack aviation from the 16th Air Army made two massed strikes on defensive strongpoints in the vicinity of Bol'shaya Krushinovka and Tikhinichi. The massed bomber strikes, combined with echeloned actions by ground attack planes, had a strong impact on fascist German troops, causing significant losses and reducing the stability of enemy defenses. Tactical lines of defense were broken on all fronts on 25 and 26 June, and mobile groups were committed to the breakthrough. Supporting and covering these groups became the main mission of our aviation. One bomber, one ground attack, and two fighter air corps coordinated with the 5th Guards Tank Army, 3rd Belorussian Front. Air corps commander General V. A. Ushakov was present at the forward command post with an operations group of corps staff officers. With air support, troops of the 5th Guards Tank Army achieved firm control of the Moscow-Minsk highway and rail line and began swift pursuit of the enemy in the Borisov sector. On the 1st Belorussian Front, two air corps—ground attack and fighter-coordinated with a mechanized cavalry group, and one ground attack and one fighter division coordinated with the tank corps. Bomber corps were employed as a powerful fire reserve intended for strikes against the most important targets within the zone of advance of the front's troops. Ground attack air formations struck enemy troops and equipment in groups of 9-12 planes at the request of aviation representatives at forward control posts within the tank and mechanized corps combat formations. General B. S. Bakhirev, commander of the IX Tank Corps, wrote the following in a telegram to the 16th Air Army commander on 26 June: "Please extend my gratitude to Colonel N. S. Vinogradov, commander of the 199th Ground Attack Air Division, and to all personnel of his division for their outstanding support to the IX Tank Corps."³⁵

Beginning on 26 June the fascist German troops began to withdraw along the entire front. Successfully exploiting the offensive at operational depth, tank and mechanized formations encircled the German troops. By 27 June, troops of the 1st Belorussian Front encircled troops of the German XXXV Army Corps in an area southeast of Bobruysk. According to air intelligence the corps had been preparing for a breakthrough, concentrating tanks, artillery, and motor vehicles on the Zhlobin-Titovka road with the hope of quickly ramming through the hastily occupied defenses of the XI Tank Corps. G. K. Zhukov and A. A. Novikov were present at General K. K. Rokossovskiy's forward command post. Discussing the situation, A. A. Novikov suggested making a massed air strike to foil the enemy's plans. G. K. Zhukov agreed with this suggestion and ordered

its immediate implementation. Here is how Marshal of Aviation S. I. Rudenko describes this episode: "At 1700 hours Colonel M. N. Kozhevnikov, who was accompanying the VVS commander, telephoned the 16th Air Army staff and reported that G. K. Zhukov, A. A. Novikov, and K. K. Rokossovskiy were aware of the critical situation in the vicinity of Titovka, and that they intended to order aviation to destroy the enemy column."³⁶

Together with General P. I. Brayko, army chief of staff General S. I. Rudenko immediately issued instructions to the air corps and division commanders. Some 523 planes took off. The massed strike lasted an hour and a half. More than 160 tons of bombs were dropped, and tens of thousands of shells were fired. Our air strike was extremely successful. Some 150 tanks, 6,000 motor vehicles, and much artillery were destroyed and put out of action near the encircled grouping southeast of Bobruysk.³⁷

Marshal of the Soviet Union G. K. Zhukov wrote the following in this regard: "I did not have the opportunity of observing the liquidation of the enemy at Bobruysk, but I was able to witness the defeat of Germans southeast of the city. Coordinating with the 48th Army, hundreds of bombers from S. I. Rudenko's 16th Army made strike after strike against the enemy group. Fires appeared on the battlefield. Dozens of motor vehicles and tanks and POLs were burning. The entire battlefield was wreathed in the sinister flames. Orienting themselves by the light, more and more echelons of our bombers continued to approach, dropping bombs of different calibers on the enemy. German soldiers were scattering in all directions like madmen, and those who refused to be taken prisoner died on the spot. Hundreds and thousands of German soldiers, deceived by Hitler, who had promised a lightning victory against the Soviet Union, died."³⁸

A. A. Novikov sent the following telegram to 16th Air Army flight crews: "As a result of the offensive southeast of Bobruysk our troops encircled a large enemy grouping. . . . In order to crush the enemy and force him to surrender, on 27 June 1944 from 1815 to 2100 hours aviation of the 16th Air Army, 523 planes strong, made a massed bomber and ground attack strike, against the enemy grouping encircled southeast of Bobruysk. As a result of the successful air strike, the encircled enemy grouping was fragmented, and what was left of it on the night of 28 June was annihilated and captured by the ground troops. A large quantity of damaged enemy equipment and masses of corpses of German soldiers and officers remained on the battlefield in the area subjected to the air strike. Thus air units accomplished their mission in an outstanding manner, for which I extend my gratitude to all personnel who participated in the massed strike—pilots, navigators, and radio operator-gunners. This telegram is to be brought to the attention of all personnel in 16th Air Army air units."³⁹

The massed air strike against the encircled grouping was a clear demonstration of the growing combat capabilities of our Air Force and competent leadership by the VVS commander, the 16th Air Army commander, and the command-

ers of the air corps, divisions, and regiments. Troops of the 1st Belorussian Front with active air support captured Bobruysk on 29 June.

Air formations of the 1st and 4th air armies participated with the front's troops in the destruction of enemy groupings encircled in a forest southeast of Minsk. Reconnaissance aircraft flew at low altitude, and revealed the dispositions of the enemy faultlessly, and they immediately radioed their intelligence data to air control posts. On the basis of the information provided by the air scouts, groups of ground attack aircraft and bombers took off and struck enemy troops.

Belorussian SSR Communist Party Central Committee Secretary P. K. Ponomarenko reported the following to Marshal of the Soviet Union A. M. Vasilevskiy on 12 September 1944: "We recently discovered and reconnoitered a huge reinforced German camp southeast of Minsk that had been completely destroyed by our ground attack aviation. The scale of the destruction and the signs of the power of our air fleet evident in this area make a sobering impression. On being informed that Minsk had been taken, one of the German groups built a fortified region, where more than 11,000 Germans, several hundred tanks, many guns, and more than 5,000 armored vehicles dug in. Our 14th Ground Attack Stalingrad Red Banner Division discovered and destroyed this grouping. There were 5,000 corpses of German soldiers and officers, more than 5,000 burned-out vehicles, and a large quantity of destroyed ammunition in the camp within the area inspected. . . . Informing you of this, we request that the 14th Ground Attack Stalingrad Red Banner Division, its commanders, and its flight crews be recognized appropriately."⁴⁰ The Soviet government awarded orders to many of this division's commanders and pilots.

The actions of our aviation to destroy the encircled enemy grouping in the area southeast of Bobruysk were analyzed, synthesized, and subsequently studied in all air armies with the goal of making practical use of this experience.

By this time the Vitebsk, Orsha, and Mogilev enemy groupings had been totally destroyed. Tank formations of the 3rd and 1st Belorussian fronts began to advance quickly toward Minsk. The new mission of our aviation was to cover and support the advancing troops and pursue the enemy. In the vicinity of Berezino the withdrawing fascist German troops were subjected to massed strikes by the 4th and 16th air armies. Between 28 and 30 June they flew more than 3,000 sorties.⁴¹ Berezina River crossings were systematically destroyed by our aviation, and our ground attack aircraft made effective strikes against German troops pinned down on the river's east bank. Between 29 June and 3 July the 4th and 16th air armies flew more than 4,000 sorties against withdrawing enemy troops.⁴² Preventing rapid withdrawal of fascist German troops beyond the Berezina, our aviation thus promoted their encirclement east of Minsk. On 3 July 1944 Soviet troops liberated Minsk. The Belorussian offensive operation was successful due to the coordinated actions of three main forces—tank formations encircling a large grouping of German troops east of Minsk from the north and south and reaching the grouping's rear area; rifle formations operating from the

front; Frontal Aviation and Long-Range Aviation blocking the retreat of the German 4th Army to Minsk.

After the liberation of Minsk the offensive of the Soviet troops, actively supported by our aviation, unfolded along a broad front and progressed at a fast pace in the directions of Vil'nyus, Belostok,* and Brest. Troops of the 2nd Belorussian Front liquidated encircled enemy groupings east of Minsk.

By mid-July 1944 Soviet troops had traveled far to the west. The Belorussian salient was cut off. Pilots of Polish air units formed with the assistance of the Soviet Union fought with Soviet pilots in the concluding stage of the Belorussian operations and later in engagements for the complete liberation of Poland. On 14 August the 1st Warsaw Fighter Regiment, flying Yak-1s and the 2nd Krakow Night Bomber Air Regiment, flying Po-2s, joined the front.⁴³ The Polish 4th Composite Air Division (commander Colonel G. P. Turykin) was formed at the end of 1944. It consisted of three air regiments—the 1st Fighter, the 2nd Light Bomber, and the 3rd Ground Attack. The I Composite Air Corps (commander General F. A. Agal'tsov) consisting of the Polish 1st Bomber Air Division, the Polish 2nd Ground Attack Air Division, and the Polish 3rd Fighter Air Division, was formed in the beginning of 1945. The Polish Air Force flew more than 6,000 sorties on the Soviet-German front between the second half of August 1944 and the end of the war.⁴⁴

The Belorussian operation ended on 29 August. With air support, Soviet troops in the Belorussian operation soundly defeated Army Group Center, moved west 550-600 km, and liberated the Belorussian SSR, a large part of the Lithuanian SSR, part of the Latvian SSR, and eastern Poland. The following cities were liberated: Orsha on 27 June, Bobruysk on 29 June, Borisov on 1 July, Minsk on 3 July, Vil'nyus on 13 July, Lublin on 24 July, Belostok on 27 July, Brest on 28 July, Kaunas on 1 August, and others.

The Soviet Air Force pounded encircled enemy groupings with crushing air strikes at Vitebsk, Bobruysk, Minsk, Kaunas, Vil'nyus, and other places. With active support from ground attack aviation, troops of the fronts made rapid assault crossings over a number of large water obstacles—the Vistula, Neman, Narev, and Berezina. Soviet pilots firmly maintained air supremacy, preventing enemy aviation from striking the troops and targets in the rear area. During the operation Frontal Aviation and Long-Range Aviation flew 153,545 sorties, while PVO Aviation flew 3,166 sorties.⁴⁵ Never in previous operations had the combat actions of the Soviet Air Force achieved such great scope. Two thousand fascist German planes were destroyed in air engagements and on the ground.

Statements by captured German officers about the actions of our aviation in the Belorussian operation are interesting. Officers of the General Staff of the

*[City in Poland also referred to as Bialystok—U.S. Ed.]



Marshal of Aviation F. A. Vorozheykin.



Marshal of Aviation F. Ye. Falaleyev.

260th Infantry Division, captured on 11 July 1944, stated the following in their interrogation: "Between 26 June and 4 July 1944 the columns with which we were traveling were subjected to frequent air raids on the entire route to Minsk; troops and transportation en route suffered a great deal from this. When planes appeared, the soldiers scattered off the roads into the forests and fields, the columns ran into one another and became confused, and intense panic arose, which aggravated our situation even more and facilitated the actions of aviation. The perpetual raids recurred every half hour to hour, hindering the actions of the troops. . . ."⁴⁶

The military councils of the fronts and armies gave a high assessment to the actions of our air corps and divisions. Here, for example, is the evaluation made by the 65th Army Military Council (commander Colonel General P. I. Batov, Military Council member General N. A. Radetskiy, Army chief of staff General M. V. Bobkov) of the actions of the VIII Bobruysk Red Banner Fighter Air Corps: "Fighter aviation of the VIII Fighter Air Corps covered the operational concentration of the troops by its active operations during preparations for penetration of enemy defenses. During the Bobruysk operation units of the VIII Fighter Air Corps supported the 65th Army as it penetrated enemy defenses, exploited the success in depth, and encircled and annihilated the enemy in the vicinity of Bobruysk.

"General A. S. Osipenko, VIII Fighter Air Corps commander, was personally present at the command post in direct proximity to the 65th Army command post, thus ensuring that planes would be sent to the battlefield efficiently and

that control of the planes would be reliable. The bold and decisive actions of VIII Fighter Air Corps personnel ensured the success of the ground troops. The 65th Army Military Council expresses gratitude to all personnel for the bravery and heroism they displayed.¹⁴⁷ The Motherland placed great value on the military deeds of the Soviet airmen. The title Hero of the Soviet Union was awarded to 53 pilots and navigators of the 1st, 3rd, 4th, 6th, and 16th air armies by a ukase of the Presidium of the USSR Supreme Soviet.

The Soviet Air Force actions in the Belorussian operation introduced many innovations into Air Force operational art and tactics. The experience of concentrating the main air grouping in the central sector of the Soviet-German front was highly instructive. Of special interest are the measures implemented by the command to covertly move air units and formations first to airfields quite far removed from the front line and then to airfields in the combat zone prior to the beginning of combat actions. There were many interesting aspects to the organization of coordination between air armies as well as between Frontal Aviation and Long-Range Aviation. This coordination was organized by Stavka aviation representatives. It was distinguished by flexibility in the transfer of aviation forces along the front by switching air formations from one air army to another, and through switching VVS efforts from one sector to another without changing bases. In this case decisions on maneuvering the aviation forces were made on the spot by Stavka representatives.

The problem of air support to and cover of tank, mechanized, and cavalry formations was solved somewhat differently. Several air corps and independent air divisions operated in support of the tank army as it was committed to the breakthrough and as it exploited success in depth; control was concentrated in the hands of one of the air corps commanders. Centralized control of aviation made it possible to transfer air formations quickly to accomplish newly arising combat missions. Fighter aviation typically employed the "free hunting" strategy with the mission of not only destroying enemy planes in the air, but also motor vehicles, railroad trains, and other small targets. Ground attack aviation was employed extensively by actions of groups of ground attack aircraft in accordance with a previously developed schedule in short intervals of 10-20 minutes, as well as with aircraft on air and ground alert.

As our swift offensive developed in the central sector, the Soviet Army with the active support of aviation, struck the enemy hard on the southern wing of the Soviet-German front and in the Baltic. In the period from July to November 1944 the Soviet Army cleared the occupiers from the Moldavian SSR and its capital, Kishinev, and captured the major industrial region of Ploesti and Romania's capital, Bucharest. In September it entered Bulgaria, completed the liberation of Romania, Bulgaria, and almost all of the Baltic republics, reached the Vistula, and captured three beachheads on its left bank.

Pilots in Czechoslovak and Romanian units and formations formed and



Marshal of Aviation S. A.
Khudyakov.



General A. V. Nikitin.

armed with the assistance of the Soviet Union fought valorously together with Soviet aviation within the 2nd, 8th and 17th air armies. The Czechoslovak 1st Fighter Regiment began its combat history as part of the 2nd Air Army in July 1944. In September 1944 Czechoslovak pilots were redeployed to the vicinity of Zvolen. There, in the enemy rear area, they remained for more than a month, actively supporting Slovak rebels. Later the Czechoslovak 1st Composite Air Division was created, armed, and trained in the Soviet Union. Fighting together with Soviet airmen, Czechoslovak pilots flew more than 1,400 sorties and destroyed about 50 fascist planes before the end of the war.⁴⁸

Romanian Air Force pilots took part in completing the defeat of enemy troops and liberating Romania. In coordination with troops of the 2nd Ukrainian Front, the Romanian I Air Corps flew 2,500 combat sorties and shot down 100 fascist planes in air engagements between 24 August and 25 October 1944 at Bucharest and in Transylvania.⁴⁹

To support the People's Liberation Army of Yugoslavia, the Yugoslav 1st Fighter Regiment and the 2nd Ground Attack Air Regiment were formed in 1945, after which they left for Yugoslavia. Prior to this, in accordance with an agreement signed 15 November 1944 the Soviet Union subordinated a Soviet air group commanded by General A. N. Vitruk to the People's Liberation Army of Yugoslavia command for an indefinite period of time. It included the 10th Guards Ground Attack Air Division, the 236th Fighter Air Division, and the 9th Aviation Base Area with all of its materiel, armament, and technical and administrative resources to support them. The Soviet air group provided considerable

assistance to the People's Liberation Army of Yugoslavia in its fight against fascist German troops.⁵⁰

The Normandie Independent Fighter Air Regiment of the Fighting French took an active part in the battles of Belorussia. In October 1944 the regiment received the honorary title Neman for its successful combat actions while supporting and covering troops crossing the Neman River. It was renamed the 1st Normandie-Neman Independent French Fighter Air Regiment. On 5 July 1943 the French air squadron became the 1st Normandie Independent Fighter Air Regiment of the fighting French (regiment commander—Major Pierre Pouyade and, as of 28 October 1944, Major Louis Delfino). Soviet Air Force officers assigned to the regiment were Captain I. V. Shurakhov as chief of staff and Captain-Engineer S. D. Agavelyan as regimental senior engineer. The reason was that French aircraft mechanics had been called to North Africa in August 1943, and so the engineers, technicians, and staff had to be replaced by Soviet servicemen. The French regiment was armed with the newest Yak-9 fighters, which had better technical flight characteristics than the Yak-1 (higher rate of climb, better maneuverability, and a speed of about 600 km per hour). In summer and fall 1944 the air regiment's pilots fought in 78 air engagements and shot down 129 enemy planes.⁵¹ The regiment's personnel were awarded many Soviet orders for exemplary accomplishment of the Soviet Command's combat assignments in the fight against the fascist German occupiers and for the valor and bravery displayed.

On 8 September 1944, when troops of the 3rd Ukrainian Front entered Bulgaria with the active support of the 17th Air Army, Bulgarian pilots joined the fight against the fascist invaders as well. Between September and November 1944 they flew 4,400 combat sorties.⁵²

During the operation the Soviet Air Force provided significant support to the ground forces in their missions. The Communist Party and Soviet government gave a high assessment to the activities of the Soviet Army Air Force command and staff. On 19 August 1944 a ukase of the Presidium of the USSR Supreme Soviet awarded the rank of marshal of aviation to VVS deputy commanders G. A. Vorozheykin, F. Ya. Falaleyev, and S. A. Khudyakov. A. V. Nikitin was promoted to colonel general of aviation, and N. I. Krolenko and N. A. Zhuravlev to lieutenant general of aviation. This ukase also awarded the highest rank of chief marshal of aviation to A. Ye. Golovanov, the Long-Range Aviation commander, and the rank of marshal of aviation to his deputy, N. S. Skripko.

In the summer of 1944 American aviation conducted "shuttle" air operations from Soviet airfields in accordance with a treaty signed by the governments of the U.S. and the Soviet Union. As we know, the U.S. 8th and 15th air forces and British Long-Range Aviation were operating in Europe as of the beginning of 1944. American aviation was based on English and Italian airfields, and it operated with fighter escort against targets in Germany and allied countries, mainly during the day. The RAF operated at night. Because of limited range, American fighter escorts could not reach targets in eastern Germany and in the

countries of eastern Europe. Thus representatives of the American delegation to the foreign ministers' conference in the fall of 1943 in Moscow asked the Soviet government to provide airfields for American aviation on the territory of the USSR. The Soviet government responded favorably to this request. The Soviet Army Air Force commander received instructions from the Supreme High Command to prepare the bases and provide air engineering and logistical support to the American air group in the USSR. For this purpose, as well as to resolve issues associated with combat actions initiated from Soviet territory by air units of Poland, France, and Czechoslovakia, a special section and later a VVS directorate (director-ate chief General S. D. Levandovich) was created on the Soviet Army Air Force staff and subordinated directly to General A. V. Nikitin, a Soviet Army Air Force deputy commander.



General N. A. Zhuravlev.

On 4 February 1944 the State Defense Committee published instructions to the VVS command providing basic guidelines for housing and feeding American pilots and supplying fuel and bombs to the air bases.⁵³ It was assumed that up to 360 B-17 (Flying Fortress) and B-24 (Liberator) bombers and up to 150-200 escort fighters would participate in the "shuttle" operations. The Poltava airfield complex, which consisted of the airfields at Poltava, Mirgorod, and Piryatin, was allocated to American aviation. The 169th Special Purpose Air Base was formed to maintain them. General A. R. Perminov was assigned as commander, Lieutenant Colonel I. I. Kolesnikov as deputy commander for political affairs, General S. K. Kovalev as chief of staff, Major N. F. Shchepankov as chief of the operations section, and Major-Engineer K. A. Stroganov as chief of the airfield complex. The Poltava airfield complex was covered from the air by the 310th PVO Fighter Air Division (commander Colonel A. T. Kostenko) and by an antiaircraft artillery unit of the VI PVO Corps. With the permission of the Soviet government General F. Anderson, U.S. Air Force deputy commander in the European theater, came to Poltava on 15 May with a group including Captain Elliott Roosevelt, the son of U.S. President F. Roosevelt. General Anderson gave a favorable rating to the air base preparations made.⁵⁴

At the end of May 1944 preparations of the air base for receiving the American pilots were completed. In accordance with the treaty, the first "shuttle" air operation by American aviation was scheduled for 2 June 1944. The Americans were to take off from Italian airfields, strike enemy targets in Southeastern Europe, and then land at the Poltava airfield complex. Early in the morning of



Chief Marshal of Aviation A. Ye.
Golovanov.



Marshal of Aviation N. S.
Skripko.

2 June up to 750 planes of the American 15th Air Force took off from airfields in Italy and struck their assigned enemy targets. Some of them returned to their own bases, and 128 B-17 bombers escorted by 64 P-51 fighters (Mustangs) with Lieutenant General I. Eaker, commander of the 15th Air Force, in charge landed at the Soviet airfields. As General A. V. Nikitin recalls, an extremely warm welcome was organized for the American pilots at the airfields. Logistical, special, and medical support to arriving Allied aviation was organized at a high level. Later, "shuttle" air operations were conducted on 6 June in coordination with Soviet aviation against targets near Galati, with recovery at Italian airfields. On 11 July more than 1,000 planes struck military targets in Romania and Yugoslavia, some of them landing at airfields near Poltava after their mission. The American 8th Air Force performed a "shuttle" air operation from English airfields against industrial targets in Berlin on 21 June 1944. Of the 2,500 American aircraft participating in the operation, 137 bombers escorted by 62 fighters landed at the Poltava airfield complex.

Fascist German aviation intensified its air reconnaissance whenever American aviation landed at our airfields. On the night of 22 June 1944 it struck Poltava and Mirgorod airfields and, despite intense antiaircraft fire and the actions of night fighters covering these airfields, 44 American and 15 Soviet planes were destroyed and put out of action on the airfields. It should be noted that, by order of the Soviet command, General A. R. Perminov had suggested that day that the American command redeploy the planes to other airfields before dark. This suggestion was rejected, however. By evening, at the insistence of the Soviet command, the American planes were dispersed along the edges of their airfields, and most of the flight crews were quartered away from the airfields. All PVO

resources were made combat ready. Although these measures did decrease American losses resulting from strikes by enemy aviation, they could not eliminate them completely. In the second half of July small groups and single American planes landed at the Poltava airfield complex. On 27 July, after striking enemy targets, 38 P-38 (Lightning) fighter-bombers and 34 P-51 (Mustang) fighters landed at these airfields.

In September 1944 American aviation performed three "shuttle" air operations (11, 13, and 18 September) from the Poltava airfield complex. Later, because the front line had changed dramatically and bombers and fighters of the American 8th and 15th air forces could now reach all enemy targets and return to their own bases, "shuttle" air operations were no longer necessary. But the actions of American aviation participating in these "shuttle" operations did not have a direct effect on events on the Soviet-German front.

The year 1944, a year of great victories for the Soviet people and their valorous Armed Forces, was coming to an end. The war years strengthened the unshakable moral-political unity of the Soviet people. The power of the Soviet state grew immeasurably. The Air Force also matured quantitatively, qualitatively, and organizationally. In 1944 the aviation industry gave the front 17,872 fighters, 10,719 ground attack planes, and 4,039 frontal and long-range bombers. Including cargo and trainer craft, more than 40,000 planes were produced. As compared to the previous year, aircraft production increased by 15.6 percent in 1944.⁵⁵ By the beginning of 1945 there were as many as 14,500 new combat aircraft in the VVS in the field.⁵⁶ VVS units were equipped with the new, more sophisticated Yak-3 and La-7 fighters and Il-10 ground attack aircraft. They were superior to equivalent types of enemy aircraft in speed, maneuverability, and armament. Our aviation received new resources and a significant number of radar sets. A 6 December 1944 GKO decree reorganized Long-Range Aviation into the 18th Air Army, consisting of five bomber air corps (I Guards Smolensk commanded by General G. N. Tupikov, II Guards Bryansk commanded by General Ye. F. Loginov, III Guards Stalingrad commanded by General V. Ye. Nestertsev, IV Gomel' commanded by General G. S. Schetchikov, and XIX Bomber commanded by Colonel M. N. Kalinushkin) and four air divisions (45th Heavy Bomber commanded by Colonel V. I. Lebedev, 56th Fighter commanded by Colonel A. D. Babenko, 73rd Auxiliary, and 27th Training), and subordinated it directly to the Soviet Army Air Force commander. The reason was the requirement to employ long-range bombers extensively in support of the ground forces during the Soviet Army's major offensive on the entire Soviet-German front. The mobility and maneuverability of the Soviet Air Force increased as a result. Organization of command and control and the conditions for Long-Range Aviation coordination with air armies in Frontal Aviation and with the ground forces were improved.

The Soviet Army Air Force staff, attaching great significance to synthesizing the experience from aviation combat actions, on 18-20 November 1944 held meetings with staff officers from the air armies, air corps, and military district VVS responsible for studying and utilizing the experience of the Great Patriotic

War. Back on 29 April 1943 the VVS command published an order on studying and introducing the experience of the Great Patriotic War into the units of the Red Army Air Force. The order required commanders and staffs at all levels to generalize everything that was best about aviation combat actions.⁵⁷

Airmen in VVS units and formations thoroughly studied the combat experience and developed new tactics and methods of combat action born in battle. Combat experience was publicized via various bulletins and memo sheets published by the air divisions. The Soviet Army Air Force staff systematically published "Information Bulletins" and sent them to the troop units. The journal *Vestnik Vozdushnogo flota* and air army newspapers played a definite role in disseminating combat experience and heightening the skills of air force fliers and technicians.

During meetings air army staff officers suggested many new and interesting ideas pertaining to the combat employment of air units and formations in various types of operations and combat. They suggested new ideas regarding the organization and maintenance of coordination between aviation and the troops, and control of aviation using radio resources and forward command posts.

