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# Airpower and Russian Partisan Warfare

by

General der Flieger a. D. Karl Drum

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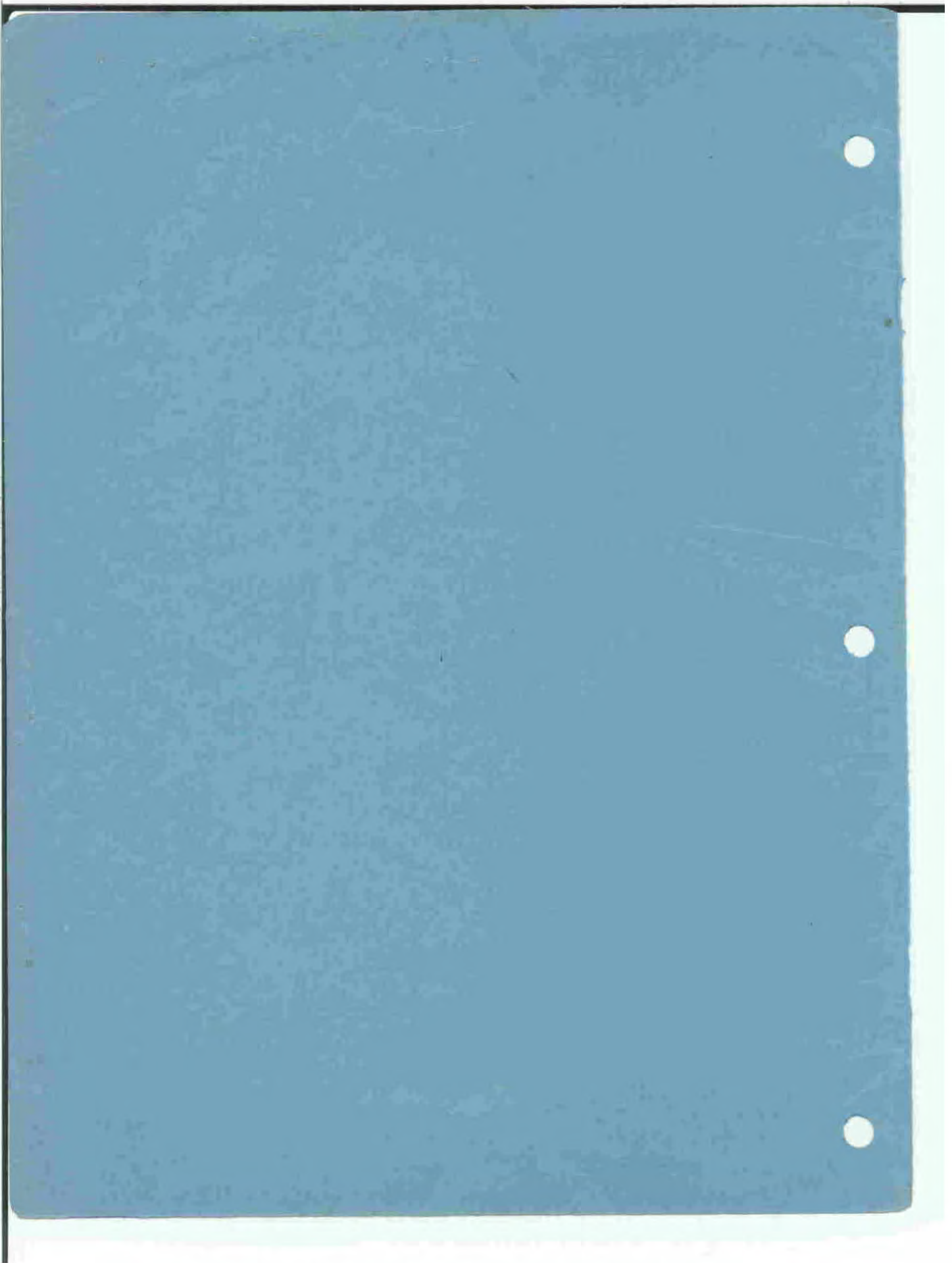
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## FOREWORD

Airpower and Russian Partisan Warfare, by General der Flieger a. D. Karl Drum, is one of a series of historical studies written by, or based on information supplied by, former key officers of the German Air Force for the United States Air Force Historical Division.

The overall purpose of the series is threefold: 1) To provide the United States Air Force with a comprehensive and, insofar as possible, authoritative history of a major air force which suffered defeat in World War II; 2) to provide a history of that air force as prepared by many of its principal and responsible leaders; 3) to provide a firsthand account of that air force's unique combat in a major war with the forces of the Soviet Union. This series of studies therefore covers in large part virtually all phases of the Luftwaffe's operations and organization, from its camouflaged origin in the Reichswehr, during the period of secret German rearmament following World War I, through its participation in the Spanish Civil War and its massive operations and final defeat in World War II.

The German Air Force Historical Project (referred to hereinafter by its shorter and current title, "The GAF Monograph Project") has generated this and other especially prepared volumes which comprise, in one form or another, a total of more than 40 separate studies, some of them in multi-volume form. The project, which was conceived and developed by the USAF Historical Division, was, upon recommendation of Headquarters Air University late in 1952, approved and funded by Headquarters USAF in early 1953. General supervision was assigned to the USAF Historical Division by Headquarters USAF, which continued principal funding of the project through 30 June 1958. Within the Historical Division Dr. Albert F. Simpson and Mr. Joseph W. Angell, Jr., respectively, Chief and Assistant Chief of the Division, exercised overall supervision of the project. The first steps towards its initiation were taken in the fall of 1952 following a staff visit by Mr. Angell to the Historical Division, Headquarters United States Army, Europe, at Karlsruhe, Germany. There, the Army was conducting a somewhat similar historical project covering matters and operations largely of primary interest to that service. Whereas the Army's project had produced or was producing a multiplicity of studies of varying length and significance (more than 2,000 have been prepared by the Army project thus far), it was early decided that the Air Force should request a radically smaller number (less than fifty) which should be very carefully planned initially and rather closely integrated. Thirteen narrative histories of GAF combat operations, by theater areas, and 27 monographic studies dealing with areas of particular interest to the United States Air Force were recommended to



and approved by Headquarters USAF in the initial project proposal of late 1952. (A list of the histories and studies appears at the end of this volume.)

By early 1953 the actual work of preparing the studies was begun. Colonel Wendell A. Hammer, USAF, was assigned as Project Officer, with duty station at the USAREUR Historical Division in Karlsruhe. General der Flieger a. D. Paul Deichmann was appointed and served continuously as Control Officer for the research and writing phases of the project; he also had duty station at the USAREUR Historical Division. Generalleutnant a. D. Hermann Plocher served as Assistant Control Officer until his recall to duty with the new German Air Force in the spring of 1957. These two widely experienced and high-ranking officers of the former Luftwaffe secured as principal authors, or "topic leaders," former officers of the Luftwaffe, each of whom, by virtue of his experience in World War II, was especially qualified to write on one of the topics approved for study. These "topic leaders" were, in turn, assisted by "home workers"--for the most part former general and field-grade officers with either specialized operational or technical experience. The contributions of these "home workers," then, form the basic material of most of the studies. In writing his narrative, the "topic leader" has put these contributions into their proper perspective.

In their authors' personal knowledge and experience these studies find their principal authority. Thus, they are neither unbiased nor are they "histories" in the ordinary sense of that word. Instead, they constitute a vital part of the story without which the final history of Germany's role in World War II cannot be written.

In preparing these studies, however, the authors have not depended on their memories alone. For their personal knowledge has been augmented by a collection of Luftwaffe documents which has come to be known as the Karlsruhe Document Collection and which is now housed in the Archives Branch of the USAF Historical Division. This collection consists of directives, situation reports, war diaries, personal diaries, strength reports, minutes of meetings, aerial photographs, and various other materials derived, chiefly, from three sources: the Captured German Documents Section of The Adjutant General in Alexandria, Virginia; the Air Ministry in London; and private German collections donated to the project by its participating authors and contributors. In addition, the collection includes the contributions of the "home workers." Thus, the interested researcher can test the conclusions of the "topic leaders" against the basic documents or secure additional information on most of the subjects mentioned in the studies.

The authors have also made use of such materials as the records



of the Nuremberg Trials, the manuscripts prepared by the Foreign Military Studies Branch of the USAREUR Historical Division, the official military histories of the United States and the United Kingdom, and the wealth of literature concerning World War II, both in German and English, which has appeared in book form or in military journals since 1945.

With the completion of the research and writing phases in 1958, the operations at Karlsruhe were closed out. At that time the project was moved to the Air University, Maxwell Air Force Base, Alabama, where the process of editing and publishing was begun under the editorship of Mr. Edwin P. Kennedy, Jr., with the overall supervision of Dr. Simpson.

The complexity of the GAF Monograph Project and the variety of participation which it has required can easily be deduced from the acknowledgments which follow. On the German side: General Deichmann, who, as Chief Control Officer, became the moving force behind the entire project, and his assistant, General Plocher; General Josef Kamhuber, a contributor to the project, who heads the new German Air Force, and who has consistently supported the project; Generaloberst a. D. Franz Halder, Chief of the German Army General Staff from 1938 to 1942, whose sympathetic assistance to the Project Officer, the Project Editor, and the German Control Group was of the greatest value; the late Generalfeldmarschall Albert Kesselring, who contributed to several of the studies and who also, because of his prestige and popularity in German military circles, was able to encourage many others to contribute to the project; and all of the German "topic leaders" and "home workers" who are too numerous to mention here, but whose names can be found in the prefaces and footnotes to the individual studies.

In Germany, Colonel Hammer served as Project Officer from early in 1953 until June 1957. Colonel Hammer's considerable diplomatic and administrative skills helped greatly towards assuring the project's success. Col. William S. Nye, USA, was Chief of the USAREUR Historical Division at the project's inception. His strong support provided an enviable example of interservice cooperation and set the pattern which his several successors followed.

In England, Mr. L. A. Jackets, Head of Air Historical Branch, British Air Ministry, gave invaluable assistance with captured Luftwaffe documents.

At the Air University, a number of people, both military and civilian, have given strong and expert support to the project. The several Commanders of Air University during the life of the project in Karlsruhe (1952-1958) without exception were interested in the project and gave it



their full backing. Other personnel at Headquarters Air University who have given freely of their time and experience include: the several Directors of the Research Studies Institute since 1952; Dr. James C. Shelburne, Educational Advisor to the Commander; Mr. J. S. Vann, Chief of Special Projects Branch, DCS/Operations; and Mr. Arthur F. Irwin, Chief, Budget Division, DCS/Comptroller.

The project is grateful to Lt. Col. Leonard C. Hoffmann, former Assistant Air Attache to Germany, who gave indispensable aid during the project's last year in Germany. Also in Germany, Mr. Joseph P. Tustin, former Chief Historian of Headquarters, United States Air Forces in Europe, ably assisted the project by solving a variety of logistical and administrative problems.

Miss Sara E. Venable deserves special thanks for her expert typing of the manuscript.

The project is indebted to all of the members of the USAREUR Historical Division, the Office of the Chief of Military History, and the USAF Historical Division who, through direct assistance and advice, helped the project to achieve its goals.

Dr. Littleton B. Atkinson, who succeeded Mr. Kennedy as Project Editor in 1961, edited the manuscript for publication.



## PREFACE

The publication of this small study by Lieutenant General Karl Drum (Ret) may serve to create an enhanced awareness of the impact of partisan operations on modern warfare. Indeed, the systematic use of partisans in conjunction with regular forces has had the effect of adding another dimension to war: that of depth. One of the lessons of the German-Russian struggle lies in the serious contribution made by Russian partisan forces to the defeat of the German Army. Today, in preparing its defense, the Western World can scarcely afford to ignore a factor which has been so successfully employed by Stalin in Russia during World War II and by Mao Tse-Tung in China in more recent years.

In contradistinction to the Russians who had made systematic preparations prior to the war, the Germans paid scant attention to the problem of partisans in planning the Russian campaign. Indeed, part of the Russian success in the use of partisans may be attributed to the improvisational nature, usually totally inadequate to the task, of German countermeasures. In any case, whatever forces were used by the Germans meant fewer units available for front line duty. As a result, the partisans succeeded in general in seriously vitiating the efficiency of the German rear communications and supply system. Another positive result, from the Russian viewpoint, was the destruction of German personnel and equipment. Even if one discounts somewhat the figures furnished by General Ponomarenko (see Chapter I, editor's note), the actual total of such destruction can scarcely have been less than significant. Nor should the value of the partisans as an intelligence gathering agency be overlooked. Indeed, this seems to have been one of the major contributions made by the partisans to the Russian war effort, giving the Soviet High Command invaluable information not only on weak points, gaps, and hinges between units in the German lines, but on German operational plans as well. Aside from direct or indirect damage to the German war machine, the Moscow-controlled partisan movement was the sole effective means by which the Soviet government could maintain a measure of control of, and extract varying degrees of loyalty from, the Soviet populations behind the German lines.

The task of introducing militarily and politically trained cadres for leadership in the bands was as vital to the partisan movement as that of furnishing key supplies (munitions and radio equipment). Given the situation on the Russian front, neither of these vital prerequisites could have been fulfilled without the use of airpower. It is scarcely to be imagined that the partisan bands could have been organized, maintained, and controlled to an effective degree without the regular system of air



transport established by the Soviet Air Force.

The Germans, of course, became increasingly aware of the vital role of airpower in partisan operations. Unfortunately, the German Air Force could not spare the necessary aircraft, nor did it possess on the Eastern Front sufficient warning and communications equipment to make its efforts effective.

All of these factors, however, were intimately bound up with the fortunes of war at the front. As long as the German Army was still driving forward, carrying with it its tradition of invincibility, that is during 1941, the Russian partisan cadres worked pretty much in vain in attempting to recruit a large scale partisan movement. But in proportion as the German Army suffered stalemate or reverses, the more readily the resident population responded to partisan threats and cajolery. Concomitantly, the more difficult the position of the Wehrmacht, the fewer the aircraft and troops which could be spared for antipartisan operations.

This circle of cause and effect led in 1942 and 1943, and particularly in the latter year, to a very heavy increase both in partisan numerical strength and in the scope and intensity of partisan operations. By any standard of measurement, the Russian partisans made a significant contribution to the defeat of the German Army in the East.



ABOUT THE AUTHOR

General der Flieger a. D. Karl Drum was born on 31 July 1893. He entered military service with the German Army in 1913, and in 1916 he was assigned to the Air Force where he served first as an observer and later as leader of an aerial mapping group.

Between the two World Wars General Drum received General Staff training and held a number of technical and special advisory positions, the last of which was that of Chief of the Inspectorate for Air Reconnaissance Forces and Operations with the German Air Ministry.

