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A DESPERATE STRUGGLE TO SAVE A CONDEMNED
ARMY—A CRITICAL REVIEW OF THE STALINGRAD
AIRLIFT

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Preface

I embarked on this project because I have long been interested in the most traumatic battle experience for the German soldier of World War II. In only three months, a single battle cost the German nation five or six times the casualties the United States suffered during the entire war in Vietnam. Considering Germany had less than half the population, a comparable loss would approach a million casualties for the U.S. The terrible trauma of Southeast Asia shook this nation deeply and one can only imagine the effect of Stalingrad on Germany in 1943. Few German families were left unscathed by this tragedy - fortunately mine was one.

My ancestors, none of whom actually fought in the war, are from eastern and central Germany. My father and his family endured and survived the Allied Combined Bomber Offensive, while relatives on my mother's side suffered the wrath of the advancing Red Army. My intention is not to downplay the atrocities committed by Germans during the war, which were clearly unpardonable, but to remind the reader that millions of innocents also died on the Axis side. Among them were thousands of young soldiers whose only crime was patriotically fighting for their "Vaterland." Trapped, frozen, and starving, they suffered in Stalingrad during the terrible winter of 1942/43. Almost all who survived and were captured later died in Soviet captivity. This is the story of the brave men who struggled to save them.

This paper frequently refers to statistics collected by the Germans during the campaign, including casualties, numbers of sorties flown, and tonnage of supplies delivered. The astute reader will notice that many of these conflict between credible primary sources, including the records of Milch, Fiebig, Pickert, and von Rohden. Many of the variances can probably be attributed to different methods regarding the accounting of the loads (much of which was presumably estimated), the differences in what was sent and what was actually received at the other end (losses due to crashes, airdropped but unrecovered items, etc.), or human error. Occasionally the differences were significant and caused me some consternation, much thought, but ultimately led to no easy explanation. What was clear, however, was that the amount delivered never reached the 500 tons per day that the Sixth Army needed.

I would like to thank Dr. Richard Muller for his patient help, inspiration, and encouragement. Many thanks also go to my wife, Nannette, for all her support and for putting up with me during this project, and to my 4 year old son, Matteo, who wondered why I was spending so much time working on a computer which clearly was not as much fun as others he had seen.

Abstract

Stalingrad is often described as the turning point of the German war with the Soviet Union, or perhaps even the entire European war. This paper argues that the actual turning point was probably earlier in the Barbarossa campaign, and that the decision to hold Stalingrad, while a serious mistake, followed several other strategic blunders of Adolf Hitler.

Given that, this essay reflects a study of primary source material collected from key German commanders, as well as numerous documents collected in 1956 as part of the “Karlsruhe Collection.” The focus was to determine where the airlift failed, why it failed, and what could have been done better.

Ultimately the failure could be attributed to the lack of a survivable and more capable transport aircraft, difficulties operating out of poorly prepared airfields which were under constant threat from the Red Army, the absolutely miserable weather which frequently prevented any flying at all, enemy action which prevented daylight flights by much of the fleet, supplies which were not ideally suited for airlift, and finally difficulties organizing the airlift at both ends. Many commanders involved knew it was bound to fail and warned Hitler and Paulus, to no avail. In the end, what could have been a tremendous feat ended as tragic folly.

Chapter 1

Introduction

On 22 Jun 41, Germany optimistically unleashed its Blitzkrieg on the Soviet Union. Due to Hitler's perception of Germany's own strength and a temporary weakness in the Red Army, he mistakenly counted on a short campaign. After the initial successes led the Wehrmacht to within sight of Moscow, Hitler lost his nerve and diverted the thrust of the offensive to both the north and south. By the time the Germans were again able to resume the fight for the Soviet capital, it was too late. The Red Army was able to regroup, and the weather began to paralyze operations. Trying to regain the initiative the next spring, Hitler led his forces into a debacle which would cost Germany the war.

On 5 Apr 42, Hitler directed his forces to take the Caucasus. Protecting the long flank of Army Group B as it was advancing deep to the south was the Sixth Army. For reasons still not well understood, it became mired in a tough battle for a city which was initially seen as only a secondary objective: Stalingrad. Once nearly in control of the city, the Army was encircled as a massive Soviet ground offensive crushed the primarily Rumanian forces on the flanks. The attack itself was not a complete surprise—what surprised the Germans was the magnitude of the offensive.¹ After that it became a struggle for survival.