In his concluding speech, General N. A. Zhuravlev formulated the three main tasks: "The first—work quickly and efficiently. The experience of warfare must be extracted daily from VVS combat actions, and it must be processed and quickly disseminated to subordinate air units; the second—study aviation actions covering a short interval of time or during one characteristic operation and, on this basis, make conclusions and disseminate them to the units; the third—accumulate and preserve materials for future history." The results of the meetings and the main tasks were spelled out in a Soviet Army Air Force staff directive.⁵⁸

New manuals on the combat actions of ground attack (NShA-44), bomber (NBA-44), fighter (NIA-45), and reconnaissance aviation (NRA-44), which synthesized the rich war experience and employment of the new aviation equipment coming into the inventory, were written under the guidance of the Military Council in 1944 by military academies jointly with the VVS staff. They reflected the war experience quite fully. A Soviet Army Air Force chief of staff directive dated 19 December 1944 ordered air army, military district VVS, and air corps commanders to study the new manuals and implement them in practical combat actions.⁵⁹

During this time fascist Germany was undergoing a deep military-political crisis which marked the approach of a catastrophe. During the summer-fall campaign of 1944 the Soviet Army annihilated or captured 96 fascist divisions and 24 brigades. In addition it routed 219 divisions and 22 brigades, which lost from 50 to 75 percent of their force. In sum the losses suffered by Hitlerite Germany

*[Herald of the Air Fleet—U.S. Ed.]

on the Soviet-German front during this time totaled 1,600,000 men, 6,700 tanks, 2,800 guns and mortars, and more than 12,000 aircraft.⁶⁰

The Vistula-Oder Operation

The victories of the Soviet Armed Forces in 1944 produced outstanding political and military results. The fascist German occupiers were completely expelled from Soviet territory (with the exception of the northwestern part of the Latvian SSR), and the state border was restored from the Barents to the Black Sea. Fascist Germany lost all its allies in Europe, and found itself in a situation of total political isolation. The front had moved to its borders, and in East Prussia it had crossed them. Our Air Force enjoyed strategic air supremacy along the entire Soviet-German front. In 1945 the Stavka assigned the mission of completing the defeat of fascist Germany's armed forces and providing help to the countries of central and southeastern Europe in liberating themselves from fascist oppression and, jointly with the Allies, forcing fascist Germany to surrender unconditionally. According to the Supreme High Command's plan, our troops were to deliver crushing blows along the entire front and destroy enemy groupings in East Prussia, Poland, Czechoslovakia, Hungary, and Austria. The main efforts were focused in the Warsaw-Berlin sector. Next the Soviet Army was to occupy Berlin, liberate Prague, and bring the war to a victorious conclusion.

The concept of the Vistula-Oder operation was as follows: powerful simultaneous thrusts were to be made against the enemy in the Poznan and Breslau sectors. Army Group A defending Polish territory was to be destroyed, the Oder was to be reached, and advantageous conditions for a final strike on Berlin were to be ensured. The beginning of the offensive was planned for 20 January 1945, but fascist German troops placed Anglo-American troops in the Ardennes in a difficult position. At the request of the government of Great Britain, the Stavka decided to accelerate the beginning of the offensive of the Soviet troops. In the January offensive Soviet troops were to destroy the enemy in Poland and liberate the Polish people from Hitlerite tyranny. The Stavka assigned the mission of destroying the fascist German occupiers in Poland to troops of the 1st Belorussian and 1st Ukrainian fronts. Troops on the left wing of the 2nd Belorussian Front were to advance on the right flank, while troops on the right wing of the 4th Ukrainian Front were to advance on the left flank. Troops of the 1st Belorussian Front were covered and supported from the air by the 16th Air Army (commander General S. I. Rudenko, deputy commander for political affairs General A. S. Vinogradov, chief of staff General P. I. Brayko), while troops of the 1st Ukrainian Front were covered and supported by the 2nd Air Army (commander General S. A. Krasovskiy, deputy commander for political affairs General S. N. Romazanov, chief of staff General A. S. Pronin). There were 4,770 combat aircraft in the two Frontal Aviation air armies. Enemy aviation was significantly inferior to ours quantitatively and qualitatively. Enemy troops were covered and supported by units of the 6th Air Fleet.⁶¹ Troops of the 1st Belorussian Front were faced by about 450 planes. This was no longer the enemy that we had fought

in the first years of the war. Soviet aviation was now superior to his in all respects. Although the Germans did try to employ individual new jet planes for the first time in the Vistula area, these jets brought about no significant change in the air situation.⁶²

Air army units and formations made meticulous preparations for the forthcoming operation. Special attention was directed to studying the enemy, breaking in new pilots, and practicing dive bombing against small targets. Much was done to ensure covertness of the preparations and surprise in the employment of aviation. The arrival of new air formations, of which there were many, was kept a deep secret. Traveling to the forward edge to study their targets on the battlefield, commanders and air group leaders wore jackets without shoulder boards and rank insignia. The Soviet Air Force had to maintain strategic air supremacy and support the ground forces and the Navy in their missions by concentrated attacks on the enemy. The 16th Air Army was augmented by the III Fighter Air Corps (commander General Ye. Ya. Savitskiy), the IX Ground Attack Air Corps (commander General I. V. Krupskiy), the 183rd Bomber Air Division (commander Colonel M. A. Sitkin), the 242nd Night Bomber Air Division (commander Colonel P. A. Kalinin), and the 1st Guards Fighter Air Division (commander Colonel V. V. Sukhoryabov) from the Stavka Reserve.⁶³ Dummy airfields were built. Aircraft mock-ups were set up on these airfields, and movements of airfields and combat equipment were simulated. For example, 818 mock-ups of planes and specialized vehicles were set up at 55 dummy airfields within the 16th Air Army. Most dummy airfields "operated" around the clock and so plausibly as to give the enemy no doubts as to their authenticity. Prior to the offensive the enemy bombed them 5 times during the day and 19 times at night, dropping 660 heavy bombs.⁶⁴ The real airfields, meanwhile, were meticulously camouflaged, and they were subjected to almost no air strikes during this period. Beyond the Vistula, air reconnaissance discovered seven prepared enemy lines of defense echeloned to a depth of 500 km and six antitank ditches from 20 to 60 km long, and it discovered the areas of concentration of reserves and enemy artillery groupings. All crossings over the Vistula and the Pilica rivers were photographed, and the airfield network and the aviation based there were discovered. Air reconnaissance data permitted the Supreme High Command and the frontal command to plan the offensive operation more soundly. In addition to conducting air reconnaissance, during the preparations for the operation, Soviet aviation fought enemy reconnaissance aircraft, covered friendly troops against air strikes, and prevented the enemy from regrouping his troops by making individual strikes against the troops and equipment. These missions required 3,500 sorties.⁶⁵

The offensive was initiated on 12 January by an assault grouping from the 1st Ukrainian Front and on 14 January by an assault grouping from the 1st Belorussian Front. Immediately after the fronts went over to the offensive, aviation (more than 85 percent of all forces) concentrated its main efforts on supporting the fronts' assault groupings. The 4th and 3rd Guards tank armies and two tank

corps (XXXI and IV Guards) of the 1st Ukrainian Front, which were committed in the second half of the first day, were actively supported from the air by aviation of the 2nd Air Army. About 400 ground attack planes and bombers of the air army, flying continuously in small groups, struck enemy reserves advancing to the area in which our tank armies were being committed to the encounter. Aviation disrupted the enemy plans, which called for a strong counterstrike. On 16 and 17 January the 2nd Air Army alone flew about 4,000 combat sorties on behalf of the advancing tank armies and corps.⁶⁶ Closely coordinating with the combined arms and tank armies, ground attack and bomber aviation disorganized the withdrawal of enemy columns retreating to intermediate lines of defense, thus helping the frontal troops to destroy the main forces of the German 4th Tank Army and operational reserves opposing our troops and operating from the Sandomierz beachhead. Soviet aviation actively helped the troops make an assault crossing from the march over the Nysa, Pilica, and Warta rivers and advance their forward detachments to the Radomsko-Czestochowa-Tarnow line.

Concentrating its efforts on covering and supporting the 1st and 2nd Guards tank armies and the tank and cavalry corps, beginning on 16 January the 16th Air Army actively helped them to accomplish their assigned missions. The VI Ground Attack Air Corps, which flew 272 missions in a single day, coordinated with the 2nd Guards Tank Army, while the 1st Guards Tank Army was supported by the 2nd and 11th Guards ground attack air divisions. That day they flew 345 sorties.⁶⁷ In the vicinity of Opoczno ground attack planes destroyed the enemy's 10th Mechanized Division. More than 3,000 motor vehicles and armored transporters and several dozen tanks were destroyed by aviation and abandoned on the roads. Bombers of the III Bomber Air Corps (Commander General A. Z. Karavatskiy) and the 183rd and 221st bomber air divisions made several powerful strikes against the enemy rail targets during the day. In all, during the third day of the offensive the 16th Air Army flew 3,431 sorties.⁶⁸ Aviation of the 16th Air Army played a great role in supporting the troops which liberated Warsaw. The Polish 1st Army, which went over to the offensive on the night of 17 January and broke into Warsaw in the same day, took part in the liberation of Warsaw along with Soviet troops. Early in the operation the 16th Air Army dropped a great quantity of mortars, antitank rifles, automatic weapons, ammunition, food, and medicine to patriots of the Warsaw underground organization. During the 4 days of battle by the front's troops in the liberation of Warsaw, the 16th Air Army flew 6,493 combat sorties. In addition, the Polish 4th Composite Air Division flew about 400 combat sorties.⁶⁹

By the end of 17 January the enemy main forces had been destroyed through the efforts of the troops of the two fronts and aviation. Poland's capital, Warsaw, was liberated from the German occupiers.

During the subsequent advance of the troops of the fronts to the Oder, our aviation continued, despite poor weather, to support the ground troops in their pursuit of the retreating enemy. However, the conditions under which Soviet aviation had to operate became more complex as the troops moved west. An unexpected warm spell caused a major thaw. Unimproved airfields were put out of

action. Aviation lagged behind the ground troops due to the poor basing conditions. At the same time favorable conditions had developed for enemy aviation. The weather was good at enemy bases, and well-prepared paved airfields were available. Fascist German aviation capitalized on this, and in the first third of February it flew about 14,000 sorties within the zone of advance of the 1st Belorussian Front, while the 16th Air Army flew only 624.⁷⁰ The Soviet command took emergency steps. Large highways were used to base fighters. The first experiment with this sort of unusual airfield was made by Thrice Hero of the Soviet Union Colonel A. I. Pokryshkin, commander of the 9th Guards Fighter Air Division. The entire air division was based on the highway by evening. The 22nd Guards Fighter Air Division (commander Lieutenant Colonel L. I. Goreglyad) did the same. In addition, each combined arms army within its zone built one airfield out of special metal plates. This is how the problem of basing our aviation during this operation was solved. By their bold and decisive actions, Soviet fighters broke enemy resistance in the air. While during the second third of February enemy aviation flew more than 3,000 sorties, in the last third they flew only 670. During the same time the 16th Air Army alone flew more than 10,000 sorties.⁷¹

In accomplishing their combat missions during the period of pursuit between 18 January and 3 February, the 16th and 2nd air armies flew more than 42,000 sorties. The RVGK III, VI, and XIII Fighter Air Corps commanded by Generals Ye. Ya. Savitskiy, I. M. Dzusov, and B. A. Sidnev performed with special distinction. The formations they led dependably covered the ground troops against air strikes and boldly attacked the enemy on the ground. In support of the 1st Ukrainian and 1st Belorussian fronts, the Long-Range Aviation 18th Air Army used night actions to disrupt enemy rail shipments and prevent concentration of reserves. Between 17 and 26 January it flew more than 600 combat sorties.

Soviet aviation once again demonstrated in the Vistula-Oder operation that it was capable of supporting and covering advancing troops continuously and effectively throughout the entire operation in bad weather. During the offensive operation from the Vistula to the Oder, units from fighter air formations were redeployed seven times, while ground attack units were redeployed six times. Pilots of the two air armies flew 54,000 combat sorties. Our fighters fought in 1,150 air engagements and destroyed 908 enemy planes.⁷²

The East Prussian Operation

Concurrently with the powerful offensive from the Vistula to the Oder, the Soviet Armed Forces initiated offensive actions in East Prussia and northern Poland. Planning the East Prussia operation, the Stavka assigned the following missions to the Soviet troops: cutting off Army Group Center from other fascist German Army forces, pushing it to the sea, dividing it, and annihilating it piecemeal.⁷³ This mission was assigned to troops of the 3rd and 2nd Belorussian fronts, supported by the Air Force and the Red Banner Baltic Fleet. The Soviet

air grouping consisted of the 1st Air Army of the 3rd Belorussian Front (commander General T. T. Khryukin, deputy commander for political affairs General I. G. Litvinenko and, as of March, General I. T. Chernyshev, chief of staff General I. M. Belov) and the 4th Air Army of the 2nd Belorussian Front (commander General K. A. Vershinin, deputy commander for political affairs General F. F. Verov, chief of staff General A. N. Alekseyev). In all, the two air armies, reinforced by Supreme High Command air reserves, possessed more than 3,000 planes.⁷⁴ In addition, some of the forces of the 3rd Air Army, 1st Baltic Front and the 18th Air Army were allocated. Actions of the air armies in the operation were coordinated by Stavka aviation representative Marshal of Aviation F. Ya. Falaleyev. The German Army Group Center was supported by the 6th Air Fleet, which possessed 775 planes.⁷⁵ The Stavka and the front commanders assigned aviation a major role in the forthcoming offensive operation.

To achieve surprise in the actions of its troops and aviation in the main sector, false preparations for an offensive were made on the left wing of the 3rd Belorussian Front. Between 1 and 10 January the 1st Air Army covered the false concentration of troops in the vicinity of Suwalki. Dummy airfields were created in this sector, and 100 ground attack and 60 fighter mock-ups were set up on them. Radio stations simulating the work of an air army staff, a ground attack air corps, and three bomber divisions were operated in the vicinity of the dummy airfields. Camouflage measures were also employed in other air armies. On the morning of 13 January 1945 troops of the 3rd Belorussian Front went over to the offensive, followed by troops of the 2nd Belorussian Front on 14 January. During the night prior to the offensive, aviation of the 1st Air Army conducted powerful aerial preparation, flying 740 sorties. During the day on 14 January aviation supported the troops of the 5th Army in repelling strong enemy counterblows. On 15 January 1,320 planes of the 1st and 3rd air armies struck the principal enemy centers of resistance in several powerful successive strikes, as a result of which the front's troops advanced up to 10 km and penetrated the main line of defense. On the fourth day of the operation 342 bombers of the 1st and 3rd air armies made a massed strike against strongpoints on the enemy's second line of defense in the sector within which the II Guards Tank Corps was committed to the encounter. A second strike by 284 bombers occurred 3 hours after the first against targets on the third line of defense.

Air support to the tank corps combat actions was provided by five bomber air divisions, three ground attack divisions, and one fighter air division. In all, on 16 January aviation of the two air armies flew more than 2,800 sorties.⁷⁶ By the end of 18 January, troops of the 3rd Belorussian Front with active air support broke enemy defenses along a broad front. The 1st and 3rd air armies flew 10,350 sorties in support of the front's troops.⁷⁷ In the zone of advance of the 2nd Belorussian Front, the 4th Air Army actively supported commitment to the encounter of two tank corps on 15 January and one mechanized corps on 16 January, and on the following day it supported commitment of the 5th Guards Tank Army.

Aviation played a major role in annihilating an enemy grouping encircled

in the fortress city of Torun. On 31 January troops of the 70th Army began an assault on the surrounded fortress. The enemy attempted a strong counterblow, resulting in 5,000 of his troops breaking out of the encirclement. Ground attack aviation was tasked to annihilate them. By its strikes it blocked the movement of the columns and in its subsequent actions inflicted heavy losses on them. Later, capitalizing on a temporary improvement in the weather, Soviet pilots struck troops and pockets of resistance in the Heilsberg fortified area and fought fascist German aviation. Between 19 January and 9 February the 4th Air Army flew 8,130 sorties, while the 1st Air Army flew 9,740 sorties.⁷⁸ Troops of the fronts captured a significant part of the Samland Peninsula, bypassed Koenigsberg on three sides, and reached the Heilsberg fortified area. The East Prussian grouping suffered heavy losses and was divided into three parts. The second stage of troop combat actions in East Prussia—liquidation of the isolated enemy groupings—began on 10 February. This mission was assigned to troops of the 3rd Belorussian and 1st Baltic fronts. On 18 February 1945 near Mehlsack Army General I. D. Chernyakhovskiy, commander of the 3rd Belorussian Front, was mortally wounded. Marshal of the Soviet Union A. M. Vasilevskiy was appointed 3rd Belorussian Front commander by order of the Stavka on 18 February 1945. Vasilevskiy arrived at the front staff on 20 February. On 23 February the Stavka ordered Soviet Army Air Force commander Chief Marshal of Aviation A. A. Novikov to travel to the 3rd Belorussian Front in East Prussia to coordinate the actions of the participating aviation forces. On 24 February A. A. Novikov and an operations group from the Soviet Army Air Force staff took off for the 3rd Belorussian Front aboard a military transport. The plane was piloted by General V. G. Grachev, commander of a VVS military transport air division. On 21 February the Stavka decided to transfer troops operating in East Prussia to the 3rd Belorussian Front, making the latter responsible for the liquidation of all isolated enemy groupings. In compliance with this decision the 1st Baltic Front was disbanded as of 2400 hours on 24 February 1945, and its troops, which were renamed the Samland Group, were included within the 3rd Belorussian Front. The 3rd Air Army was also a part of the combined 3rd Belorussian Front, meaning that the front now had two air armies.⁷⁹ Operating during the spring thaw of the dirt roads and in dense fog, in the second half of March the front's troops divided and defeated Germans occupying the Heilsberg fortified area. The defeat of the enemy's Koenigsberg grouping consisted of the following: the garrison's forces were to be divided by powerful converging strikes from the north and south with active air support, and then the city was to be captured by an assault. An auxiliary strike was to be made from the vicinity of Koenigsberg in a westerly direction toward Pillau (Baltiysk) to contain the enemy's Samland grouping. Artillery fire and powerful air strikes, which were to accompany the troops and totally demoralize the defending enemy, were given a special role in the assault on the city. Two combined arms armies—the 43rd and 50th—were to strike from the north, the 11th Guards Army was to strike from the south, while the 39th Army was to cut the fortress off from the enemy's Samland grouping.

For the first time in the Great Patriotic War three VVS air armies (1st, 3rd, and 18th), the Red Banner Baltic Fleet VVS (commander General M. I.

Samokhin), and two bomber air corps—the V Bomber (commander General M. Kh. Borisenko) from the 4th Air Army and the V Guards (commander General V. A. Ushakov) from the 15th Air Army—were allocated from the Air Force to support a single front. In all, by the beginning of the Koenigsberg operation this grouping possessed 2,444 combat aircraft, including 1,124 bombers (500 heavy long-range, 432 short-range, and 192 light night bombers), 470 ground attack planes, 830 fighters, and 20 torpedo bombers.⁸⁰ All planes, with the exception of 150 from the fleet VVS tasked to interdict enemy marine shipments, were intended for actions on the land front. During the war the Soviet command accumulated a great deal of experience in controlling large masses of aviation in strategic operations conducted by groups of fronts and in independent air operations. But all aviation actions there were dispersed on a broad front. In this case more than 2,000 combat aircraft from five operational numbered air forces had to be committed to the encounter within a very narrow sector of the front, since the main goal of the operation was to destroy the Koenigsberg grouping and capture the city and fortress of Koenigsberg.

The enemy attached not only military but also political significance to Koenigsberg. One of the most important areas of Germany's war industry and the center of East Prussia, it was also the center of the Prussian military clique. To defend the city, the enemy had allocated about 130,000 men, up to 4,000 guns and mortars, and more than 100 tanks and assault guns. Some 170 combat aircraft were based at airfields on the Samland Peninsula (Gross Dirschkeim, Gross Hubnicken, and Neutief).⁸¹ The Hitlerites created four zones of defense within and around Koenigsberg. The first (outer perimeter) consisted of a system of trenches, an antitank ditch, lines of dragon's teeth, antipersonnel obstacles, and minefields. The second (inner perimeter) included earth-and-timber emplacements, concrete pillboxes, and 15 strong ancient forts containing sizable garrisons. The third was on the outskirts of the city, and it consisted of a complex of reinforced concrete fire positions and prepared defensive structures. The fourth ringed the center of the city and consisted of bastions, turrets, and strong buildings. Koenigsberg was covered against air strikes by 56 anti-aircraft batteries (about 450 tubes). There were large underground fuel and food storage facilities in the city.

Clearly the defeat of such a grouping and the capture of Koenigsberg demanded considerable, meticulous preparations. Jointly with the front's heavy artillery, aviation was to play the main role here. This was understood quite well by A. M. Vasilevskiy and A. A. Novikov. The staffs were ordered to coordinate carefully and develop detailed plans for coordination among all branches of troops. The plans for aviation were written by the 1st Air Army staff with the direct participation of the operations groups representing the Soviet Army Air Force commander. Receiving instructions from A. M. Vasilevskiy, A. A. Novikov spelled out the missions to the commanders of the 18th Air Army, the Red Banner Baltic Fleet aviation, and the two bomber air corps of the 4th and 15th air armies. Some refinements were made in the plans for the combat actions of the 1st and 3rd air armies.

After this, Section One of the 1st Air Army staff, headed by Colonel N. P. Zhil'tsov, worked out the final plan for the aviation actions, guided by Chief of Staff General I. M. Belov and with the officers in the operations group of the Soviet Army Air Force commander participating. Section One then coordinated this plan with the plans of the front and of the combined arms armies. The battle plan for Frontal Aviation for the 1 April operation was approved by the front Military Council.

The plan called for preliminary aerial preparation for 2 days with the goal of razing the forts and key strongpoints within the zones of advance of the 43rd and 11th Guards armies, destroying aircraft, and putting landing strips out of action. Destruction of fascist aviation was to be completed by powerful strikes by air formations. There were plans to fly 5,316 sorties and drop 2,620 tons of bombs in the first 2 days.

On the first day of the operation prior to attacks by the front's troops a massed strike against targets on the battlefield was planned by a total of 539 planes (406 TU-2s and Pe-2s and 133 fighters armed with bombs). After this strike, ground attack aircraft were to escort infantry and tanks. A second bomber attack was planned for 4-5 hours later. The 129th, 240th, and 330th fighter air divisions and part of the XI Fighter Air Corps were intended to cover the bombers and ground attack aircraft, while the remaining fighter formations were targeted against enemy aviation in the air. In all, during the first day of the operation more than 45,100 sorties were to be flown. In subsequent days of the operation Frontal Aviation was to act in accordance with instructions from the commanders of the 1st and 3rd air armies—Generals T. T. Khryukin and N. F. Papivin. During the planning, special attention was given to joint actions by ground attack air divisions and the troops. In addition to a powerful bomber air strike group, a strong ground attack group was created. It contained six ground attack divisions—Colonel S. D. Prutkov's 1st Guards, General V. I. Shevchenko's 182nd, Colonel F. S. Khatminskiy's 277th, Colonel P. M. Kuchma's 211th, Lieutenant Colonel K. P. Zaklepa's 311th, and General S. S. Aleksandrov's 335th.⁸²

Fighter aviation was also allocated for ground attack missions. Two hundred planes of the XI Fighter Air Corps led by General G. A. Ivanov were specially trained for dive bombing strikes against point targets. Colonel F. I. Shinkarenko's entire 130th Fighter Air Division, flying the new Yak-9 with special internal bomb bays accommodating up to 400 kg of bombs, operated as a ground attack formation. Schedules indicating the times ground attack aircraft took off for combat missions and returned to the airfields were developed by the air armies. Flying zones were established for every air formation. All air divisions had their own corridors and specific altitudes at which they flew to and from their targets. In order that the pilots could orient themselves precisely in night operations, our troops were to light signal fires along the forward edge, and the center of Koenigsberg was to be designated by intersecting searchlight beams. Three days before the beginning of the operation the air corps and air division commanders received photomaps of the city of Koenigsberg, large scale

maps and diagrams with the targets numbered, and instructions on aviation combat employment.

On the eve of the operation, air officers were sent with portable radio equipment to ground troop formations to guide our planes to enemy targets within visual acquisition. Operational groups and aviation representatives were sent to the command posts of the combined arms armies to coordinate with and control the ground attack planes that were coordinating directly with the advancing troops.

The extent of the role given to aviation in the capture of the city and fortress of Koenigsberg can be seen from the fact that A. M. Vasilevskiy postponed the beginning of the assault from 5 April to the 6th due to the poor weather predicted. A. A. Novikov ordered General V. I. Al'tovskiy, chief of the Soviet Army Air Force meteorological services, to convene meteorological experts in Moscow and provide, by 1600 hours on 4 April, an updated weather forecast for the Koenigsberg vicinity of 5 and 6 April. According to the prediction by the VVS meteorological service in Moscow, the weather was to be satisfactory for air activity on 6 April. In fact, however, it did not become suitable for flying until the morning of 7 April. VVS Military Council members Generals N. S. Shimanov and A. V. Nikitin joined A. A. Novikov at the front during the preparations for the operation, bringing reports on a number of VVS problems. They joined the VVS operations group and provided practical assistance in preparing air formations for the operation.

At dawn on 6 April A. A. Novikov was accompanied by A. V. Nikitin and M. N. Kozhevnikov to the command post of General A. P. Beloborodov's 43rd Army. The command post was near Fuchsberg on the slope of a gentle hill about 1.5-2 km from the forward edge; bunkers outfitted with stereoscopic viewers and two towers had been built among the trees. The forward command post of the 1st Air Army, headed by Colonel N. P. Zhil'tsov, was deployed in one of the towers. Personnel trenches were dug next to the towers, and the air army's radio stations and motor vehicles were concealed in previously dug shelters. The tower commanded a good view of the battlefield and the city of Koenigsberg. At about 0900 hours guns of the 11th Guards Army began to thunder south of Koenigsberg, followed about an hour later by the guns of all the other armies. Artillery action against enemy defenses lasted more than 2 hours. The salvos of the high-powered guns literally shook the ground.