At the beginning of World War II General Drum was Chief of Staff to the Luftwaffe General with Commander-in-Chief, Army. During 1941-42 he was Chief, Air Support Command, Army Group South (Russia). After this assignment and until the end of the war, General Drum held a series of Luftwaffe administrative positions in Holland, Greece, Belgium, and Northern France, and, finally, in Western France where he was Commanding General and Commander-in-Chief of the Luftwaffe Administrative Command, Western France.

In preparing this monograph, General Drum has made use of the published sources and unpublished manuscripts listed at the end of the study, and of his own broad, personal experience. In addition, he has consulted and corresponded with numerous retired German Air Force and Army officers who have had firsthand experience in antipartisan operations.



## Chapter I

## PARTISAN UNITS - A SURVEY

Formation and Composition

Partisan warfare--an old Russian method of combat--has always played a major part in the domestic and foreign conflicts of the Russian people. The Communist state long recognized the importance of employing partisans in the wide-open, sparsely-populated Russian spaces.\* Soviet leadership, therefore, made partisan warfare an important combat arm, centrally controlled from Moscow. Basing their planning on the extensive experience obtained in the civil war (1918-21), the Russians, prior to the Second World War, made certain preparations which linked partisan organization to the framework of the secret police. During this same period they carried these preparations a step further by publishing service regulations on partisan warfare.

The extensive pre-military training of Russian youths of both sexes, and the control exercised over factory labor forces, facilitated the formation of partisan units. The number of men and women thus trained was so great that at the beginning of World War II--even after mobilization and evacuation of entire labor forces--there were still sufficient numbers of trained civilians left in the theater of operations to form the nuclei of partisan units. Soldiers who had lost their units during the initial engagements, as well as entire combat units that had escaped capture during the major battles of encirclement in 1941, joined partisan units or formed new ones. Even completely untrained persons were enrolled in the partisan units, either voluntarily or by force. The winter of 1941-42 marked the beginning of a large-scale organization, although

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\* Editor's Note: That Karl Marx himself was cognizant of the value of guerrilla warfare the following quotation makes clear: "A nation, fighting for its liberty, ought not to adhere rigidly to the accepted rules of warfare. Mass uprisings, revolutionary methods, guerilla bands everywhere; such are the only means by which a small nation can hope to maintain itself against an adversary superior in numbers and equipment. By their use a weaker force can overcome its stronger and better organized opponent" (Karl Marx, in Neue Rheinische Zeitung, No. 161, 1 April 1949, as quoted in C. Aubrey Dixon and O. Heilbrunn, Communist Guerilla Warfare (New York, 1957), p. 19).



small bands were active before that time.\*

During the course of the war the partisan units grew to such an

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\* Editor's Note: "The first week of December 1941 marked the end of the 1941 phase of the partisan movement. In addition, it signaled a momentous change in the entire character of the war. The period of the great Soviet defeats came to an end, and, within two or three weeks, the German armies along the entire front were on the defensive. Army Group Center was driven back from Moscow, in some places as much as 100 to 150 miles. The prestige of the Soviet regime and the Red Army rose, and the regime regained its equilibrium. These changes were immediately reflected in the partisan movement. Detachments which had totaled less than 100 men in November grew to 200 or 300 by January or February 1942 and, many of them, to 1,000 or more by the following summer. Soviet-trained organizers and cadres roamed the countryside recruiting new units. The air supply operation was stepped up; military organization was introduced in the detachments; regular army officers appeared as instructors, advisors, and members of the command staffs; and, in April, the term 'brigade' first came into official use. . . . Recruitment was facilitated partly by a revival of confidence in the Soviet regime and as much or more by fear of Soviet retribution after the return of the Red Army. Stragglers from the battles of the previous year and others who had been reluctant or indifferent joined the movement in large numbers. With German security troops drawn out of the rear areas and committed at the front, recruiters were able to draft the men they needed plus thousands more to send through the front lines to the Red Army" (Earl Ziemke, The Soviet Partisan Movement in 1941, Air Research and Development Command, Human Resources Research Institute Project "Alexander", 1954, No. 6, vol. 2, 84).

This and several other studies of Project Alexander have been cited by the editor. Project Alexander, a code name for some fourteen scholarly studies on selected aspects of Soviet partisan warfare in World War II, was the first research task of the War Documentation Project, sponsored in 1951 by the Human Resources Research Institute, Department of the Air Force, with the cooperation of agencies of the Departments of the Army, Navy, and State. The purpose of the War Documentation Project was to exploit captured German and Russian documents for psychological warfare and strategic intelligence utilization. Conducted by Columbia University for the Air Force, under the monitorship of Human Resources Research Institute, the War Documentation Project was under the general supervision of Dr. Fritz T. Epstein, with Dr. Philip E. Mosely, Director, Russian Institute of Columbia University, as senior research consultant. The project was monitored for the Air Force by Mr. Hans J. Epstein, Human Resources Research Institute.



extent that they could be considered elements of the Red Army. Staff officers, specialists, agents, radiomen, and other important key personnel were brought to the partisan units either through gaps in the frontline or by air. The mission of these units was to disrupt the German supply system and to harass the German combat forces by attacks from the rear in order to facilitate the combat operations of the regular Russian forces.

Personal initiative played an important part in partisan warfare, and the individual partisan leaders were given unusually extensive authority. Highly centralized control of the partisan units was considered undesirable. Wherever a person suitable for leading a partisan unit stayed behind after the withdrawal of the Red Army, a band would form. It was mainly the capabilities of these leaders which determined the strength and combat effectiveness of the partisan units and their organization, rather than the available manpower, local conditions, or the equipment that could be found.

The organization and strength of the many partisan units varied greatly. There were bands of a few men adjacent to units numbering several thousands. The designations given to some of the units were no indication of their strength. The preferred designation of "brigade" was used even for small bands of platoon strength. Small units with less than 50 men needed no special organization. Normally, they assembled for a specific operation, after which they dispersed and continued with their everyday chores or disappeared from sight. Mobile, large, combat-effective partisan units of from 50 to 1,000 men were organized according to military principles. Only these large units or well-camouflaged small bands could afford to operate on a continuous basis.

#### Missions, Combat Methods, Command Functions

The overall mission of the partisans was to combat the Germans with every means and wherever possible without getting involved in any action that would reduce their own strength.

Their sphere of activity was behind the German front. They concentrated on destruction by demolition and mining (mainly railroads, roads, bridges, and other construction works, plants of any kind, airfields, communications installations, ammunition, POL, and supply dumps of all types, and billets), poisoning wells, attacks on individual soldiers and small units, transport columns, motor vehicle convoys, etc., as well as all types of sabotage and espionage. In addition to destructive activities, the partisans were charged with the preparation of landing fields for supply aircraft and airborne troops.



Whereas at the beginning of partisan activities the relationship of such operations behind the German lines to the strategic objectives of the Red Army was not obvious (each band attacking wherever it had an opportunity to do so), this relationship became clearly recognizable during the winter of 1941-42, when German Army Group Center was forced to withdraw. At that time the partisan operations carried out in the rear of the German combat zone to prevent the flow of replacements and supplies to the front obviously fitted into the overall Red Army strategy. In addition, major strategic tasks were assigned to the large partisan units, which had to liberate or control entire areas behind the German lines so that the Red Army could use such territories for unimpeded thrusts. Indeed, the actions of the partisans often permitted the Germans to draw conclusions regarding the Russian plan of operations.

The areas in which the partisans remained and operated had not been prearranged according to a military plan. Rather, the availability of personnel was the determining factor. But particular local conditions also were of great significance since the partisans needed hideouts, preferably in inaccessible terrain such as deep forests and swamps. (Eventually, many bands were transferred from the areas where they had been organized to other areas where they were to be committed; in some instances bands moved away on their own.) Within their camp areas the partisans usually built well-camouflaged shelters, posted guards, and sent out reconnaissance patrols. To be able to escape unnoticed if necessary, they prepared new paths that were kept secret from the civilian population. However, even in densely populated areas partisan bands were able to maintain themselves if they were protected by the civilian population. Ruins of bombed cities were good hideouts. During daylight hours, the partisans remained in their hideouts, almost all movements being carried out at night. Indeed, so mobile were these groups that the Germans repeatedly found instances where they had traveled as much as 44 miles in one night.

Partisan units attempted for the most part to avoid combat. Inferior German forces that came too close to them, however, were usually assaulted from ambush. If the partisans were faced by superior forces, they rarely put up a serious defense, even if their camp had been prepared for sustained defense. By the stubborn defense of a few well-camouflaged centers of resistance they attempted to fight a delaying action in order that the bulk of the unit might have an opportunity to escape. Breakout was attempted either by strong forces concentrating in a small area or by individual partisans slipping through the ring of encirclement.

Radio equipment was essential for the maintenance of communications, especially with the central command staff at Moscow. Radiomen



who had been specially trained, and equipped with special sets, were flown into the partisan infested areas. Female partisans were preferred as personal messengers: dressed as innocent peasant women they often covered long distances cross-country and, if necessary, even crossed the two frontlines.

The conduct of partisan forces in combat corresponded closely to infantry tactics. Typical characteristics were the use of ruse and deception, skill in camouflage, extreme mobility in every situation, and the exploitation of all terrain features. The frugality and kinship with nature of the average partisan were great advantages. The combat effectiveness of a small partisan group usually equalled that of a strong reconnaissance squad. Major units were equal to an infantry battalion or even a regiment equipped with heavy weapons.

The exercise of command functions within partisan units was very strict. The leaders, who operated independently, exercised their functions without restrictions and with brutal force. Even the smallest infraction was almost invariably punished by death, if such an infraction was contrary to the interests of the group or if it resulted from internal intrigues or insubordination. Whoever was under the slightest suspicion of treason was simply eliminated, and joint family liability was an accepted fact. In this manner the leader maintained close control over the members of his group and assured secrecy. The groups were not correlated and regional chains of command were not introduced, probably because any such action would have harmed the prestige of the individual partisan leaders.\*

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\* Editor's Note: Actually, there seem to have been several avenues of control which affected the operations of the partisan units: "the principal control agencies of the partisan movement for over-all planning of operations, for liaison with the Party, Red Army, and other organs of the Soviet regime, and for general supervision of partisan activities, were the Central Staff of the Partisan Movement and the Front Staffs and territorial staffs directly subordinate to it--in all about ten staffs. The immediate, day-to-day conduct of partisan activities and the control of the lower levels of partisan personnel were concentrated in the hands of the brigades or similar units. It is evident, however, that the small number of high-level partisan staffs could not effectively direct the operation of perhaps 200 to 300 brigades without using some intermediate command level. In part this intermediate command was provided by the operative groups at the army or division level. Such control agencies were established at only a limited number of Red Army commands, however, and the supervision they exercised over bands in proximity to the



The central command staff--the partisan warfare command staff--was located in Moscow. At first, it was commanded by an important political leader, later on Marshal Voroshilov was appointed chief of staff of the partisan movement. Under his leadership guerrilla warfare was developed according to a planned program and became a centrally organized means of combat.\*

#### Principal Partisan Areas

Army Group Center. Whereas the territory of Army Group South (Ukraine) and Army Group North (Baltic States) offered no very favorable conditions for partisan warfare, Army Group Center (see map No. 2) was very soon forced to engage in antipartisan warfare, since it entered White Russian territory immediately after crossing the Polish-Russian border.

frontline was confined primarily to military operational questions. In order to coordinate effectively the activities of the brigades, an intermediate command echelon within the German-occupied regions was essential" (John Armstrong and Kurt DeWitt, Organization and Control of the Partisan Movement. Air Research and Development Command. Human Resources Research Institute [Project "Alexander"/]. 1954. No. 6, vol. 4, 31).

\* Editor's Note: It is fairly clear that the central control, although nominally under the supreme command of Marshal Voroshilov, and thus of the Red Army, was actually under the effective control of the Party organization: "The Central Staff was formally attached to Army supreme headquarters; Marshal . . . Voroshilov was appointed commander in chief of the partisan movement. At the same time, however, Panteleimon Ponomarenko, first secretary of the Belorussian Party, who for some time had been one of the inner circle of the regime, was appointed Chief of Staff of the partisan movement. Ponomarenko was in fact the real director of the Central Staff: its orders were issued over his signature, he appointed and removed major partisan officers, and the partisan leaders apparently regarded him as their direct superior. The renewed influence of the Party was enhanced by attaching the Central Staff to the Central Committee of the All-Union Communist Party, although this link was not so frequently stressed in orders and propaganda pronouncements as was the attachment to Army Supreme headquarters" (Armstrong and DeWitt, Organization and Control, pp. 22-23).

† Editor's Note: Throughout the war the principal center of partisan activity was Belorussia and that portion of the Russian SFSR lying directly east of Belorussia. From this center, one secondary branch of concentration swung north toward Leningrad just east of the former Baltic



Typical of partisan activities at the beginning of the campaign was an action which occurred along the northern flank of Army Group Center. On the first day of the offensive against Russia, 22 June 1941, a partisan group appeared in the rear of advancing German forces in Lithuania. The spearhead division of the German V Corps invaded Russia from the area east and northeast of the prewar Polish city of Suwalki, (1)\* which had been occupied by the Germans after the Polish campaign. The division broke through the Russian border positions, and by evening German elements formed a bridgehead across the Niemen River [15 miles south of Alytus], † near Kristoniai. Suddenly, armed civilians appeared to the rear, at the village of Seirijai--six miles west of the bridgehead--ambushed a German bridge column, and fired from houses in the village on passing German troops. A reinforced regiment had to be committed against this partisan group that was apparently hiding in a forest near Seirijai. It took an entire day to flush the forest, and even so the 400 to 500 men belonging to the unit were not completely annihilated since some 25 percent escaped. After the fighting was over, the Germans found that while the majority of the force consisted of Russian civilians of the upper class who had settled in the area after the U. S. S. R. had occupied Lithuania, the nucleus of the force was formed by Russian soldiers who had been cut off by the German breakthrough and had put on civilian clothes.<sup>1</sup>

After the Germans had consolidated their situation during the winter of 1941-42, the Russians massed strong partisan units in German rear areas in order to cause a decisive disruption of the German buildup and supply system. The principal partisan areas were the forests of Uzda (2), those areas north, northeast and east of Slutsk (3), the area east and southeast of Minsk (4), and the forests astride the Minsk-Bobruysk railroad (5). These partisan groups were at that time in the formative stage and rarely operated at strengths above 100 to 300 men. They disrupted railroads, without however blowing up bridges or raiding German strong points along the tracks. They did not blow up road bridges, but they did mine roadbeds by night and ambush isolated motor vehicles.<sup>2</sup>

Major partisan centers, where several thousands of men were operating, existed in the forest areas south of the Bryansk-Vigonishi