On 21 Nov 42, Hitler formed Army Group Don² under the command of Field Marshal Erich von Manstein to save the beleaguered forces, while ordering the commander of the

Sixth Army, Friedrich Paulus, to remain at Stalingrad and expect aerial resupply until a relief could be organized. Hitler was clearly acting true to his nature in not retreating from the front lines, lest the campaign follow the Napoleonic precedent (especially considering that the Sixth Army could prevent the even greater disaster of the entire Army Group B being cut off and destroyed). But could he expect to resupply the army with enough supplies to keep it combat viable?

Surely Hitler was in a position to assess the capability of the Luftwaffe to accomplish such a feat, but in late November '42, Germany had commitments in the Mediterranean, the weather was already turning bad on the Eastern Front, the enemy was advancing in strength, and the staging areas were of questionable readiness. Considering all these factors, one is led to wonder whether it was folly to begin with or whether the Luftwaffe could have accomplished a masterful success.

The implications are tremendous. The tide of the war, which was clearly beginning to turn against Germany, may have again turned in her favor, or at least could have resulted in a stalemate. Furthermore, the lessons learned from the failure at Stalingrad have implications still today. We still require secure and well organized staging and receiving bases, are still dependent on the weather, and are still vulnerable to enemy action. The study of the lessons of Stalingrad are clearly still relevant, if for no other reason than to prevent a recurrence of a similar disaster. This paper will examine the problems, the strategic and tactical decisions, and the alternative courses of action proposed by those who fought to save the Sixth Army. Could Paulus' soldiers have been saved via the airlift, or were they doomed from the start?

Notes

¹During the autumn of 1942, German forces on the eastern front expected a major Soviet offensive but were unsure of whether this would take place on the central or southern fronts. Soviet troop movements indicated the possibility of an attack against Army Group B in the vicinity of Stalingrad, but the main thrust was still expected against Army Group Center. In early November, the Soviets began amassing a powerful force near Stalingrad and by the time they completed their deployments, this force consisted of 1,000,000 troops, a third of the Red Army's rocket launchers, and 60% (900) of their tanks on the front. The Axis faced this force with approximately the same strength in men, no more than 500 tanks, and much more dispersed locations. Earl F. Ziemke, *Stalingrad to Berlin: The German Defeat in the East* (Washington DC: United States Army, Office of the Chief of Military History, 1968), 50-52.

² Army Group Don consisted of the 6th Army, the Rumanian 3rd Army and the 4th Panzer Army, and was assigned the mission "bring(ing) the enemy attacks to a standstill and recapture the positions previously occupied by us." Field Marshal Erich von Manstein, *Lost Victories* (Novato, Ca: Presidio Press, 1982), 294.

Chapter 2

“...there he remains.”

*Where the German soldier once sets foot, from there no power on earth
will remove him*

—Adolf Hitler

The commander of the 4th Air Fleet, Colonel-General Wolfram von Richthofen, documented a 21 Nov 42 wireless conversation between General Fiebig, VIII Air Corps Commander, and the Chief of Staff of the 6th Army, Major General Schmidt in which Schmidt revealed that Paulus planned to form a “hedgehog” for the defense of the pocket. Fiebig asked how the army thought its resupply would be accomplished, to which Schmidt replied “by air.” With Paulus listening on the line, Fiebig explained that “to supply an entire army by air, that is impossible. The Luftwaffe does not have enough transport aircraft available.” That same day, Hitler ordered the Sixth Army to “stand where it was ‘regardless of the dangers of a temporary encirclement’.”¹ The next morning, Fiebig called back to AOK 6 to again stress that aerial resupply of the entire 6th Army in the midst of a Russian winter was impossible.²

On 22 Nov 42, during a meeting at AOK 6, General Pickert (see Appendix A) recommended that the Army break out at once to the southwest to which General Schmidt retorted that it would be impossible due to the lack of fuel - the army would “hedgehog.” Pickert advised that an airlift to supply the entire army would not be possible given the

problems of the winter. Schmidt responded that it simply *must* be done, and anyway there were plenty of horses left in the cauldron which could be eaten.³

On 22 November, Paulus, well aware of the mortal danger to his army and apparently not yet fully committed to the “hedgehog,” forwarded a wireless signal back to Adolf Hitler advising him of the precarious situation of the encircled army. He stressed that to secure the southern flank and fight his way out of the pocket, he would have to withdraw forces from the northern perimeter and Stalingrad itself. He closed by adding that his subordinate commanders concurred and requested that he be granted “complete freedom of action.”⁴ On 23 Nov 42 the army was cut off.