On that day the weather prevented full implementation of the aviation battle plan. By 1400 hours only about 300 sorties had been flown. In all, on 6 April 1,052 of the planned 4,000 sorties were flown. The weather improved dramatically on 7 April. A. A. Novikov issued instructions to retarget almost all bomber aviation against the main centers of resistance immediately ahead of the advancing troops. On this day 246 Tu-2s and Pe-2s made three powerful successive strikes against enemy troops west of Koenigsberg. Troops continuously escorted by ground attack planes broke through the enemy's third defensive zone and pen-

etrated directly to the city in the second half of the day. This was the moment when the enemy had to be struck hard from the air. Heavy bombers of the 18th Air Army were to make a massed strike against defensive structures within Koenigsberg itself. It was not a simple matter to commit the main aviation strike force to the encounter, since this was the first time the 18th Air Army had been employed in daytime. Prior to this it had operated primarily at night. General A. I. Antonov of the General Staff gave permission for its combat employment. The beginning of the massed strike of the 18th Air Army was set for 1310 hours on 7 April.

Frontal Aviation assigned 124 fighters to provide direct cover to the heavy bombers, while 108 fighters patrolled constantly over the city for the entire time that the bombers were passing over Koenigsberg.

In addition, 20 minutes before the 18th Air Army's planes approached the city, 118 Il-2 ground attack aircraft and Pe-2 bombers struck enemy fighter airfields. The approach of the 18th Air Army aircraft was clearly visible from the command post tower. A powerful massed strike was made by 514 heavy bombers against strongpoints and forts in Koenigsberg. The troops had never before witnessed such a powerful strike by our aviation in daytime, in good sunny weather. The thunder of heavy bombs continued in Koenigsberg for about an hour. A total of 3,743 bombs weighing 550 tons was dropped on the enemy.⁸³ The entire city was engulfed in smoke. Many strongpoints and forts were destroyed. Following such a strike, enemy resistance decreased drastically, and our troops began to advance quickly toward the center of the city. Not a single enemy fighter was able to penetrate to our bombers, and ground attack aircraft put anti-aircraft artillery out of action. The heavy bombers of the 18th Air Army all returned to their own bases unharmed after the strike. Great credit for preparing the air formations for the strike and conducting the massed strike itself belongs to the 18th Air Army command, led by Chief Marshal of Aviation A. Ye. Golovanov. This strike was followed by successful actions on the part of frontal bombers and ground attack aircraft commanded by Generals V. A. Ushakov and M. Kh. Borisenko. During 7 April Soviet aviation flew about 5,000 sorties; on the night of 8 April it flew 2,000 combat sorties. Our VVS had never flown such a large number of sorties in a single day in support of the offensive troops of a single front.

The assault on the fortress from the air continued on 8 April. Up to 2,000 planes made two massed strikes on that day against a German tank grouping west of Koenigsberg. By the end of the third day the aviation and artillery activities resulted in the destruction of a large number of fortifications and serious losses to enemy troops. On 9 April, with active air support, the heroic troops of the 3rd Belorussian Front stormed and captured the city and fortress of Koenigsberg. The remnants of the enemy garrison surrendered.

In 4 days Soviet aviation flew more than 14,000 sorties and dropped 4,440 tons of bombs on the enemy.

Prisoners of war confirmed the great effectiveness of our air strikes. Thus one of the senior officers present in the fortress as aviation representative from the German Supreme High Command testified that "aviation was one of the causes which forced General Loesch to conclude that any further resistance was senseless." The Koenigsberg operation was very short in terms of duration. But in terms of its nature, the amount of aviation resources allocated, its employment en masse, of air power committed, and the effectiveness of the actions, it was in a sense a dress rehearsal for the assault on Berlin, the last stronghold of fascist Germany in the aggressive war it had unleashed.

The actions of aviation in the Koenigsberg operation were summarized, and a report containing the results and an analysis was published in a Soviet Army Air Force information bulletin.

The Communist Party and Soviet government placed great value on the deeds of Soviet pilots. After the operation the ranks of our airmen were enlarged by another four Twice Heroes of the Soviet Union—General T. T. Khryukin, pilot-commanders Ye. M. Kungurtsev, G. M. Myl'nikov, and G. M. Parshin. Chief Marshal of Aviation A. A. Novikov and pilots V. A. Alekseyenko, A. I. Kazima, A. N. Prokhorov, and N. I. Semeyko were awarded the title Hero of the Soviet Union.⁸⁴ Pilots of the French Normandie-Neman Fighter Air Regiment participated in the operation along with Soviet pilots. During January 1945 alone the regiment flew more than 500 combat sorties and destroyed about 60 enemy planes in the air and on the ground. Twenty-four of the air regiment's officers were awarded orders of the Soviet Union. In the period from 23 March 1943 to 2 May 1945 the French Normandie-Neman Regiment traveled the combat path from Kaluga to Koenigsberg. The pilots flew 5,062 combat sorties, fought in 869 air engagements, and shot down 266 German planes. Eighty pilots were awarded orders of the Soviet Union, and four of them—M. Albert, R. de la Poype, M. Lefevre, and J. Andre—were awarded the Hero of the Soviet Union title. The air regiment was recognized seven times in Soviet Supreme High Command Orders and was awarded the Soviet orders of the Red Banner and Aleksandr Nevskiy, the French Order of the Legion of Honor, the Croix de la Liberation, and the Medaille Militaire.⁸⁵

The defeat of fascist German troops in East Prussia was of great military-political significance. Soviet troops occupied all of East Prussia with its capital Koenigsberg, and liberated some of the northern regions of Poland. The East Prussian operation was a clear example of successful coordination among several air armies of Frontal Aviation, Long-Range Aviation, and the Navy under the guidance of the senior air chief. The Air Force was one of the decisive factors in the operation leading to swift defeat of the large enemy grouping occupying a strongly fortified area of East Prussia.

The Berlin Operation

Having destroyed large enemy groupings in East Prussia, Poland, Eastern Pomerania, and Silesia in January-April 1945, the Soviet Armed Forces reached

the Oder and Neisse on a broad front and made preparations for the decisive battle of Berlin. Soviet troops on the south wing of the Soviet-German front completed the destruction of the enemy Budapest grouping and liberated Hungary, part of Czechoslovakia, and the eastern regions of Austria. Germany found itself under the immediate threat of strikes by Soviet troops from the east and south.

By the beginning of the Berlin operation the German command still had significant ground and air forces. Troops intended to defend the approaches to Berlin and the city itself had a strength of 1 million men, 10,400 guns and mortars, 1,500 tanks and assault guns, and 3,300 combat aircraft. A garrison of more than 200,000 persons was concentrated in Berlin. The reserve of the ground forces main command contained eight divisions.⁸⁶ Preparing to repulse the Soviet offensive, the fascist German command created powerful defenses in the eastern part of the country, utilizing the stone buildings in the cities and villages and the rivers, canals, and lakes for this purpose. The forward edge of defense was along the Oder and the Neisse. Berlin's defenses were deep, and the troop concentration was high. Strong centers of resistance were created in Stettin (Szczecin), Gartz, Schwedt, Frankfurt-on-Oder, Guben, Forst, Cottbus, and Spremberg. The defenses were strongest opposite the Kostrzyn beachhead occupied by Soviet troops. There were more than 400 permanent reinforced concrete structures in Berlin alone. Fascist German aviation, which consisted of up to 70 percent fighters, including up to 120 Me-262 jets and composite aircraft, prepared for stubborn resistance.⁸⁷

The Soviet Supreme High Command concentrated a strong troop and aviation grouping in the Berlin sector. Soviet troops were superior to the enemy in manpower by a factor of 2.5, 4 in artillery, 4.1 in tanks and self-propelled guns, and in aviation by a factor of 2.3.⁸⁸ The strategic concept of the operation was to make powerful strikes by troops of the 2nd and 1st Belorussian and 1st Ukrainian fronts with the support of the Air Force in a zone from Stettin to Penzig, destroy enemy defenses in a number of sectors, divide the Berlin grouping into several isolated parts, employing swift strikes by strong groupings, and subsequently encircle and destroy this grouping. After capturing Berlin, on the 12th-15th day of the operation the advancing troops were to reach the Elbe on a broad front, where they were to join up with Anglo-American troops, force Germany to surrender, and end the war in Europe.⁸⁹

On 9 April 1945 the Soviet Army Air Force commander, who was still with the 3rd Belorussian Front, received instructions from the Stavka to leave for the 1st Belorussian Front to participate in the preparation for and coordination of the combat actions of all aviation resources allocated for the Berlin operation. The VVS commander's operations group consisted of General N. F. Andrianov, Colonel M. N. Kozhevnikov, Majors L. M. Smirnov and P. A. Kolesnikov, and Colonel F. S. Luchkin. The latter was from the section for analysis of war experience in the VVS staff operational directorate. The Soviet Army Air Force staff concentrated aviation reserves in the Berlin sector, and jointly with Long-Range Aviation the command and staff worked out the problems of employing the 18th Air Army in combat. According to Stavka instructions, RVGK air formations

were transferred to the Berlin sector. Thus the VI Bomber Air Corps (commander General I. P. Skok), the I Guards Fighter Air Corps (commander General Ye. M. Beletskiy), the 113th and 138th bomber divisions, and the 240th Fighter Air Division (commanders Colonel M. S. Finogenov, Hero of the Soviet Union Colonel A. I. Pushkin, and General G. V. Zimin) were concentrated within the 16th Air Army. The Soviet air grouping consisted of three Frontal Aviation air armies (4th, 16th and 2nd) commanded by Generals K. A. Vershinin, S. I. Rudenko, and S. A. Krasovskiy, and Long-Range Aviation's 18th Air Army commanded by Chief Marshal of Aviation A. Ye. Golovanov. The 2nd and 16th air armies contained 50 air formations, 32 attached from the Stavka Reserve. The 4th Air Army contained 15 air formations, including 6 attached from the Stavka Reserve. By the beginning of the operation the 1st Belorussian Front's 16th Air Army contained 28 air divisions and 7 independent air regiments. The army had 3,033 serviceable combat aircraft (533 day and 151 night bombers, 687 ground attack planes, 1,548 fighters, and 114 reconnaissance and spotter aircraft). By the beginning of the Berlin operations the 16th Air Army was the largest in our VVS.⁹⁰ The Polish I Composite Air Corps and Polish 4th Composite Air Division participated in the operation with troops of the Polish 1st and 2nd armies. The total strength of Polish aviation and ours was 7,500 combat aircraft, including 297 Polish planes.⁹¹

The average aviation density per kilometer of front line was extremely high considering the total length of the zone of advance—up to 30 planes. It was more than 100 planes in the sectors of the main thrusts, and within the zone of advance of the 5th Shock Army and 8th Guards Army of the 1st Belorussian Front the density reached 170 planes. In order to support such a quantity of aviation, air army engineering units restored and built 290 airfields with the active help of the ground troops, and a dependable reserve of fuel, ammunition, and other forms of logistical support to aviation was created in 10-12 days.

No offensive operation conducted by ground troops in the Great Patriotic War had ever involved such a large number of air formations and planes on three fronts. In order for all aviation resources to be employed purposefully and be operationally effective, their efforts had to be coordinated, the time and sequence of massed strikes had to be agreed upon, the zones of operation had to be defined, and the airfields in the zones of adjacent fronts to be used by air units following combat missions had to be specified. All these problems were solved by the VVS commander, acting as Stavka representative, jointly with the front and air army commanders right in the combat zone. Frontal aviation was assigned the following missions: to firmly maintain operational air supremacy; dependably cover frontal troops and rear area targets against enemy aviation; conduct aerial preparation and support ground troops during penetration of the enemy tactical defense zone; support troops of the 2nd Belorussian and 1st Ukrainian fronts making an assault crossing of the Oder, Neisse, and Spree rivers; support commitment of tank armies into the encounter; annihilate enemy reserves; and conduct air reconnaissance and surveillance over the battlefield.

The plans for combat employment of the air armies in the operation were developed with extreme care. Special attention was given to organizing coordination between aviation and the troops, to supporting commitment of tank armies and independent tank and mechanized corps to the encounter, and attention was also given to their air escort to the entire depth of the operation.

The 1st Belorussian Front's 1st and 2nd Guards tank armies (commanders Generals M. Ye. Katukov and S. I. Bogdanov) were to advance on Berlin from the north and northeast, while the 1st Ukrainian Front's 3rd and 4th Guards tank armies (commanders Generals P. S. Rytalko and D. D. Lelyushenko) were to turn toward Berlin as well, in the event that they were able to advance beyond Luebben. The steel waves of the two coordinating fronts were to break through to Berlin with active VVS support, encircle the city, and cut off the westward route of withdrawal of the Berlin grouping's main forces. The plans provided for allocation of 75 percent of the aviation of the 16th and 2nd air armies to support of the tank armies. The main forces of an air army totaling 2,453 planes were to support two combined arms and two tank armies in the sector of the main thrust by troops of the 1st Belorussian Front, who were to attack from a beachhead on the Oder River west of Kostrzyn. Meanwhile the northern and southern auxiliary groupings were to be supported from the air by only one air division each.

The 2nd Air Army combat employment plan provided for four massed attacks against the enemy on 16 April, the first day of the operation, by 800, 570, 420, and 370 planes, and small groups of planes representing all aviation branches were to operate in the intervals between these strikes.⁹²

There were also unique features in the organization of the 4th Air Army combat actions. Because the 2nd Belorussian Front's artillery was located on the east bank of the Oder, aviation was assigned the mission of suppressing and destroying enemy targets located in the depth of the defenses; this mission was to be conducted mainly by ground attack aircraft, since the 4th Air Army's bomber group was not strong enough. The plan called for more than 4,000 sorties during the first day of the offensive.

The 18th Air Army also prepared carefully for the operation. Just prior to the offensive, at night, it was to make the first massed strike against the principal strongpoints in the second line of defense in the sector of the main thrust by troops of the 1st Belorussian Front, and then it was to make another series of powerful air strikes during the offensive.

Jointly with the front command, the Soviet Army Air Force commander devoted a great deal of attention to organizing coordination between aviation and the troops. Air army commanders and staffs were ordered to thoroughly develop coordination plans with each tank and combined arms army. During the preparations air army and air formation commanders' reports were heard several times, and corrections and amendments were made. The commanders' attention was called to the possibility of strong enemy opposition in the air. It was known that



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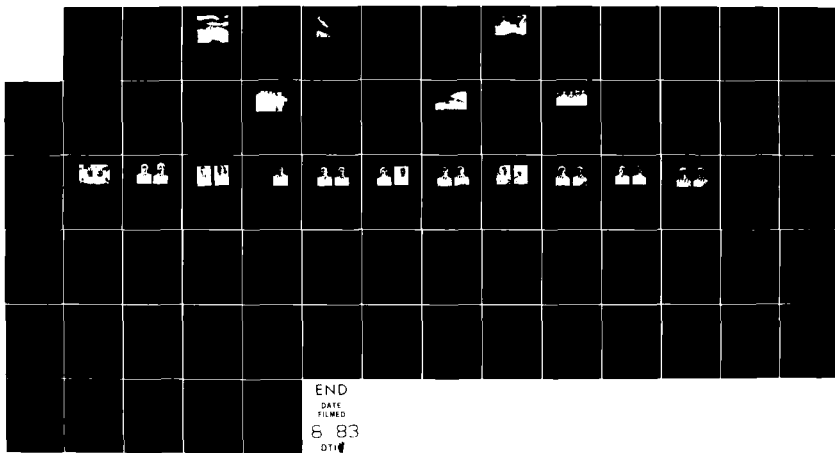
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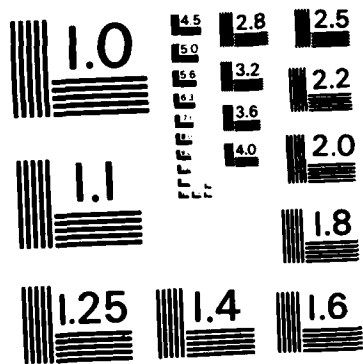
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the enemy air grouping supporting Army Group Vistula and, in part, Army Group Center included formations of the 6th Air Fleet and the Reich Air Fleet, the latter consisting mainly of air defense aviation in the Berlin zone. At Berlin's airfields the Germans also had Me-262 jet aircraft and Mistel composite aircraft.⁹³

Enemy troops were covered by about 200 antiaircraft batteries, and 600 antiaircraft guns were concentrated specifically for defense of Berlin.⁹⁴

The imminent end of the war, which all flight crews sensed, and our overall considerable superiority in aviation resources might have engendered laxity and complacency. This is why all personnel had to attend briefings which prepared them mentally for outstanding accomplishment of their missions. Political workers from the air armies and the party and Komsomol organizations carried out this task with great success. They made every pilot, navigator, radio operator, technician, engineer, and rear and staff officer conscious of the great missions to be performed in the forthcoming battle with an enemy that was still strong, one resisting in a frenzy of desperation, an enemy who had brought so many tears and so much pain to the Soviet people and peoples of oppressed countries.

On the night of 16 April A. A. Novikov went out to the 8th Guards Army observation post, the location of the frontal command headed by Marshal of the Soviet Union G. K. Zhukov and Military Council member General K. F. Telegin and the location also of the command of this army headed by General V. I. Chuykov.

On 16 April at 0300 hours (Berlin time) powerful artillery preparation of unprecedented force began. Thousands of explosions from gun and mortar shells shook the air. The light from the gunfire made it seem to be daytime. More than 150 night bombers from the 16th and 4th air armies began to bomb staff and communication centers on the enemy's first and second lines of defense almost simultaneously. Before the attack by infantry and tanks was started, 140 antiaircraft searchlights in response to a single signal were turned on in the sector of the main strike grouping of the 1st Belorussian Front, blinding the enemy with the light. Artillery shifted its fire to the second line of defense. The troops rushed to the attack. Prior to this, 745 heavy night bombers of the 18th Air Army made a powerful massed strike against the principal strongpoints on the second line of defense. This was an unforgettable picture. A sea of fire raged about the Oder Valley and the Seelow heights. the artillery cannonade, the roar of the planes, the explosions of heavy bombs, the grinding of the tracks of advancing tanks, and automatic weapon fire rolled all along the Oder. At dawn the 16th Air Army was committed to the encounter. A low morning fog necessitated corrections in its combat employment plan. Between dawn and 0800 hours only ground attack aircraft operated in groups of six to nine; Pe-2 dive bombers began their strikes against enemy targets after 0800 hours. But the main forces of the 16th Air Army were not employed until the second half of the day, after Marshal of the Soviet Union G. K. Zhukov decided to commit the 1st and 2nd Guards tank armies to the encounter. At 1500 hours there were 647 combat aircraft in the air. This was



Soviet Bombers Over Berlin.

a strong air screen for the tank armies, dependably covering them from the air and effectively suppressing enemy artillery fire. At the same time, enemy aviation became extremely active. The enemy tried to penetrate to the combat formations of our advancing tank armies in groups of 20-40 aircraft. Savage air engagements began, lasting until the end of the day. Fighters of the 16th Air Army operated decisively along the entire front, both over the battlefield and at the approaches to it. In most cases the air engagements were fought at the approaches to our troops. This was possible due to an excellently functioning network of radar stations, which promptly detected enemy aviation and provided the data permitting the maneuver of fighter aviation and augmentation of its efforts in the most threatened sectors.

That day our aviation concentrated its efforts on suppressing enemy defenses on the Seelow heights and on supporting the tank armies; two-thirds of all sorties were flown to accomplish this mission.

On the first day of the operation the 16th Air Army flew 5,300 combat sorties, including 3,200 against enemy artillery batteries, tank groupings, and pockets of resistance. Concentration of the main forces within the zones of advance of the 5th Shock, 2nd Guards Tank, 8th Guards, and 1st Guards Tank armies operating in the main sector, was typical of its actions. In all, eight air corps

and seven independent air divisions were operating within the zones of advance of these armies. During the day General S. I. Rudenko's pilots fought 151 air engagements and shot down 131 enemy planes. Our losses were also high—87 planes.⁹⁵

The offensive developed successfully on the 1st Ukrainian Front. By the end of 16 April Marshal of the Soviet Union I. S. Konev's troops, with strong air support had penetrated the first line of defense rather quickly and had begun the fight for the second. The water obstacle afforded by the Neisse did not help the Germans either. By 1000 hours successful assault crossings had been made along the entire front of advance.

Under the command of General S. A. Krasovskiy, on the first day the 2nd Air Army supported the main grouping of the 1st Ukrainian Front as it penetrated the defenses and made an assault crossing over the Neisse River. In support of the advancing troops and covered by 250 fighters, 418 bombers and ground attack aircraft were involved for more than 2 hours straight in destroying the principal strongpoints and fire positions on the first line of defense and delivered a highly effective concentrated strike against objectives near Forst. Later, groups of 6–12 ground attack planes continually struck enemy artillery, troops, and strongpoints directly ahead of the ground forces combined arms formations, accompanying them in the course of the offensive. Concurrently troops and defensive structures near Cottbus and Spremberg were destroyed by several concentrated bomber strikes. Supporting frontal troops, during the day the 2nd Air Army flew 3,546 combat sorties, including 2,380 in the sector of the main thrust. On that day 33 air engagements were fought and 40 fascist German planes were shot down. A. A. Novikov placed a high value on the actions of the 2nd Air Army. Units of the I and II Guards Ground Attack air corps (commanders Generals V. G. Ryazanov and S. V. Slyusarev) gave an especially good account of themselves. With their powerful strikes they forced the enemy guns to remain silent in the face of the advancing troops, and thus they helped the troops quickly capture enemy centers of resistance on the first line.

In all, during the first days the Soviet Air Force flew more than 10,500 combat sorties in support of troops of the 1st Belorussian and 1st Ukrainian fronts. On the night of 17 April the main forces of the 18th Air Army continued to bomb enemy targets on the Seelow heights. It flew 759 sorties and dropped 931 tons of bombs.⁹⁶ Later during the operation the 18th Air Army made several massed night strikes closely tied in with the actions of tank armies from the 1st Belorussian and 1st Ukrainian fronts. It made its third strike on the night of 18 April with 214 planes against reserves and strongpoints northeast and east of Berlin; the fourth strike came on the night of 21 April with 529 bombers against troops and targets in Berlin; the fifth strike was made on the night of 25 April against Berlin's strongpoints by 111 planes and the sixth strike was made on the night of 26 April by 563 planes.⁹⁷ On 17 April the Supreme Commander ordered I. S. Konev, commander of the 1st Ukrainian Front, to turn the 3rd and 4th Guards tank armies northwest for a thrust on Berlin from the south. These instructions were implemented.



Il-2 Ground Attack Aircraft Attack Targets Near Berlin.

The Stavka ordered the 2nd Belorussian Front to go over to the offensive on 20 April and to make a thrust toward Schoenebeck with its main forces not later than 22 April, bypassing Berlin on the north.⁹⁸

After brief artillery preparation, on the morning of 18 April troops of the 1st Belorussian Front resumed their offensive, and by 19 April they completed the breakthrough of the third zone of the Oder line of defense; then by the end of 21 April they penetrated enemy defenses throughout their entire depth right up to Berlin.

The frontal air armies actively supported the advancing troops throughout the operation with powerful strikes by day bombers and constant actions by ground attack aircraft. Because

the coordination of air corps and independent air divisions with tank and combined arms armies was clearly organized beforehand and because operational groups from the air armies and aviation representatives from air formations, with their own communication resources, were constantly present in the tank and combined arms armies, bombers and ground attack aircraft could be promptly targeted against enemy targets, precisely at the times specified by the combined arms chiefs. For example, on 18 April 16th Air Army dive bombers dealt very effectively with approaching German reserves near Bidsdorf and Muencheberg. The 1st Belorussian Front's 16th Air Army provided air support to troops penetrating through the Oder line of defense between 16 and 19 April, and it firmly maintained air supremacy. In the 4 days of the operation it flew 16,880 combat sorties.

The 1st Ukrainian Front's 2nd Air Army flew 7,517 sorties between 16 and 18 April in support of troops penetrating the line of defense along the Neisse River. On 17 April alone this air army's pilots shot down 48 enemy planes in air engagements. Pilots of the VI Guards Fighter Corps (commander General A. V. Utin), who provided cover to General D. D. Lelyushenko's 4th Guards Tank Army, fought especially well in air engagements. On 17 and 18 April they fought in 50 air engagements and destroyed 56 fascist German planes. In the next period of the offensive of the two fronts' troops, the 16th Air Army flew 15,367 sorties between 20 and 25 April, the 2nd Air Army flew 10,285 combat sorties between 19 and 25 April, and between 20 and 25 April the 4th Air Army flew more than 15,000 sorties in support of the front's troops, covering them from the air and conducting air reconnaissance.⁹⁹ Pilots of the Polish Air Force fought closely with Soviet pilots. During the operation they successfully completed 865 combat

sorties and shot down 17 fascist German planes in air engagements.¹⁰⁰

At the beginning of the assault on the central districts of Berlin, aviation switched to echeloned actions by small groups of planes. Soviet fighters blockaded encircled Berlin from the air and provided excellent cover for friendly troops. Tank formations of the 1st Belorussian Front captured several army airfields, to which 16th Air Army fighters immediately deployed. On 28 April the 347th Fighter Air Regiment, 193rd Fighter Air Division deployed to Tempelhof Airport. Fighting was still going on around the airport. Regimental commander Lieutenant Colonel P. B. Dankevich and his wingman were the first to appear over the airport. Descending to ground-level flight, the two command planes landed at the airport. Soviet gunners suppressed the enemy's antiaircraft artillery and mortar fire, permitting the rest of the planes to land. On the same day the 515th and 518th fighter air regiments of the same division began combat operations from Berlin's Schoenefeld Airport. On 24 April troops of the 1st Belorussian and 1st Ukrainian fronts completed encirclement of the enemy's Frankfurt-Guben grouping southeast of Berlin, and on 25 April, supported by troops of the 2nd Belorussian Front, they encircled the enemy's Berlin grouping. Aviation assisted in accomplishment of this highly important mission, and its actions against enemy columns and crossings created "bottlenecks" on the roads, hindering the westward movement of the encircled Frankfurt-Guben grouping. On 25 April troops of the 5th Guards Army met forward units of the American 1st Army near Torgau on the Elbe River. As a result, the front of the fascist German troops west of Berlin was cut into a northern and southern part.

Between 26 April and 1 May Air Force efforts were aimed at supporting the troops in wiping out the Frankfurt-Guben and Berlin groupings. The encircled Frankfurt-Guben grouping had a strength of up to 200,000 men. Three combined arms armies (3rd, 69th, and 33rd) of the 1st Belorussian Front, two combined arms armies (28th and 3rd Guards) of the 1st Ukrainian Front, and about 1,000 planes of the 16th and 2nd air armies took part in wiping it out.