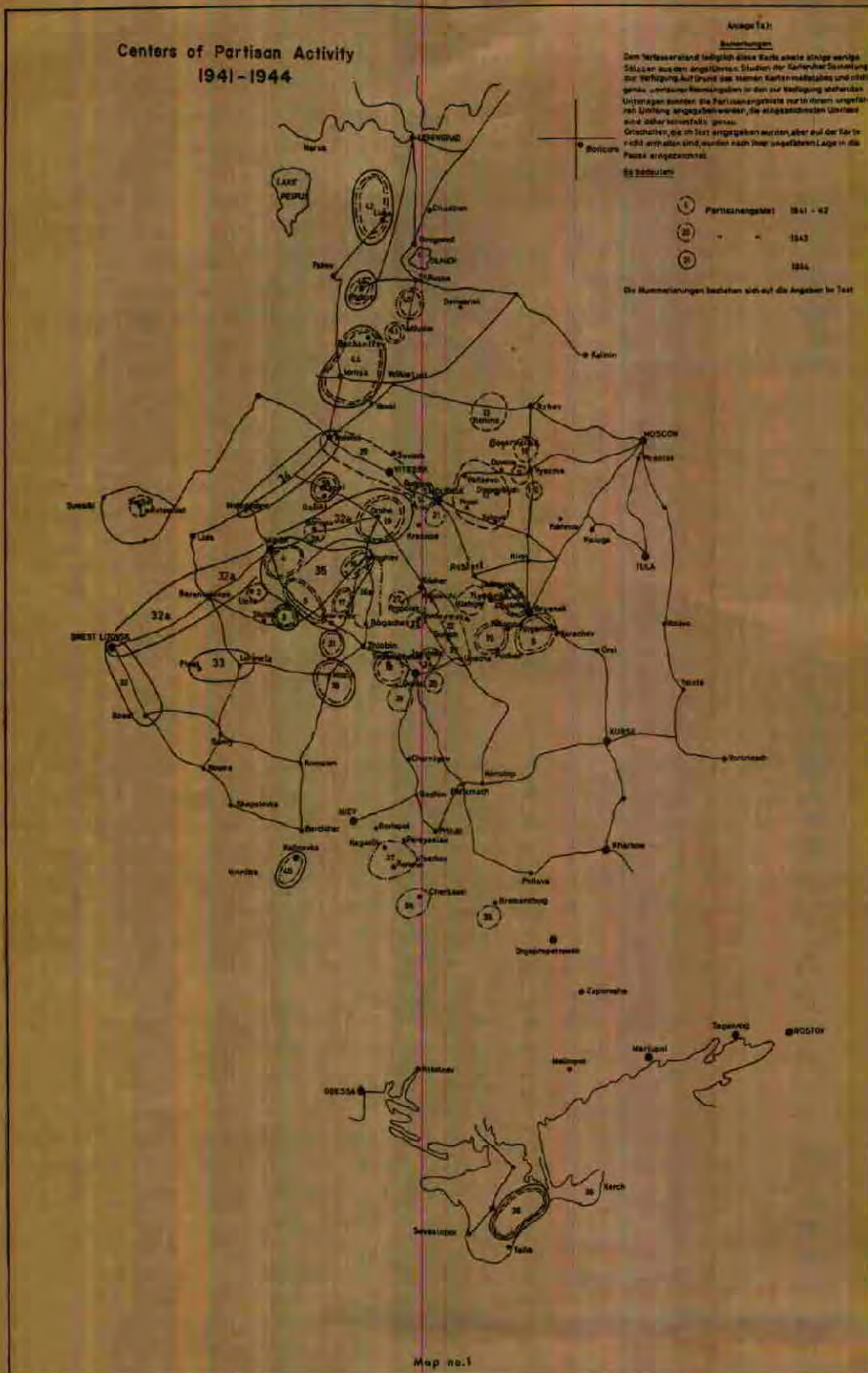
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states, while another subsidiary branch extended southward into the northern Ukraine. This portion of the German front contained some four-fifths of all active partisans. Ziemke, Soviet Partisan Movement, p. 76, note.

\* Editor's Note: Numbers in parentheses refer to positions and areas on Map No. 1.

† All reference to mileage in this monograph is to statute miles.







line (6), and in the forests around Kletnya (7), where groups of one thousand men or more were hiding. These strong groups were very active, blowing up railroad tracks, firing at trains, and attacking German strong points along the tracks. The partisans built airfields west of Kletnya and along the northern fringe of the forest area east of Zhukovka (8).<sup>3</sup> Other partisan airfields were situated at the point about half-way between Bryansk and Roslavl where the rail-line crosses the Desna River (8), in the area west of Karachev (6), and about ten miles south of there.<sup>4</sup>

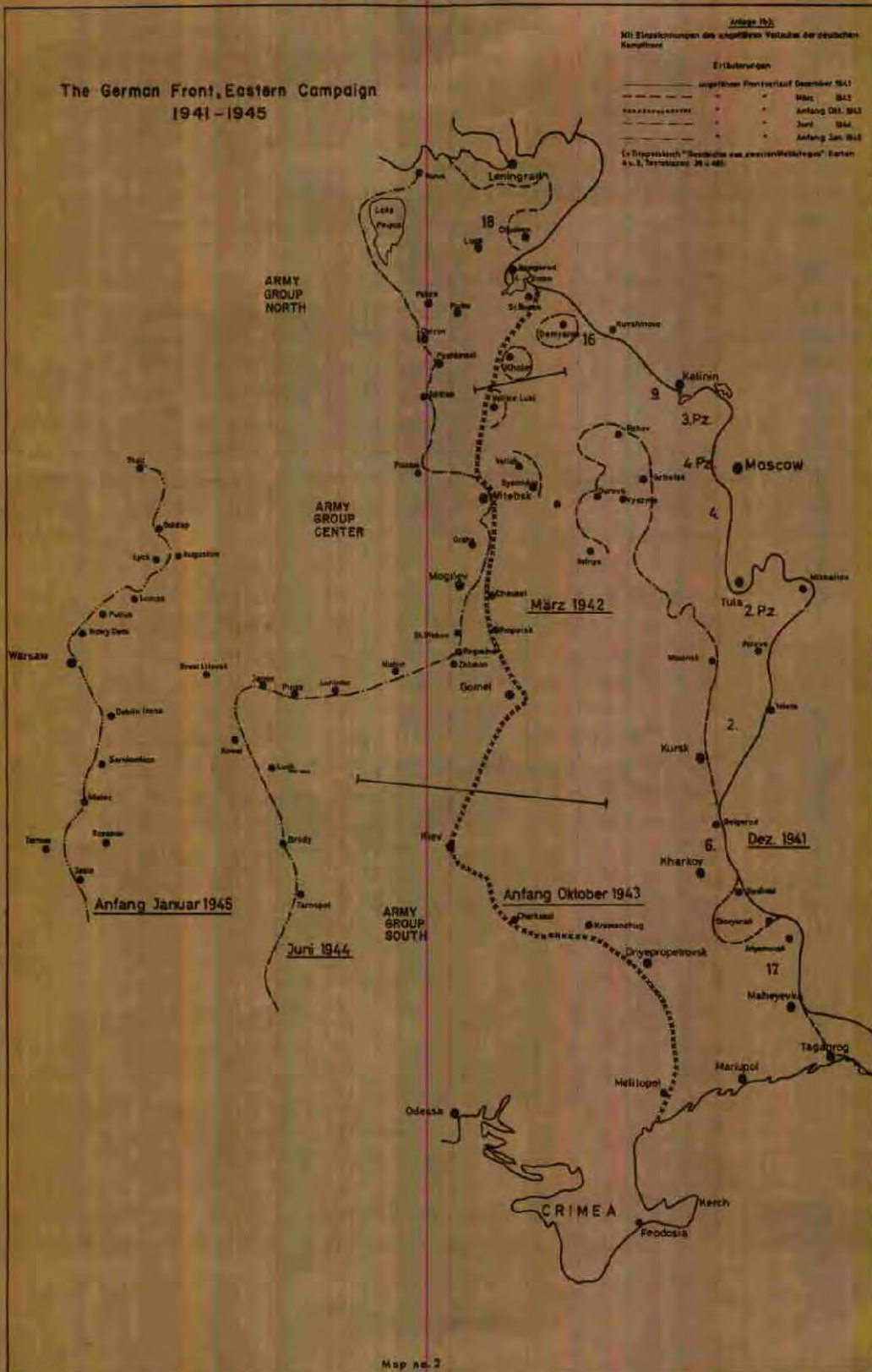
One of these very active partisan groups--the so-called Force Ruda, composed of some 500 men--led by a particularly audacious man, operated mainly west of Bryansk, attacking the Bryansk-Gomel railway and highway. Several German attempts to eliminate Force Ruda failed. The base camp of the force was located deep in a forest surrounded by swamps in an area west of Bryansk. Finally, in December 1942 the base camp was captured. Although Ruda was killed, some of the force escaped after heavy losses. An extensive camp with tons of ammunition, quantities of small arms and equipment of all kinds, and sufficient rations for several months were captured.<sup>5</sup>

From January to March 1942, during the withdrawal from the outskirts of Moscow, the German armies lost contact with one another at several points. Russian troops streamed through the large gaps in an effort to outflank the Germans and get into their rear areas. These Russian forces, in conjunction with the partisan groups in German rear areas, attempted to cut the few remaining lines of communication. By airlifting regular troops and supplies, the Russians reinforced these partisans, who were particularly active in the west and southwest of Vyazma (9, 10) in the extensive forests of Bogoroditsk (11), and in the Yelnya (12) area. They were probably part of the major partisan force operating in conjunction with the Russian I Cavalry Corps (Corps Below) that fought in the Yelnya-Dorogobuzh-Yartsevo (12) area in the rear of the German Fourth Army.<sup>\*6</sup>

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\* Editor's Note: This large partisan group was very probably that force identified as the Shabo Regiment. This regiment was under the control of Major General Belov, commanding general of the 1st Guard Cavalry Corps, who was in command of all Soviet units in the Yelnya-Dorogobuzh area. General Belov in turn received his orders from the commander of the West Front. Gerhard L. Weinberg, The Partisan Movement in the Yelnya-Dorogobuzh Area of Smolensk Oblast. Air Research and Development Command, Human Resources Research Institute (Project "Alexander"). 1954, No. 24, vol. 2, p. 46.







Part of the large concentration of partisans in the area southwest of Rzev near Olenino (13) was probably the Grishin force which later moved into the area southwest of Smolensk (14).\* This group, numbering from 1,000 to 2,000 men, was pursued throughout the entire army area from north to south and then again to the north, during which time the force apparently split up. But the Grishin force, after it had suffered losses and had been exhausted by extended periods of fighting, always had access to the large, almost inaccessible and well-equipped partisan camps located in the Mamayevka forest north of Pocher (15), in the forests southwest of Mogilev (16), northeast of Bobruysk (17), and in the Tschetschessk (18) area northwest of Gomel. In these refuges the partisans could rest and re-equip themselves without being disturbed. The Grishin force operated in the Orsha (19) area until the end of 1942, conducting above all demolition raids along the Smolensk-Vitebsk-Polotsk (20) railroad, attacking strong points, and raiding villages. Strong German countermeasures eventually led Grishin to move to the area south of Smolensk (21). The partisan group probably split up in the process, with one element remaining in the Smolensk area while the other moved to the southeast. This latter group was believed to have reorganized its forces in the Mamayevka forest, where shelter and supplies were available and where German troops found access difficult.<sup>7</sup> At least two partisan airfields were identified in this general area, one being located southwest of Rzev near Olenino (13) and the other southeast of Smolensk.

In January 1943 a strong and well-equipped partisan group traveling on sleds--this was the Grishin force again--crossed the Iput river and, advancing from the northeast, raided the German strong points along the Surazh-Klimovichi (22) railroad. The partisans were repelled, but succeeded in breaking through to the west. They were traced to west of Gordeyevka (23), where they had stopped to recruit among the hitherto fairly quiet population of this area. A battalion of German security troops, that had been specially equipped for winter commitment and

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\* Editor's Note: "The Grishin band was developed during the middle of 1942 from a single otryad [partisan detachment or company] which had been formed several months earlier in the Dorogobuzh area of Smolensk Oblast by Lieutenant Sergei Grishin, a man who at that time was only a candidate for Party membership. During the balance of 1942 the strength of the 'regiment' remained well under 1,000, and its movements were restricted to a fairly limited area of northern Smolensk Oblast. . . . In September 1943 the band numbered over 2,000 men and had an organization closely resembling that of the Ukrainian roving bands" (Armstrong and DeWitt, Organization and Control of the Partisan Movement, p. 59).



issued sleds, finally tracked down the partisans, numbering about 1,000 men, in deep snow near Isavinka, northeast of Gomel (24). Forced to fight, the partisans suffered heavy losses before they were able to escape to the south.<sup>8</sup>

Soon afterward the Grishin force was identified in the swamps south to southeast of Zlynka (25). This time the partisans were flushed from their hideout, leaving behind their sick and wounded, their equipment and personal belongings. They escaped southward and disappeared from the Army Group Center area for the time being, remaining for several months in the Sozh-Dnepr triangle (26) without being active. An increasing number of incidents in the area between Bobruysk and Mogilev, especially demolitions along the Rogachev-Mogilev railroad (16a), brought the Grishin group once more to the attention of the Germans. Grishin and his men were identified in the almost inaccessible swamps northeast of Bobruysk (17), appearing once again in great strength and fully equipped. It was not until August 1943 that very strong German troop units succeeded in encircling the Grishin force and in inflicting very heavy losses. But Grishin and combat effective elements of his group broke the ring of encirclement and escaped eastward across the Dnepr. The considerably weakened group reassembled north of Propoysk [70 miles north of Gomel] in the Pronja swamps. In the following month, however, the Grishin force was again active in its new location north of Propoysk and east of the Pronja river. Attacks were made on 30 miles of highway between Krichev and Propoysk. The partisans were encircled and pinned down in a narrow area where most of the group was destroyed, although Grishin and some of his men escaped westward across the Dnepr.<sup>9</sup>

In the early summer of 1943 the Germans obtained information that the partisan staff planning the attacks against the rail line near Borisov (28) had its headquarters at Daliki, in the forests and swamps 10 miles south of Lepel (29). This staff was destroyed during a well-prepared operation.<sup>10</sup>

The large forest area south of Bryansk (6) was also a jump-off area for partisan raids. During the spring of 1943, when the Germans assembled forces for the Kursk offensive and moved many trains along the Smolensk-Bryansk and Minsk-Gomel-Bryansk lines, the partisans continuously disrupted transports by blowing up tracks. In even more effective raids, they overcame the German guards and blew up the two railroad bridges across the Desna river close to Bryansk in March and demolished the Besed river bridge along the Krichev-Unecha line (22) in April. The attacks on secondary rail lines in the Kursk area continued

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\* Editor's Note: Kursk is about 125 miles southeast of Bryansk.



even after the German offensive on Kursk had failed in the summer of 1943, when German reinforcements had to be moved up to stem the Russian assaults against the Orel salient. The large partisan units operating along the Minsk-Gomel and Orsha-Mogilev tracks also resumed their activities.<sup>11</sup>

There was evidence that large partisan bands were located two hundred miles to the west during the winter of 1943-1944. These groups had even built airfields near Mozyr (30), south of Bobruysk (31), and north of Slutsk (3).