The question of whether to form the hedgehog and what would later be called “Fortress Stalingrad” or to execute a breakout to save the army was answered by the Fuehrer himself. In spite of the requests from Paulus, Weichs, and Zeitzler, Hitler insisted that the Sixth Army not attempt a break out and that it remain on the Volga at Stalingrad. In a 24 November message directly to Paulus, Hitler ordered the army to stay and assured Paulus that he would do “everything to ensure that it receives its supplies and that it will be relieved in due course.”⁵ He clearly intended to stand by his dictum that “where the German soldier has once set foot, there he remains.”⁶

Also on 24 November, Colonel-General Kurt Zeitzler attended a meeting with the Fuehrer in the presence of Field Marshal Keitel, Colonel-General Jodl, and Colonel-General Jeschonnek. During this meeting Jeschonnek advised that Goering promised to supply the army, based on the conditions that the airfields inside and outside the pocket remain operable and be devoted to the airlift operations. Through Jeschonnek, Goering promised to be able to deliver 500 tons per day.⁷

Zeitzler also recalled a conversation between himself, Goering, and Hitler, where Goering stated : “My Fuehrer, I announce to you, the Luftwaffe will supply the 6th Army by air.” Zietzler challenged him that the Luftwaffe would be incapable of this, to which Goering replied that Zeitzler was not in a position to judge. Replying to Zeitzler’s questioning if he was even aware of the amount of supplies the army would require, Goering advised that his staff would know. When the Reichsmarschall claimed he could deliver the necessary supplies, Zeitzler called him a liar. Hitler settled the debate with the words “The Reichsmarschall has made his announcement to me. I must believe his announcement. My decision remains unchanged (meaning that Stalingrad would not be relinquished).”⁸ And so an airlift it would be.

Notes

¹H. Gr. B., Ia, an AOK 6, Fuehrerentscheid. 21.11.42, AOK 6 75107/6 file in Earl F. Ziemke, *Stalingrad to Berlin: The German Defeat in the East* (Washington DC: United States Army, Office of the Chief of Military History, 1968), 57.

² Generaloberst Frhr. von Richthofen., “Luftflotte 4 vor Stalingrad, ab 20.7.42.” Karlsruhe Collection, USAF HRA, K113.309-3v9, 24.

³ Ibid.

⁴ Walter Goerlitz, *Paulus and Stalingrad*, trans. Colonel R. H. Stevens (New York: The Citadel Press, 1963), 233-4.

⁵ Heinz Schroeter, *Stalingrad*. trans. Constantine Fitzgibbon (New York: E.P. Dutton & Company, Inc., 1958), 106.

⁶ Ibid., 103. Quote attributed to Hitler’s political broadcasts.

⁷ Ibid., 106-7

⁸ Kurt Zeitzler, “Generaloberst Zeitzler Ueber das Zustandekommen des Entschlusses, Stalingrad aus der Luft zu versorgen.” Karlsruhe Collection, 11 Mar 55, USAF HRA, K113.309-3v9, 3. (Written response to questions posed to him via letter by Professor Suchenwirth. Section in parentheses in original - interpretation of Hitler’s meaning by Zeitzler).

Chapter 3

To Save an Army

The only raw material which cannot be restored in the foreseeable future is human blood.

—Field Marshal Erhard Milch
The Rise and Fall of the Luftwaffe—The Life of Field Marshal Erhard Milch

The Airlift

From 24 Nov 42 through 3 Feb 43, the airmen of Luftflotte 4 tried desperately to supply the 230,000¹ men of the dying army. During this period, a total of 8,350 tons of supplies were flown into the cauldron² or an average of 116 tons per day³, 24,900 wounded or sick men were evacuated⁴, 488 aircraft were lost, and about 1000 airmen lost their lives.⁵ Yet it was all for naught. Still under the command of (now) Field Marshal Paulus, the last battered, frozen, and starved remnants of the once proud Sixth Army surrendered to the Red Army on 2 February 43. Of the 108,000 men to enter Soviet captivity, only 6000 survived the war.⁶

Obviously the airlift failed to keep the Sixth Army battle-worthy, but was it doomed from the start as so many believed? It would seem that to answer this, one would simply have to examine the needs of the army and compare these to the assets available to satisfy these needs. But in the midst of the Clausewitzian “fog and friction” of war, nothing is as simple as such a quantifiable comparison.

The Requirements

What would the Sixth Army need to remain combat capable? Because the army still had some stocks of ammunition, fuel, and food (including the horses), initially the requirement for airlifted supplies would be somewhat lower. Then they would be expected to rise as these supplies were exhausted. Finally, however, one would expect requirements to drop once more as soldiers died and the wounded were evacuated.