Forces of the 2nd and 16th air armies flew 7,244 sorties in support of the fronts to annihilate this grouping. Constant observation of the surrounded enemy from the air permitted the frontal command to carry out timely reinforcements of weak points on the inner front of encirclement and to make extensive use of concentrated attacks by our bombers and ground attack aircraft. Fighters were employed to destroy the encircled grouping. Aviation played a great role in support of troops operating on the outer front of encirclement. Ground attack aviation actively opposed the advance of the German 12th Army, which was attempting to join up with the Frankfurt-Guben grouping from the west. Enemy attempts at penetrating the encirclement failed. The 1st group of Germans was wiped out on 1 May near Beelitz.

The encircled Berlin grouping consisted of the remnants of six divisions from the German 9th Army and a large number of special formations with an overall strength of 200,000 men.¹⁰¹ The assault on Berlin began with massed strikes by bomber aviation from the 16th, 2nd, and 18th air armies, after which,

on 26 April, frontal troops began their offensive from all directions toward the center of the city. Some 13,000 sorties were flown through the combined efforts of the air armies. Fighter aviation, which not only provided cover to the ground troops against the aerial enemy but also successfully blockaded the city from the air, played an important role in the annihilation of the Berlin grouping. In the battles for the city, aviation suppressed and destroyed gun positions concealed in stone buildings.

During the Berlin operation the air armies of the three fronts and the 18th Air Army flew more than 91,000 sorties, including 39,559 in support of the 1st Belorussian Front, 25,490 in support of the 1st Ukrainian Front, and 26,335 in support of the 2nd Belorussian Front. The 16th Air Army flew 59 percent of all sorties in the operation with the specific purpose of striking enemy troops and equipment on the battlefield and in the operational-tactical depth. The second most important mission, which required concentration of Air Force efforts in the concluding stage of the war, was to maintain air supremacy and to provide reliable cover for the troops against air strikes. During the time of the Berlin operation our aviation fought 1,317 air engagements, shot down 1,132 enemy planes, and destroyed 100 on the ground.¹⁰² Our aviation's victory was not an easy one. It lost 527 planes in air engagements and to antiaircraft artillery fire.¹⁰³ It is obvious from this that the aviation actions were quite intense. Soviet aviation had the total initiative in the air, and provided reliable cover for the troops and rear area targets of the three fronts. Coordinating closely with the ground forces, the Air Force helped them to completely destroy the armed forces of fascist Germany in the battle of Berlin.

"The war culminated in the gigantic Berlin encounter," said L. I. Brezhnev at a solemn meeting dedicated to the 20th anniversary of the Soviet people's victory in the Great Patriotic War. "A ring of fire literally strangled what remained of the once-powerful army of the Third Reich. The Hitlerites resisted with the desperation of madmen. But the enemy was crushed and annihilated. . . . The Soviet flag, the red banner of victory, was planted above the lair of fascism."¹⁰⁴

Early in the morning on 1 May the Banner of Victory was unfurled above the Reichstag. On 1 May pilots of the 2nd Air Army made an unusual flight over Berlin. By order of the command the Guards fighter pilots prepared two panels of red cloth. One of them bore the inscription "Victory" on one side and "Glory to Soviet Soldiers Who Hoisted the Banner of Victory Over Berlin" on the other side; the other read "Long Live the First of May." During the day, escorted by 16 fighters commanded by Twice Hero of the Soviet Union Colonel A. V. Vorozheykin and flown by Heroes of the Soviet Union V. N. Buyanov, I. P. Laveykin, P. I. Peskov, and other celebrated pilots, the two courageous pilots Guards Captain V. K. Novoselov and Major N. A. Malinovskiy appeared over the Reichstag and dropped the red panels by parachute. These panels of cloth, which could be seen from far away on the ground, heralded, as it were, the total victory of the Soviet Armed Forces on the ground, at sea, and in the air. By the end of 2 May, Berlin was completely occupied by Soviet troops. The troops of



Soviet Fighters Over the Reichstag.

the 2nd Belorussian Front struck Rostock, destroyed the German 3rd Tank Army, reached the coast of the Baltic Sea, and came into contact with the English 2nd Army on the Wismar-Schwerin-Elbe River line. On 8 May 1945 the act of unconditional surrender of fascist Germany was signed in the Berlin suburb of Karlshorst. The fall of Berlin and the subsequent unconditional surrender of fascist Germany were the most important results of the Berlin operation.

Soviet aviation once again demonstrated its invincible might in the Berlin operation. The flight crews passed their combat maturity examination brilliantly, and the Soviet Army Air Force command, the commanders of the air armies, and the commanders of the formations and units demonstrated their ability to organize and control aviation under complex conditions.

The Communist Party and Soviet government placed a high value on the combat actions of personnel in the air armies. The honorary Berlin and Brandenburg titles were awarded to 45 air units and formations. Thousands of pilots, navigators, aerial gunners, mechanics, political workers, staff officers, and rear services workers received orders and medals. Those who distinguished themselves in battle the most were awarded the lofty title of Hero of the Soviet Union. Major I. N. Kozhedub, a participant in the Berlin operation, was awarded his third Gold Star of a Hero of the Soviet Union.

Order No. 359 of the Supreme Commander, dated 2 May 1945, concerning the final destruction of the Berlin grouping and capture of Germany's capital, Berlin, by troops of the 1st Belorussian and 1st Ukrainian fronts made mention of ". . . pilots Chief Marshal of Aviation A. A. Novikov, Chief Marshal of Aviation A. Ye. Golovanov, Generals S. I. Rudenko, S. A. Krasovskiy, Ye.

Ya. Savitskiy, Ye. M. Beletskiy, G. N. Tupikov, Ye. F. Loginov, G. S. Schetchikov, V. Ye. Nestertsev, V. G. Ryazanov, A. V. Utin, B. K. Tokarev, I. V. Krupskiy, A. Z. Karavatskiy, I. P. Skok, B. A. Sidnev, I. M. Dzusov, S. V. Slyusarev, V. M. Zabaluyev, P. P. Arkhangel'skiy, and G. I. Komarov, and Colonels V. J. Stalin, D. T. Nikishin, A. I. Pokryshkin, and V. I. Aleksandrovich."¹⁰⁵

In the concluding stage of the war against fascist Germany the Soviet Air Force provided invaluable assistance to the ground troops in the destruction and capture of major enemy groupings during the liberation of Poland, Czechoslovakia, Hungary, the eastern part of Germany, and a significant part of Austria. In the concluding operations of 1944—1945 the Soviet Air Force flew 1,470,000 combat sorties, dropped 18,332,000 bombs on the enemy, and inflicted significant manpower and equipment losses. Soviet aviation and anti-aircraft artillery destroyed more than 21,000 enemy planes in the air and on the ground.¹⁰⁶ The Supreme High Command attached extremely great significance to the actions of Soviet aviation, concentrating its major groupings in the sectors of the main thrusts of the ground troops. This was achieved by allocating Supreme High Command air reserves and combining the efforts of aviation from fascist German army groups North, Center, Northern Ukraine, and Southern Ukraine were destroyed in 1944 with the most active support from Soviet pilots. The enemy's strategic groupings operating on the Soviet-German front in the offensive operations of 1945 were subjected to even more crushing air strikes. *During the operations the Soviet Air Force firmly held the strategic initiative in the air, possessed great striking power and tremendous reserves, and surpassed the enemy in the art of maneuvering numbered air forces and formations, in controlling them, and in the skill and moral qualities of the personnel.* The victories on the war fronts heightened the sense of pride of the soldiers in their great fatherland, strengthened their faith in the power of our combat equipment, and inspired them to new feats. Steadfastness, bravery, and love for the motherland were nurtured in battles and encounters. The command, political organs, and party and Komsomol organizations unswervingly raised the level of their party-political work, tempered the fighting spirit of the airmen, infused them with a deep faith in a victorious outcome of the war, and inspired devotion to the socialist motherland and hate for the enemy. In the third period of the Great Patriotic War against fascist Germany the Soviet Air Force successfully accomplished all its assigned missions in close coordination with other services of the Armed Forces.

The war in Europe came to an end. May 9 became Victory Day. The peoples of Europe were given the opportunity for peaceful democratic development. The victorious conclusion of the war in Europe created the necessary conditions for a quick defeat of imperialist Japan and for the end of World War II.

Notes

1. *Patriotic War Short History*, p. 318.
2. *Archives*, f. 35, op. 11282, d. 262, l. 35; d. 502, ll. 165–67.
3. *Ibid.*, op. 11321, d. 93, l. 39.
4. *Ibid.*, op. 11250, d. 101, l. 1; op. 73889, d. 1, l. 1.
5. *Ibid.*, d. 91, ll. 7–186; f. 92, op. 78122, d. 7, ll. 4–66.
6. *Ibid.*, f. 35, op. 11284, d. 1169, ll. 57–102.
7. *Ibid.*, op. 11250, d. 100, ll. 128, 182; d. 91, l. 195.
8. *Ibid.*, op. 11285, d. 954, ll. 30–31.
9. *Ibid.*, ll. 33–37.
10. *Ibid.*, op. 11275, d. 1221, ll. 1–8.
11. By GKO decision, on 20 October 1943 the names of the fronts were changed: Central to Belorussian, Kalinin to 1st Baltic, Baltic to 2nd Baltic, Voronezh to 1st Ukrainian, Steppe to 2nd Ukrainian, Southwestern to 3rd Ukrainian, and Southern to 4th Ukrainian. The numbered air armies within these fronts remained unchanged.
12. *USSR Aviation and Cosmonautics*, p. 177.
13. *Archives*, f. 302, op. 4196, d. 63, l. 58.
14. *Great Patriotic War*, IV, 66.
15. *Patriotic War Short History*, p. 330.
16. *USSR Aviation and Cosmonautics*, p. 180.
17. *Patriotic War Short History*, p. 341.
18. *USSR Aviation and Cosmonautics*, pp. 185, 186.
19. *Patriotic War Short History*, p. 343.
20. *Great Patriotic War*, IV, 125.
21. S. M. Shtemenko, *General'nyy shtab v gody voyny* [The General Staff in the War Years] (Moscow, 1968), p. 239. [Hereafter referred to as Shtemenko—U.S. Ed.]
22. *SAF in World War II*, p. 291.
23. *Ibid.*
24. *Archives*, f. 35, op. 11285, d. 954, ll. 55–64.
25. *16-ya Vozdushnaya armiya* [The 16th Air Army], pp. 141, 142. [Hereafter referred to as *16th Air Army*—U.S. Ed.]
26. *Archives*, f. 368, op. 142206, d. 49, l. 9; op. 20551, d. 213, l. 11.
27. *Ibid.*, f. 290, op. 142208, d. 55, ll. 13–17.
28. Zhukov, II, 252.
29. *Archives*, f. 39, op. 11519, d. 1080, l. 7.
30. *Ibid.*, f. 290, op. 12943, d. 17, l. 503; f. 319, op. 14296, d. 22, l. 46.
31. *Ibid.*, f. 290, op. 142208, d. 46, l. 33.
32. *Ibid.*
33. *Ibid.*, op. 12943, d. 8, ll. 226, 251, 283.
34. *Ibid.*, f. 35, op. 283348, d. 6, l. 58.
35. *Ibid.*, f. 368, op. 15054, d. 11, l. 581.
36. *Voyenno-istoricheskiy zhurnal*, No. 2, 1971, p. 26.
37. *Archives*, f. 368, op. 142206, d. 49, l. 41.
38. Zhukov, II, 256.
39. *Archives*, f. 368, op. 142206, d. 29, ll. 1–49.
40. *Ibid.*, f. 35, op. 11250, d. 124, ll. 60–61.
41. *Ibid.*, f. 368, op. 142206, d. 49, ll. 44–50; f. 319, op. 142196, d. 31, ll. 85–100.
42. *Ibid.*, f. 319, op. 142196, d. 22, l. 140; f. 368, op. 142206, d. 49, l. 44.
43. *Ibid.*, f. 363, op. 16708, d. 6, l. 258.
44. *USSR Aviation and Cosmonautics*, p. 192.
45. *Archives*, f. 216, op. 392279, d. 4, ll. 244, 294.
46. *Ibid.*, f. 35, op. 11250, d. 124, l. 34.
47. *Ibid.*, l. 6.
48. *USSR Aviation and Cosmonautics*, p. 200.
49. *Ibid.*, p. 203.
50. *Archives*, f. 35, op. 11275, d. 93, l. 22.

51. *USSR Aviation and Cosmonautics*, p. 163.
52. *Ibid.*, p. 204.
53. *Voyenno-istoricheskiy zhurnal*, No. 11, 1975, p. 42.
54. *Ibid.*, p. 43.
55. *Ibid.*, No. 7, 1975, p. 74.
56. *Patriotic War Short History*, p. 579.
57. *Archives*, f. 35, op. 11250, d. 68, 11. 3-6.
58. *Ibid.*, op. 11285, d. 754, 11. 1-2.
59. *Ibid.*, 1. 117.
60. *Patriotic War Short History*, p. 459.
61. The 6th Air Fleet possessed 1,050 combat aircraft, of which about 45 percent were flying missions in East Prussia.
62. *Archives*, f. 368, op. 6476, d. 557, 1. 249.
63. *16th Air Army*, pp. 245-46.
64. *Archives*, f. 368, op. 6476, d. 557, 1. 265.
65. *SAF in World War II*, p. 367.
66. *Ibid.*, p. 370.
67. *16th Air Army*, p. 269.
68. *Ibid.*, p. 270.
69. *Ibid.*, p. 276.
70. *USSR Aviation and Cosmonautics*, p. 209.
71. *Ibid.*, pp. 209, 210.
72. *SAF in World War II*, pp. 386-87.
73. *Patriotic War Short History*, p. 471.
74. *SAF in World War II*, p. 350.
75. *Ibid.*
76. *Ibid.*, p. 353.
77. *Ibid.*
78. *Ibid.*, pp. 355, 356.
79. A. M. Vasilevskiy, *Delo vsey zhizni* [An Entire Life's Work] (Moscow, 1973), p. 487.
80. *9 maya 1945 goda* [9 May 1945] (Moscow, 1970), p. 276. [Hereafter referred to as *9 May 1945—U.S. Ed.*]
81. *Archives*, f. 241, op. 2593, d. 988, 11. 202-7.
82. *Voyenno-istoricheskiy zhurnal*, No. 9, 1968, p. 73; *9 May 1945*, p. 277.
83. *9 May 1945*, p. 288.
84. *Ibid.*, p. 292.
85. *USSR Aviation and Cosmonautics*, p. 163; *SAF in World War II*, p. 364.
86. *Patriotic War Short History*, p. 491.
87. *SAF in World War II*, p. 388.
88. *Osvoboditel'naya missiya Sovetskikh Vooruzhennykh Sil vo vtoroy mirovoy voyne* [The Liberation Mission of the Soviet Armed Forces in World War II] (Moscow, 1974), p. 368. [Hereafter referred to as *Liberation Mission—U.S. Ed.*]
89. *Ibid.*, pp. 366-67.
90. *16th Air Army*, p. 322.
91. *SAF in World War II*, p. 389.
92. *9 May 1945*, p. 297.
93. *Ibid.*, p. 299.
94. *Archives*, f. 368, op. 2186, d. 13, 1. . .
95. *9 May 1945*, p. 311.
96. *Ibid.*
97. *USSR Aviation and Cosmonautics*, p. 217.
98. *Liberation Mission*, p. 373.
99. *Istoriya SSSR* [USSR History], No. 3, 1975, p. 43.
100. *16th Air Army*, p. 381.
101. *Liberation Mission*, p. 380.
102. *SAF in World War II*, p. 412.
103. *Great Patriotic War*, V. 290.

104. L. I. Brezhnev, *Leninskim kursom, Rechi i stat'i* [Following Lenin's Course: Speeches and Articles], I. (Moscow, 1970), p. 127.
105. *Priказы Verkhovnogo Glavnokomanduyushchego v period Velikoy Otechestvennoy voyny Sovetskogo Soyuz*a [Orders of the Supreme Commander in the Great Patriotic War of the Soviet Union] (Moscow, 1975), pp. 494-96.
106. *SAF in World War II*, p. 415.

Chapter 7. In the Far East

The Situation in Summer 1945

Peace came to Europe following surrender of fascist Germany. But in the Far East World War II was still going on. Rejecting the surrender ultimatum of the U.S., England, and China on 29 July 1945, imperialist Japan continued its military actions, counting on evading a total defeat and achieving an advantageous compromise peace. The Soviet Union could not remain indifferent to military events occurring near its Far Eastern borders. For many decades Japanese imperialism was a constant source of aggression in Asia, it was an ally of Hitlerite Germany, and it was a most bitter enemy of our motherland. In 1940 the government of Japan signed the Tripartite Pact with Hitlerite Germany and Italy; this pact was aimed directly against the USSR. Japanese imperialists concentrated their large Kwantung Army in Manchuria, and for 3 years they awaited the moment for attack. And it was only the heroic struggle of the Soviet people and their Armed Forces against the fascist invaders and their major victories in the battles of Moscow, Stalingrad, and Kursk that cooled the military fervor of the Japanese militarists and kept them from attacking our Motherland. Nevertheless during these times of difficulties for the USSR the Kwantung Army pinned down more than 40 Soviet ground divisions and major air and naval forces in the Far East, forces so badly needed by the Soviet Armed Forces in the war against fascist Germany.

Faithful to its duty to the Allies, in compliance with decisions made in February 1945 at the Yalta Conference, on 5 April the Soviet Union denounced its treaty of neutrality with Japan. This was a serious warning to Japan, but it went unheeded. Its rulers, who possessed a ground army almost 5 million strong and major air and naval forces, counted on protracting the war, splitting the antifascist alliance by diplomatic tricks, avoiding total defeat, and achieving an advantageous compromise treaty.

“We had nothing left,” writes Army General S. M. Shtemenko in his memoirs, “but to activate our preparations to accomplish our obligations to the Allies.”¹

The Armed Forces in the Far East, including the Air Force, began major preparations. A plan for regrouping air formations from the west to the Far East was developed in April by the VVS command and staff in response to General Staff instructions. The following formations moved: The VI Bomber Air Corps (commander General I. P. Skok) consisting of the 326th and 334th bomber air

divisions; the VII Bomber Air Corps (commander General V. A. Ushakov) consisting of the 113th and 179th bomber air divisions; the 190th Independent Fighter Air Division, without its planes (commander Colonel V. V. Fokin); the 54th Transport and 21st Guards Transport air divisions (commanders Generals V. A. Shchelkin and I. M. Gorskiy). The Soviet Army Air Force commander published his executive directive ordering the regrouping of air formations from the west to the Far East on 24 June 1945. Groups of officer specialists were appointed from the VVS staff and directorates to monitor the move and provide assistance. They were sent to the air formations and to locations along the route. The Soviet Army Air Force staff supervised the transfer of the air formations. Twice a day the staff's First Directorate reported to the VVS Military Council and submitted reports to the General Staff. In the period between 25 June and 10 July 1945 the VVS command and staff implemented measures to man air units and formations in the air armies in the Far East and to provide new planes to them. At the end of June 1945 the Stavka sent its representative, Marshal of the Soviet Union A. M. Vasilevskiy, and Soviet Army Air Force commander Chief Marshal of Aviation A. A. Novikov to the Far East. On 30 July 1945 the Stavka decided to create a special higher organ of command and control in the Far East—the High Command of Soviet Far East Troops.² Marshal of the Soviet Union A. M. Vasilevskiy was appointed commander in chief, General I. V. Shikin was appointed Military Council member, and General S. P. Ivanov was appointed chief of staff. Coordination of the actions of the Pacific Fleet and the Red Banner Amur Naval Flotilla with troops of the fronts was assigned to Fleet Admiral N. G. Kuznetsov, while coordination of the actions of all allocated aviation resources and coordination with ground troops and the Navy were assigned to Chief Marshal of Aviation A. A. Novikov. The field headquarters of the Soviet Army Air Force commander was staffed by the following generals and officers from the VVS command and directorates—N. P. Dagayev, B. V. Sterligov, V. N. Uspenskiy, N. F. Andrianov, M. N. Kozhevnikov, P. F. Korotkov, I. I. Zhdanov, P. A. Kolesnikov, L. I. Smirnov, and others. On 5 August 1945 the Stavka redesignated the Maritime Group of Forces as the 1st Far Eastern Front, and the Far Eastern Front as the 2nd Far Eastern Front.³

The Japanese command maintained significant ground and air forces opposite the Soviet Union on the territory of Manchuria and Korea, on Southern Sakhalin, and in the Kurile Islands. The Kwantung Army, which consisted of the 1st (Eastern Manchurian) Front, the 3rd (Western Manchurian) Front, the 4th Independent Army, the 2nd Air Army, and the Sungari River Naval Flotilla, was located in Manchuria.⁴ As soon as military operations began, the 34th Army of the 17th (Korean) Front and the 5th Air Army were included in the Kwantung Army. In all, the Kwantung Army possessed 24 infantry divisions, 8 infantry brigades, and 1 special-purpose (Kamikaze) brigade, for a total of 443,000 soldiers and officers, 1,155 tanks, 5,360 guns, 25 warships, and 1,800 planes.⁵ In addition, the Manchukuo army, the forces of Inner Mongolia, and the Suiyuan Army Group (13 infantry and cavalry divisions, 14 infantry and cavalry brigades, and 4 independent cavalry regiments, with a strength of 280,000 men) were subordinate to the commander in chief of the Kwantung Army. Three infan-

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try divisions, an infantry brigade, an independent infantry regiment, and an independent tank regiment with a strength of 100,000 men were deployed on Southern Sakhalin and in the Kurile Islands. These troops were part of the 5th Front, subordinate directly to the Japanese Imperial Staff. In all, the Soviet Armed Forces were opposed in the area of forthcoming combat actions by troops of four fronts, one independent Japanese ground force army, one naval flotilla, and two air armies. Counting the Manchukuo Army, the forces of Inner Mongolia, and the Suiyuan Army Group, the enemy troops had a strength of 871,000 men, 1,215 tanks, 6,700 guns and mortars, 25 ships, and 1,907 aircraft. Strategic reserves (more than two field armies—six to eight divisions) were deployed in the vicinity of Beijing.⁶ Along the Soviet border the Japanese militarists set up a system of permanent fortifications 1000 km long, including 17 fortified areas (8,000 pillboxes and other reinforced concrete structures). The Maritime-Manchurian operational sector, which contained seven fortified areas, was covered the most strongly. There were 20 air bases, 133 airfields, and over 200 landing strips capable of supporting up to 6,000 planes in Manchuria and Korea.⁷

The main forces of the Kwantung Army were concentrated on the Manchurian Plain. About one-third of the army troops were in fortified areas within the border zone. The Japanese command intended to halt Soviet troops with counterblows by its main forces and force them to go over to the defensive, after which it planned to conduct an extensive counteroffensive with the objective of invading the Soviet Far East. Planning military activities in the Far East, the Soviet Stavka allocated the forces of the Transbaykal, 1st Far Eastern and 2nd Far Eastern fronts, the Pacific Fleet, and the Amur River Naval Flotilla to achieve the goals of the campaign. In order to reinforce troops of the Far East, two frontal directorates, the 5th, 39th and 53rd combined arms, and the 6th Guards Tank armies were transferred by rail from the West between 6 May and the start of July. This was a total of 27 divisions, 12 brigades, a number of independent formations and special units, and a great deal of combat equipment.⁸ By the beginning of military actions the three fronts possessed 11 combined arms, one tank, and three air armies; this included the troop groupings allocated from the Mongolian People's Revolutionary Army. Their total strength was 80 divisions (including six cavalry, two tank, and two motorized rifle), four tank and mechanized corps, six rifle brigades, and 40 tank and mechanized brigades. The grouping had a strength of 1,578,000 men and more than 26,000 guns and mortars. The Pacific Naval Fleet possessed 427 warships. The Amur River Naval Flotilla possessed 83 ships. Three PVO armies provided air cover to the troop concentrations. Soviet-Mongolian troops were superior to enemy troops in personnel by a factor of 2, in guns by a factor of 4, in tanks and self-propelled guns by a factor of 4, and in planes by a factor of 2.5.^{9,10} The Soviet Air Force grouping in the Far East included the 12th Air Army of the Transbaykal Front (commander Marshal of Aviation S. A. Khudyakov, deputy for political affairs General S. A. Pal'yanov, chief of staff General N. G. Seleznev), the 9th Air Army of the 1st Far East Front (commander General I. M. Sokolov, deputy commander for political affairs General F. N. Khorobrykh, chief of staff General A. V. Stepanov), the 10th Air Army of the 2nd Far Eastern Front (commander

Table 6. Composition of the Soviet Air Force in the Far East at the Beginning of Combat Actions.*

Air army	Air corps	Air Divisions					Total	Independent regiments	Combat Aircraft
		Bomber air divisions	Ground Attack air divisions	Fighter air divisions	Composite air divisions	Transport air divisions			
9th	1 Bomber air corps [†]	3	2	3	-	-	8	4	1,137
10th	1 Composite air corps	1	2	3	2	-	8	2	1,260
12th	2 Bomber air corps	6	2	3	-	2	13	2	1,324
Total		10	6	9	2	2	29	8	3,721

* *Voyenno-istoricheskii zhurnal*, No. 8, 1975, p. 66.

† The 19th ADD Bomber Air Corps was operationally subordinate to the 9th Air Army. Aviation of the Pacific Fleet had a strength of more than 1,500 planes. *Velikaya Otechestvennaya vojna Sovetskogo Soyuzha 1941-1945 gg.: Kratkaya istoriya* [The Great Patriotic War of the Soviet Union 1941-1945: A Short History], p. 544.

P. F. Zhigarev, deputy commander for political affairs Colonel S. K. Fedorov, chief of staff General S. A. Lavrik), the XIX Bomber Air Corps of the 18th Air Army (commander General N. A. Volkov), and the Pacific Fleet VVS (commander General P. M. Lemeshko) (table 6).