During the first six months of 1944, partisan attacks against troop transports and supplies moving up to stop the Russian offensive on both flanks of Army Group Center increased from month to month as the weather improved. The points of main partisan effort were the rail lines Brest-Kovel (32) in January, Brest-Minsk-Orsha (32a) in March, and the area around Lepel (29) in May. On the night of 19/20 June a tremendous number of demolitions were carried out along the lines Pinsk-Luninets (33), Borisov-Orsha (32a), and Molodechno-Polotsk (34) in preparation for the major Russian offensive against Army Group Center. These attacks resulted in an almost complete stoppage of railroad traffic along the crucial lines leading to the army group area.<sup>12</sup> And at the end of June, strong partisan units interfered with the withdrawal of the German Fourth Army from the Dnepr on both sides of Mogilev. These groups operated out of the extensive forests and swamps of the Pripyat, in the triangle of Minsk-Bobruysk-Mogilev (35),\* which during three years had been dominated by strong partisan units and had never been cleared, let alone occupied, by German troops. Operating in conjunction with regular Red Army units, the partisans obstructed the German withdrawal across the Pripyat swamps toward Minsk.<sup>13</sup>

Army Group South. As early as 1941, shortly after the capture of the Crimean peninsula, partisan units appeared in the Yaila Mountains (36). During 1943-44 the Russians organized very strong partisan units in the Crimea and supplied them by airlift. Even though the Germans employed several divisions, they were unable to capture the partisans. Indeed, the Germans never established firm control over the Yaila Mountains area before they withdrew from the Crimea, and motor vehicles could cross these mountains only under convoy protection. Vehicles driving to and from the south coast were attacked in very skillfully staged surprise raids

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\*Editor's Note: The Pripyat marshes, proper, are south of this triangle, although there are some forests and swamps within the triangle in the valleys of the Ptich, Berezina, and Dnepr rivers.



during which the partisans used all types of small arms and, after 1943, mortars of various calibers.<sup>14</sup>

In 1944, after the Crimea had been cut off from the mainland and the Russians had secured a foothold on the Kerch peninsula (36a), partisans became active in this hitherto quiet area. They attacked motor vehicles and isolated soldiers in broad daylight along the Kerch-Feodosiya road. After several unsuccessful attempts to find their hideout, the partisans were found to be located in several underground quarries southwest, west, and north of Kerch. Only after all exits had been blocked and several determined breakouts had been frustrated, was it possible to exterminate the group by starvation following a final breakout attempt during which the majority of the partisans were killed.<sup>15</sup>

In September 1943, partisans were active on the northern wing of Army Group South.\* In the Dnepr bend south of Pereyaslav-Khmel'Nitskiy (37) a partisan unit that had existed there for some time suddenly made its presence felt while the northernmost units of the German Eighth Army, withdrawing westward, were crossing the Dnepr about 75 miles southeast of Kiev near Kanev. These partisan groups, which maintained constant

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\* Editor's Note: Field Marshal von Manstein presents a complex picture of partisan activity in the Ukraine in the period around March 1944: "While there had been hardly any sign of partisans in the Eastern Ukraine (where the administration was solely in the hands of the German military authorities), the movement was all the more active in the western parts of that territory. One reason for this was that the large forests provided partisan groups with safe hide-outs and made it easier for them to attack roads and railways. The other, however, was that the rule of Reich Commissioner Koch had driven the population straight into their arms. There were, by the way, three different categories of partisans. The Soviet variety fought against the Germans and terrorized the peaceful population. The Ukrainians fought the Soviet partisans, but usually released any Germans after first disarming them. Finally there were bands of Polish partisans who fought both Germans and Ukrainians. This largely applied in the Lwow district, which was already in Galicia. Here the urban population was largely Polish and the rural communities mainly Ukrainian. The Lwow area--unlike the rest of the Government-General--was wisely administered. While giving preferential treatment to the Ukrainians, the man responsible, District Commissioner Wächter, still protected the interests of the Polish minority. Ultimately he was able to raise a complete division of Ukrainian volunteers" (Field Marshal Erich von Manstein, Lost Victories [Chicago, 1958], p. 532, note).



signal and messenger communications with the approaching Red Army units, received the Russian paratroopers who were dropped on 24 September west of the Dnepr Bend and northwest and southwest of Kanev in order to form an enlarged bridgehead in conjunction with the Russian attacks out of the Dnepr Bend. Another partisan unit operating in the primeval-like forests west of Cherkassy (38) was also supposed to receive airborne troops at the same time. These troops, however, were not committed, probably because of the failure of the paratroop operation. The partisan-infested area west of Cherkassy was an open sore in the German lines of communication. It often became acute and could never be completely eliminated by the Germans, who lacked the necessary forces.

In addition to the partisans operating in the Dnepr area from Kanev to Cherkassy, the southernmost reaches of the river were also infested. Indeed, centers of partisan resistance existed all along the western bank of the Dnepr in the extensive forests up to the Kremenchug (39) area.

Army Group North. During the indecisive fighting of the second half of the winter of 1941-42, confusion reigned along the northernmost sector of the German front (Sixteenth and Eighteenth Armies). Terrain conditions were ideal for partisan activities. From the German lines south of Lake Ilmen there was a narrow passage to the Demyansk pocket, in which the Russians had encircled German troops some 50 miles southeast of Lake Ilmen. (See Map No. 2.) Behind the pocket a thinly occupied line of strong points led southward to Kholm (41) which was also encircled. Behind that line sparsely settled swamp land covered some 30 square miles and extended westward to the railroad hub of Dno,\* the main railhead of Sixteenth Army. This no-man's-land was absolutely dominated by the partisans around Kholm who, when the snow melted in the spring of 1942, directed part of their efforts against the Dno railhead. Most of their activity, however, was concentrated against the rear area of the weak German strong points, the only line of communication from Staraya Russa, just below the southern shore of Lake Ilmen, to Kholm. Because of a chronic shortage of troops the Germans, despite all their efforts, never succeeded in exterminating the partisans. In the late summer of 1942 a reinforced infantry regiment, on a two-week expedition, attempted to capture the supposed main supply dump--so designated by deceptive partisan messages--but the guerrillas evaded the trap and moved northward to the forests of Luga (42). The Sixteenth Army was rid of its partisans, who then became the worry of Eighteenth Army. But by the following autumn Sixteenth Army had them back again. 16

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\* Editor's Note: A junction of north-south, east-west lines, lying mid-way between Pskov and Staraya Russa.



During their withdrawal from the Leningrad area at the beginning of 1944, the German forces moving across the Luga area encountered strong and unexpected resistance from partisan units.<sup>17</sup> Indeed, not only the areas around Luga, but also those of Pskov (43) and Nevel-Bezhanitsy-Idritsa (44) were infested with partisans until the Germans evacuated these areas in February 1944. German antipartisan operations in these areas were never more than temporarily successful.

As the examples on the past few pages so clearly demonstrate, the scope and effectiveness of partisan warfare were such that it became a major factor in the campaign in the East.\* Without airlift, however, the logistical difficulties of the partisans would have been insurmountable.

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\* Editor's Note: General Ponomarenko, the chief of the central partisan staff, estimated that in two years' operations Soviet partisans killed more than 300,000 German soldiers (of whom 30 were generals, 6,336 officers, and 1,520 airmen). In the same period, 3,000 trains were derailed, while destruction figures given by General Ponomarenko included 3,263 railroad and highway bridges, 1,191 tanks and armored cars, 618 staff cars, 4,027 trucks, 476 aircraft, 378 guns, and 895 dumps and warehouses. Dixon and Heilbrunn, Communist Guerilla Warfare, p. 56.



## Chapter II

## LOGISTICAL PROBLEMS OF PARTISAN UNITS

In partisan warfare the logistical problems are always of the greatest importance. Even in this sphere Russian preparations had been made before the war; hidden supply dumps containing weapons, ammunition, explosives, rations, and first aid kits had been established. In general, however, the supplies drawn from these dumps were of minor importance. The dumps were too few in number, and the entire supply system was limited in depth and width, since it extended only from the Dnepr to the Crimea. Moreover, the system could not become completely effective because of the rapidity of the German advance and the collapse of the Russian chain of command. The partisans were unable to make use of even one-half of the prepared supply dumps because either the civilian population plundered them or the Germans discovered them, often long before the partisan groups were formed. Thus, the partisans were chiefly dependent on local resources for their basic food supplies.

The systems used to supply the partisans differed according to time and place. The partisans in the Crimea were supplied by small ships navigated by local sailors who knew every nook and bay; and the partisans along the Baltic coast were also supplied by ship. The following analysis will investigate the extent to which partisans were supplied by air or required air supply.

Food and Clothing

Food, grain and cattle were taken from the farmers or state farms; in so doing, the partisans initially encountered strong resistance. Small partisan groups, which were not sufficiently strong to take food by force, often had to survive on berries, even bark of trees or potatoes they found in fields that had been harvested. On the other hand, large partisan units fully exploited the area they dominated. Indeed, many such units had organized their food supply so well that they had surpluses that were taken behind the Russian lines by returning transport aircraft.\*

Only a minimal part of their food was obtained by hunting because the partisans lacked shot guns and could not afford to waste rifle ammunition. Moreover, hunting was probably forbidden because it would have

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\* For an example, see Chapter III.



given away the presence of partisans. In the northern sector of the front the Germans, on several occasions, established that the partisans had shot elk. Trapping animals was not too successful, nor was fishing. The partisan units formed after the withdrawal of the Red Army in 1941 were able, for some time, to secure rations from the sizable depots that the regular forces had intentionally left behind.

During the later phases of the war, particularly during German withdrawal movements, partisan raids on German ration dumps and railroad and highway transports were often successful. Partisans who wore German uniforms and spoke German passably well were, by ruse and deception, able to obtain small quantities of rations from German supply dumps.

In general, most of the partisan rations were obtained locally. The airlift of large quantities of rations was exceptional, whereas scarce items, such as salt, tobacco, and alcoholic beverages that could rarely be obtained from the civilian population, were transported by air.\* Canned goods, that were indispensable for certain partisan operations, were also airlifted. As a rule, however, air transport space available for partisan support was reserved for indispensable items other than food that could not be obtained in the partisan dominated area but were crucial for the fulfillment of the respective mission.

Securing supplies of supplemental clothing, particularly during the winter, constituted an important problem. Foot gear was especially scarce since the civilians suffered from a great shortage of leather and felt boots. Whatever could not be obtained from the civilians was taken from captured anti-partisans or from Germans, who were completely undressed before they were "liquidated." In addition, dead enemies and comrades were obviously stripped of everything they wore. Since the partisans were so frugal that they could manage with a minimum of clothing, they did not receive much clothing by airlift.

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\* Editor's Note: This is clearly corroborated in several sources, one of which states that "the Soviet partisans relied greatly on air transportation for logistical support. Most of the supplies sent to the partisans by air consisted of explosives, ammunition, and weapons. They also included a limited amount of food, medical supplies, tobacco, and even alcohol" (Ralph Mavrogordato and Earl Ziemke, The Partisan Movement in the Polotsk Lowland, Air Research and Development Command, Human Resources Research Institute [Project "Alexander"/], 1954, No. 24, Vol. 4, 90).



### Weapons and Ammunition

The partisan groups that formed in 1941-42 gathered their initial supply of weapons and ammunition from the battlefields where great quantities were scattered. Large partisan units even had heavy infantry weapons which they recovered in quantity from the battlefields. Because of their rapid advance, the Germans had been unable to recover or destroy this materiel. The partisans were also able to recover some of the Russian weapons and ammunition used for premilitary training in peacetime, which had been distributed all over the country in many small, well-hidden dumps at the beginning of the war. During their withdrawal the regular Russian forces had often hidden weapons, ammunition, and equipment for the use of the partisans. In one instance, the 11th Kalinin Partisan Brigade even had several tanks, which had been dug in and hidden in the Idritsa forests [east of the Latvian border] by regular Soviet troop units. Russian mines that had been employed in great quantities and had not been disarmed by the Germans during their rapid advance, were removed by the partisans and re-used. They also improvised mines from duds and explosives.

When the partisans left their territory, they hid weapons, ammunition, and in fact everything they were unable to take along. Such hidden depots, containing large quantities of weapons and ammunition, were uncovered quite frequently.

The steadily increasing need and consumption of weapons, ammunition, and explosives could not possibly, however, be satisfied for any length of time by thefts from German supply installations and by raids on German troops, supply columns, and supply trains. Such items had to be resupplied regularly. In addition to such small arms as rifles, especially automatic rifles and rifles with silencers, light machine guns, pistols, submachine guns, and daggers, the partisans needed heavy infantry weapons, such as mortars, light antitank guns, and dismounted guns, as well as ammunition and weapons spare parts. They also had a very great need for mines and explosives used in sabotage operations.

Without air transport, it would have been impossible for the Russians to supply the partisans with weapons, ammunition, mines, and explosives. Airlifting these items over the battle front was the primary mission of the air transport supply system.

### Signal Equipment

Along with the messenger service, radio equipment was indispensable for transmitting partisan intelligence information and orders,



both for intra-partisan liaison and for communications with the central command at Moscow.

Even though the first partisan groups used radio equipment found on the battlefields or captured from the Germans in new condition, this equipment was in short supply and inadequate to satisfy the long-range demands of an ever tightening central control. Very soon there arose a need for electric power plants, batteries, receiving and sending equipment and spare parts, all of which could only be supplied in quantity from the zone of interior via airlift. Often, specially trained radio operators equipped with special sets were airlifted or parachuted into the partisan areas. The transport of radio equipment, however, required relatively little air cargo space.

#### Motor Vehicles

In addition to small horse-drawn wagons and sleds, the partisans also had motor vehicles which they had obtained through battlefield recovery. In addition, without too much hardship, they were able to repair Russian and German motor vehicles that had become immobilized during the muddy season and had not been recovered in time. The necessary spare parts were obtained through cannibalizing. Only motorcycles were brought in by air, since they could be taken apart and moved in pieces. On the whole, the partisans were poorly equipped with motor vehicles.

POL soon became a scarce item, even for the Germans, so that the partisans were unable to seize any considerable quantity. Whatever they could capture by force from the Germans was certainly insufficient for their needs. For this reason, it has been estimated that the airlift of POL took a large proportion of the total airlift capacity.

#### Medical Supplies

At first the partisans were able to seize medical supplies and bandages from local apothecaries, but the quantities thus available were very small. German allocations to these stores for the civilian population were extremely limited, and the issue of medicines was severely controlled by a registration procedure. Neither by ruse nor threat could the partisans obtain sizable quantities of medical supplies from these sources. Nor did raids on German field hospitals produce quantities sufficient to satisfy requirements. Surgical instruments had been stored at the prepared supply dumps, but not in sufficient quantities. Thus, the



day-by-day need for medical supplies and surgical instruments could be satisfied only by airlift.