During the above discussion with Hitler, Zeitzler advised that the barest minimum level of supplies for the 6th Army would be 500 tons per day.⁷ Von Manstein calculated a minimum requirement of 400 tons/day of fuel and ammunition until the stockpiled rations were consumed, at which time the army would require 550 tons/day⁸(see Appendix D for a discussion of the calculations).

The consensus appears to have been that for the army to remain viable it would require on the order of 500 tons per day. Nevertheless—yet perhaps reflecting the realization that the promise of 500 tons by Goering was overly optimistic—Luftflotte 4, on 24 Nov 42, was ordered to deliver 300 tons of fuel supplies to the pocket each day.⁹

Contributing to the perception that the army would be able to survive was a sentiment within the pocket itself. On 26 Nov 42, von Manstein's Chief of Staff, General Schulz, visited Stalingrad and reported that the "Sixth Army, provided it were properly supplied from the air, did not judge its chances of holding out at all unfavorably."¹⁰

The Assets

According to von Manstein, what was difficult to judge from the perspective of Army Group Don was how many crews and aircraft Goering would devote to the airlift from the

other war fronts. Perhaps, given enough resources, Luftflotte 4 could accomplish a sufficient airlift to save the army.

The primary aircraft available for this operation were the Junkers Ju 52 and the bomber-turned-transporter, the Heinkel He 111. Other aircraft which were employed in lesser numbers included the Ju 86, He 177, FW 200, Ju 90, and Ju 290.¹¹

The figures given for the amount of aircraft available throughout the operation differ from source to source and from day to day. Figures deduced by von Rohden from available units detailed by Morzik were given at early December 1943 as 320 Ju 52, 40 Ju 86, and 190 He 111. The Ju 52 fleet operating from 160 miles away (well within its 683 mi. cruising range) at the Tatsinskaya airfield were estimated to be able to haul approximately 2 tons of supplies and could average a cruising speed of 134 mph (at economical cruising speed). At this speed the trip would take about 1 hr and 15 min. each way, or 2 1/2 hours. Calculating an additional 3 1/2 hrs. for turnaround at Pitomnik airfield, refueling, reloading, taxiing, and crew changes, brings the time for each sortie to six hours, or four sorties per plane per day. This would equate to 8 tons per plane per day, or 2,560 tons per day! Now assuming that only 30% of the aircraft (in this case 96 planes) were operational at any given time, that would still translate to 768 tons (384 sorties) per day. And this without even taking into account the deliveries of the other aircraft.¹² At first glance it would appear that Goering's estimate of 500 tons per day was indeed achievable, especially considering that the referenced 320 aircraft would represent less than half the Luftwaffe inventory of 750 Ju 52s.

In reality however, over the entire duration of the airlift only 116 tons/day were delivered on average and a peak achievements were 362.6 tons (7 December) and a peak

sortie rate of 158 (31 December)¹³. Obviously there were other factors which hindered the airlift.

The Problems

The Aircraft

Shortly after the onset of the crisis, Luftflotte 4 had approximately 550 transport aircraft at its disposal (320 Ju 52's, 40 Ju 86's, and 190 He 111's).¹⁴ But the German war machine soon geared up to augment this force with aircraft from other theaters, training schools, and the civilian fleet.

The He 111 was a bomber being pressed into service as a transport aircraft. For this duty it was not ideally suited as it could only carry at most 1500 Kg (1 1/2 tons) and had difficulty transporting larger sized cargo due to the openings being designed for bombs and not cargo.¹⁵ Nevertheless the crews ingeniously increased its capacity by filling just the amount of fuel needed to get the aircraft to Stalingrad and back, thereby trading unnecessary range for increased capacity (up to 2.4 tons). Also some of the unused tank capacity was used to haul motor vehicle fuel.¹⁶ The He 111 was also used to drop supplies via cargo "bombs" - bomb shaped containers.

The Ju 86, which was originally designed as a bomber but had been relegated to duty as a training aircraft, was not well suited for its new mission either because of its short range and cargo capacity of less than one ton.¹⁷ Because of its limitations it was soon pulled from this mission. The Ju 90 and Ju 290 which were designed as long range transport aircraft (Grossraumtransportflugzeuge) also were pulled from the airlift due to technical difficulties. The FW 200 Condor and the He 177, though participating in the

airlift, failed to aid in any appreciable measure.¹⁸ The Condor, with a capacity of over 5 tons was seen as a savior, especially when the first seven planes carried 4.5 tons of fuel, 9 tons of ammunition, and 22.5 tons of food over a distance of 300 mi. from Stalino.¹⁹ Serviceability of the huge plane was complicated by the weather and infrastructure and the plane remained a rare sight over Stalingrad. Likewise the He 177, unsuited as a transporter, suffered from mechanical problems and after several crashed on their own accord trying to bomb the enemy, the unit was withdrawn.²⁰