Preparations for Combat Actions in the Far East

In planning the Far East campaign, the Stavka assigned the following missions to armed forces in the Far East: destroy the Kwantung Army, which was the main strike force of imperialist Japan, force the Japanese government to surrender and thus eliminate the center of aggression in the Far East. The concept of the Soviet command was as follows: the forces of three fronts were to break through the enemy system of fortified areas in several sectors; then, exploiting the offensive on sectors converging toward Harbin, Changchun, and Mukden, encircle the enemy main forces, cut them off, and destroy them piecemeal. In accordance with this concept the Transbaykal Front was assigned the mission of making the main strike with the forces of the 17th, 39th, and 53rd combined arms armies and the 6th Guards Tank Army in the general direction of

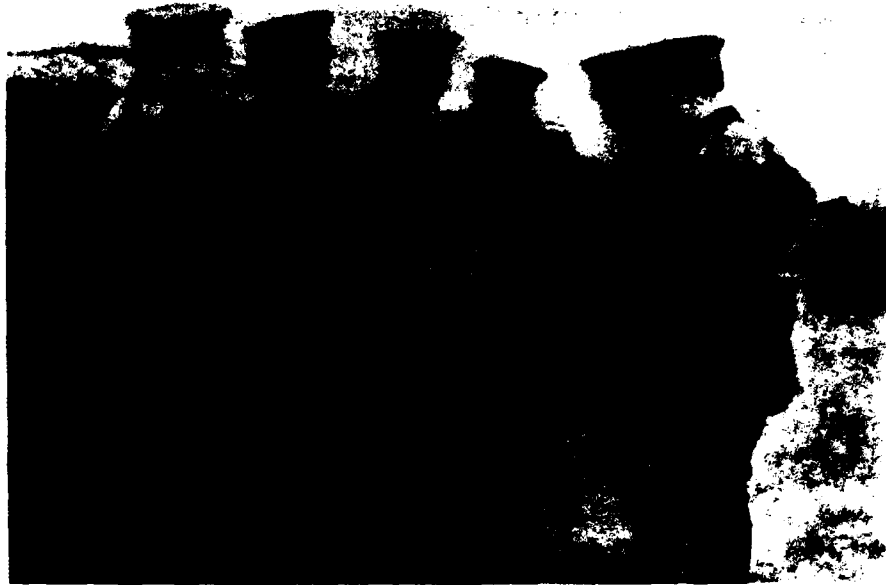
Changchun, defeating the opposing enemy, crossing the Great Hinggan range and, joining forces with the 1st Far East Front, cutting off the route of withdrawal of Japanese troops from Manchuria. The 36th Army made a supporting thrust toward Hailar, and a cavalry-mechanized group from the Soviet-Mongolian forces made a subsidiary attack toward Kalgan-Dolonnur. The mission of the 1st Far East Front was to advance on Jilin, Changchun, and Harbin with forces of the 1st Red Banner, 5th, and 25th armies and the X Mechanized Corps, break through the system of fortifications, defeat opposing enemy troops, join forces with the Transbaykal Front, and encircle the Kwantung Army. Supporting thrusts were made by the 35th Army toward Boli and by the 25th Army toward Wanging. The mission of the 2nd Far Eastern Front was to advance on Harbin with the forces of the 15th Army and the V Rifle Corps, attack Qiqihar with part of its forces, and take up defensive positions along the Amur River, on Sakhalin, and on the coast of the Tatar Strait.

The Pacific Fleet was to interdict enemy sea lines of communication, land assault landing parties, capture ports in North Korea in coordination with troops of the 1st Far Eastern Front, and support friendly sea lines of communication in the Sea of Japan and the Tatar Strait.

The Far East Air Force had the following combat missions: achieve air supremacy and dependably cover the main troop groupings of the fronts against air strikes; prevent the enemy from maneuvering his reserves by striking rail facilities, trains, and motor vehicle columns; support ground troops in their penetration of the system of fortified areas, and in their exploitation of the success in depth; destroy troop command and control by actions against headquarters and communication centers; conduct air reconnaissance systematically.

The combat actions of the air armies were planned as an air offensive, with consideration given to the specific conditions under which the ground troops were to accomplish their combat missions. Ninety-five percent of all forces of the 12th Air Army were assigned to support and cover the troops of the Transbaykal Front advancing in the main sector. Two ground attack air divisions—the 248th and the 316th (commanders Colonels I. B. Savel'yev and A. A. Yerokhin)—and the 245th Fighter Air Division (commander Colonel G. P. Pleshchenko) were assigned the sole mission of supporting the 6th Guards Tank Army, which was in the first operational echelon of the front's troops and which was to advance swiftly in the direction of Changchun. The mission assigned to bomber aviation formations of the 12th Air Army was to demoralize the enemy rear area in the first days of the operation, disrupt the lines of communication, and isolate the area of the encounter from reserves.¹¹ Two bomber, two ground attack, and one fighter division were assigned to actions against airfields in the first day of the operation.¹²

In the 9th Air Army, bomber and ground attack aviation directed its main efforts at razing defensive structures and suppressing troops on the battlefield. The plan called for powerful aerial preparation in the form of massed bomber strikes, and for continuous support and cover of advancing troops penetrating



The Soviet Army VVS Command at a 12th Air Army Forward Control Post. Left to Right: Marshal of Aviation S. A. Khudyakov, General N. G. Seleznev, Chief Marshal of Aviation A. A. Novikov, General V. N. Uspenskiy, General B. V. Sterligov, Colonel M. N. Kozhevnikov.

the Mishan, Pogranicheskii, Dongning and Dongxingzheng fortified areas.¹³

The efforts of the 10th Air Army were concentrated on supporting frontal troops making an assault crossing of the Amur River and advancing in the direction of the Sungari.

The Soviet Army Air Force commander and the generals and officers accompanying him made a great many preparations in the air armies, air formations and units, and at the airfields. They were not only interested in the progress of preparations for battle, but they also took an interest in the lives and personal affairs of the personnel. In talks with commanders and flight crews, they shared the combat experience our aviation had acquired in the fight against the fascist German invaders.

Air formations permanently deployed in the Far East made their preparations for 3 months, while those arriving from the European territory had from 15 to 30 days in which to prepare. In this time the air armies were replenished with new planes, flight crews, and technicians, and they took steps to camouflage the airfields and control posts; this played an important role in successful destruction of the Kwantung Army.

Jointly with the staffs of the fronts and of the combined arms and tank armies and with the participation of the Soviet Army Air Force field staff, the air army staffs prepared detailed coordination plans, standard encoded maps, radio

signals, procedure tables, and troop and aviation coordination signals. Operational groups consisting of air army staff officers tasked to call in aviation from airfields, control it on the battlefield, work out with the combined arms command problems of coordination during the operation, and keep the air army commander and staff informed on the ground and air situation in their areas were assigned to tank and combined arms armies tasked to advance in the main sectors. Air controllers were sent from air formations to rifle and tank divisions.

Personnel arriving from the west intensively studied the theater of military operations on maps and from the air. This theater was distinguished by highly complex terrain and climate and by difficult orientation from the air. In order to facilitate navigation at the fronts the air armies created, with the help of the ground troops, a network of checkpoint and identification signs along the borders of the country and on large roads. Numerous ground aids to navigation (radio direction finders, light beacons, radio beacons, and so on), which were moved to forward airfields on the eve of combat actions, were also widely used.

The Soviet Army Air Force commander reinforced the air armies with air engineering formations and units arriving from the west. Front commanders provided a great deal of assistance to aviation by supplying troop subunits and engineering equipment for construction of new airfields in the course of combat actions. To permit maneuvering of airfields, the air army commanders kept air base maintenance battalions in reserve to provide airfield services just behind the advancing troops; these battalions were concentrated at the country's border at the beginning of August. As a result of intense work, aviation rear services units were well prepared for this strategic operation. They created a 15–20 day reserve of combat resources and materiel, and they prepared the required airfield network. A. A. Novikov and his assistants visited most of the airfields and personally checked the readiness of our air units and formations. A. M. Vasilevskiy and S. P. Ivanov displayed constant concern about the readiness of the air armies.

On the eve of the operation the air armies regrouped. Their formations and units were redeployed to forward airfields, from which they began their combat actions. To conceal the redeployment, the planes were flown to their new airfields in small groups at low altitude, with radio communications strictly limited. All aircraft were dispersed and camouflaged at the airfields. In addition to the operating airfields, an extensive network of dummy airfields was created, aviation equipment mock-ups were set up at these airfields, and combat preparations of an air regiment were simulated. Air engineering formations and units and four motor transport battalions were transferred from the reserves to the 9th and 12th air armies.

Party-political work was active during the preparatory period. The command, the political organs, and the party and Komsomol organizations nurtured a hatred of the Japanese invaders in the airmen, studied the combat experiences of the Soviet Army at Lake Hasan and the Halhin Gol River, and mobilized the personnel of the air units to make better preparations for combat actions.

Soviet Air Force Combat Actions

The ground troops went over to the offensive on the night of 8–9 August 1945. To achieve surprise, artillery and aerial preparation were not conducted before the attack. The forward detachments of frontal troops covertly penetrated enemy territory at night, bypassed and blockaded the most important defensive fortifications, and began battling the Japanese garrisons. Many of the enemy's border fortifications were captured by dawn on 9 August.

On that same night 76 crews of the XIX Heavy Bomber Corps flying the Il-4 struck the rail stations of Harbin and Changchun. During the day of 9 August Frontal Aviation initiated combat actions against enemy troops and equipment on the battlefield and in enemy areas of concentration, as well as against the rail stations and strongpoints of Hailar, Solon, Haishuitang, Wuchaguo, and Hutou, shipping on the Sungari River, and enemy airfields at Hailar and Solon.

Intense air reconnaissance was conducted from the very first day of the operation. It was conducted not only by reconnaissance units and subunits but also by up to 30 percent of bomber and ground attack aviation. Air reconnaissance was conducted in the sectors and in areas (zones) by visual observation and photography. Reconnaissance data were immediately radioed from the plane, permitting the Soviet command to react quickly to all changes in the situation. Air reconnaissance was intense because many targets for which the Soviet command had no data in peacetime had to be discovered. Pilots of the 253rd Ground Attack Air Division (commander Lieutenant Colonel K. T. Tsedrik) were especially successful on the first day. They attacked and sank a steamship, a barge, three sailboats, and three armored launches. Pilots of the 254th Fighter Air Division (commander Colonel N. A. Silayev), employing the "free hunting" tactic, set a ship afire in the vicinity of Xingchongren and destroyed several boats carrying Japanese soldiers.

Despite unfavorable weather, aviation from the three air armies flew about 2,000 combat sorties during the first day of combat actions.

When the main forces of the ground troops were committed to the encounter, in addition to striking military targets in industrial centers at operational depth, the air armies continued to operate at tactical depth—on the battlefield and against fortified regions, centers of resistance, and Japanese troops and equipment, supporting our advancing troops.

In these days bomber aviation made a number of strikes against enemy rail junctions—Hailar, Harbin, Changchun, and Mudanjiang, against the Hailar and Hutou fortified areas, and against shipping on the Sungari River.

Flying in pairs as "hunters" and in groups of 4 to 12 Il-2s, ground attack aircraft destroyed enemy troops and equipment on the battlefield with echeloned strikes, mainly in the breakthrough sectors in the Sungari, Solon, Hailar, and Mudanjiang sectors, i.e., in the principal sectors of the ground troops.



Destroyed Japanese Aircraft After a Strike by Soviet Aviation.

Fighter aviation provided direct cover to advancing troops on the battlefield and in their areas of concentration. Moreover, fighters were also employed for ground attack and reconnaissance missions. They operated in small groups and in pairs against enemy troops on highways and dirt roads and against trains at stations and sidings, mainly in the sectors of active troop operations near Hailar, Solon, Sunwu, Mudanjiang, Hutou, Jiamusi, and Muling, and they performed tactical reconnaissance.

As a rule, 60–70 bombers were assigned for strikes against rail junctions, fortified areas, and places where troops were massed. The bombers made concentrated attacks against these targets. For example, on 11 August air reconnaissance discovered a large massing of enemy troops in the vicinity of Muling. More than 60 Pe-2s were assigned the mission of making a concentrated strike against these troops. Despite poor weather they reached the target and attacked it successfully, dropping their bomb loads precisely on target. As a result the enemy suffered significant losses.

The day before, Pe-2s of the 34th Bomber Air Division, flying as small groups (commanded by General M. N. Kalinushkin), flew 120 sorties against the Hutou fortified area and made concentrated strikes. Enjoying air support, troops of the 35th Army broke Japanese resistance and broke into the city of Hutou on that same day.¹⁴ Ground attack aviation operated effectively. On 12 August our troops advancing in the Qiqihar sector were halted at Sunwu by intense artillery fire and counterstrikes by enemy troops. Pilots of the 96th Ground Attack Air Division (commander Lieutenant Colonel I. A. Kochergin) came to their aid. They made several passes at the target, and the Japanese hoisted white flags, expressing their readiness to surrender. Accomplishing their missions, flight crews displayed valor, bravery, and heroism. Major S. A. Chernykh, commander of the 75th Ground Attack Air Regiment, discovered an enemy armored

train while flying a "free hunting" mission with flight commander Lieutenant Yurchenko at his wing. The lead pilot was hit by anti-aircraft fire while attacking the target, and the pilot made a forced landing in enemy territory. Landing next to him, Yurchenko took his commander aboard his own aircraft and returned to their airfield.¹⁵

Providing direct support to ground troops in bad weather, in the first 3 days of the operation aviation inflicted serious manpower and equipment losses on the enemy. By its actions it helped our advancing troops successfully penetrate enemy defenses and surmount and capture fortified areas, particularly the Manzhouli-Zhalainor, Hailar, Hutou, and Dongning fortified areas, and it supported troops from the air as they advanced deep into enemy territory. As a result of coordinated strikes from the ground and from the air, in the first day of the offensive Soviet troops advanced from 50 to 140 km on the Transbaykal Front, and from 5 to 20 km on the 1st and 2nd Far Eastern fronts. In subsequent days the pace of the ground troops' advance was even higher. Stunned by these strikes, the Japanese began to withdraw their troops deep into Manchuria, offering resistance mainly in fortified areas and in individual pockets of resistance. The Soviet Army Air Force commander with a small operations group from the field staff was at the 12th and 9th air army forward control posts, and he directly influenced aviation combat actions. In the second phase of the operation, because enemy defenses had been penetrated successfully and fortifications had been surmounted throughout the entire tactical depth, the ground troops continued their fight with the goal of once and for all crushing the enemy's pockets of resistance and pursuing him. In this period, aviation continued to make bomber and ground attack strikes against individual pockets of resistance, strongpoints, and rail junctions, preventing the enemy from occupying intermediate lines of defense.

The 6th Guards Tank Army advanced swiftly. Its activities were continuously supported by aviation of the 248th and 316th ground attack air divisions (commanders Colonels I. B. Savel'yev and A. A. Yerokhin) and the 245th Fighter Air Division (commander Colonel G. P. Pleshchenko).

Aviation representatives and forward aviation rear service units moved with the tank combat formations, swiftly preparing airfields on which to base aviation allocated for cover and support. Operational and tactical coordination organized in this manner permitted aviation to render fast and timely assistance to the tank formations by striking the enemy wherever the situation required.

As the 6th Guards Tank Army was crossing the Great Hinggan range, aviation made a number of concentrated strikes against centers of resistance in the foothills of this range and bombed large strongpoints and rail stations at Lubei, Taonan, and Wangyemiao to clear the way for the tanks. The tank crews ably exploited the results of these strikes and, sweeping enemy troops from their way, continued to advance quickly to link up with mobile units of the 1st Far Eastern Front. On the fourth day of the operation the 6th Guards Tank Army crossed the Great Hinggan range and entered the Central Manchurian Plain, having covered 450 km in battle. By 14 August, troops of the 39th Army captured Wan-



The Soviet Army VVS Command Near the Area of 10th Air Army Combat Actions. Left to Right: P. A. Kolesnikov, N. P. Dagayev, V. N. Bibikov, A. A. Novikov, M. N. Kozhevnikov.

gyemiao and Solon, and the 17th Army and a mechanized cavalry group crushed opposing enemy troops and reached the approaches to Kalgan. Aviation also helped the tank crews by delivering fuel to them across the Great Hinggan range, since the tank divisions were traveling considerably in advance of their supply bases in the swift offensive. Transport aviation came to the rescue, delivering about 2,000 tons of fuel and 186 tons of ammunition to them by air. On the average, 90–100 Li-2 transports were used to deliver cargo to 6th Guards Tank Army units and formations.¹⁶

Our infantry also enjoyed active air support. Within the sector of the 1st Far Eastern Front the enemy concentrated sizeable forces in the vicinity of Mudanjiang in his attempt to prevent our troops from cutting the route of withdrawal of his troops from Baoqing and Jiamusi. These forces offered stubborn resistance, counterattacking several times. Aviation from all branches of the 9th Air Army was launched to crush this resistance. During the day large groups of bombers and ground attack aircraft made concentrated strikes against enemy troops in this area and in the city. The flight crews displayed exceptional bravery and an ability to operate under difficult conditions. For example, a group of Pe-2 bombers (group commander Lieutenant Colonel Plotnikov, commander of the 59th Bomber Air Regiment) took off to bomb enemy troops at the station and in the city of Mudanjiang. On the way to their targets the planes flew into bad weather. The ceiling was less than 100 meters. The group commander decided to detour the bad weather front on the north and accomplish the combat mission at all costs. Descending to 50 meters, the group traveled about 100 km in bad weather and reached an area of good weather. Successfully accomplishing its mission and inflicting considerable losses on the enemy, the group returned safely to its airfield. The battle of Mudanjiang lasted 5 days. The 16th of August was the hardest day for the troops of the 1st Red Banner and 5th armies. Concentrating sizable infantry and tank forces, the enemy made strong counterattacks. The 252nd Ground Attack Air Division (commander Lieutenant Colonel V. Kh.

Makarov) was assigned to repel the counterattacks with continuous echeloned actions against enemy artillery, tanks, and infantry. It provided decisive assistance to troops in repelling the counterattacks. Enemy attempts at concentrating troops near Mudanjiang, Hailin, and Ninguta for a counterstrike were also foiled, due to concentrated strikes by ground attack planes and bombers from the 9th Air Army. The enemy near Mudanjiang was routed due to the joint efforts of ground troops and aviation. A massed strike by 108 bombers of the XIX Heavy Bomber Air Corps against centers of resistance in the Dongning fortified area was highly effective. An inspection of the terrain following its occupation by our troops established that four pillboxes, two earth-and-timber emplacements, an ammunition dump, two trenches, and two underground passageways had been destroyed by direct hits. After this strike the fortified area was taken by our troops, and the Japanese garrison surrendered. Soviet pilots displayed resourcefulness and heroism in the accomplishment of their assigned mission.

On 14 August a pair of Il-2s (with Lieutenant Garanin in the lead plane) was flying a mission to find and attack small scattered enemy groups remaining in our rear area and making systematic raids on the Dongning airfield, hindering the work of the airbase maintenance battalion preparing the airfield for reception of redeployed air units. Unable to find the enemy, Lieutenant Garanin decided to land at this airfield and clarify the situation. He ordered his wingman to patrol the air against possible attempts by the Japanese to capture his plane while it was on the ground, and he landed under enemy fire. Without shutting down his engine Garanin got in touch with the battalion commander, who clarified the situation. On learning the whereabouts of the targets, he took off. Spotting three houses from which the Japanese were shelling the airfield with the greatest intensity, he and his wingman bombed and strafed them. As a result the three houses were partially destroyed and burned. Some of the Japanese were killed, and the rest scattered. Owing to Lieutenant Garanin's initiative, boldness, and decisive actions the combat mission was accomplished.

As a result of the joint actions of ground troops and aviation, enemy resistance was broken both in the vicinity of Mudanjiang and at other points, particularly at Kalgan, Sunwu, and Boli. Suffering great losses, the Japanese were forced to abandon all these points.

In the second phase of the operation, aviation had to overcome extremely unfavorable meteorological conditions that dramatically restricted its combat actions. Despite this, aviation continued to support the ground troops as they moved forward.

Successfully completing the first and second phases of the offensive Soviet troops continued to pursue the enemy relentlessly deep into Manchuria and on the islands. On 18 August the Japanese began abandoning organized resistance and surrendering. Only in a few sectors did they continue to offer resistance in small isolated groups.

Because of the swift advance of the ground troops, the long lines of communication, and the lack and poor passability of highways and dirt roads, the problem of supplying ammunition, fuel, and food to the troops, including air units, became very acute. At the same time, our troops had to quickly capture important enemy administrative-political and industrial centers, which required extensive assault landing operations. All of this imposed new missions on the Soviet Air Force in the third phase of the offensive. A large quantity of ammunition, food, and fuel had to be airlifted in support of ground troop actions deep in the enemy rear area. Small airborne assault parties had to be landed, and, at the same time, their actions required combat and logistical support.

Wide use was made primarily of aviation of the 54th Transport and 21st Guards Air Transport divisions by order of the Soviet Army Air Force commander to complete these missions. While combat aviation continued to support frontal troops by destroying individual enemy pockets of resistance, transport aviation did a great deal under fighter cover to transfer cargo and land airborne assault parties. Airborne assault groups were landed at airfields and in the vicinities of Harbin, Jilin, Yangtze, Wonsan (Gensan), Hamhung (Kanko), Pyongyang (Heijo), Changchun, Shenyang (Mukden), Talién (Dairen), and Lushun (Port Arthur). Additional airborne assault groups were landed several times to reinforce the main assault landing forces at these places. The airborne assault parties were accompanied by specially assigned aviation representatives who maintained coordination between aviation and the assault landing parties.

The landing of the airborne assault groups was supported by actions of combat aviation of the 12th and 9th air armies, and by special air reconnaissance of the landing areas. Our fighter and bomber aviation patrolled over the airfields at which they landed, ready at any moment to render support from the air to the assault landing parties.

As a result of the defeat of the Kwantung Army, imperialist Japan was deprived of a workable number of forces and the means for continuing the war, and on 2 September 1945 Japan signed the pact of unconditional surrender. As soon as Japan's surrender became known—and the troops usually learn of such unforgettable moments before the orders announcing them are issued—countless words of joy and congratulations were expressed and salutes were fired from guns, machine guns, rifles, and pistols. And who would not rejoice, since not only the Great Patriotic War but also World War II had come to a victorious conclusion. It was with a feeling of sincere gratitude to the Soviet Union and its Armed Forces that the peoples of the entire world were witness to peace on earth, which they had longed for with all their souls for 6 long years.

Despite the quite distinct nature of the theater of military operations and the complexity of the assigned missions, capitalizing on the rich experience of the war against fascist Germany, the Far East Air Force managed to provide effective assistance to ground troops in the destruction of the Kwantung Army. It flew more than 22,000 sorties. In the hands of the Soviet command, our VVS

was a powerful and highly maneuverable resource for armed conflict. By its strikes against pillboxes and stocks of equipment and troops, it helped the ground troops quickly penetrate a fortified zone, it disrupted the work of the lines of communication, paralyzed maneuver of enemy reserves, and played a major role in repelling enemy counterstrikes and counterattacks. The Soviet Air Force was the main agent of reconnaissance and an important resource for landing and transporting troops and cargo. During the operation 16,500 soldiers and officers, about 2,780 tons of fuel, 563 tons of ammunition, and 1,496 tons of various kinds of cargo were transported by air.¹⁷

A ukase of the Presidium of the USSR Supreme Soviet dated 8 September 1945 awarded a second Gold Star medal to A. A. Novikov. Many of his deputies from the VVS field staff; air army commanders; air formation, unit, and subunit commanders; flight crews and mechanics; and personnel from staffs, political organs, and services were also awarded military orders of the Soviet Union.

The most important result of the campaign conducted by the Soviet Armed Forces in the Far East was the destruction of the Kwantung Army of almost one million, the unconditional surrender of Japan, and the liquidation of a center of aggression in the East. Our victory in the Far East upset the hopes of the Japanese imperialists for a favorable end to the war in the Pacific and foiled the plans of the aggressive circles in the U.S. that were trying to gain a foothold on the Asian continent. The victory of the Soviet Armed Forces provided a powerful impetus to the national liberation movement in the countries of Asia and created the groundwork for the victory of the people's revolution in China, North Korea, and Vietnam. The forces of democracy and progress grew strong on the entire Asian continent, and the positions of imperialism and reaction weakened. All springboards and military bases created by the Japanese imperialists for an attack on the USSR were eliminated, and the security of our Far Eastern borders was ensured. The Soviet Army honorably accomplished its mission of liberation in the Far East. In the campaign to defeat the Kwantung Army the Soviet Air Force obtained valuable experience in organizing and maintaining strategic, operational, and tactical coordination with ground troops in the difficult conditions of the theater of military operations.

The considerable distance between the sectors in which the troops of the three fronts operated, the unstable weather, and the absence of good reference points (taiga, desert, mountains) made navigation difficult and demanded extremely careful preparation by the personnel and implementation of many ground support measures; the latter were implemented promptly, and they ensured accurate destruction of the targets assigned to aviation. Unification of the efforts of three Frontal Aviation air armies and an independent Long-Range Aviation bomber air corps under the sole leadership of the senior air chief—the Soviet Army Air Force commander—was a typical feature of the actions of Soviet aviation. This commander was present at the command post with the commander in chief of troops in the Far East, and at the air army forward control posts. He made prompt refinements in the combat employment of aviation, and,

through the air army commanders, retargeted air strikes as required by the ground troops. The combat actions of Soviet aviation began with massed and concentrated strikes against airfields, ports, administrative-political centers, and other highly important enemy targets in the rear area. In the early days sizable bomber and ground attack aviation resources were directed against rail and motor shipments, which resulted in isolation of the area of the encounter from enemy reserves. Another unique feature of the aviation actions was allocation of a considerable quantity of forces for air reconnaissance (33 percent of all sorties in the 12th Army, 27 percent in the 10th, and 21 percent in the 9th Air Army).

On the whole, the experiences of the Soviet Air Force in the Far East influenced subsequent development of Air Force operational art and tactics. They remain significant today where a number of problems involving the combat employment of the various aviation branches and elements are concerned.

Notes

1. Shtemenko, p. 337.
2. *Archives*, f. 132-a, op. 2642, d. 39, l. 155.
3. *Ibid.*, l. 161.
4. *Liberation Mission*, p. 414.
5. *Ibid.*, p. 415.
6. *Ibid.*
7. *Voyenno-istoricheskiy zhurnal*, No. 8, 1975, p. 67.
8. *Patriotic War Short History*, p. 543.
9. *Liberation Mission*, p. 422.
10. *Ibid.*
11. *Archives*, f. 360, op. 515277, d. 1, ll. 16-18.
12. *Ibid.*, l. 23.
13. *Ibid.*, f. 349, op. 142201, d. 2, l. 27.
14. *Ibid.*, op. 5753, d. 2, l. 28.
15. *Kryl' ya rodiny* [Wings of the Motherland], No. 8, 1975, p. 6.
16. *Archives*, f. 360, op. 515277, d. 1, l. 89.
17. *Ibid.*, f. 349, op. 5753, d. 2, l. 47; f. 360, op. 6134, d. 35, l. 37.