### Personnel

Since there was no general shortage of manpower in the partisan-dominated areas, only partisan command and staff personnel, specialists and agents had to be brought in by air. Regular troops were, however, continually being moved in by airlift to raise the combat efficiency of the partisans. They had been trained as lower-echelon commanders, indoctrinated as communists, and possessed special qualifications. In addition, regular training cadres were assigned to partisan units from among the officers and NCO's of the Red Army. This strengthened the units and put their training under partial control of the Red Army. Other replacements sent to the units included sabotage and reconnaissance detachments. Such specialists as radio operators, technicians, doctors, and nurses were also airlifted to the partisans.

Rotation of personnel also took place by airlift. Highly successful partisans were brought to the zone of interior for rest and recreation as well as to receive decorations. In addition, propaganda officers and top-echelon officials were flown on brief visits to the partisans to strengthen their morale in general and to decorate deserving personnel. (Other areas of morale-building were not neglected, for even psychological warfare pamphlets, political writings and propaganda movies were airlifted to the partisan areas. The delivery of mail to the partisans was most important for morale purposes. This function was accomplished by the army postal organization of the Red Army, and all mail was strictly censored.)

Another major airlift mission was to deliver airborne troops to partisan-held airfields and to maintain the flow of supplies to the airlanded forces. Messengers and agents were flown between Moscow and the partisans, carrying orders and directives and taking back reports and information.

On return flights the supply transports served as personnel carriers. They transported wounded partisans, Russian prisoners of war who had escaped from German camps, Russian flying crews who had bailed out and reached the partisans, important German prisoners who were taken to higher Russian headquarters for questioning, and draftees for the Red Army.



## Chapter III

## AIRLIFT SUPPLY

## THE AIRLIFT SUPPLY SYSTEM

Origin of Organized Operations

Whereas the supply and personnel airlift was carried out by individual aircraft without proper planning until the winter of 1941-42, radio intercepts made during the summer of 1942 indicated that the Russians had formed an air army whose exclusive mission was the transport of supplies to the partisans. The resupply of the partisan units was suddenly organized and centrally controlled.

The air army committed for maintaining the partisans was constantly reinforced and consisted of several air corps by 1944-45. These air corps were responsible for supplying the southern, central, northern, and Baltic sectors--the latter including Finland--under the overall direction of the air army headquarters. The Russian General Staff had diverted these flying units from bombing missions to partisan supply.

Units Employed and Aircraft Types

As previously mentioned, the partisan units were unable completely to live off the land despite their capability to improvise means of conducting guerrilla operations. They had to rely on continuous resupply by airlift. To accomplish this, the following types of units were employed: (1) Transport aircraft regiments of the civilian air fleet; (2) Units of the long-range bomber organizations; (3) Nightfighter regiments; (4) Special courier and liaison aircraft groups assigned to individual sectors of the front and used for supplying partisans in addition to flying courier missions; and, (5) Special groups employed in various sectors when necessary, their mission being exclusively to supply partisans, with strength generally corresponding to that of a squadron; and (6) Glider regiments.

The following types of aircraft were employed as required by the mission:

U-2, R-5, LI-2, C-47, Yak-6, IL-2, IL-4, Cargo glider A-7, and Seaplane ME/B?/R-2. The model PE-2 apparently was also used for



partisan support operations.\* U-2 and R-5 models were used for many purposes in the combat zone. They were, for instance, used as ambulance aircraft with emergency stretchers attached below their wings. Other ambulance U-2's had extended cabins so that either one wounded man could be transported on a stretcher or two sitting up. The U-2 could land and start on the smallest clearings without difficulty. LI-2 and C-47 models were used for carrying heavy loads and for depositing agents far behind the German lines. If a fighter-bomber unit, such as IL-2 equipped units, was employed for partisan support it was used to drop ammunition and rations in low-level flight above a pocket. Cargo gliders were also used regularly for partisan support missions, being towed by SB or IL-4 models. The most commonly used cargo glider was the A-7.†

### The Techniques of Support Flights

It is not known how much time elapsed between the transmission of a request by partisan units and the execution of a flying support mission. As a rule, however, flying units did not receive their orders until just

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\* Editor's Note: U-2: single-engine training and ambulance biplane; R-5: single-engine reconnaissance biplane; Yak-6: twin-engine, low-wing, training aircraft; IL-2: low-wing, single-engine monoplane, assault-bomber, commonly called the "Stormovik"; ME/B?/R-2: single-engine reconnaissance flying boat; PE-2: twin-engine reconnaissance and dive-bomber; LI-2: twin-engine transport.

† Editor's Note: "At some time during the war virtually all types of Soviet planes were used for partisan support missions. However, the plane most frequently employed was the U-2, single-engine biplane, originally intended for training and reconnaissance. It could carry 220-330 pounds, had a range of 310 miles, and a maximum speed of 94 mph. These planes continued to be manufactured during the war, and in numbers and frequency of missions outstripped all other planes used in partisan air support. The R-5, a somewhat more modern version of the U-2, was also frequently used.

"The other type of plane used rather widely for partisan support operations was the two-engined transport; several Soviet models were employed, the most important being the Li-2. Employed at least as frequently were the American Douglas C-47 and its Soviet-built equivalent, the PS-84. With their greater range and carrying capacity these planes were especially useful; interestingly enough, the word 'Douglas' came to mean any big plane used for partisan support" (Gerhard L. Weinberg, The Role of Airpower in Partisan Warfare. Air Research and Development Command. Human Resources Research Institute /Project "Alexander"/. 1954. No. 6, Vol. 3, 29).



before take-off. Units that were exclusively employed for partisan support missions generally stored essential supply items at their airfields. Prompter execution of support missions was thus ensured. Data on the partisan unit that was to be supplied, on the type of landing, and related information was provided to the air crews on a need-to-know basis in accordance with security regulations.

The objective was generally made known to the crews only one or two hours before starting time. In case the pilot missed the dropping range, he was given one or two alternate targets. If the pilot knew the operational area, the flight route was not specifically designated. In all other cases the air route was prescribed, occasionally including a considerable detour in order to keep to a minimum the flight over ground-defended enemy territory.

If a major support mission was to be executed by units stationed far in the Russian rear areas, a specially organized composite group or an entire unit was usually transferred temporarily to airfields that were closer to the frontline. In such instances the commander of the aircraft that were to be committed generally received his orders directly from Moscow. Intelligence information was provided by the respective air force headquarters. Major missions were frequently flown under the direction of senior staff officers of the Soviet Air Force.

The altitude flown depended on the type and model of the aircraft employed. In general, the main line of resistance was crossed at high altitude, and the aircraft did not drop to a lower level until shortly before the target. As a rule, missions were flown every night (weather permitting), although of course dark nights were preferred. A captured map showed that in some instances lanes of approach--marked by two open fires--were used for directing aircraft toward the partisan-held area. Occasionally, the objective had to be approached from a clearly designated direction.

The marking of partisan-occupied airfields for support flights during the hours of darkness was carried out by open fires. Large piles of lumber were lit, often in pits to hide them from ground observation. When aircraft approached, pine twigs were thrown on the fire to produce a white glare. If there was danger of discovery, the fires were built from twigs or straw so that they could be quickly extinguished. Arrangement of the fires permitted identification of the partisan airfield. Usually, such arrangements changed every day.

Only in rare instances were the fires so arranged that they lit the landing strip or the runway. In most instances the partisans were notified



by radio of the arrival of aircraft. They then lit the stakes at the right time so that the approaching planes could recognize the airfields from a long distance. During landing the aircraft illuminated the field with their landing lights.

If the partisans were afraid of German discovery, they lit the fires only after the approaching aircraft had fired a recognition signal. After the landing the fires were immediately extinguished. The crews had instructions to identify the number and order of the fires. If they deviated in any way from the prearranged signal, no supplies were dropped. In some instances the Germans observed that small supplementary fires were lit next to a fire while the plane was approaching, probably to comply with a previous arrangement.

Drop points for cargo were marked by fires generally placed in a north-south direction. The dropping of bags with ammunition or rations was indicated from the aircraft by lighting red or green lights. Special illuminations were used for the commitment of parachute troops. For the infrequent day-time landings the partisans put out recognition markers. Drop altitude varied according to the model of the plane: U-2's releasing their cargo from 330-500 feet, the LI-2's from 1,650-2,000 feet.

Cargo was dropped in specially made, bag-shaped containers, measuring about ten feet in length and two and one-half feet in diameter, and weighing approximately 260 pounds. They were weighted and cushioned at the bottom to reduce the effect of their dropping to the ground. The packed parachute was at the top.

In airdrop missions using LI-2's or C-47's, when the aircraft had reached the area above the drop zone, the entire crew except for the first pilot moved to the rear of the cabin, opened the doors, and waited for the signal to drop the cargo. After the pilot's signal (and extended sounding of the horn), the drop was effected as the aircraft circled the drop zone. Particularly valuable containers, equipped with electric buzzers, were quickly found by the partisans using special search equipment.

Parachutists were dropped from an altitude of 1,000-1,300 feet according to regulations. The crews, however, often made mistakes in the process, which resulted in accidents (mainly broken legs).

Landings were made only to exchange personnel, to pick up the sick and wounded, and to return valuable prisoners or intelligence information. In addition, landings were made to deliver supply items that were too sensitive, heavy or bulky to be dropped.



Landings were carried out mainly by model U-2 planes, with LI-2's being used much less frequently and only if suitable landing fields were available. Landings were made on improvised runways or meadows surrounded by forests, and at similar places. The selection, improvement, and maintenance of these installations were the responsibility of the partisans.

Although navigational aids varied according to the model of aircraft, in general they were limited to a map, a compass, and a direction-finding device. Radio and beacons were rarely available, but there were instances in which even glider pilots oriented themselves by beacons. Indeed, to a certain extent the partisan supply aircraft even used German beacons. The obvious, manifold flying difficulties involved necessitated the employment of experienced pilots and navigation officers.

Support missions were carried out under minimal meteorological conditions corresponding to the capabilities of the aircraft models used. The weather problem was complicated by almost exclusive night operations, skillful camouflage of drop zones and landing fields, and the dearth of radio signal and beacon guidance. Occasionally, missions were so urgent that they had to be carried out in any weather. In those instances no consideration could be given to crew or aircraft. Meteorological briefing of partisan support aircraft pilots did not differ from the standard service provided for Russian Air Force units.

No radio traffic between partisans and support aircraft was detected. Aircraft equipped with radio sets were in contact only with their operational base. There was lively radio traffic, however, transmitted in code between the partisan units and the senior partisan commanders behind the Russian lines. By this means supply requests and airlift support demands were transmitted from partisan units to partisan staffs and from these to air force headquarters. Aside from requests for supply items, such radio messages contained regularly transmitted weather reports and prearranged code signals.\*

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\* Editor's Note: "Although some of the first partisans were not provided with radios, their crucial role was certainly recognized at an early date by the Soviet officials, as indicated by the widespread use of parachutist teams provided with radio equipment--the example par excellence of the combination of new technical devices. From the winter of 1941-42 on, one can say that the partisan system of organization depended almost completely on radio. Those bands, like the roving bands, which could be provided with powerful sending and receiving sets were more or less independent and could even bring numerous other partisan



## AIRLIFT SUPPLY OPERATIONS

Army Group Center

Weapons, Ammunition, etc. After an air army had been activated exclusively for partisan support operations during the summer of 1942, the number of nightly entries by air into the German Army Group Center area suddenly increased. The mass entries took place via two air corridors, above Orel and above Velikie Luki. The planes penetrated up to 300 miles into the army group rear. The supplies (principally weapons and ammunition)\* were still being dropped, but radio intercepts indicated that civilians were being ruthlessly forced to construct emergency airfields in the partisan area. The existence of 20 such landing fields was established during the summer.<sup>1</sup>

The following quotations give an indication of the extent of air supply in the areas of Army Group Center:

a. 1941. Far in the rear area of Second Panzer Army and Second Army, in the forests south and north of Bryansk, dispersed Soviet elements that had escaped from the Bryansk pocket after the battle of encirclement, which lasted from 2 to 18 October 1941, formed strong partisan units that were constantly resupplied by air and that constituted a continuous threat to the Luftwaffe.<sup>2</sup>

b. 1942. While during the past year [Russian] messengers crossing both frontlines sufficed for maintaining contact and transmitting orders, aircraft flying regular missions--courier and

bands under their jurisdiction. Smaller units, which perhaps had only feeble or unreliable sets, were subordinated to operative centers, one of whose major tasks was to maintain a powerful and constantly functioning radio station" (John Armstrong and Kurt DeWitt, Organization and Control of the Partisan Movement. Air Research and Development Command, Human Resources Research Institute [Project "Alexander"]. 1954. No. 6, Vol. 4, 39).

\* Editor's Note: The pressing demand for weapons and ammunition sprang from several causes. Original equipment was wearing out, in addition to which German counter operations caused heavy losses in weapons and ammunition. As the war progressed, the type of operations of the partisans laid an increasingly heavy stress on firepower. Perhaps the greatest volume of weapons was needed for the new recruits, who usually had no weapons at all. Weinberg, The Role of Airpower, p. 13.



transport planes--next assumed this task. They transmitted orders to the partisan units operating in German rear areas, and supplied them with weapons, ammunition, signal equipment, POL, and medical supplies. Above all, they delivered a great number of radio sets for interpartisan contact and for communication with the control staff in Moscow.<sup>3</sup>

c. 1942-43. West of Kletnya (7) and on the northern fringe of the wooded area east of Zhukovka (8) the partisans built airfields during the period May 1942 to February 1943. Planes landed at these airfields at night, guided by the fire of stakes, or when unable to land they dropped weapons, ammunition, rations, medical supplies, and clothing.<sup>4</sup>

d. 1942-43. The most dangerous and best organized partisan units were probably in the extensive forests on both sides of the Beresina near Zhlobin, Bobruysk, Borisov, and Lepel. Here the partisans were supplied by air, and they were even supposed to have had airfields where leaders returned from or departed on leave.<sup>5</sup>

e. 1942-43. In a number of partisan areas as, for instance in the Mamayevka forest (15), near Bobruysk (31), Vitebsk (20), and probably also in the area of Zezersk [Chechersk?] there were winterized barracks in camps where battle-weary partisan units could recover from the fighting. These areas were filled with materiel and replacements so that the partisan units could regain their combat effectiveness. During 1942 enemy activities in the army group rear area increased constantly during the hours of darkness. The daily situation map registered many hundreds of support flights.

The following personnel were airlifted into the area: partisan leaders, agents, radio men and medical personnel. In addition, weapons, ammunition, explosives, radio equipment, and medical supplies were airlifted.

In general, personnel and equipment were dropped by parachute. But I have personally observed that in the sector of the 221st Security Division in the partisan-held area of Zezersk [sic] . . . an emergency airfield was built in the middle of the forest; supply aircraft landed on and took off from this airfield. This was a truly remarkable achievement!