One of the real problems for the otherwise reliable Ju 52 was that it was not well suited for cold weather operations without being first retrofitted and then being treated to special cold weather starting procedures. Since much of the fleet was being transferred from warmer climates, such as North Africa and the Mediterranean, these planes were delayed due to refitting at Kirovograd and Zaporozhe, before being sent to the front. However this delay was the best case scenario, since many were merely forwarded unprepared to boost turn-around statistics. They then ended up as an additional burden as they cluttered the airfield at Tatsinskaya while waiting to be refit.²¹

As it became obvious that the effort was not going well, Hitler assigned Field Marshal Milch the responsibility for the airlift. Upon his arrival on 16 Jan 43, he sent Colonel Petersen to assess the problems at Sverevo airfield. Petersen found that of the 106 aircraft (Ju 52), 48 were damaged and awaiting repair. Of the remainder, only eight had taken off that day for Stalingrad. Of these, only three landed in the cauldron. The crews had to cope with atrocious conditions as they struggled to maintain the aircraft in strong winds and temperatures well below freezing. Furthermore, Milch soon found that not only had the prescribed cold start procedure not been used to start the engines, but. . they were only

known by a few ground crews—not by the Ju 52 crews which had come from Africa. Milch recorded the difficulties imposed on these crews by the nasty weather which was often well below -25 Celsius with a 70 k/h wind blowing. Electrical heaters did not work because the wind prevented the heat from reaching the engines and the crews, with nothing but a freezing, drafty, bus to give them shelter, could only work in short intervals. Milch dispatched a “cold start squad” to train the ground crews and the ratio of usable aircraft increased immediately.²²

The Airbases

The primary airbases for the airlift were Tatsinskaya and Morosovskaya outside the pocket and Pitomnik inside. All were essentially bare bases with minimal accommodations and shelter. At Morosovskaya, from which the He 111 flew, attempts had been made to protect the crews from the elements but had not been successful. And so their “fingers were frozen stiff, intricate servicing instructions could not be carried out, and every engine change became a torture.”²³ This was no way for an air base to function efficiently and the rate of aircraft in service reflected these problems. But at least they had bases from which to operate.

That lasted until 23 December 42, when Soviet armor began to threaten Tatsinskaya. Strangely, no preparations had been made to evacuate the airfield with the spare supplies and ground equipment. In fact, Goering had expressly forbidden a withdrawal until the base was on the verge of collapse (under direct fire). This caused Fiebig to hesitate until it was almost too late to save any aircraft before giving the order to evacuate the 180 Ju 52s. In the haste, however, 60 aircraft and crucial ground equipment and spares had to be left behind.²⁴

Shortly thereafter Morosovskaya also fell and the aircraft from both fields had to be relocated further from Stalingrad. The Ju 52s were sent to Ssalsk and the He 111s to Novocherkassk, each approximately 200 miles away. The relocation, loss of equipment, crews and aircraft coupled with the extra distance the planes now had to travel only worsened the situation. The difficulties continued to mount as Soviet ground forces threatened Ssalsk and captured the receiving airfield at Pitomnik on 16 Jan 43. The Ssalsk forces were relocated to a cornfield at Sverevo, where within 24 hours Colonel Morzik lost an additional 52 planes (40 only damaged) to Soviet bombers.²⁵ Simultaneously, the embattled forces struggled to ready Gumrak to receive the aircraft.

Gumrak soon became the topic of heated debate between Milch and Paulus, the latter insisting that the field was ready to receive aircraft, the former convinced it was not. Fiebig related the crashes on 16 Jan 43 of five Me-109s, which turned over while trying to land at Gumrak, as a good indication that the field was not ready. Later that day three He 111s were able to land on the one strip which was prepared, but, since no ground crews were ready, they had to unload their own planes. Fiebig blamed 6th Army's unwillingness to prepare the field earlier as the cause for this problem. Allegedly Paulus did not want the field to attract enemy fire since it was also the location of supply facilities, the command posts, and a hospital.²⁶

The Weather

As mentioned earlier, the weather during the airlift was marked by bitter low temperatures, snow, sleet, blowing wind, and otherwise miserable conditions which hamper flight operations still today. However there were also some clear days which allowed the Luftwaffe to try to make up deliveries for those days on which it was unable

to fly. Appendix E displays the days on which exceptionally high delivery rates occurred (over 150 tons/day), days with exceptionally low rates (0–9 tons per day), and the associated weather. From this admittedly cursory analysis, it is apparent that there was a significant correlation between weather and delivery rates.