Aviation Cadres in the Great Patriotic War

During the Great Patriotic War the Communist Party constantly devoted attention to training, correctly assigning, and indoctrinating command, political, engineering, flying, and technical personnel. The Communist Party, the Supreme High Command, the General Staff, and the Air Force Military Council understood that the combat capability of all aviation branches and elements depends on the presence of a sufficient number of mature, well-trained supervisory personnel devoted to the ideals of communism. The party Central Committee constantly kept an eye on the selection and assignment of aviation cadres in the general and field grade categories. All appointments of commanders at the air division level and above made by the Soviet Army Air Force command and Military Council were approved by the CC VKP(b). Military skill, organizational capabilities, selfless devotion to the Motherland and to the Communist Party, and high moral-combat qualities were the principal criteria by which the individual was evaluated in the difficult war years. Members and candidate members of the VKP(b) held almost all command positions in the Soviet Air Force by the end of the war. The VVS Military Council played an important role in selecting and assigning junior officers. In its meetings it often examined the problems of training aviation cadres, and it planned concrete, efficient measures.

During the Great Patriotic War the Communist Party raised and indoctrinated a remarkable detachment of air commanders who competently managed the combat actions of aviation at the fronts, constantly improved the organization of the units, formations, and operational air forces, employed new, more effective forms and methods of air actions, and did a great deal to develop the VVS further. Among them were Air Force commander Chief Marshal of Aviation A. A. Novikov, Long-Range Aviation commander Chief Marshal of Aviation A. Ye. Golovanov, Soviet Army Air Force and Long-Range Aviation deputy commanders Marshals of Aviation G. A. Vorozheykin, F. Ya. Falaleyev, S. A. Khudyakov, and N. S. Skripko, and Colonel General of Aviation A. V. Nikitin; air army commanders Chief Marshal of Aviation K. A. Vershinin, Marshals of Aviation S. A. Krasovskiy, S. I. Rudenko, and V. A. Sudets, and Generals S. K. Goryunov, M. M. Gromov, V. N. Zhdanov, I. P. Zhuravlev, N. F. Naumenko, F. P. Polynin, N. F. Papivin, S. D. Rybal'chenko, I. M. Sokolov, and T. T. Khryukin.^{1,2}

The biographies of the air army commanders were all different, and they attained posts of leadership in the VVS operational air forces during the Great Patriotic War via different roads. Many had even participated in the Civil War and fought the interventionists, and they had served in the ground forces previ-



The Soviet Army VVS Military Council and the Air Army Commanders in 1945. Right to Left: T. T. Khryukin, K. A. Vershinin, G. A. Vorozheykin, A. A. Novikov, V. N. Zhdanov, S. K. Goryunov, F. Ya. Falaleyev, A. I. Shakhurin, S. I. Rudenko, A. K. Repin, N. F. Naumenko, N. S. Shimanov.

ously. But they were all attracted by aviation, in which they envisioned much that was new, interesting, and promising. They understood the ever-increasing role of the Soviet Air Force in the defense of the socialist state quite well. One common trait was typical of all of them—limitless love for the Motherland and devotion to the Communist Party which raised and educated them, and to the Soviet people.

Konstantin Andreyevich Vershinin assumed the post of Southern Front VVS commander as a colonel in September 1941, and in May 1942 he took charge of the 4th Air Army. During the war the 4th Air Army flew 340,000 combat sorties, destroying and crippling 5,000 enemy planes in air engagements and on the ground. The air army's combat actions were assessed highly by the Communist Party and the Soviet government. The Supreme Commander declared his gratitude to its formations for their successful combat actions 42 times; 277 soldiers were awarded the title Hero of the Soviet Union, 17 air units and formations were reorganized as Guards units, 46 were awarded honorary titles, and 76 earned orders.³

In the postwar years Hero of the Soviet Union K. A. Vershinin held responsible posts in the National Air Defense Forces and in the VVS. For many years, until 1968, K. A. Vershinin headed the Soviet Air Force. K. A. Vershinin was awarded the rank of chief marshal of aviation in May 1959.

Stepan Akimovich Krasovskiy began the war as a major general of aviation at the post of commander of the 56th Army VVS. In January 1942 he became



Chief Marshal of Aviation K. A. Vershinin.



Marshal of Aviation S. I. Rudenko.

commander of the Bryansk Front VVS, and 4 months later became commander of the 2nd Air Army. Between October 1942 and March 1943 S. A. Krasovskiy headed the 17th Air Army, after which he assumed command of the 2nd Air Army until the end of the war. Pilots of the 2nd Air Army flew about 348,000 combat sorties, fought in 6,000 air engagements and destroyed 7,000 fascist German planes during the war. The air army's military deeds were mentioned 37 times in orders of the Supreme Commander. Sixty-five of the air army's air regiments, divisions, and corps were reorganized as Guards units, 125 units and formations received honorary titles in honor of liberated cities, and more than 200 of the army's fliers were awarded the title Hero of the Soviet Union; 13 persons were awarded this lofty title twice.⁴ In the postwar years Hero of the Soviet Union S. A. Krasovskiy served for a long time as chief of the Yu. A. Gagarin Air Force Academy and trained hundreds of officers and generals with a higher military education for the Soviet Air Force.

Sergey Ignat'yevich Rudenko began the war on 15 July 1941 as commander of the 31st Composite Air Division. On 28 September 1942 General S. I. Rudenko became commander of the 16th Air Army. During the war the 16th Air Army flew 288,000 combat sorties. This army's pilots destroyed about 6,000 fascist German planes in air engagements and on the ground. Two hundred pilots and navigators were awarded the title Hero of the Soviet Union for exemplary accomplishment of command assignments at the front in the struggle against the fascist German invaders and for the valor and heroism displayed. Distinguished 16th Air Army formations and units were mentioned 47 times in orders of the Supreme Commander. More than 27,000 airmen were awarded orders and med-



Marshal of Aviation V. A. Sudets.



Marshal of Aviation S. A. Krasovskiy.

als for combat distinction, many formations and units were made Guards units, and 64 were awarded honorary titles.⁵ During the postwar years Hero of the Soviet Union S. I. Rudenko was chief of the Soviet Air Force Main Staff, first deputy commander in chief of the Air Force, and chief of the Yu. A. Gagarin Air Force Academy.

Vladimir Aleksandrovich Sudets began the war as commander of the Long-Range Bomber Aviation Main Command's IV Air Corps. Later he commanded the Volga Military District VVS, the I Bomber Air Corps, and from March 1943 until the end of the war the 17th Air Army. During the war the 17th Air Army flew more than 200,000 combat sorties and produced such famous aces as Twice Heroes of the Soviet Union V. A. Zaytsev, M. V. Kuznetsov, A. I. Koldunov, N. M. Skomorokhov, G. F. Sivkov, and others. The army was mentioned 34 times in orders of the Supreme Commander.⁶ During the postwar years Hero of the Soviet Union V. A. Sudets occupied important posts in the VVS and in the National Air Defense Forces, and he served as chief of the VVS Main Staff and commander in chief of the National Air Defense Forces.⁷

General P. F. Zhigarev commanded the 10th Air Army during the war against imperialist Japan. In April 1946 Pavel Fedorovich Zhigarev was appointed first deputy commander in chief of the VVS. Later he assumed command of Long-Range Aviation, and from September 1949 to January 1957 he headed the Soviet Air Force.⁸

The commanders were given invaluable assistance in managing the troops by the staffs of the air armies under the supervision of Generals N. P. Abramov,

A. N. Alekseyev, I. M. Belov, P. I. Brayko, N. P. Dagayev, N. M. Korsakov, F. I. Kachev, N. V. Perminov, A. S. Pronin, A. A. Sakovnin, B. F. Sveshnikov, N. G. Seleznev, S. P. Sinyakov, V. V. Storozhenko, K. I. Tel'nov, A. Z. Ustinov, A. V. Stepanov, S. A. Lavrik, V. I. Izotov, and N. L. Stepanov.⁹

After the war Nikolay Pavlovich Dagayev, Petr Ignat'yevich Brayko, Sergey Pavlovich Sinyakov, and Aleksandr Zakharovich Ustinov occupied executive posts on the Soviet Army Air Force Main Staff and did a great deal to develop Soviet Air Force operational art.

Victory against enemy troops and aviation depended in many ways on the morale of VVS personnel and on purposeful party-political work. It was skillfully organized by the unit deputy commanders for political affairs, chiefs of the air army political sections, and party and Komsomol organizations. The following individuals served as chiefs of the air army political sections—A. I. Asulenko, M. A. Butkovskiy, V. I. Vikhrov, Ya. I. Draychuk, P. I. Dukhnovskiy, F. I. Zhmulev, M. M. Moskalev, T. I. Muratkin, N. M. Protsenko, V. G. Tochilov, G. A. Khudyakov, S. I. Chernousov, D. G. Shanshashvili, N. M. Shcherbina, and others.

The following air army deputy commanders for political affairs did yeoman work in indoctrinating personnel of VVS units, formations, and numbered air forces under the guidance of Soviet Army Air Force Military Council members Generals P. S. Stepanov, L. G. Rudenko, and N. S. Shimanov: V. I. Alekseyev, N. P. Babak, F. F. Verov, A. I. Vikhorev, A. S. Vinogradov, A. F. Vyvolokin, A. P. Grubich, G. G. Gur'yanov, A. A. Ivanov, I. G. Litvinenko, S. N. Romazanov, A. G. Rytov, V. I. Smirnov, I. I. Sergeyev, M. I. Sulimov, M. N. Sukhachev, V. N. Tolmachev, F. N. Khorobrykh, S. K. Fedorov, S. A. Pal'yanov, and M. I. Shapovalov.

In cooperation with commanders and staffs at all levels, the broadly branched VVS party-political apparatus worked every day to indoctrinate personnel in the spirit of Soviet patriotism and proletarian internationalism and to nurture high moral-combat qualities and selfless devotion to the Communist Party. The historically unprecedented heroism of the Soviet people in the war is a manifestation of these qualities. The highest form of heroism and an expression of high moral qualities was the ram tactic. During the war 404 Soviet fighter pilots, 18 ground attack crews, and 6 bomber crews rammed airborne enemy



Chief Marshal of Aviation P. F. Zhigarev.



General S. P. Sinyakov.



General P. I. Brayko.

targets.¹⁰ Soviet pilots employing the ram tactic destroyed about 500 enemy planes in air engagements. Seventeen airmen used the ram tactic twice, A. Khlobystov and N. Terekhin used it three times, and B. Kovzan used it four times. Among those who rammed enemy craft was the world's only female pilot to do so—Komsomol member Ye. Zelenko.¹¹ Among the winged warriors who rammed enemy planes, 95 percent were communists and Komsomol members.

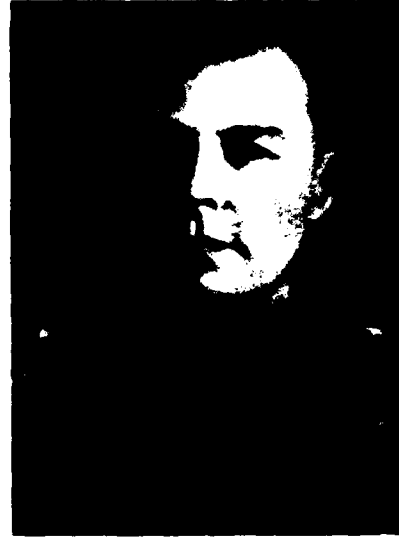
During the war the commanders of Supreme High Command Reserve air corps included F. A. Agal'tsov, V. I. Aladinskiy, P. P. Arkhangel'skiy, Ye. M. Beletskiy, A. S. Blagoveshchenskiy, G. F. Baydukov, M. Kh. Borisenko, M. I. Goriachenko, M. M. Golovnya, S. P. Danilov, F. F. Zherebchenko, G. A. Ivanov, A. Z. Karavatskiy, N. P. Kamanin, I. D. Klimov, I. V. Krupskiy, Ye. F. Loginov, M. G. Machin, V. V. Naneyshvili, I. S. Polbin, V. Ye. Nestertsev, O. V. Tolstikov, B. K. Tokarev, I. L. Turkel', I. D. Podgornyy, Ye. Ya. Savitskiy, V. G. Ryazanov, I. P. Skok, B. A. Sidnev, S. V. Slyusarev, V. V. Stepichev, A. V. Utin, V. A. Ushakov, A. B. Yumashev, and others.

Among these, Ye. Ya. Savitskiy, V. G. Ryazanov, and I. S. Polbin were awarded the title Hero of the Soviet twice. Yevgeniy Yakovlevich Savitskiy came to the front from the Far East in the winter of 1941 as a lieutenant colonel. He commended an air regiment, and later a division. At the end of 1943 he was awarded the rank of major general of aviation and appointed commander of the III Fighter Air Corps. During the war he personally flew 216 combat sorties and shot down 22 German planes, and under his command pilots of the corps flew 28,860 combat sorties and destroyed 1,653 enemy planes.¹²

The Motherland greatly esteemed the bravery and heroism of this valorous



General N. P. Dagayev.



General A. Z. Ustinov.

air commander and his able leadership of the corps. On 11 May 1944 he was awarded the lofty title Hero of the Soviet Union, and on 2 June 1945 he was awarded this title a second time. In 2 years of the war (from April 1943 to May 1945) 32 airmen in the corps earned the title Hero of the Soviet Union.¹³ Presently Ye. Ya. Savitskiy is a marshal of aviation.

During the Great Patriotic War, Vasiliy Georgiyevich Ryazanov commanded the I Guards Ground Attack Air Corps. The corps became famous during the war for its accurate, powerful bombing and ground strikes against the enemy. The corps' pilots flew 58,270 combat sorties during the war. V. G. Ryazanov was one of the first to organize control of ground attack aviation combat actions from the forward command posts of a combined arms and a tank army, that is, he employed a new method of control of ground attack aviation over the battlefield. Ninety-four airmen in the corps were awarded the title Hero of the Soviet Union, and seven of them were awarded the title twice. For outstanding combat service to the Motherland General F. G. Ryazanov was awarded the title Hero of the Soviet Union on 22 February 1944, and on 18 June 1945 he was awarded the second Gold Star medal.¹⁴

Ivan Semenovich Polbin, commander of the VI Guards Bomber Air Corps (the II Guards until 1944), was a talented leader, innovator, and fearless pilot. In March 1943 Colonel I. S. Polbin, who was promoted to major general of aviation on 20 October, was appointed commander of an air corps. Various innovations in the employment of the Pe-2 dive bomber are associated with his activities at the front. I. S. Polbin was the first in bomber aviation to employ sniper dive bomber strikes against small targets, and he taught this method to the regiments and divisions under his command. On 23 November 1942 this valourous



Marshal of Aviation Ye. Ya.
Savitskiy.



Marshal of Aviation A. I. Pokryshkin.

pilot and famous commander was awarded the lofty title Hero of the Soviet Union. On 6 April 1945 he was awarded his second Gold Star medal posthumously.¹⁵

Among division commanders who had begun their war career as flight, squadron, and regiment commanders we can name V. I. Davidkov, M. P. Noga, S. I. Nichiporenko, V. A. Sandalov, P. I. Kryukov, F. P. Kotlyar, A. I. Pokryshkin, and many others. Air division commanders K. A. Katichey, V. V. Smirnov, V. V. Zelentsov, I. D. Antoshkin, F. I. Dobysh, and many others proved themselves to be seasoned leaders of combat actions.

The air regiment commanders were the leading figures in the VVS. Success and accomplishment of all combat missions depended on their organizational capabilities, flying skills, bravery, great exactingness, and fatherly concern for subordinates.

P. S. Kutakhov, I. I. Pstygo, P. F. Chupikov, L. L. Shestakov, I. I. Kleshchev, P. A. Pokryshev, M. S. Tokarev, I. P. Motorny, A. P. Morozov, B. N. Yeremin, S. D. Luganskiy, Ye. D. Bershanskaya, and many others proved themselves to be remarkable air regiment commanders.

In the postwar years many of them continued to serve in the Soviet Army, through their experience and knowledge promoting development and growth of our Armed Forces.

During the Great Patriotic War of 1941–1945 Hero of the Soviet Union



General V. G. Ryazanov.



General I. S. Polbin.

Pavel Stepanovich Kutakhov commanded an air squadron and a fighter regiment. In the difficult weather and terrain of the North he personally flew 367 sorties, fought in 79 air engagements, and shot down 14 enemy planes; he shot down 28 in group battles. Under his command the 20th Fighter Air Regiment effectively accomplished many combat missions while covering troops and targets in the front's rear services, flew many thousands of sorties, and shot down many enemy planes. After the war P. S. Kutakhov graduated from the General Staff Academy and continuously held command assignments. In March 1969 he took charge of the Soviet Air Force, and in November 1972 was awarded the high rank of chief marshal of aviation.

During the war Ivan Ivanovich Pstygo commanded a flight and an air squadron, and between December 1943 and the end of the war he commanded the 893rd Ground Attack Air Regiment. He flew 95 sorties. In April 1975 he was awarded the high rank of marshal of aviation, and he is presently deputy commander in chief of the Soviet Army Air Force.

Hero of the Soviet Union Pavel Fedorovich Chupikov during the war commanded the 19th Fighter Air Regiment, which participated in almost all the largest operations of the third period of the war; it was re-formed as the 176th Guards Regiment and awarded the Order of Aleksandr Nevskiy. During the war the regiment's pilots flew about 9,000 sorties, fought in 750 air engagements, and destroyed 445 enemy planes. P. F. Chupikov himself flew about 400 sorties, and he shot down 14 enemy planes in 77 aerial duels and 6 planes in group air engagements. Presently P. F. Chupikov is a colonel general of aviation.

Hero of the Soviet Union I. I. Kleshchev commanded the 434th Fighter



Chief Marshal of Aviation P. S. Kutakhov.



Marshal of Aviation A. N. Yefimov.

Regiment, which distinguished itself in the battle of Stalingrad. In the period from June to August 1942 the regiment destroyed 90 planes in air engagements, and from 14 September to 2 October 1942 the regiment's pilots flew 611 sorties, participated in 48 air engagements, and shot down 82 enemy planes. In late fall 1942 Major I. I. Kleshchev died tragically while flying in bad weather.

Air squadron and flight commanders made up the most numerous detachment of command personnel in the Air Force. They were the direct indoctrinators of the pilots, technicians, and mechanics, and they always led their subordinates into battle.

Hero of the Soviet Union Ivan Mikhaylovich Moroz served as deputy commander for political affairs of an air squadron and an air regiment and in the war served as chief of the political section of an air division. He is presently a colonel general of aviation, a member of the Military Council and is chief of staff of the political Department of the VVS. Hero of the Soviet Union Aleksandr Petrovich Silant'yev, as flight commander and deputy commander of an interceptor squadron, heroically fought the enemy, proved himself in many engagements, and flew 359 sorties. In February 1976 he was awarded the high rank of marshal of aviation and today heads the VVS Main Staff. Hero of the Soviet Union Vasilii Vasil'yevich Reshetnikov commanded an air squadron of Long-Range Aviation's 19th Guards Air Regiment in 1943. During the war he flew 307 sorties in the Il-4. Presently V. V. Reshetnikov is a colonel general of aviation and heads a powerful aviation component—long-range missile-equipped aviation.¹⁶

Squadron commanders who earned fame in the war include Thrice Hero of



General I. M. Moroz.



Marshal of Aviation A. P. Silant'yev.

the Soviet Union I. N. Kozhedub and Twice Hero of the Soviet Union N. M. Skomorokhov, A. N. Yefimov, A. Ya. Brandis, and I. F. Pavlov. During the war, fighter pilot Ivan Nikitovich Kozhedub flew 326 sorties, participated in 120 air engagements, and personally shot down 62 enemy planes.¹⁷ Presently I. N. Kozhedub is a colonel general of aviation. N. M. Skomorokhov flew 605 sorties, fought in 130 air engagements, and shot down 46 fascist planes.¹⁸ Today he is a colonel general of aviation.

Ground attack pilot Aleksandr Nikolayevich Yefimov joined a ground attack air regiment of the Western Front in August 1942 after graduating from a military pilot school. A. N. Yefimov took off for his first sortie from one of Moscow's suburban airfields, and in 1943 he became famous at the Kursk salient as a fearless ground attack pilot and an outstanding master of ground attack tactics against enemy troops. He flew his last sortie, the 222nd, on 8 May 1945.¹⁹ In 1975 he was awarded the high rank of marshal of aviation, and he is presently first deputy commander in chief of the Soviet Army Air Force.

Prompt and successful accomplishment of combat assignments depends on the selfless work of VVS engineers and mechanics. This titanic work was performed under the direction of VVS Chief Engineer A. K. Repin and air army engineers A. V. Ageyev, I. I. Bondarenko, A. V. Vinokurov, Z. A. Ioffe, V. N. Koblikov, K. P. Moiseyev, I. V. Markov, P. A. Nevinnyy, N. I. Plotnikov, I. P. Osipenko, P. V. Rodimov, A. G. Rudenko, V. I. Rebrov, A. V. Shepelev, and others.²⁰

An enormous amount of work was done during the war by personnel of VVS rear services units and institutions headed by Generals N. A. Sokolov-



General I. N. Kozhedub.



General N. M. Skomorokhov.

Sokolenok, M. P. Konstantinov, F. I. Zharov, L. G. Rudenko, N. G. Lovtsov, V. N. Uspenskiy, P. V. Korotayev, I. Kh. Lyubimov, P. P. Voronov, V. N. Vlasov, A. S. Kirillov, P. G. Kazakov, A. I. Mezintsev, F. P. Mal'tsev, N. M. Stepanov, P. M. Stupin, P. M. Taranenko, S. N. Gnipenko, V. I. Ryabtsev, and others.²¹ Under the guidance of Generals L. G. Ratgauz and A. P. Popov, and the chiefs of the air army medical services, Soviet Air Force medical personnel saved the lives of thousands of pilots, navigators, radio operators, and mechanics.

The Motherland highly esteemed the military services of its winged sons and daughters. More than 200,000 were awarded orders and medals. The Hero of the Soviet Union title was awarded to 2,420. Sixty-five pilots were awarded this lofty title twice. This included six famous Long-Range Aviation pilots A. I. Molodchiy, V. N. Osipov, P. A. Taran, Ye. P. Fedorov, V. V. Sen'ko, and S. I. Kretov. Air warriors A. I. Pokryshkin and I. N. Kozhedub, known throughout the world, earned the title three times. This high award—the title Hero of the Soviet Union—was awarded to 29 Soviet female military pilots, including A. L. Zubkova, Ye. A. Nikulina, Ye. I. Nosal', Ye. M. Rudneva, O. A. Sanfirova, N. N. Fedutenko, and M. P. Chechneva.

During the war 288 aviation formations, units, and subunits in Frontal and Long-Range Aviation became Guards units, 897 were awarded combat orders, and 708 were given honorary titles. Those VVS formations and units which had excelled in battle most often were mentioned 319 times in orders issued by the Supreme Commander.²²

Notes

1. *Istoriya SSSR*, No. 3, 1975, p. 44
2. *Ibid.*
3. *4-ya vozdushnaya armiya v Velikoy Otechestvennoy voyne* [The 4th Army in the Great Patriotic War] (Moscow, 1968), p. 9.
4. *2-ya vozdushnaya armiya v boyakh za Rodinu* [The 2nd Air Army in Battles for the Motherland] (Moscow, 1965), p. 29. S. A. Krasovskiy was promoted to marshal of aviation in 1959.
5. *The 16th Air Army*, pp. 5, 391. S. I. Rudenko was promoted to marshal of aviation in 1955.
6. *Voyenno-istoricheskiy zhurnal*, No. 9, 1972, p. 71.
7. V. A. Sudets was promoted to marshal of aviation in 1955.
8. *Voyenno-istoricheskiy zhurnal*, No. 12, 1970, p. 44. P. F. Zhigarev was promoted to marshal of aviation in 1953, and to chief marshal of aviation in 1955.
9. *Istoriya SSSR*, No. 3, p. 44.
10. *Pravda*, 29 October 1974.
11. *Krasnaya zvezda*, 20 January 1976.
12. *Twice Heroes*, p. 184.
13. *Lyudi bessmertnogo podviga* [Men of the Immortal Feat.], Book 2 (Moscow, 1965), p. 254.
14. *Twice Heroes*, p. 182.
15. *Ibid.*, p. 164.
16. *Krasnaya zvezda*, 20 March 1976.
17. *Voyenno-istoricheskiy zhurnal*, No. 5, 1975, p. 116.
18. *Twice Heroes*, p. 194.
19. *Ibid.*, p. 78.
20. *SAF in World War II*, p. 421.
21. *Voyenno-istoricheskiy zhurnal*, No. 5, 1973, p. 35.
22. *SAF in World War II*, pp. 447-48; *USSR Aviation and Cosmonautics*, pp. 229-30.

Conclusion

The Great Patriotic War ended with the Soviet Union's historic victory. It was achieved by the Soviet people and their Armed Forces under the guidance of the Communist Party. "Our glorious Communist Party was the great leader, organizer, and military commander of the Soviet people in this war. Our party directed all of its organizational genius, the entire power of the strong alliance of the peoples of the USSR, all of the people's energy accumulated over the years, persistence, endurance, and powerful will toward a single goal—the defeat of fascism."¹

The war demonstrated the advantages of the economic and political organization of socialist society, and of its ideology.