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\* Editor's Note: Zezersk was not located. Author may have referred to Chechersk, some 30 miles northwest of Gomel.



On their return flights the aircraft usually transported key personnel who were sick or wounded.<sup>6</sup>

Key Personnel and Specialists. One of the most important factors in the effective operation of partisan bands, beginning in 1942, was the continuous flow of key command personnel and various types of specialists to the units.\* In the vast majority of instances, this personnel reinforcement was possible only by air supply. Several authorities have attested to the importance of this facet of air transportation:

a. Summer 1942. During the summer of 1942 the Russians made every effort to disrupt the German lines of communication. The scarce POL supplies destined for Army Group Center--the operations in the south had priority--were jeopardized by partisan interference. The demolition squads of the Red Army auxiliaries had only improvised means at their disposal. An emergency combat method developed into a new nuisance arm. Small and very small liaison aircraft with aircooled engines, which had formed the only remnants of ready-for-action planes during the past winter, were used by the Russians to airlift sabotage detachments into rear areas.<sup>7</sup>

b. Mid-1942. The leaders of the partisan units were mostly specially trained regular army men--even general staff officers--who were airlanded, just like replacements, by parachute or towed gliders . . . .<sup>8</sup>

c. 1944-45. When aircraft began to land and partisan leaders were no longer dependent on airdropped supplies, the partisans became more effective and an exchange of personnel with the

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\* Editor's Note: In March 1942, a German commander reported in the following vein: "The partisan movement has grown tremendously in recent weeks, above all as a result of the landing of commissars and officers of the Red Army, but also because of the propaganda leaflets dropped, and not least because of the German requisitioning of cattle, horses, and hay. The commissars attempt to organize a popular mass movement (Volksbewegung), and it seems as if enthusiasm for entry into the partisan movement has already spread in wide circles of the rural population" (Weinberg, The Role of Airpower, p. 4). See also Gerhard L. Weinberg, The Partisan Movement in the Yelnya-Dorogobuzh Area of Smolensk Oblast. Air Research and Development Command. Human Resources Research Institute (Project "Alexander"). 1954. No. 24, Vol. 2, 90.



Russian zone of interior became noticeable. The Germans now encountered specialists, officers, and medical personnel who had served previously in several sectors of the Russian theater and who were taken prisoner when partisan units were destroyed. They also encountered general staff officers and administrative personnel as well as NKVD groups who reorganized the partisan units and planned their operations.<sup>9</sup>

d. Mid-1943. Radio communications became every more important to the partisan units for the transmittal of orders, reports, supply requisitions, etc. Various types of outstanding personnel, both men and women, were specially trained for this service. Radio operators were parachuted into designated areas or they landed with their short-wave sets, which were the size of a cigar box, at partisan airfields.<sup>10</sup>

Evacuation Return Flights. The return flights of aircraft supporting the partisan effort were used for evacuating important prisoners (as for instance General Ilgen who was captured by surprise in the rear area and was taken the same night to Moscow), captured weapons, and wounded partisans, in addition to being used for the transmittal of reports.<sup>11\*</sup> There was even a reverse flow of supplies. For instance, in the autumn of 1942 the Germans received reports that aircraft landed every second night in the partisan-infested forests around Bryansk (6, 8). These were supposed to have loaded grain requisitioned by the partisans and transported it eastward.<sup>12</sup> And in the same period it was definitely established that Russian aircraft landed every second night in the rear area of Second

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\* Editor's Note: "In addition to carrying partisan leaders back and forth between their units and the Soviet side of the front, the Red Air Force also instituted a courier service to transmit orders to the partisans and to return partisan reports to headquarters. The courier service apparently began to function early in the summer of 1942 and continued throughout the war. In general, courier planes flew between army group headquarters on the Soviet side of the line and the major areas of partisan activity. There is evidence of such courier flights to the Yelnya area, the Bryansk area, the eastern part of Belorussia, the Crimea, and the partisan centers south of Lake Ilmen. Although little is known about how this system functioned, it appears that at least for the major partisan areas it provided a dependable and regular means of sending orders which for some reason could not be transmitted by radio. A courier system of this kind was an invaluable aid in keeping a firm hold on the partisan movement and in making it a tactically effective weapon" (Weinberg, The Role of Airpower, pp. 7-8).



Panzer Army and, after loading grain, took off flying eastward.<sup>13</sup>

Airfield Construction. In January 1942 partisan units intervened increasingly in the Fourth Army area; the army employed the bulk of its forces in the Yukhnov area, 55 miles southeast of Vyazma, where it was surrounded by Russians in front and at the rear. The partisans appeared particularly strong west and south of Vyazma (9, 10), in the extensive forests of Bogoroditsk (11), and the Yelnya (12) area.

In this situation the Russians began to airland troops in the rear of the German Fourth Army and the adjoining Fourth Panzer Army. These troops landed both by parachute and from transport aircraft going down at airfields that were prepared and marked by partisans.<sup>14</sup>

These troop airlift operations, both for paratroops and airborne units, continued throughout January and February until the beginning of March. The landings were not concentrated in one definite area at a certain time, but were an airlift operation extending over a span of time and covering a wide zone that was occupied by partisans or regular forces that had previously broken through and taken possession of the area. The flights mostly took place by night, and it was difficult to tell whether troops or supplies were airlifted. In the fighting with these airlanded troops the Germans never encountered a major organized unit. They seemed to have served as cadre and support for partisan units or as reinforcements for the Russian forces that had broken through the German lines.

In the forests north of Bogoroditsk (11) Russian troops airlanded through mid-January. The Russians in that area held several airfields near Lugi, Velikopol'ye (54° 53'N 34° 29'E), and Zhelannye (54° 51'N 34° 31'E), where they could land without interference.\* The airlanded forces reinforced the partisans in the Bogoroditsk forests. In the

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\* Editor's Note: "Of course airfields had to be prepared for landing operations. There were occasional instances when the partisans utilized abandoned prewar airfields; but these were usually known to the Germans and were too close to towns having large German garrisons. More frequently, the partisans prepared their own fields. For planes of the U-2 type, a small area, in the woods or meadows, cleared of large rocks and tree stumps was sufficient. The two-engined planes, on the other hand, needed longer runways and, since these generally were not available, tended to parachute their loads more frequently than the small biplanes. By 1943, however, there was apparently at least one field where such planes could land in each major area of partisan activity" (Weinberg, The Role of Airpower, p. 30).



extensive swamps of Bogoroditsk and farther to the north Russian elements, which were resupplied by air and reinforced by parachutists and airborne troops, began to assemble.<sup>15</sup> Radio intercepts made during the summer of 1942 indicated that the partisans had ruthlessly drafted civilians in the area they held and had used them for constructing emergency airfields, 20 of which were located and identified during that summer.<sup>16</sup>

Supply Flights - Statistics. Supply flights were flown almost exclusively at night, and the main partisan supply airlift effort was made in the area of German Army Group Center. In this area at the beginning of 1942 the Germans counted up to 150 air entries per night by planes that either simply dropped their cargo or landed on airfields in major partisan-held areas. The number of flights was established by air observation and, in many instances, by counting the parachutes on the ground.<sup>17</sup>

In December 1943 the number of Russian partisan support flights dropped considerably from a record maximum of 150 entries per night during the summer of 1943. This drop in air activity coincided with a decrease in partisan operations because of bad weather. In January 1944 airlift flights for partisan supply numbered 217, in March 1944 they rose to 917, an indication of future events at the fighting front. In April 1944 there were 1,359 such flights, but by May 1944 they had dropped to 922.<sup>18</sup>

One source indicated that the number of nightly incursions into the Army Group Center area during the summer of 1942 varied between 250 and 1,000 flights. In general, the aircraft used two air lanes; above Orel and above Velikie Luki (ca. 275 miles west of Moscow). They penetrated into the German rear up to a depth of 300 miles.<sup>19</sup> In the area of Air Command Moscow (Army Group Center) the partisan airlift missions, during the summer of 1944, numbered several hundred per night.<sup>20</sup>

#### Army Group North

Weapons, Ammunition, etc. During an antipartisan operation conducted by a reinforced German infantry regiment against a major partisan unit that had been active in the rear area of Sixteenth Army south of Lake Ilmen since the winter 1941-42 and had always managed to escape, the Germans succeeded in occupying the main supply camp in the center of the partisan area. While the Germans had hoped that capture of this camp would eliminate the partisan threat, they did not find a single round of ammunition or one bag of flour in the camp. They had been deceived by a very clever partisan ruse carried out by faked signal traffic. The enigma of the methods used to supply such a large partisan unit was solved during the night after the capture of the camp. Until then the



Germans had found only cattle in abundance which were killed by fire from aircraft. That night the Germans were surprised as follows:<sup>21</sup>

Aircraft flew in, no doubt Russian aircraft, and when they were distinctly audible flares went up all around the hedgehog defense surrounding the regiment on the spit of land. Flares even appeared from the strip searched by the regiment during the day. Several smart Germans recognized the uniform pattern of flares, whereupon they imitated it when the next planes were approaching. To their surprise, parachute containers dropped to the flare-lit area containing Russian ammunition and, unfortunately only in a few of the containers, a kind of candy bar and tobacco. The enemy was there, all around the regiment. Despite this realization, the operation conducted during the second day was once again fruitless. After darkness the same pattern of events occurred: aircraft approached the area around the regiment's hedgehog defenses. After midnight it began to pour with rain.

A German commander in the Lithuanian area recorded air supply operations in support of the partisans in that area.<sup>22</sup>

In October 1942 I assumed command of Group IV of Bomber Wing Hindenburg No. 1 at Schaulen in Lithuania. At that time strong partisan units hid in the extensive forests east of Schaulen. They were supplied by night by Russian aircraft that apparently landed in the area. I personally established during a night observation flight that light signals and flares originated from the forests. I did not observe any aircraft, but the German police commander of Lithuania had reliable reports of airlift operations.

#### Russian Primitivity and Brutality

Especially in partisan warfare did the Russian characteristic of callous brutality tend to compensate for insufficient technical capability. So-called parachutists were repeatedly dropped without parachutes, no doubt because of a shortage of parachutes. Lieutenant General Roettiger indicated that soldiers were placed in bags stuffed with hay which, together with deep snow, was to soften the fall. The war diary of Fourth Army tells of one instance in which Russian aircraft dropped six men from an altitude of 33 feet near a highway.\* In addition, soldiers were

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\* Editor's Note: See also Weinberg, The Role of Airpower, p. 30, note.



packed in wooden crates that were attached to the wings of the aircraft in order to increase the number of passengers per flight. Obviously, these men were half-frozen when they were pulled out of their crates after the landing.<sup>23</sup>



## Chapter IV

## GERMAN COUNTERMEASURES AGAINST AIRLIFT OPERATIONS

By Army and Counterintelligence Agencies

Attacks on Partisan Airfields. The Army security troops and police units committed in the rear areas of Army Group South, Center, and North were often supported by aircraft and antiaircraft units provided by the Luftwaffe as well as by air force headquarters troops employed for ground combat.\* In the course of their antipartisan operations, these troops attempted to seize the airfields used for resupplying the partisans. Since these airfields were located in partisan-infested areas in fairly inaccessible forests and swamps, and since they were furthermore well secured and defended, they could usually not be attacked on the ground. By the time a major German unit, after serious fighting, finally succeeded in penetrating to such an airfield, the aircraft and installations had already been destroyed. Destruction by artillery fire usually failed because of the difficulty of bringing the guns sufficiently close to the target or because of a shortage of ammunition. Sometimes, however, a major operation of this type was rewarding, as when the Germans succeeded in capturing an airfield in the Lepel area on which there were more than 100 Soviet cargo gliders.<sup>1</sup>

Deceptive Measures. The German ground forces had a certain amount of success in imitating landmark beacons of the Russians by

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\* Editor's Note: "With the exception of reconnaissance, missions to bomb and strafe partisan installations were more frequent than any other type of air support operation. Starting in the spring of 1942 with the first major anti-partisan operations, German Air Force planes flew tactical support missions for practically all such operations until the summer of 1944. . . . Bombing was of particular value in those areas where the partisans had prepared heavy field fortifications which severely handicapped German security troops, often deficient in heavy weapons. . . . Although the German reports do not stress the point, it is clear that air support gave a morale boost to the German troops--often over-age and otherwise second-rate units who were engaged in a type of fighting which tended to be particularly demoralizing and which frequently found them outclassed in military equipment" (Gerhard L. Weinberg, The Role of Airpower in Partisan Warfare. Air Research and Development Command, Human Resources Research Institute [Project "Alexander"], 1954. No. 6, vol. 3, 36).



setting up similar fires and flares. In this manner the Germans succeeded in several instances in seizing air-dropped supplies or in making Russian aircraft land within their territory. For example, during an antipartisan operation conducted south of Lake Ilmen in the winter of 1941-42 by a reinforced German infantry regiment, the troops fired the same flares as the partisans, whereupon Russian supply aircraft dropped parachute containers enclosing ammunition, rations, and PX supplies.<sup>2</sup> The principal achievement, however, was that the Russians grew far more careful after that.<sup>3</sup>

In February 1942 counterintelligence agents of Eighteenth Army captured a sabotage detachment composed of 8 men near Tosno (59° 33'N 30° 53'E). During his interrogation one of the radio operators stated that they were expecting an aircraft with a new commander and a new radio operator. Moreover, he informed his interrogators that the light signal to be given at the time of arrival of the plane above a small lake was the Russian letter "G." Upon request from the Germans, the radio operator contacted the Leningrad station and found out that the plane would arrive the following night. At the indicated time the area was surrounded by German troops. The aircraft landed on the ice with four men aboard. While the two pilots were able to shoot themselves, the two passengers were captured alive.

But the Russians did not always fall into such traps, as is shown in the following case. In the spring of 1943 the 318th German Counterintelligence Group staged a similar operation in the Surash forest, some 20 miles northeast of Vitebsk (20), hoping to seize an aircraft that supported the Partisan Brigade Sokolov. The plane actually arrived, but instead of landing it strafed the area and dropped bombs. On their return trip the Russians who were working for the Germans on this mission fell into an ambush prepared by Sokolov's partisans. The cause of this failure was never established. Although the Germans had used proper signals and code messages, the central partisan staff probably became suspicious because the clearing in the forest indicated by the Germans had not yet been used for landing operations. The Germans could not have used the customary airfield because all access roads were mined and the field was too close to the camp of Brigade Sokolov.<sup>4</sup>

The German counterintelligence agents were able to obtain some of the partisan-destined supplies by playing German-prepared codes into partisan hands.<sup>5</sup>

Such deceptive measures probably did not interfere much with the airlift of supplies to the partisans. Interference from the air was far more promising.