Interestingly, it appears that the He 111 was not only more survivable in daylight against enemy fighters, but also more capable in foul weather. This was shown by the tremendous effort of 21 Dec 42 where the He 111 with its relatively small capacity delivered just slightly less than the all time peak of the operation.²⁷

Anecdotal accounts indicate that the aircrews were so dedicated to saving the army, that they took extreme risks and flew in weather otherwise considered unsafe. The high loss rates indicate this was probably true. Fiebig assessed losses of JU 52's between the period of 28 Dec to 4 Jan (only 8 days) as "62 Aircraft: 15 of them missing, 24 total losses. Crews: 12 dead, 52 missing, 20 wounded. Approximately 50 percent of the losses were due to weather conditions."²⁸ On the next day he added that "About 30 percent of the aircraft don't succeed in their missions but have to turn back, through no fault of their own. Take-offs are executed under conditions where they would normally not be attempted, but we know what is at stake!"²⁹ On 9 January, he discussed the disheartening level of losses incurred and praised the men and their machines : "these are fine performances which JU's and HE's are giving. The determining factor is the weather..."³⁰ In discussing the failure to reach the 500 ton/day delivery rate he stated that "we too figured on that amount, provided the supply operations are not hindered, however, the determining factor, the weather, can ruin everything."³¹

Colonel Karl Heinrich Schulz went so far as to claim that all the Soviet efforts to frustrate the operation were insignificant in relation to the problems caused by the weather. He described the weather as rarely clear along the entire flight path. Either the departure points were fogged in, preventing take-off, or the landing areas were fogged in such as to prevent landing. Even when the weather was good at both ends, the flight path was frequently impassable due to massive icy clouds en route. Enemy action paled in comparison.³²

The Enemy

The Soviet strategy was twofold: to pressure the encircled army and force an expenditure of precious fuel and ammunition, while frustrating the resupply effort. Though by German accounts, the Soviet interdiction efforts were not decisive, they nonetheless strained an already impossible effort. The Soviets soon learned the paths used by the transports and installed Anti-Aircraft Artillery (AAA) along these routes, forcing the Germans to fly detours and waste time and fuel. These detours paths were then obstructed by more AAA.. Though this became ever more of a nuisance, it never became a serious hindrance to the airlift.³³

Soviet fighters were a much bigger problem than the AAA, forcing increased reliance on night flying, especially by the vulnerable Ju 52. The He 111s, however continued day operations as the Red Air Force considered them formidable prey because of their defensive weapons and formation discipline.³⁴ Nevertheless, the Germans were unable to take advantage of much of their lift capability (the Ju 52 fleet) during days when the weather was suitable. Also, flying in formation and/or under the protection of fighter aircraft caused other problems on the ground. At Pitomnik the ground crews were idle for

long periods of time and were then overwhelmed swarms of aircraft landing virtually at once. The ideal airlift operation of a continuous flow of individual planes was therefore impossible to achieve.³⁵

Flight operations were also interrupted by electronic measures. These took the form of jamming the navigational signals and of transmitting false ones which even caused some aircraft to land in Soviet occupied territory. German efforts to counteract this by regularly shifting the frequencies met with mixed results.³⁶

Enemy bombers and ground forces constantly harassed, attrited, and eventually overran the bases from which the airlift was conducted, forcing the loss of reparable aircraft, crucial ground support equipment, and ever longer flights to Stalingrad. This resulted in more time spent in the air while vulnerable to fighters and AAA, and a loss of some cargo capacity (as more fuel was required). Finally, the Red Army captured the Pitomnik airfield, forcing airdrop of much of the supplies.

The enemy loomed large to those with the bigger picture. While Stalingrad was tying up vast Soviet forces, Army Group B was conducting a withdrawal from the Caucasus. Were the Red Army to be released by a withdrawal or collapse of Paulus' forces, the loss of an entire army group was conceivable. Von Manstein, in his memoirs, placed great importance on the effect the continued viability of the Sixth Army had in preventing a Soviet thrust to Rostov. In the minds of some, Stalingrad was a disaster which prevented an even larger one, and thus the resupply of the army served the larger goal of preventing the collapse of the entire Eastern Front.