The Soviet Union was able to withstand an attack by superior enemy forces, switch its economy to a war footing in very difficult conditions, and create the material base that ensured a subsequent victory. During the war our army was supplied the latest equipment, superior to the enemy's in many respects. Evidence of this can be found in the armament production indices for the USSR and Germany for all types of armament. In regard to aviation equipment, in the period from 1 July 1941 to 30 June 1945 Soviet war industry produced 108,028 combat aircraft, while in 1941-1944 Germany produced 78,900.²

New types of planes—the Mig-3, Yak-3, Yak-9, La-5, and La-7 fighters, the Il-2 and Il-10 ground attack aircraft, and the Tu-2, Pe-2, and Pe-8 bombers—were created by labor collectives headed by outstanding Soviet aircraft designers—N. A. Tupolev, N. N. Polikarpov, S. V. Ilyushin, A. S. Yakovlev, S. A. Lavochkin, V. M. Petlyakov, A. I. Mikoyan, P. O. Sukhoy, A. A. Mikulin, A. D. Shvetsov, V. Ya. Klimov, and others. Most of these aircraft were not only as good in combat qualities as the best planes of German aviation, they even surpassed them in terms of some indices. Beginning in 1942 and until the end of the war the power of the Soviet Air Force grew continuously. While there were 1,540 planes of the new types in the army in the field at the beginning of war, there were 2,495 of them in December 1941, 3,160 in May 1942, 3,088 in November 1942, 8,290 in July 1943, 8,500 in January 1944, 11,800 in June 1944, and 14,500 combat aircraft in January 1945.³ At the same time, fascist German aviation forces decreased continuously following the battle of Stalingrad. In November 1942 the Hitlerites had 3,500 new combat aircraft on the Soviet-German front, in July 1943 they had 2,980, in June 1944 they had 2,800, and in January 1945 they had 1,960 aircraft.⁴

Concurrent with the Soviet Air Force quantitative growth, the ratio between old and new types of aircraft changed. As early as 1 November 1942 only one-third of the VVS aircraft were of the old types. They were mainly in Long-Range Aviation, night bomber aviation, holding fronts, and training units. In 1943 the Soviet Air Force received the modernized La-5 fighters equipped with the more powerful ASh-82FN engines; in speed and rate of climb they were superior to all the German fighters, even the latest FW-190. In that same year, 1943, series production of new Yak-9 fighters with a range of 1,500 km was started. The aviation industry began to produce Il-2 ground attack aircraft with two cockpits, one for the pilot and one for the gunner, which improved its capability of defending itself against attacks by enemy fighters. All Il-2s were armed with 23- and 37-mm cannon. New, more powerful M-105PF engines and additional fuel tanks were installed on the Pe-2 bombers for the fronts, and the 7.62-mm machine guns were replaced by 12.7-mm heavy machine guns. In 1944 air units and formations of our army in the field were armed with new Yak-3 and La-7 fighters and an improved Yak-9, Il-10 ground attack aircraft, and the modernized Yer-2 long-range bomber. All of the new planes were outfitted with on-board RSI-4 and RSI-6 radios in fighter and ground attack aviation, with RSB-3bis radios in bomber aviation, and with the RSR-2bis in reconnaissance aviation.

Bombs underwent improvement. New PTAB-2.5-1.5 hollow-charge anti-tank bombs were put into production in the spring of 1943 and used for the first time in the battle of Kursk. High explosive bombs weighing 1,000, 2,000, and 5,000 kg were designed, put into series production, and employed successfully to destroy fortified objectives.

Redut and Pegmatit radar sets entered the VVS inventory in increasing quantities. From year to year the quality of RAF, RAT, and RSB ground radio stations improved and their production increased.

By January 1944 the Soviet Air Force had accumulated a reserve of fighters capable of replenishing losses and fully supplying new air units and formations and those put in the reserves. Because of this it became possible to rearm the fighter aviation of the Far Eastern and Transbaykal fronts, whose air units still had obsolete aircraft.⁵ The presence of new Air Force equipment in the Far East sector increased dramatically in 1944-1945.

During the war the level flight speed of Soviet aircraft increased by 35-40 percent, the maneuvering qualities of fighters improved significantly, machine guns and cannons were made more powerful, and the bomb load, flying altitude, and range of bombers increased. Owing to introduction of heavy machine guns and aircraft cannon, the weight of a 1-second salvo from a Soviet fighter increased by a factor of 2.1, while that from a ground attack plane increased by a factor of 3.1. Quantitative and qualitative growth of aviation equipment and the combat experience acquired permitted the Soviet command to fundamentally alter the organizational structure of Frontal Aviation and Long-Range Aviation. In May-November 1942, 13 frontal air armies were created on the Soviet-German front to replace the front and combined arms army VVS. In 1942 another

four air armies were formed in the Far East. Creation of air armies—operational numbered air forces—was a new direction in Soviet Air Force organizational development. The front command was not capable of massing the efforts of all aviation resources in the main sectors of operations of the ground troops, and the Stavka and the Soviet Army Air Force command could use the forces of several air armies on adjacent fronts to support major operational missions in a single strategic sector, and to place them under the centralized control of a single senior air chief.

Swift growth in aircraft construction solved the problem of creating major air reserves—RVGK air corps and independent air divisions. By the end of 1943 there were 18 air corps operating on the fronts, and the Stavka Reserve contained two air corps. In all during the war the RVGK contained 30 homogeneous air corps and 27 independent air divisions.⁶ RVGK air corps and divisions were a powerful resource in the hands of the Stavka with which to reinforce frontal air armies. The number of combat aircraft available changed dramatically whenever air corps were called in for reinforcement. During major operations the planes contributed by RVGK air corps and divisions numerically made up from 50 to 55 percent of all frontal aviation. In March 1942 Long-Range Bomber Aviation was reorganized as Long-Range Aviation and subordinated to the Stavka. In May-July 1943 the corps level was reinstated in Long-Range Aviation. Eight air corps of two divisions each were created from the independent air divisions. In December 1944 Long-Range Aviation was converted into the single 18th Air Army directly subordinate to the Soviet Army Air Force commander. The evolved organizational structure of Frontal Aviation and Long-Range Aviation proved its worth completely during the war, demonstrated its viability, and made it possible to increase the maneuverability of formations and units, mass forces in the most important sectors, and maintain efficient coordination with the troops and stable centralized control over aviation allocated in all the most important operations.

Management of the Air Force improved during the war. At the strategic level the Air Force was directed by the Stavka through the General Staff and the Soviet Army Air Force command. The actions of air armies and Long-Range Aviation in the strategic operations of groups of fronts were coordinated by Stavka aviation representatives. They ensured the necessary centralization of control, concentration of aviation efforts on the most important missions, prompt maneuver of air formations, and their great effectiveness in the course of operations. The Soviet Army Air Force command, Military Council, and staff did yeoman work in the Great Patriotic War in directing the air force combat actions; in improving the organizational structure of operational numbered air forces, formations, and units; in maintaining coordination with the ground forces and the Navy; in training air reserves; and in ensuring prompt supply of aviation equipment, managing construction of airfields, training and retraining flight crews and mechanics, and in synthesizing and implementing the combat experience of all aviation elements and branches.

During the Great Patriotic War the Soviet Air Force flew about 4 million

sorties. The Supreme Commander gave a high assessment to the Air Force actions in Order No. 51 dated 19 August 1945: "Our aviation honorably fulfilled its duty to the Motherland in the Great Patriotic War of the Soviet people against fascist Germany. The glorious falcons of our Fatherland destroyed the vaunted German aviation in savage air encounters, thus permitting the Red Army freedom of action and sparing the people of our country enemy aerial bombardment. Together with the entire Red Army they inflicted crushing blows on the enemy, destroying his manpower and equipment. The able actions of our valorous aviation constantly promoted the success of the ground troops and helped us to achieve final destruction of the enemy."⁷

What instructive lessons still valid today does the experience of the Soviet Air Force in operations of the Great Patriotic War provide?

Chief Marshal of Aviation P. S. Kutakhov, the VVS commander in chief, said the following in this regard at a scholarly conference dedicated to the 25th anniversary of the victory over fascist Germany: "It is with natural pride that we survey the path we have taken and the great achievements of the Soviet Air Force. The rich experience of VVS operational-strategic employment in the Great Patriotic War has not lost its value today, especially the experience of achieving air supremacy for development of strategic operations in the theaters of military operations and in the war as a whole. Extensive maneuvering of air groupings and the massing of aviation resources in the most important sectors of ground forces operations, as well as in independent missions continues to be the most important principle of the operational and strategic use of all aviation elements and branches."⁸

First, the Great Patriotic War subjected our theoretical views on the operational-strategic employment of the Air Force in different types of ground forces, naval, and independent air operations to a hard, merciless test. And Soviet military science and Soviet military art passed this test with honor. True, not all premises were faultless at the beginning of the war, especially those pertaining to the organizational structure of Frontal Aviation, to creation of large air reserves, and to organization of command and control of combined aviation resources in the main sectors of the ground force actions. Nevertheless, for the most part the predictions and fundamental premises of Soviet military art regarding VVS employment in wartime were confirmed in the war. Evidence of this can be found in the remarkable Soviet Air Force victories in the air over fascist German aviation in the battles of Moscow and Stalingrad, in the Kuban' and at the Kursk salient, and in the strategic air supremacy it achieved along the entire Soviet-German front in summer 1943. And no matter how bourgeois falsifiers of history try to belittle the role of the Soviet Air Force in the defeat of German aviation, they will never be able to deny the fact that of all planes lost by the German Air Force and Germany's satellites in the entire war, three-fourths were destroyed on the Soviet-German front, and 57,000 of them were shot out of the air and burned on the ground by Soviet pilots.⁹

Attainment of strategic air supremacy by the Soviet Air Force created favor-

able conditions for the ground forces and Navy in conduct of major strategic offensive operations by groups of fronts simultaneously in several sectors, and it meant that the Air Force could now mass its forces more decisively and engage in continuous offensive actions. On the other hand, enemy aviation went on the defensive, no longer able to seriously influence the development of German ground operations until the end of the war. Fascist German aviation's loss of strategic air supremacy and its switch to defensive actions also had a direct effect on the change of the ratio of its aviation branches, increasing aircraft losses and reducing the number of sorties flown in 1944–1945. Whereas at the beginning of the war bombers made up 57.8 percent of the German Air Force and fighters made up 31.2 percent, at the end of 1944 the proportion of German bombers decreased by a factor of 4 while that of fighters increased by a factor of more than 2, reaching 68 percent.¹⁰ The losses suffered by enemy aviation increased, while those of Soviet aviation decreased. On the average, for every plane we lost, 32 sorties were flown in 1941, 72 were flown in 1943, and 165 sorties were flown in 1945. For every plane lost, the enemy flew 25.5 sorties in 1942, 22.5 in 1943, and only 11 sorties in 1945. From year to year the Soviet Air Force increased its monthly average of sorties, while that of the German Air Force decreased. Whereas in 1942 Hitlerite aviation flew about 41,000 sorties on the Soviet-German front on a monthly average, in 1943 it flew 39,300, and in 1945 it flew a little more than 15,500, that is, fewer sorties by a factor of 2.6.¹¹ The war also fully confirmed the fundamental premise of prewar Soviet military art that there were two forms of struggle for air supremacy—the daily fight against fascist German aviation within the framework of frontal defensive and offensive operations of the ground troops, and VVS air operations to destroy enemy air groupings. In this case the VVS conducted air operations in support of the entire armed conflict (in the Kuban' in April 1943 and in the central sector of the Soviet-German front between 6 and 8 May and from 8 to 10 June 1943), and the aviation resources of one to three adjacent fronts flew in support of just one front (strategic sector) as was the case, for example, in June 1941 in actions against airfields in Finland and northern Norway, in October and November 1941 in the Moscow sector, and in October 1942 in the Stalingrad sector. On the whole the VVS air operations were an effective way to achieve operational and strategic air supremacy. An average of three to five sorties were flown in an operation for every enemy plane destroyed. In this case the greatest success was enjoyed in the first massed surprise strikes simultaneously against many airfields on a broad front. Subsequent strikes were less effective. Enemy losses decreased, while our VVS losses grew. During the war a close relationship and mutual dependence emerged between strategic and operational air supremacy. Phased attainment of operational air supremacy in the most important sectors of the ground troops led to victory on a strategic scale along the entire Soviet-German front. In turn, given strategic air supremacy, it was easier to achieve and maintain operational air supremacy. Still, strategic air supremacy was no guarantee that the enemy would not achieve operational air supremacy for a short period, as was the case, for example, in the Belorussian and Lvov-Sandomierz operations. Thus after strategic air supremacy is attained, the Air Force faces the mission of maintaining this supremacy and, in certain sectors, fighting a savage battle for operational air supremacy. That is why the struggle for air suprem-

acy in the Great Patriotic War of 1941–1945 was one of the most important missions of the Soviet Air Force, and its attainment was a most important factor in securing the success of the entire armed conflict. It was an objective necessity from the moment that military activities began until the last days of the war.

Second, many premises of our prewar manuals, regulations, and theoretical viewpoints on joint actions of the Soviet Air Force and ground troops found their practical reflection in the Great Patriotic War, and concurrently new, improved forms and methods of action arose in the various aviation elements and branches. The Soviet Air Force flew 46.5 percent of its sorties in support of ground troops in offensive and defensive operations.¹² Aviation cleared the way for infantry and tanks and assisted them in quickly penetrating defenses, swiftly pursuing the enemy, encircling and annihilating his groupings, making assault crossings over rivers, and seizing and holding important beachheads. During the war Soviet Air Force operational art was enriched by a new form of frontal aviation combat employment in joint actions with ground troops; this came to be called the "air offensive." It was born in 1942 because of the need for providing a continuous air accompaniment to advancing troops. Initially an air offensive was limited to supporting penetration of the main defense zone by the frontal troops. Beginning with summer 1943, that is, after the Soviet Air Force attained strategic air supremacy, the air offensive began to be waged to the entire depth of the frontal offensive operation, and, in terms of its scale and the forces allocated, it acquired an operational nature. In terms of the missions, the air offensive broke down into aerial preparation for the attack and air support (or accompaniment) of frontal troops.

The air offensive enjoyed further development in the third period of the war, and it was reflected in the *Manual on Penetration of Static Defenses* and the *Manual on Penetrating Fortified Areas* published in 1944. In this case there was an increase in the extent to which the aviation efforts were massed in relation to its most important missions. While in the offensive operations of the second period of the war 70–75 percent of all air army resources were concentrated in the sectors of the main thrusts, in the third period of the war the figure climbed to 90–95 percent, that is, 1,500–2,500 Soviet aircraft (Lvov-Sandomierz, Vistula-Oder, and Berlin operations).¹³

This success was promoted in many ways by the brilliant decision of the Soviet command to create a large air reserve that took the form of air corps and independent air divisions. Maneuvering them, the Stavka and the VVS command created a superiority of forces, which altered the situation in the air in our favor within a short time. Some 1,200 of our planes participated in the counteroffensive at Moscow, 1,400 fought at Stalingrad, 5,300 participated in the counteroffensive at Kursk, more than 6,000 participated in the Belorussian operation, and 7,500 combat aircraft fought in the Berlin operation.

During the war, methods were found for employing Frontal Aviation to support commitment of mechanized cavalry groups and tank armies to an encounter (or a breakthrough), and their actions in operational depth. Commitment of

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mechanized cavalry groups and tank armies to the encounter was supported by the main forces of Frontal Aviation (or the air army), while one or two ground attack air divisions and sometimes a ground attack air corps were assigned the mission of providing direct support to these formations during their actions in depth. In a number of cases commitment of a tank army to an encounter was preceded by short but powerful aerial preparation with the goal of suppressing and annihilating pockets of resistance, strongpoints, and antitank defenses (the Orel, Belorussian, and Lvov-Sandomierz operations). Ground attack aviation began accompanying the tank army from the moment it was committed to the encounter, and remaining with it until the army accomplished its mission. When the tank army reached operational depth, the air army concentrated its efforts against approaching enemy reserves and, when the enemy was withdrawing, against retreating troops.

The tank army was covered from the air during the time of its commitment to the encounter in accordance with the overall plan for covering the frontal troops. When the tank army was operating apart from the combined arms armies, specially assigned fighter air divisions provided air cover. An average of up to two fighter air divisions were allocated to cover a tank army. Cover was provided by groups of fighters patrolling over the area of tank army actions and at the immediate approaches to this area.

Special attention should be given to aviation's actions in encirclement operations by the ground troops. In the counteroffensive at Stalingrad and in the Korsun'-Shevchenkivskiy, Iasi-Kishinev, Belorussian, Berlin, and other operations the Soviet Air Force acquired experience in organizing and conducting multi-zonal ring air blockades, in flexibly maneuvering the resources of numbered air forces and formations to repel enemy counterblows on the outer and inner fronts of encirclement, and in massed employment of aviation to wipe out surrounded groupings. Isolation of large encircled enemy groupings from the air was a new form of VVS operational employment. The war experience persuasively demonstrated that the encirclement operation cannot be considered complete if the enemy is able to supply his troops by air with everything necessary and thus help to maintain a sound ring defense and to possibly penetrate the ring of encirclement. The air blockade, meanwhile, deprived the enemy of this possibility and created favorable conditions for our ground troops, who could swiftly destroy the surrounded grouping.

Successful performance of an air blockade depended on the following basic conditions: operational air supremacy in the given sector of the front; allocation of the necessary quantity of forces from the various aviation branches and from PVO resources to counter transport aviation; organization of clear-cut, continuous coordination between the numbered air forces, formations, and units of the various branches of aviation and the various services of the Armed Forces (Ground Forces, Air Force, National Air Defense Forces); creation of a single VNOS system; and centralization of command and control of all forces carrying out the air blockade.

The Air Force also successfully accomplished its air reconnaissance mission, using special air reconnaissance regiments and all branches of aviation. By revealing the enemy's troop groupings, ships, and aviation, his system of defenses, the movement of reserves, and the locations of headquarters and control posts in a timely manner, air reconnaissance provided invaluable assistance to the Soviet command in determining enemy intent and achieving more purposeful use of troops and aviation to defeat him. Frontal Aviation flew more than 11 percent of its total sorties in the performance of this mission. During the war an area equal to 6.5 million square kilometers was photographed; this was 1 million square kilometers more than the area of the European USSR.¹⁴

Third, relying on acquired experience, Soviet military art flexibly and purposefully solved the problem of using Long-Range Aviation in the war. In the first period of the war DBA (ADD)* and naval aviation formations made only isolated strikes against the centers of Romania's petroleum industry and against military targets in Berlin, Koenigsberg, Danzig, Tilsit, and other German cities. But independent air operations began to be conducted (for example, against military targets in Budapest in September 1944, or against the enemy's operational shipping in 1943 and 1944) when Long-Range Aviation had grown quantitatively and qualitatively. These operations were conducted under Stavka direction and were characterized by relatively large scope. Strategic bombers made massed and concentrated strikes during an operation at night, while the air operation itself lasted several days (3 or 4). Long-Range Aviation directed its main efforts, meanwhile, at destroying fascist German troop groupings in the offensive and defensive operations of the ground troops. This satisfied the requirements of the situation and the nature of the armed conflict. During the war Long-Range Aviation formations flew 40.4 percent of their sorties with the goal of destroying troops and combat equipment on the battlefield, 9.6 percent against airfields, and 30.6 percent against railroad targets and reserves in the frontal rear area.¹⁵ Long-Range Aviation was also used successfully to support partisans in the enemy rear area. During the war frontal long-range air and Civil Air Fleet units flew more than 109,000 sorties in the enemy rear area. Long-Range Aviation and Civil Air Fleet units carried 17,000 tons of ammunition, armament, food, and medicine. They furnished round trips to more than 83,000 persons fighting in partisan detachments.¹⁶

Fourth, the problems of coordination had a special place in the offensive and defensive operations of one front and a group of fronts. In terms of its scale and nature, it can be broken down into strategic, operational, and tactical. Strategic coordination meant coordination of VVS efforts with the ground troops in the interests of achieving success in the strategic operations of groups of fronts

*[DBA—*Dal' nebombardirovochnaya aviatsiya* (Long-Range Bomber Aviation); ADD—*Aviatsiya dal' nego deystviya* (Long-Range Aviation). The latter is the present Soviet designation for this branch of the Soviet Air Force—U.S. Ed.]

and in campaigns. Strategic offensive operations conducted by groups of fronts were the principal and decisive form of actions of our Armed Forces in strategic sectors. Strategic coordination was organized during the war by the Stavka. The latter defined and assigned the missions to the fronts and the Air Force and apportioned VVS resources to the various sectors so as to achieve maximum strategic results.

Operational coordination by VVS numbered air forces with the ground field forces and the Navy entailed coordination of their efforts in place, time, and missions so as to achieve the greatest results in jointly conducted operations. Coordination of aviation with troops of the combined arms (or tank) armies was organized by the front commander. He assigned the general missions for aviation, determined the forces required, spelled out the manner of supporting and covering troops in different phases of the operation, tasked combined arms (or tank) armies to capture (hold, restore, repair) enemy airfields, and indicated the basic sectors and targets for air reconnaissance to the air army. Tactical coordination of aviation with units and formations of the front (or army) was expressed as coordination of actions in place, goals, and time. It was attained through meticulous planning, deployment of the control posts of air commanders close to those of combined arms commanders, organization of the work of aircraft guidance radio stations located near the front line, and prompt and clear demarcation of the front line. The working out of problems of tactical coordination of aviation with ground units and formations was a great achievement of Soviet military art.

Fifth, the problem of controlling aviation was solved successfully in the Great Patriotic War of 1941–1945. Frontal Aviation's air armies, operational numbered air forces consisting of several dozen air formations and independent units, were found to be viable. They permitted commanders to control all aviation at their disposal centrally, and they fully satisfied the requirements for close coordination with operational ground troop field forces and formations.

The air army had a branching command and control system consisting of command, forward, and auxiliary control posts, operational groups, and aviation representatives in ground field forces and formations.

In strategic operations conducted by groups of fronts, coordination between Frontal Aviation air armies and Long-Range Aviation formations was successfully achieved by the Soviet Army Air Force commander or his deputies, who as Stavka representatives went out to the operating army with small operational groups of the VVS staff. This method of directing operational VVS numbered air forces and formations during military actions fully proved its worth. It had to be developed and refined, giving consideration to the importance of the time factor in control when assigning missions, monitoring their execution, and collecting information, all of which required extensive automation and mechanization of the main elements of control. "The most typical features of Air Force operational-strategic employment in the concluding period of the war," said Chief Marshal of Aviation P. S. Kutakhov, "were rigid centralization of control of numbered air forces, close coordination with advancing troops, naval forces,

and PVO troops, and concentration of aviation resources in the most important sectors."¹⁷

The combat experience gained by the Soviet Air Force in the Great Patriotic War has not been fully studied yet. It must be studied further, and it must be considered under modern conditions, especially in regard to organizing and conducting the battle for strategic air supremacy, massing the efforts of aviation in the main ground force sectors, organizing VVS coordination with the ground forces and the Navy, and with the senior air chief controlling several numbered air forces.

Marshal of the Soviet Union A. A. Grechko pointed out the following in his concluding remarks at a scholarly conference dedicated to the 30th anniversary of the victory of the Soviet people and their Armed Forces in the Great Patriotic War of 1941-1945: "To the Soviet Armed Forces, the war was the greatest school of combat experience, experience that has become our priceless possession, and a national treasure. This experience was gained with the blood of Soviet soldiers and through the efforts of all the people, and we have no right to lose it or forget it. It retains its significance even today in many ways, and it is a dependable foundation for developing military theory and improving troop combat and political training. Creative assimilation of the experience of the Great Patriotic War takes into account the present logistical base of the Soviet Armed Forces and their qualitative growth makes it possible to develop military affairs better and more rapidly, to foresee the nature of a future war, and to enhance the combat might of the army and navy."¹⁸

The grim years of the Great Patriotic War fully confirmed V. I. Lenin's brilliant conclusions concerning the decisive role of the Communist Party's leadership in achieving victory both in the rear area and at the front. The Central Committee was the party's battle staff. At the fronts and in the rear area and in territory temporarily occupied by the enemy, the communist Party played the role of a single fighting, mobilizing, and guiding force. By personal example and with words of inspiration, communists strengthened the morale of all the Soviet people and led them to acts of heroism in battle and in labor. In the postwar era, the Communist Party of the Soviet Union is unswervingly following Lenin's course.

"All these years," said CPSU Central Committee General Secretary L. I. Brezhnev at the 25th CPSU Congress, "the party has devoted proper attention to strengthening our country's defense capabilities and improving the Armed Forces. We can now report to the congress that we have done a great deal in this area. The Armed Forces have more modern weapons and combat equipment, and the quality of combat training and the ideological maturity of the personnel have risen. In general, comrades, the Soviet people can be assured that the fruits of their creative labor are being protected reliably. Nor should anyone doubt that our party will do everything to see that the glorious Armed Forces of the Soviet Union will continue to have all of the resources they need for their important

mission—guarding the peaceful labor of the Soviet people and serving as the bulwark of universal peace.”¹⁹

CPSU Central Committee Politburo member, USSR Minister of Defense Marshal of the Soviet Union D. F. Ustinov gave the following assessment of Soviet airmen and modern military aviation in Order No. 172 dated 15 August 1976, dedicated to the celebration of USSR Air Force Day: “. . . The USSR Air Force has traveled a great heroic path. In the terrible years of the trials of war, courageous airmen displayed unshakable steadfastness and great skill, bravery, and valor in battles for the liberty and independence of the socialist Fatherland. Thanks to the constant concern of the Communist Party and the Soviet government, the aviation of the Armed Forces is presently outfitted with modern combat equipment and weapons, and it is manned by well-trained personnel indoctrinated in the spirit of selfless devotion to communism. As with all troops of the Armed Forces, military airmen are persistently working on the tasks assigned to them by the 25th CPSU Congress. They unanimously approve and fully support the Leninist domestic and foreign policy of the Communist Party and vigilantly and reliably protect the gains of socialism . . .”²⁰

Notes

1. L. I. Brezhnev, *Leninskim kursom. Rechi i stat' i* [Following Lenin's Course: Speeches and Articles], I, (Moscow, 1970), p. 129.
2. *Patriotic War Short History*, p. 571.
3. *Ibid.*, p. 579.
4. *Ibid.*
5. *Archives*, f. 35, op. 11250, d. 101, l. 1.
6. *Voyenno-istoricheskiy zhurnal*, No. 10, 1976, p. 32.
7. J. V. Stalin, *O Velikoy Otechestvennoy voyne Sovetskogo Soyuz* [The Great Patriotic War of the Soviet Union] (Moscow, 1953), p. 201.
8. *Vsemirno-istoricheskaya pobeda sovetского naroda 1941–1945 gg.* [The World-Historic Victory of the Soviet People in 1941–1945], (Moscow, 1971), p. 49.
9. *Ibid.*, p. 45.
10. *SAF in World War II*, pp. 26, 440.
11. *Ibid.*, p. 440.
12. *Voyenno-istoricheskiy zhurnal*, No. 11, 1969, p. 20.
13. *Ibid.*, No. 11, 1971, pp. 17–18.
14. *SAF in World War II*, p. 443.
15. *Voyenno-istoricheskiy zhurnal*, No. 11, 1971, p. 20.
16. *SAF in World War II*, p. 444.
17. *Velikaya pobeda sovetского naroda 1941–1945 gg.* [The Great Victory of the Soviet People in 1941–1945] (Moscow, 1976), p. 244.
18. *Krasnaya zvezda*, 19 April 1975.
19. L. I. Brezhnev, *Otchet Tsentral'nogo Komiteta KPSS i ocherednyye zadachi partii v oblasti vnutrenney i vneshney politiki. Doklad XXV s'yezdu KPSS 24 fevralya 1976 g.* [Report of the CPSU Central Committee and the Party's Current Tasks in Domestic and Foreign Policy: Report to the 25th CPSU Congress, 24 February 1976] (Moscow, 1976), p. 100.
20. *Krasnaya zvezda*, 15 August 1976.