By Luftwaffe Agencies

Attacks on Jump-off Bases and Partisan Airfields. The Russian advanced landing fields, generally known to the Germans, were in the principal sector of Army Group Center as follows:

1941-43: Kaluga (about 100 miles southwest of Moscow), Sukhinichi (approximately 70 miles northwest of Bryansk), and Kalinin (about 95 miles northwest of Moscow);

1943-44: Konotop (about 110 miles northwest of Kiev) and Sechniskoya [?] (between Bryansk and Roslavl).<sup>6</sup>

The German Air Force units did not launch any mass attacks on these airfields; they made nuisance raids instead, mainly because they lacked sufficient strength to do better. These units also had other targets in the combat zone that had higher priority than airfields serving partisan support.

Again because of the shortage of forces the Germans were unable to launch planned offensives against partisan airfields, even in the central sector of the Russian theater.\* They were forced to improvise measures against these targets. Nuisance bombers had orders to drop bombs in

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\* Editor's Note: "By the end of 1941, the German commanders in the East began to recognize that air strength would be invaluable in fighting the partisans, but the situation at the front made the assignment of planes to anti-partisan warfare impossible at that time. Not until the spring of 1942 were planes systematically sent on missions against the partisans. By that time, the partisan movement had grown to such an extent that the Germans had tremendous difficulty coping with it, especially in view of their inadequate security forces. Under these circumstances, airpower in anti-partisan warfare became primarily a matter of assigning planes in small groups or individually to support specific anti-partisan operations, or to attack known partisan concentrations when planes were available but there were not enough security troops for offensive action. It must be kept in mind that the numerical inferiority of German planes obtained on the Eastern front during the whole period of anti-partisan operations. This inferiority imposed rigid limitations on both the number and type of German planes used. Reliance was placed primarily on small reconnaissance planes, various obsolete trainer and bomber models, and medium bombers temporarily detailed to anti-partisan missions" (Weinberg, The Role of Airpower, p. 34).



their raids on these well-known airfields, if such action promised results. Bombers were also ordered to attack such airfields as a secondary mission. But only in a few instances did the Germans score successes in bombing raids on partisan air-drop points, and the number of Russian aircraft shot down in such raids was small.<sup>7</sup>

To restrict Soviet night flying activities that were constantly increasing, the security divisions of Army Group Center were each issued three close reconnaissance aircraft, model Focke-Wulf. After a slow start they proved very effective. They succeeded, for instance, in identifying the well-camouflaged and forest-hidden emergency airfield at Zezersk [Chechersk ?], northwest of Gomel, at a time when a plane was on the field. It was destroyed on the ground and another one was later shot down while landing. The airfield was then destroyed during a special operation and made inaccessible, after bombing from the air had proved of little lasting effect.<sup>8</sup>

At the end of 1943 the close reconnaissance units of the 1st Air Division committed in the Central Army Group sector at Mogilev were employed in the partisan-held area to the west with orders to fire at every light signal. If the pattern of light signals indicated the existence of a landing field, the German planes were to wait for Russian aircraft to land, then drop flares and set the enemy planes on fire.<sup>9</sup>

During the period 1 September 1943 to the summer of 1944 an air commander (Brig. Gen. Punzert) on the Sixth Air Force staff was responsible for committing his auxiliary bombing units not only for night nuisance raids on nearby enemy forward areas but also for supporting antipartisan operations of the ground forces and attacking Russian supply aircraft. These auxiliary units received their personnel and equipment from flying schools. They were organized as follows:

(1) 1st Night Ground Attack Group with 5 squadrons, equipped with the following model aircraft: Arado 66 (single-engine school and training planes of an old type), Heinkel 45 and Henschel 126 (antiquated, single-engine reconnaissance aircraft), and Focke-Wulf 189 (twin-engine close reconnaissance planes).

(2) Combat Command Liedtke, consisting of 3 squadrons, equipped with Junkers F 13 (single-engine, commercial aircraft), Henschel 123 and 126 (antiquated, single-engine close reconnaissance aircraft), Heinkel 111 and Dornier 17 (antiquated, twin-engine bombing and long-range reconnaissance aircraft), and Messerschmitt 109 (single-engine, single-seat fighter).



(3) Special Squadron Gamringer (for reconnaissance and combat) composed of 12 planes of the following models: Arado 66 (single-engine school and training planes of an old type), Junkers 87 (dive bomber), and Messerschmitt 109 (single-engine, single-seat fighter).

The armament of these planes was improvised with machine guns, while the Focke-Wulf 189's and Heinkel 111's also had cannon. Bombs were dropped by hand, except for the Heinkel 111's which were equipped with bomb release and bomb sight devices.

The commitment of the few aircraft suitable for night fighting against the approaching supply transports failed, although not through any lack of personnel. The aircraft were insufficiently equipped with navigational aids, their armament was unsatisfactory, and the pilots had not had enough training in firing guns. The aircraft warning net did not offer sufficient coverage and the Russians adroitly exploited this weakness. For these reasons the Germans had to be satisfied with keeping the areas through which the Russian aircraft entered their territory under surveillance. This was achieved by tracing the fiery glare of the engine exhaust until the landing of the aircraft and then bombing the landing ground. This procedure was only rarely successful, because the partisans improvised an antiaircraft defense of the landing fields.\* At first they responded with immediate and intensive rifle and machine gun fire; after a while, they also used light antiaircraft guns with considerable success. Only in 2 or 3 instances were the Germans able to establish that they had destroyed Russian aircraft on the ground.<sup>10</sup>

The 1st Night Ground Attack Group was committed along the northern sector of the Russian front, under the command of the 3d Air Division, from the beginning of 1943 to 6 July 1944. The group flew night bombing missions against nearby targets such as troop assemblies, tank-staging areas, motor-vehicle columns, and artillery positions. Originally designated as a nuisance bombing group, the group was equipped with inferior and partly unarmed school and training aircraft and antiquated close reconnaissance planes, and could therefore be employed against these targets only by night. When partisan activities in the immediate rear of the combat zone, especially in the partisan-infested

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\* Editor's Note: The effectiveness of antiaircraft fire by the partisans was the result both of an ever-increasing supply of antiaircraft weapons and the German tendency to use slow, obsolescent aircraft. Weinberg, The Role of Airpower, p. 38.



area southwest of Leningrad around Luga, required antipartisan operations in September 1943, individual planes of this group were committed as reconnaissance and bombing planes in support of the ground forces in daytime missions.

South of Luga the partisans had prepared a landing field for supply transports--model U 2--in virtually inaccessible terrain. The borders of the landing surface were surrounded by piles of twigs that were lit when Russian supply planes were expected. One of the Heinkel 46 aircraft succeeded in arriving at precisely that moment and attacked a U 2 with machine-gun fire as it was landing. The crashed aircraft was sighted the next day. Constant disruption of their supply system must have created great difficulties for this partisan unit,\* since the Germans intercepted radio messages indicating that the partisans were unable to operate for lack of supplies.<sup>11</sup>

In the southern part of the Russian theater the Germans also had to improvise. Thus, in 1943-44 Russian aircraft, even twin-engine types, landing on partisan-prepared airfields on the high plateau of the Yaila Mountains, were attacked by German auxiliary units equipped with school and training planes.<sup>12</sup>

Attacks on Transports in Flight. Since the supply aircraft flew only under cover of darkness, it was difficult to combat them with flak and fighters. In contrast to Western Europe, the Germans in the Russian theater had a weak night-fighter organization.

In the Sixth Air Force area in the central sector, the II Corps and the 1st Air Division had improvised a night-fighter intercept organization against Russian supply transports. Radar intercept detachments were installed on railroad cars and thus given the necessary mobility for

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\* Editor's Note: "The potential value of airpower in German anti-partisan warfare was great. . . . the possibilities for the Germans to observe and attack partisan units through airpower were almost unlimited. An occupying power with sufficient planes and an effective warning system to intercept partisan support planes would have had an easier time fighting the partisans than the Germans did. If, in addition, its air resources would permit the continuous harassing of partisan units, the very existence of bands could be made most difficult. Partisan formations are very sensitive to air attack. If this fact could become apparent even when air operations were limited drastically by the meager German resources, the real potential of airpower in anti-partisan warfare must be considerable" (Weinberg, The Role of Airpower, p. 34).



commitment at enemy points of main air effort in accordance with German air and railroad capabilities. These detachments were instrumental in scoring the greatest number of night kills; but their number was insufficient to achieve more than very limited local coverage.<sup>13</sup>

Deceptive Measures. The small U 2, a slow but maneuverable aircraft, used by the Russians to carry supplies into areas close to the front, was suitable for night missions because the German night fighters could not easily shoot it down. Moreover, it could take off from and land on small airstrips that could be found in great number. It could also land on skis wherever such landings were possible. These airstrips were known to the German Air Force and new ones could rapidly be identified by air reconnaissance units. The Soviet command, however, did not have to make frequent switches in landing, supply, or airdrop fields because the German ground forces were too weak to seize them and the German night fighters were not very effective in attacking them.

By constant surveillance the German command sometimes succeeded in identifying the signal markers on landing grounds. Night fighter and reconnaissance aircraft provided data for deceptive measures to mislead Russian supply aircraft approaching by ground orientation markers. Along a frequently used Russian air-supply route in the Sixth Air Force area the Germans reconnoitered a landing field at the rear border of an area of the front that was firmly controlled by the German ground forces. This field was "prepared for landing," and occupied by an air force liaison detachment and one light anti-aircraft platoon. On the basis of frequently observed landing signals at partisan airfields, a list of signals was established for the liaison detachment and the night reconnaissance aircraft that was to observe and radio the proper signal for the respective night to the liaison detachment. The personnel of the latter thereupon set up the lamps in the proper pattern so that the approaching Russian supply transports would assume that they had arrived at destination and would land.

The success of this type of deception depended on the following:

- (1) The "trap" had to be along the approach route because the Soviet aircraft had sufficient means of ground orientation to detect major deviations from their course.
- (2) The trap could not be too far ahead of the destination since the crews would notice major differences in flight time. On the other hand, it had to be sufficiently far from the point of destination so that the two signals could not be seen simultaneously from the air.



(3) The light signals could not be made up of the customary flashlights, but had to consist of lanterns or straw fires as used by partisans at their airfields. The strong white light of electrical flashlights would have aroused the suspicions of the Russian crews.

Because of the requirement that such traps be set up close to the real landing field, the successful use of this deceptive measure was limited. Use of this measure was also limited to clear nights during which such navigational aids as ground orientation markers consisting of fires would permit the moderately trained and primitively equipped Russian crews to fly such missions. Nevertheless, such traps were at times successful;\* in one instance, six aircraft of a U-2 squadron landed at short intervals and were captured by the Germans. A seventh plane escaped, the pilot probably becoming alarmed because the preceding aircraft had not been brought under cover with sufficient speed.<sup>14</sup>

Radio was sometimes, though more rarely, utilized. The following report pertains to a case of particularly successful radio deception:<sup>15</sup>

As I remember, Army Group Center in 1944 maintained a separate situation map on the partisan-held area west of Mogilev and around Lepel, where German police units and Hungarian elements operated. These partisans regularly received airlift supplies, according to these situation reports. For this purpose, the partisans had built several airfields in the midst of extensive forests, where aircraft landed at night under improvised illumination. The Russians used mainly R-5 model aircraft. I can remember an experience report, of which we received a copy, describing an operation against several of these airfields. An Air Force officer had discovered the airfields and had captured one after the other so that he could signal down the arriving aircraft during subsequent nights, using the prearranged code signal for landing. He then seized the aircraft and their cargo. The officer was decorated with the Knight's Cross for this action. It must have been in the spring of 1944.

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\*Editor's Note: "Only three instances of successful deception have been found. The best of these took place in late May 1942 in the area east of Smolensk. In a period of a few days, seven Soviet planes were captured or destroyed . . . . In the summer of 1942 in the Bryansk area two planes were trapped. On one occasion the Germans held a partisan airfield in the Northern Ukraine and took from a Soviet plane which landed on it one of their most valuable partisan prisoners, Captain Ruzanov, an adjutant of Strokatch, Chief of Staff of the Ukrainian Partisan Movement" (Weinberg, The Role of Airpower, p. 32).



Chapter V

CONCLUSIONS

The preceding description of Russian partisan warfare against the German invaders indicates that this type of warfare inflicted heavy damage, both in personnel and materiel, on the German Armed Forces. It also tied down strong forces that had to be denied to the frontline fighting proper. Partisan warfare may have contributed considerably to the German defeat.

The conditions which made the successful conduct of partisan warfare possible were as follows:

(1) Russia's tremendous size, bad roads, and the many possibilities for hiding in the extensive forests and swamps that were available even to large partisan units.

(2) German inability to capture the numerous Russian soldiers, whose units were dispersed after the initial battles and the armored breakthroughs which followed. These men went into hiding behind the German lines and rapidly formed large combat-effective partisan units.

(3) The ability of the first partisan units to arm and equip themselves from the enormous quantities of materiel that had remained on the battlefields; also their ability to live off the land.

(4) The abundant energy and brutality demonstrated by partisan leaders of all ranks.

(5) The Russians' highly developed ability to improvise, their primitiveness and their frugality.

(6) The Russians' patriotism, which is so great that they will make any sacrifice; their fatalistic attitude; the conviction, inculcated into them, that their communist "achievements" were endangered; all these characteristics contributed to their self-sacrificing spirit.

(7) Last but not least, the false propaganda and poor treatment of the Russian civilian population by German political leaders created resistance instead of maintaining and exploiting the advantage of the initial confidence displayed by many elements of the population, as



for instance in the Ukraine, where the Germans were received as liberators.\*

The partisan units could not have continually increased and improved their arms and equipment or have fought and trained and carried out increasingly complicated missions, however, without airlift operations. These assured a steady flow of weapons, ammunition, explosives, fuses, and, wherever necessary, rations, clothing, signal equipment, POL supplies, staff and headquarters personnel, training personnel, specialists, and agents. The airlift also provided courier service for written and oral orders and directives, propaganda for the partisans and the civilian population, military mail service, and other means of maintaining combat effectiveness and morale.†

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\* Editor's Note: "By and large, . . . the population that found itself under German rule seemed at first prepared to throw in its lot with either side. It was up to the two contending parties to win the allegiance of the rank and file, which was neither sufficiently disaffected to accept any alternative unquestioningly, nor sufficiently attached to the Soviet cause to remain blind to other opportunities.

"Germany utterly failed to take advantage of the change<sup>c</sup> thus offered for winning over the Soviet population. It received, just as the Soviet regime did, overwhelming overt obedience to its rule; but surface adjustment--especially when a generation is inured to mimicry--cannot be taken as a guide to its comparative judgment of the two regimes or to its innermost loyalties. German failure was largely inherent in the very approach of the Nazi leadership to the Soviet problem and the aims which it had set itself in the East. In terms of long-range goals, it utterly disregarded popular aspirations; in terms of immediate demands, it assumed that the war's victorious conclusion within a matter of weeks or months allowed the occupiers to ignore the problem of popular allegiance" (Alexander Dallin, et al., Partisan Psychological Warfare and Popular Attitudes Under the German Occupation. Air Research and Development Command, Human Resources Research Institute /Project "Alexander"/. 1954. No. 6, vol. 6, 86).