The Supplies

Many of the food supplies flown into the pocket were wasteful in terms useful nourishment for the weight involved. For example, fresh meat and canned vegetables containing primarily water were delivered while more efficient concentrated foods, which were available for paratroopers and submariners, were not available for delivery into the cauldron. Water (snow) was not in short supply at Stalingrad, so much more food could have been delivered had it been dehydrated. Milch mentioned having averted wasteful deliveries of fish meal into Stalingrad by having the cargo inspected before shipment. He claimed to have sent it back with the order to have the supply officer hanged.³⁷ Furthermore stories abound regarding deliveries of Christmas trees, morale packages, and other items such as condoms which may have been nice for troops in less dire conditions, but which potentially displaced far more valuable items on the aircraft.³⁸

Supplies were also airdropped in parachuted containers; however, many - if not most - of these containers were wasted as the troops could often not locate them in the snow, and when they could, the means to transport and distribute the contents were lacking as horses died and were eaten and fuel supplies were exhausted. Efforts to make the containers more retrievable, such as dyeing the parachutes bright red, did little to improve the situation. According to Milch and Pickert, it was simply impossible to support such a force with airdropped supplies.

The Organization

The airlift effort outside the fortress fell under General Fiebig while the effort to receive the goods and defend the airspace around Stalingrad fell under General Pickert. Considering the circumstances, the overall organization of the airlift was quite effective.

Exceptions were problems caused by the losses of the staging bases and the loss of Pitomnik. Though doubtful that it would have made much difference to the survival of the Sixth Army, the failure to plan for the loss of Pitomnik by preparing Gumrak to receive flights appears as a mistake. Pickert described the ground organization at Pitomnik and the other active airfield, Bassargino, as efficient, but admitted that their loss resulted in some:

“...early off-loading difficulties at Gumrak; however a makeshift ground operation quickly came into being for the few days during which the field was in use. Furthermore one must not overlook the fact that no equipment was available for snow removal, ground leveling and the removal of aircraft wreckage and other debris. Everything had to be done in a makeshift manner with a few trucks and with manual labor, that is, shovels in the hands of exhausted men.”³⁹

“Early off-loading difficulties” puts the situation rather mildly. As mentioned earlier, the field was totally unprepared—deliberately! Paulus had not prepared the field so that it would not attract enemy bombing because they had, in Milch’s words, “thoughtlessly set up headquarters...at Gumrak.”⁴⁰ On 16 January, the runways were not prepared (as evidenced by crashes of several Me-109s) and for the next several days, the delivery of precious supplies was forsaken by a failure within the pocket to prepare and mark the airfield and then efficiently unload those aircraft which did land. When several He 111s landed on the morning of 17 January, they confirmed the problem with the ground organization. In spite of Paulus’ protestations to the contrary, von Richthofen and Milch were convinced that nighttime landing preparations were insufficient and that only airdrops would be conducted. Fiebig related that the attitude in the cauldron was one of “these are our demands, we don’t care how you meet them.”⁴¹

On 19 Jan 43, Major Thiel, sent by VIII Air Corps to assess the field at Gumrak and report to Paulus, landed at Gumrak despite the field being under enemy fighter and artillery fire. He assessed the field as cleared for daylight landing (in spite of craters on the landing strip which appeared larger than they were due to the discoloration of the snow), but it was suited for night landing only by experienced crews. The field was, however, fully exposed to enemy artillery and the enemy fighter aircraft which circled above 800-1000 meters when the weather was clear. This presence of Soviet fighters would make any landing by Ju 52's impossible, except under poor weather conditions. The landing strip was restricted to 80 m width due to wrecked airframes and of particular concern was one such wreck at the end, making night landing especially hazardous. Further he noted the field was also strewn with unrecovered airdrop canisters embedded in the snow. Concerning the ground organization, his own plane landed at 1100 hrs. and still had not been unloaded at 2200 hrs. The reason given was the constant shelling. Other aircraft had been unloaded by their own crews and the supplies left unguarded in the open, only to be stolen by passing soldiers.⁴²

Thiel reported his observations to Paulus, who, in the presence of several other Sixth Army generals, answered:

“If there are no landings it will mean the death of the Army. It's too late now anyway. Already at Pitomnik it didn't work. Every plane that lands saves 1000 lives. What you tell me about the lacking ground organization can only be exceptions. The airdrops don't serve us at all. Many bombs (canisters in the shape of bombs) aren't found and then we lack the fuel to retrieve them. The men are too weak to search for them....Today is the fourth day on which the men have no food....The heavy weapons cannot be moved back because there is no fuel. They are lost. The last horses have been eaten. Can you imagine that the soldiers fall upon a horse cadaver, split open its head, and devour the brain raw?...What am I to say as Commander in Chief of an Army when a man begs from me 'dear Colonel-