Appendix

Soviet Army Air Force Leadership in the Great Patriotic War, 1941-1945

Post	Rank, Last name, initials	Time at post
Chief, VVS Main Directorate, as of 29 June 1941 VVS Commander, USSR Deputy People's Commissar of Defense	VVS Command Lieutenant General of Aviation Zhigarev, P. F.	22 June 1941-11 April 1942
	Colonel General of Aviation, as of 17 March 1943 Marshal of Aviation, as of 21 February 1944 Chief Marshal of Aviation Novikov, A. A.	11 April 1942-end of war
Deputy Chief, VVS Main Directorate for Political Affairs, as of 29 June 1941 member of the VVS Military Council	Corps Commissar, as of October 1941 Army Commissar 2d Rank Stepanov, P. S.	29 June 1941-8 August 1942
	Lieutenant General of Aviation, as of 4 February 1944 Colonel General of Aviation, Shimanov, N. S.	17 March 1943-end of war
VVS Chief of Staff	Major General of Aviation Volodin, P. S.	22 June 1941-29 June 1941
	Major General of Aviation Vorozheykin, G. A.	August 1941-April 1942
	Major General of Aviation Khudyakov, S. A.	April 1942-July 1942
	Colonel General of Aviation Falaleyev, F. Ya.	July 1942-May 1943
	Colonel General of Aviation, as of 19 August 1944 Marshal of Aviation Khudyakov, S. A.	May 1943-end of war

Post	Rank, Last name, initials	Time at post
Long-Range Aviation Commander	Major General of Aviation, as of 1942 Lieutenant General of Aviation, as of 1943 Colonel General of Aviation, then Marshal of Aviation, as of 19 August 1944 Chief Marshal of Aviation Golovanov, A. Ye.	5 March 1942-6 December 1944
Deputy Commander for Political Affairs	Divisional Commissar, as of 6 December 1942 Major General of Aviation, as of 18 September 1943 Lieutenant General of Aviation, as of 19 August 1944 Colonel General of Aviation Gur'yanov, G. G.	21 March 1942-6 December 1944
Chief of Staff	Lieutenant General of Aviation Shevelev, M. I.	5 March 1942-June 1944
	Lieutenant General of Aviation Perminov, N. V.	July 1944-6 December 1944
Air Army Command		
Ist Air Army		
Commander	Lieutenant General of Aviation Kutsevalov, T. F.	5 May 1942-17 July 1942
	Major General of Aviation, as of 17 March 1943 Lieutenant General of Aviation Khudyakov, S. A.	17 July 1942-26 May 1943
	Lieutenant General of Aviation Gromov, M. M.	26 May 1943-2 July 1944
	Colonel General of Aviation Khryukin, T. T.	2 July 1944-end of war

Post	Rank, Last name, initials	Time at post
Military Commissar, as of 9 October 1942 Deputy Commander for Political Affairs	Brigade Commissar, as of 20 December 1942 Colonel, as of 9 April 1943 Major General of Aviation Litvinenko, I. G.	5 May 1942-23 March 1945
	Major General of Aviation Chernyshev, I. T.	23 March 1945-end of war
Chief of Staff	Colonel, as of March 1943 Major General of Aviation Pronin, A. S.	5 May 1942-9 August 1944
	Major General of Aviation Belov, I. M.	12 February 1945-end of war
2nd Air Army		
Commander	Major General of Aviation Krasovskiy, S. A.	5 May 1942-4 July 1942
	Colonel, as of 17 October 1942 Major General of Aviation Smirnov, K. N.	4 July 1942-26 March 1943
	Lieutenant General of Aviation, as of 4 February 1944 Colonel General of Aviation Krasovskiy, S. A.	26 March 1943-end of war
Deputy Commander for Political Affairs	Brigade Commissar, as of 20 December 1942 Major General of Aviation Romazanov, S. N.	5 May 1942-end of war
Chief of Staff	Colonel Stepanov, N. L.	7 May 1942-9 August 1942
	Colonel Brayko, P. I.	9 August 1942-9 October 1942
	Colonel Stepanov, N. L.	9 October 1942-9 April 1943
	Major General of Aviation Kachev, F. I.	9 April 1943-9 August 1943
	Major General of Aviation Tel'nov, K. I.	10 August 1943-9 August 1944
	Major General of Aviation Pronin, A. S.	9 August 1944-end of war

Post	Rank, Last name, initials	Time at post
3rd Air Army		
Commander	Major General of Aviation Gromov, M. M.	5 May 1942-26 May 1943
	Major General of Aviation, as of 28 September 1943 Lieutenant General of Aviation, as of 19 August 1944 Colonel General of Aviation Papivin, N. F.	26 May 1943-end of war
Deputy Commander for Political Affairs	Regimental Commissar, as of 20 December 1942, Colonel, as of 23 November 1943 Major General of Aviation Babak, N. P.	5 May 1942-end of war
Chief of Staff	Major General of Aviation, as of August 1944, Lieu- tenant General of Aviation Dagayev, N. P.	5 May 1952-end of war
4th Air Army		
Commander	Major General of Aviation Vershinin, K. A.	7 May 1942-8 September 1942
	Major General of Aviation Naumenko, N. F.	8 September 1942-1 May 1943
	Lieutenant General of Aviation, as of 24 October 1943 Colonel General of Aviation Vershinin, K. A.	1 May 1943-end of war
Deputy Commander for Political Affairs	Divisional Commissar, as of 20 December 1942 Major General of Aviation Alekseyev, V. I.	7 May 1942-14 April 1943
	Major General of Aviation, as of 19 August 1944 Lieu- tenant General of Aviation Verov, F. F.	14 April 1943-end of war
Chief of Staff	Major General of Aviation Ustinov, A. Z.	7 May 1942-11 July 1944
	Major General of Aviation Alekseyev, A. N.	11 July 1944-end of war

Post	Rank, Last name, initials	Time at post
5th Air Army		
Commander	Lieutenant General of Aviation, as of 25 March 1944 Colonel General of Aviation Goryunov, S. K.	3 June 1942-end of war
Deputy Commander for Political Affairs	Brigade Commissar, as of 5 December 1942 Colonel Grubich, A. P.	3 June 1942-14 April 1943
	Major General of Aviation Alekseyev, V. I.	14 April 1943-18 January 1944
Chief of Staff	Colonel, as of 20 April 1944 Major General of Aviation Smirnov, V. I.	18 January 1944-end of war
	Major General of Aviation Sinyakov, S. P.	3 June 1942-1 July 1943
Chief of Staff	Major General of Aviation, as of 13 September 1944 Lieutenant General of Aviation Seleznev, N. G.	1 July 1943-end of war
	6th Air Army	
Commander	Major General of Aviation Kondratyuk, D. F.	5 June 1942-8 January 1943
	Major General of Aviation, as of 28 May 1943 Lieutenant General of Aviation Polynin, F. P.	8 January 1943-27 September 1944
Deputy Commander for Political Affairs	Brigade Commissar, as of 5 December 1942 Colonel Mashnin, I. V.	6 June 1942-12 October 1942
	Brigade Commissar, as of 5 December 1942 Colonel, as of 29 May 1944 Major General of Aviation Vyvolokin, A. F.	19 October 1942-17 September 1944
Chief of Staff	Colonel, as of 30 April 1943 Major General of Aviation Storozhenko, V. V.	5 June 1942-2 July 1944
	Major General of Aviation Kotel'nikov, P. L.	2 July 1944-27 September 1944

Post	Rank, Last name, initials	Time at post
7th Air Army		
Commander	Lieutenant General of Aviation, as of November 1944 Colonel General of Aviation Sokolov, I. M.	10 November 1942-28 June 1945
Deputy Commander for Political Affairs	Brigade Commissar, as of 20 December 1942 Major General of Aviation Khorobrykh, F. N.	25 November 1942-3 July 1943
	Colonel, as of 2 November 1944 Major General of Aviation Sergeev, I. I.	3 July 1943-14 November 1944
Chief of Staff	Colonel Belov, I. M.	10 November 1942-2 February 1943
	Colonel Sveshnikov, B. F.	2 February 1943-22 June 1944
	Major General of Aviation Belov, I. M.	22 June 1944-12 February 1945
	Major General of Aviation Stepanov, A. V.	12 February 1945-28 June 1945
8th Air Army		
Commander	Major General of Aviation, as of March 1943 Lieutenant General of Aviation Khryukin, T. T.	15 May 1942-2 July 1944
Deputy Commander for Political Affairs	Lieutenant General of Aviation Zhdanov, V. N.	2 August 1944-end of war
	Brigade Commissar, as of 20 December 1942 Major General of Aviation Vikhorev, A. I.	9 June 1942-3 March 1944
	Colonel, as of 16 May 1944 Major General of Aviation Rytov, A. G.	3 March 1944-end of war
Chief of Staff	Major General of Aviation Shkurin, Ya. S.	7 June 1942-17 August 1942
	Colonel Seleznev, N. G.	18 August 1942-3 February 1943
	Colonel Belov, I. M.	3 February 1943-6 June 1944
	Major General of Aviation Izotov, V. I.	6 June 1944-end of war

Post	Rank, Last name, initials	Time at post
9th Air Army		
Commander	Major General of Aviation Senatorov, A. S.	27 July 1942-18 September 1944
	Major General of Aviation Vinogradov, V. A.	18 September 1944-28 June 1945
	Colonel General of Aviation Sokolov, I. M.	28 June 1945-end of war
Deputy Commander for Political Affairs	Senior Battalion Commissar, as of 20 December 1942 Colonel Kolotil'shchikov, N. M.	27 July 1942-26 April 1945
	Major General of Aviation Khorobrykh, F. N.	26 April 1945-3 September 1945
Chief of Staff	Colonel, as of March 1943 Major General of Aviation Isayev, S. N.	27 July 1942-28 June 1945
	Major General of Aviation Stepanov, A. V.	28 June 1945-end of war
10th Air Army		
Commander	Colonel, as of 17 October 1942 Major General of Aviation Vinogradov, V. A.	27 July 1942-16 September 1944
	Colonel, as of 8 September 1945 Major General of Aviation Slobozhan, D. Ya.	16 September 1944-19 May 1945
	Colonel General of Aviation Zhigarev, P. F.	19 May 1945-end of war
Deputy Commander for Political Affairs	Regimental Commissar, as of 20 December 1942 Colonel Mel'nik, M. V.	27 July 1942-16 December 1944
	Colonel Fedorov, S. K.	16 December 1944-end of war
Chief of Staff	Major General of Aviation Petrov, N. A.	5 August 1942-13 January 1943
	Colonel Pyneyev, N. K.	13 January 1943-21 March 1945
	Colonel, as of 3 February 1943 Major General of Aviation Lavrik, S. A.	21 March 1945-end of war

Post	Rank, Last name, initials	Time at post
11th Air Army		
Commander	Colonel, as of 17 October 1942 Major General of Aviation Bibikov, V. N.	27 July 1942-22 January 1945
Deputy Commander for Political Affairs	Senior Battalion Commissar, as of 20 December 1942 Colonel Fedorov, S. K.	27 July 1942-16 December 1944
Chief of Staff	Colonel Volgin, A. Ya.	25 July 1942-31 July 1944
	Colonel Kozyrev, S. M.	31 July 1944-22 January 1945
12th Air Army		
Commander	Lieutenant General of Aviation Kutsevalov, T. F.	27 July 1942-25 June 1945
	Marshal of Aviation Khudyakov, S. A.	25 June 1945-end of war
Deputy Commander for Political Affairs	Brigade Commissar, as of 20 December 1942, Colonel, as of 11 July 1945 Major General of Aviation Pal'yanov, S. A.	25 July 1942-end of war
Chief of Staff	Major General of Aviation Chmurak, I. I.	27 July 1942-19 April 1943
	Major General of Aviation Terent'yev, I. I.	19 April 1943-6 September 1943
	Major General of Aviation Kozlov, D. S.	6 September 1943-25 June 1945
	Lieutenant General of Aviation Seleznev, N. G.	25 June 1945-end of war
13th Air Army		
Commander	Lieutenant General of Aviation, as of 11 November 1944 Colonel General of Aviation Rybal'chenko, S. D.	20 November 1942-end of war
Deputy Commander for Political Affairs	Brigade Commissar, as of 6 December 1942 Major General of Aviation Ivanov, A. A.	25 November 1942-1 March 1943
	Colonel Sulimov, M. I.	16 March 1943-end of war

Post	Rank, Last name, initials	Time at post
Chief of Staff	Colonel, as of 4 February 1944 Major General of Aviation Alekseyev, A. N.	13 November 1942-10 July 1944
	Major General of Aviation Lavrik, S. A.	10 July 1944-21 March 1945
14th Air Army		
Commander	Major General of Aviation, as of April 1943 Lieutenant General of Aviation Zhuravlev, I. P.	27 July 1942-end of war
Deputy Commander for Political Affairs	Brigade Commissar, as of 5 December 1942 Colonel Gorskiy, I. M.	27 July 1942-8 December 1942
	Colonel Shapovalov, M. I.	8 December 1942-26 November 1944
Chief of Staff	Colonel Marunov, I. S.	27 July 1942-January 1943
	Colonel Abramov, N. P.	January 1943-end of war
15th Air Army		
Commander	Major General of Aviation Pyatykhin, I. G.	22 July 1942-May 1943
	Lieutenant General of Aviation Naumenko, N. F.	May 1943-end of war
Deputy Commander for Political Affairs	Regimental Commissar, as of 5 December 1942 Colonel, as of 19 January 1944 Major General of Aviation Sukhachev, M. N.	17 July 1942-end of war
Chief of Staff	Colonel Semenov, I. S.	22 July 1942-23 August 1942
	Major General of Aviation Sakovnin, A. A.	24 August 1942-end of war
16th Air Army		
Commander	Lieutenant General of Aviation Stepanov, P. S.	8 August 1942-28 September 1942
	Lieutenant General of Aviation, as of May 1944 Colonel General of Aviation Rudenko, S. I.	28 September 1942-end of war

Post	Rank, Last name, initials	Time at post
Deputy Commander for Political Affairs	Regimental Commissar, as of 5 December 1942 Colonel, as of 1 May 1943 Major General of Aviation Vinogradov, A. S.	17 September 1942-end of war
Chief of Staff	Colonel, as of 7 August 1943 Major General of Aviation Belov, N. G.	5 August 1942-30 October 1942
	Major General of Aviation Kosykh, M. M.	30 October 1942-15 April 1943
	Major General of Aviation, as of August 1944 Lieutenant General of Aviation Brayko, P. I.	15 April 1943-end of war
17th Air Army		
Commander	Major General of Aviation, as of 20 December 1942 Lieutenant General of Aviation Krasovskiy, S. A.	15 November 1942-26 March 1943
	Lieutenant General of Aviation, as of March 1944 Colonel General of Aviation Sudets, V. A.	26 March 1943-end of war
Deputy Commander for Political Affairs	Brigade Commissar, as of 5 December 1942 Colonel, as of 1 May 1943 Major General of Aviation Tolmachev, V. N.	25 November 1942-end of war
Chief of Staff	Colonel Tel'nov, K. I.	November 1942-February 1943
	Colonel, as of 17 March 1943 Major General of Aviation Seleznev, N. G.	February 1943-July 1943
	Major General of Aviation, as of 19 April 1945 Lieutenant General of Aviation Korsakov, N. M.	July 1943-end of war
18th Air Army		
Commander	Chief Marshal of Aviation Golovanov, A. Ye.	6 December 1944-end of war

Post	Rank, Last name, initials	Time at post
Deputy Commander for Political Affairs	Colonel General of Aviation Gur'yanov, G. G.	6 December 1944-end of war
Chief of Staff	Lieutenant General of Aviation Perminov, N. V.	6 December 1944-end of war

**Stavka Reserve Air Corps Commanders
Fighter Air Corps**

I Fighter Air Corps, reorganized 18 March 1943 as I Guards Fighter Corps	Major General of Aviation, as of 17 March 1943 Lieutenant General of Aviation Beletskiy, Ye. M.	10 September 1942-end of war
II Fighter Air Corps	Major General of Aviation, as of 30 April 1943 Lieutenant General of Aviation Blagoveshchenskiy, A. S.	10 October 1942-10 February 1945
	Major General of Aviation Zabaluyev, V. M.	11 February 1945-end of war
III Fighter Air Corps	Major General of Aviation, as of 11 May 1944 Lieutenant General of Aviation Savitskiy, Ye. Ya.	10 December 1942-end of war
IV Fighter Air Corps, reorganized 2 July 1944 as III Guards Fighter Corps	Major General of Aviation, as of 13 September 1944 Lieutenant General of Aviation Podgornyy, I. D.	6 December 1942-end of war
V Fighter Air Corps	Major General of Aviation Klimov, I. D.	15 February 1943-26 June 1943
	Major General of Aviation Galunov, D. P.	27 June 1943-27 August 1944
	Colonel, as of 20 April 1945 Major General of Aviation Machin, M. G.	28 August 1944-end of war
VI Fighter Air Corps	Major General of Aviation Yumashev, A. B.	19 February 1943-29 June 1943
	Major General of Aviation Yerlykin, Ye. Ye.	10 July 1943-28 May 1944
	Major General of Aviation Dzusov, I. M.	29 May 1944-end of war

Post	Rank, Last name, initials	Time at post
VII Fighter Air Corps, reorganized 27 October 1944 as VI Guards Fighter Corps.	Major General of Aviation Utin, A. V.	23 June 1943-end of war
VIII Fighter Air Corps	Major General of Aviation Zherebchenko, F. F.	24 June 1943-13 June 1944
	Lieutenant General of Aviation Osipenko, A. S.	16 June 1944-end of war
X Fighter Air Corps	Colonel, as of 7 August 1943 Major General of Aviation Golovnya, M. M.	13 July 1943-end of war
XI Fighter Air Corps	Major General of Aviation Ivanov, G. A.	1 February 1944-end of war
XIII Fighter Air Corps	Major General of Aviation Sidnev, B. A.	29 December 1943-end of war
XIV Fighter Air Corps	Major General of Aviation Danilov, S. P. Composite Air Corps	28 September 1944-end of war
I Composite Air Corps, reorganized 28 September 1944 as IX Ground Attack Corps	Major General of Aviation Shevchenko, V. I.	23 October 1942-12 May 1944
	Major General of Aviation Zlatotsvetov, A. Ye.	13 May 1944-12 June 1944
	Major General of Aviation Rubanov, S. U.	13 June 1944-4 July 1944
	Colonel Ivolgin, V. I.	5 July 1944-22 July 1944
	Major General of Aviation Vinogradov, V. A.	23 July 1944-11 August 1944
	Major General of Aviation Krupskiy, I. V.	12 August 1944-28 September 1944
II Composite Air Corps, reorganized 13 July 1943 as X Fighter Corps	Major General of Aviation Yeremenko, I. T.	1 November 1942-13 July 1943
III Composite Air Corps, reorganized 24 August 1943 as I Guards Composite, and 28 September 1944 as II Guards Ground Attack Corps	Colonel, as of 10 November 1942 Major General of Aviation, as of 4 February 1944 Lieutenant General of Aviation Aladinskiy, V. I.	10 October 1942-29 June 1944

Post	Rank, Last name, initials	Time at post
	Lieutenant General of Aviation Zlatotsvetov, A. Ye.	30 June 1944-26 August 1944
	Major General of Aviation Slyusarev, S. V.	27 August 1944-12 October 1944
	Major General of Aviation Ivanov, A. A.	13 October 1944-22 October 1944
	Major General of Aviation Slyusarev, S. V.	4 November 1944-end of war
IV Composite Air Corps, reorganized 22 June 1943 as VIII Fighter Corps	Major General of Aviation Zherebchenko, F. F.	19 February 1943-22 June 1943
V Composite Air Corps, reorganized 23 June 1943 as VII Fighter Corps	Major General of Aviation Slyusarev, S. V.	8 March 1943-23 June 1943
VI Composite Air Corps, reorganized 28 September 1944 as V Bomber Corps	Major General of Aviation Antoshkin, I. D.	5 March 1943-2 May 1944
	Colonel, as of 19 August 1944 Major General of Aviation Borisenko, M. Kh.	3 May 1944-28 September 1944
VII Composite Air Corps, reorganized 31 December 1943 as IV Bomber Corps	Colonel, as of 17 March 1943 Major General of Aviation Arkhangel'skiy, P. P.	15 February 1943-31 December 1943
VIII Composite Air Corps, reorganized 21 July 1943 as V Ground Attack Corps	Major General of Aviation Kamanin, N. P.	15 February 1943-21 July 1943
IX Composite Air Corps, reorganized 29 September 1944 as X Ground Attack Corps	Major General of Aviation, as of 2 August 1944 Lieutenant General of Aviation Tolstikov, O. V.	15 February 1943-29 September 1944
X Composite Air Corps, reorganized 21 July 1943 as VII Ground Attack Corps	Major General of Aviation Filin, V. M.	9 March 1943-21 July 1943
XI Composite Air Corps, reorganized 28 September 1944 as XIV Fighter Corps	Major General of Aviation Danilov, S. P.	24 July 1942-28 September 1944
XVIII Composite Air Corps	Colonel Nyukhtilin, V. F.	18 December 1944-end of war

Post	Rank, Last name, initials	Time at post
	Ground Attack Air Corps	
I Ground Attack Air Corps, reorganized 5 February 1944 as I Guards Ground Attack Corps	Major General of Aviation, as of 17 March 1943 Lieutenant General of Aviation Ryazanov, V. G.	10 September 1942-end of war
II Ground Attack Air Corps, reorganized 27 October 1944 as III Guards Ground Attack Corps	Colonel, as of 17 March 1943 Major General of Aviation, as of 11 May 1944 Lieutenant General of Aviation Stepichev, V. V.	10 October 1942-end of war
III Ground Attack Air Corps	Colonel, as of 17 March 1943 Major General of Aviation Gorlachenko, M. I.	6 December 1942-end of war
IV Ground Attack Air Corps	Major General of Aviation, as of 19 August 1944 Lieutenant General of Aviation Baydukov, G. F.	1 January 1944-end of war
V Ground Attack Air Corps	Major General of Aviation, as of 20 April 1945 Lieutenant General of Aviation Kamanin, N. P.	21 July 1943-end of war
VI Ground Attack Air Corps	Major General of Aviation Tokarev, B. K.	30 December 1943-end of war
VII Ground Attack Air Corps	Major General of Aviation, as of 16 May 1944 Lieutenant General of Aviation Filin, V. M.	21 July 1943-end of war
VIII Ground Attack Air Corps	Major General of Aviation, as of 11 May 1944 Lieutenant General of Aviation Nanyshvili, V. V.	15 April 1944-6 January 1945
	Major General of Aviation Kotel'nikov, M. V.	7 January 1945-3 April 1945
	Major General of Aviation Rubanov, S. U.	4 April 1945-29 April 1945
	Lieutenant General of Aviation Nanyshvili, V. V.	30 April 1945-end of war
IX Ground Attack Air Corps	Major General of Aviation Krupskiy, I. V.	28 September 1944-end of war

Post	Rank, Last name, initials	Time at post
X Ground Attack Air Corps	Lieutenant General of Aviation Tolstikov, O. V. Bomber Air Corps	29 September 1944-end of war
I Bomber Air Corps, reorganized 5 February 1944 as II Guards and 26 December 1944 as VI Guards Bomber Corps	Lieutenant General of Aviation Sudets, V. A. Colonel, as of 20 October 1943 Major General of Aviation Polbin, I. S. Major General of Aviation Kachev, F. I. Colonel Nikishin, D. T.	10 September 1942-31 March 1943 1 April 1943-11 February 1945 12 February 1945-13 March 1945 14 March 1945-end of war
II Bomber Air Corps, reorganized 3 September 1943 as I Guards Bomber and 26 December 1944 as V Guards Bomber Corps	Major General of Aviation Turkel', I. L. Major General of Aviation, as of 28 September 1943 Lieutenant General of Aviation Ushakov, V. A.	10 October 1942-6 February 1943 7 February 1943-16 April 1945
III Bomber Air Corps	Major General of Aviation Karavatskiy, A. Z.	9 November 1942-end of war
IV Bomber Air Corps	Major General of Aviation Arkhangel'skiy, P. P.	31 December 1943-end of war
V Bomber Air Corps	Major General of Aviation Borisenko, M. Kh.	28 September 1944-end of war
VI Bomber Air Corps	Major General of Aviation, as of 13 March 1944 Lieutenant General of Aviation Tupikov, G. N. Colonel, as of 20 April 1945 Major General of Aviation Skok, I. P.,	1 May 1943-15 March 1945 16 March 1945-end of war
VII Bomber Air Corps	Lieutenant General of Aviation Ushakov, V. A.	16 April 1945-end of war

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*[There were several discrepancies in the original Russian index: mistaken page references, non-existent material on page referred to, contradictions in the individual's initials or the spelling of his last name between the index and the text. Where there was a sound basis for correction, the error has been remedied, but in the extremely few instances where there was no way to determine the correct entry or reference the mistake in the Russian original has been allowed to stand as found—U.S. Ed.]

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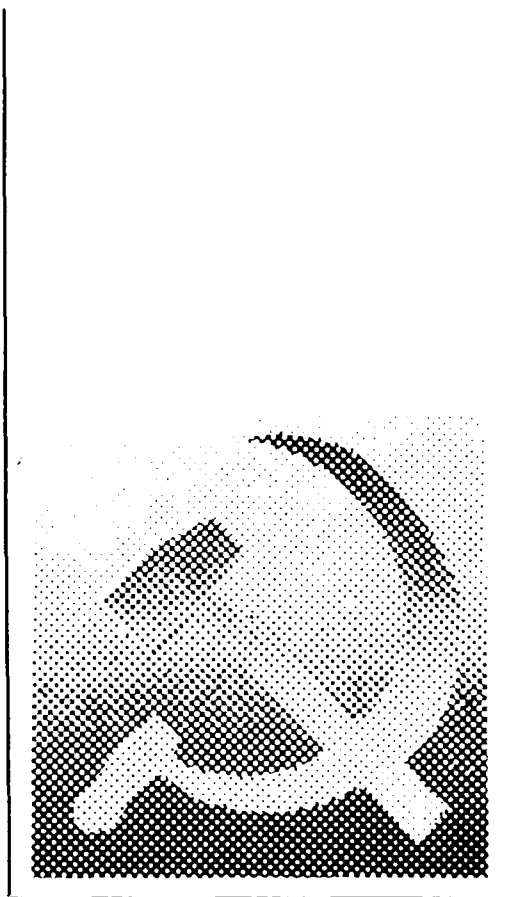
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