† Editor's Note: "It has been noted that the Germans were never able to employ airpower extensively in their fight against the partisans. It may be of value, therefore, to indicate some of its potential uses, which are not always apparent from an account of German experiences. The importance of interdicting enemy (in this case, Soviet) air support cannot be stressed too much. In the initial stages of a partisan movement, such interference strikes at the most important component of the movement--the cadres without which it would fall apart. Any substantial cut in the number of cadres would prevent the bands from expanding to



This leads to the conviction that impeding or at least strongly hampering airlift operations would have stopped partisan warfare altogether or weakened it to such an extent as to obviate its significance in the struggle.\* As described in the preceding pages, the Germans did not succeed in disrupting the airlift operations to a degree that would have put the flow of partisan supplies in question. Despite a few partial successes in anti-airlift operations, the Germans were generally no more successful in this field than in antipartisan warfare on the ground. What were the reasons for this failure?

The Germans had neither sufficient fighter nor anti-aircraft units at their disposal properly to combat the Russian air force units in the German rear areas. In order to combat the supply transports flying exclusively under cover of darkness, the Germans needed night-fighter units for interception and the necessary equipment for the direction of interception from the ground. Such auxiliary measures as have been described caused a certain amount of disruption, but did not lead to any decisive success because the "auxiliary units" had neither the planes nor the training, nor were there enough of them. Efforts to hamper the Russian airlift operations by attacking take-off and landing fields in partisan-held areas could be carried out only by emergency units and were therefore doomed to failure. Combat units were urgently needed in the combat zone itself and could be made available only occasionally and then only for nuisance raids.

The command for antipartisan operations was unsatisfactory and ineffective because no top-level staff was in charge of the Army and Air Force elements, the SS and police forces, the counterintelligence, and other units used for antipartisan operations. Although the Germans were aware of certain Russian preparations for partisan warfare even before the outbreak of hostilities, no timely preparations were made except for the activation of Army security divisions to protect the lines of communication and the organization of special SS and police forces. But no individual or staff was responsible for the over-all command of antipartisan operations. Whereas the Russians had put one man in charge of the entire

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the extent they did while opposing the Germans. Interdiction in the later stages would reduce the partisans to military impotence if their stores were simultaneously subjected to air attack" (Gerhard Weinberg, The Role of Airpower in Partisan Warfare. Air Research and Development Command. Human Resources Research Institute [Project "Alexander"]. 1954. No. 6, vol. 3, 39).

\* Editor's Note: This view of the vital role of airpower in Russian partisan warfare is fully supported by Weinberg, The Role of Airpower, pp. 40-42.



partisan warfare operation, the Germans suffered from internal difficulties and overlapping responsibilities. Neither local nor specific spheres of responsibility had been established, let alone general ones.

The so-called rear area commanders of each army group were responsible for securing and pacifying the occupied territories and administering and exploiting their areas. Only too late, in autumn of 1943, was the rear area commander of Army Group Center, which suffered most from partisan activities, redesignated "Armed Forces Commander." Whether he actually was given command over all units that were to be committed against partisans in the area under his jurisdiction seems doubtful. But to fight partisans successfully when they become as powerful and as numerous as in the Russian campaign, one must have absolute command authority over all security, reconnaissance, and combat units that are needed for antipartisan operations. Moreover, these units must be available in sufficient number and strength.



## NOTES

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2. Brig. Gen. (Ret.) Gustav von Bechtolsheim, Sicherung der rueckwaertigen Verbindungen im Osten bei der Heeresgruppe Mitte im Raum Baranowicze-Minsk-Borisov und westlich und noerdlich von Bryansk vom 1 September 1941 bis Mitte Februar 1943 (Security of Rear Communications in the East by Army Group Center in the Area Baranovichi-Minsk-Borisov and West and North of Bryansk from 1 September 1941 to the Middle of February 1943), pp. 3-5. Karlsruhe Document Collection, G VI 9. See also English version in USAREUR Historical Division, FMSB, MS #D-102.
3. Ibid., pp. 6-7.
4. Hans Guenich, Die Versorgung der Banden an der Ostfront durch die Russen auf dem Luftwege und Massnahmen, die die deutsche Luftwaffe getroffen hat um diese Versorgung zu verhindern (The Air Supply of Partisans by the Russians on the Eastern Front and the Countermeasures Taken by the German Air Force).
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6. Brig. Gen. Hellmuth Reinhardt, Russische Luftlandeoperationen (Russian Glider Operations). Karlsruhe Document Collection, G VI 2d. See English version in USAREUR Historical Division, FMSB, MS #P-116.
7. Lt. Col. Hellmuth von Kreidel, "Jagd auf Grischin" (The Pursuit of Grischin), Wehrkunde, No. 10, 1956.
8. Ibid.
9. Ibid.
10. Allmendinger, "Der erste Zusammenstoss . . .," Appendix 4.



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15. Allmendinger, "Der erste Zusammenstoss . . . ." Appendix 3.
16. Ibid.
17. Herbert Golz, "Erfahrungen aus dem Kampf gegen Banden" (Experience in the Struggle Against the Partisans), Wehrkunde, No. 4, 1945.

### Chapter III

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2. Hermann Plocher, Der Feldzug im Osten (The Campaign in the East) Book Four, p. 495 (original German MS.). Karlsruhe Document Collection.
3. Hasso Neitzel, Sicherung der rueckwaertigen Verbindungen in Russland (Security of Rear Area Communications in Russia), pp. 26-27. Karlsruhe Document Collection, G VI 9 (hereinafter cited as, Sicherung der rueckwaertigen . . .). See also Dept. of the Army Pamphlet No. 20-240, Rear Area Security in Russia, 1951.
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5. Letter from Lt. Gen. (Ret.) Albert Praun to the author, dated 8 May 1956.
6. Information obtained by the author from Lt. Col. Hellmuth von Kreidel on 20 June 1956.
7. Hans Guenich, Die Versorgung der Banden an der Ostfront durch die Russen auf dem Luftwege und Massnahmen, die die deutsche Luftwaffe getroffen hat . . . (The Air Supply of Partisans by the Russians on the Eastern Front and the Countermeasures Taken by the German Air Force), p. 4. Karlsruhe Document Collection, G VI 9.
8. Neitzel, Sicherung der rueckwaertigen . . ., pp. 28-29.
9. Ohletz, Die Luftversorgung . . ., p. 2.
10. Letter from Praun, 8 May 1956.
11. Neitzel, Sicherung der rueckwaertigen . . ., pp. 27-28.
12. Ibid., p. 54.
13. Ibid., p. 28.
14. During 1943-44, in the area of Army Group South, a regular air service was established in the plateau area of the Yaila Mountains (36) in the Crimea, where the Russians were said to have landed even twin-engine aircraft. They had reconnoitered several natural landing strips, where they had set up dimly lit flare paths so that the supply aircraft could land. Krafft von Dellmensingen, Luftversorgung von Banden waehrend des 2 Weltkrieges. (Air Supply of Partisans During World War II). Karlsruhe Document Collection.
15. Brig. Gen. Hellmuth Reinhardt, Russische Luftlandeoperationen (Russian Glider Operations), Part I. Karlsruhe Document Collection, G VI 2. See English translation in USAREUR Historical Division, MS #P-116.



16. Ohletz, Die Luftversorgung . . . pp. 1-2.
17. Neitzel, Sicherung der ruechwaertigen . . . p. 27.
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19. Ohletz, Die Luftversorgung . . . p. 1.
20. Veit Fischer, Bericht vom 25. 8. 56 ueber Versorgung der Partisanen aus der Luft und Gegenmassnahmen im Bereich des Luftgaues Moskau (Report of 25 August 1956 on the Air Supply of Partisans and Countermeasures Taken in the Area of the Moscow Air Force Administrative Command), p. 2. Karlsruhe Document Collection, G VI 9.
21. Lt. Gen. (Ret.) Karl Allmendinger, "Der erste Zusammenstoss mit Partisanen" (The First Encounter with Partisans), Annex 3, pp. 10-11. Karlsruhe Document Collection.
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2. Lt. Gen. (Ret.) Karl Allmendinger, "Der erste Zusammenstoss mit Partisanen" (The First Encounter with Partisans), in Lt. Gen. Hans von Greiffenberg, Partisanenkampf (Partisan Combat), Annex 3, pp. 10-11. Karlsruhe Document Collection.
3. Brig. Gen. Hellmuth Reinhardt, Russische Luftlandeoperationen (Russian Glider Operations), Part I.



4. English translation of, D. Karov and V. Volzhanin, Die Versorgung von Partisaneinheiten waehrend des Krieges 1941-45 (The Supply of Partisan Units During the War of 1941-1945). Karlsruhe Document Collection, G VI 9. In USAREUR Historical Division, MS #P-125, pp. 18-20.
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14. Report of Lt. Col. Helmuth Mahlke, Zusammenarbeit der sowjetischen Luftwaffe mit den im Ruecken der deutschen Front operierenden sowjetischen Heeresverbaenden und Partisanengruppen (Cooperation of the Soviet Air Force with Soviet Ground Forces and Partisans Operating Behind the German Front) addressed to the author. See also, Deutsche Massnahmen zur Irrefuehrung russischer Flugzeuge bei der Bandenversorgung (Steps Taken by the Germans to Deceive the Russian Aircraft Supplying the Partisans), in Karlsruhe Document Collection.
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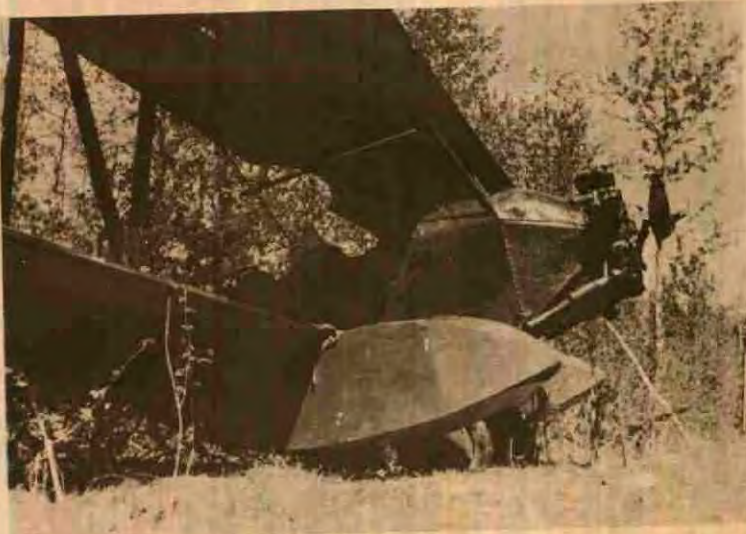
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U-2 with Plywood Floats







Improvisierter Verwundentransport mit der U-2

(Improved Air Evacuation of  
Wounded Employing the U-2)





(U-2 With Improved Adaptation  
For Transport of Wounded)





MBR-2 landet auf einem Eisflugplatz

(MBR-2 Lands On An Ice Runway)

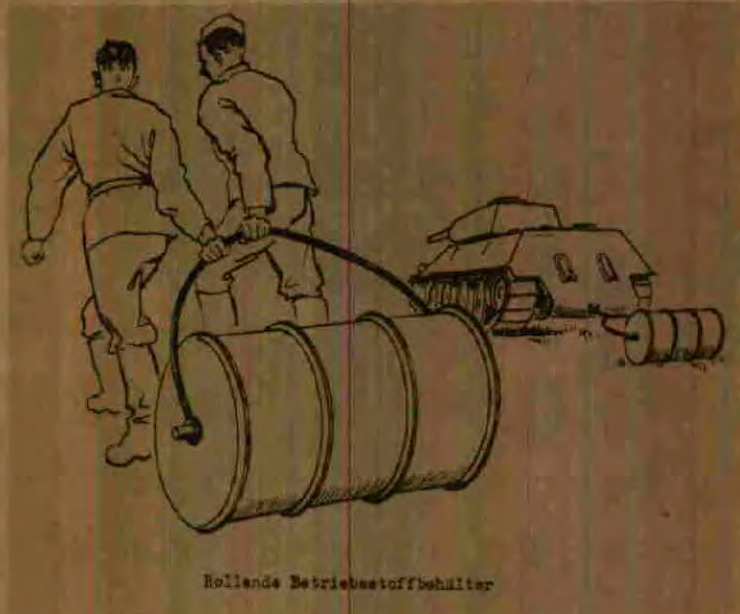




Aus einem Holzstamm behelfsmässig hergestellte Walse

(An Emergency Roller Made From a Tree-trunk)





Rollende Betriebsstoffbehälter

Roller Made From a Fuel Barrel



## APPENDIX NO. 2

## LIST OF GAF MONOGRAPH PROJECT STUDIES

## I. Published

<u>Study No.</u>	<u>Title</u>
167	German Air Force Airlift Operations
173	The German Air Force General Staff
175	The Russian Air Force in the Eyes of German Commanders
177	Airpower and Russian Partisan Forces
189	Historical Turning Points in the German Air Force War Effort

## II. To Be Published

150	The German Air Force in the Spanish War
151	The German Air Force in Poland
152	The German Air Force in France and the Low Countries
153-55	The German Air Force versus Russia
156	The Battle of Britain
157	Operation Sea Lion
158-60	The German Air Force versus the Allies in the West
161	The German Air Force versus the Allies in the Mediterranean
162	The Battle of Crete
163 & 165	German Air Force Close Support and Air Interdiction Operations



<u>Study No.</u>	<u>Title</u>
164	German Air Force Air Defense Operations
166	German Air Force Counter Air Operations
168	German Air Force Air-Sea Rescue Operations
169	Training in the German Air Force
170	Procurement in the German Air Force
171	Intelligence in the German Air Force
172	German Air Force Medicine
174	Command and Leadership in the German Air Force (Goering, Milch, Jeschonnek, Udet, Wever)
176	Russian Patterns of Reaction to the German Air Force
178	Problems of Fighting a Three-Front Air War
179	Problems of Waging a Day and Night Defensive Air War
180	The Problem of the Long-Range Night Intruder Bomber
181	The Problem of Air Superiority in the Battle with Allied Strategic Air Forces
182	Fighter-Bomber Operations in Situations of Air Inferiority
183	Analysis of Specialized Anglo-American Techniques
184	Effects of Allied Air Attacks on German Divisional and Army Organizations on the Battle Fronts
185	Effects of Allied Air Attacks on German Air Force Bases and Installations
186	The German Air Force System of Target Analysis
187	The German Air Force System of Weapons Selection
188	German Civil Air Defense



Study No.

Title

190

The Organization of the German Air Force High Command and Higher Echelon Headquarters within the German Air Force

194

Development of German Antiaircraft Weapons and Equipment up to 1945

Extra  
Study

The Radio Intercept Service of the German Air Force