General, a piece of bread'? Why did the Luftwaffe promise that an air supply was possible?...If I had been told it was impossible, I wouldn't have reproached the Luftwaffe, because I could have fought my way out.... Today it's too late." General Schmidt added: " And here you come trying to justify the Luftwaffe, that has committed the worst treason, that has ever occurred in German history.....An entire army, this wonderful 6th Army, must go to the dogs like this." Paulus continued: "We are already speaking to you from another world, since we are dead....The army has done everything humanly possible to organize the airsupply on the ground. Your coming today is too late. If there is anything to improve here, it should have been done earlier"

Clearly the mood inside Stalingrad was one of frustration and resignation. Nevertheless, Paulus had a point. Difficulties with unloading and the organization on the ground had not been an issue prior to the fiasco at Gumrak. Also, on 19 Jan 43, it was too late. At this point it no longer mattered whether the field could receive aircraft, the army was beyond being saved. They truly were speaking from the world of the dead.

Also in light of the difficulties faced by the crews at both ends, the argument as presented by Lt. Gen. William H. Tunner (USAF), that the airlift failed because of faulty ground organization fails to convince. He argued that the Germans should have viewed the bad weather and the night as a blessing, i.e. protecting the aircraft from the enemy. It appears that he failed to fully comprehend the severity of the weather. Surely, had the weather been more favorable, had the Luftwaffe been able to operate out of established bases, and had they not had to contend with the difficulties imposed by the Soviets, they might have been able to mount as efficient an operation as the Berlin Airlift.⁴³

Notes

¹ Wolfgang Pickert, "The Stalingrad Airlift: An Eyewitness Commentary," *Aerospace Historian* v18, no. 4, p 183. Figures given for the numbers of soldiers trapped in the pocket vary between 230,000 to over 300,000.

² Irving, 200.

Notes

³ Ibid. The numbers regarding specific aspects of the airlift are inconsistent between sources. According to “Zahlenangaben zur Luftversorgung Stalingrad,” K113.309-3v9 USAF HRA, Pickert’s records indicate 24,910 evacuated wounded and 94 tons per day average deliveries. His own account states that “some 30,000 wounded and sick soldiers were evacuated.” (Wolfgang Pickert, “The Stalingrad Airlift: An Eyewitness Commentary.” *Aerospace Historian*, Dec. 1971, Vol. 18, no. 4, p. 185)

⁴ “Zahlenangaben zur Luftversorgung Stalingrad,” K113.309-3v9 USAF HRA

⁵ Irving, 200.

⁶ Irving, 200. Again the numbers are not clear. Other sources indicate 90,000 German POWs were taken by the Red Army.

⁷ Zeitzler, 3.

⁸ von Manstein, 307

⁹ Cajus Bekker, *The Luftwaffe War Diaries*. trans. Frank Ziegler (New York: Doubleday & Co., Inc., 1966), 282.

¹⁰ von Manstein, 315.

¹¹ Fritz Morzik, *German Air Force Airlift Operations*. (Montgomery: Air University, USAF Historical Division Research Studies Institute, 1961), 187.

¹² William H. Tunner, “Another View of the Stalingrad and Dien Bien Phu Airlifts.” *Aerospace Historian*, Sept. 1971, Vol. 18, no. 3, pp. 135 - 36. Tunner also calculated a sortie rate of 4 per day for the Ju 52, and 5 sorties per day for the He 111 (faster plane, and incidentally a shorter distance from Morosovskaya - 130 mi.). He calculated that only 65 Ju 52s would have been able to deliver 540 tons/day. Additionally 42 He 111s could have contributed another 210 tons per day (with its 1 ton load capacity), for a total of 750 tons per day.

¹³ Figures were taken from reference to KTB Sonderstab Milch, NARS T321/207 in Richard Muller, *The German Air War in Russia* (Baltimore: The Nautical and Aviation Publishing Company of America, 1992), page 96.

¹⁴ Greffrath, “Russlandkrieg: Die Luftversorgung Stalingrads - Gesamtueberblick.” Karlsruhe Collection, 10 Mar 56, USAF HRA, K113.309-3v9. p 5. Numbers were deduced by Greffrath from the units available in early December 1942 as given by Gen. Morzik who gave the total number of transport aircraft at the time as 506. Von Richthofen recorded the available aircraft on 5 Dec 42 of the VIII Fl.K. as 200 Ju 52’s, 20 Ju 86’s, and 65 He 111’s. Von Richthofen, p 31. Surely the numbers of planes available varied from hour to hour as aircraft were damaged, shot down, crashed, were out for maintenance, being repaired, or frozen solid.

¹⁵ Hans Detlef Herhudt von Rohden, *Europaeische Beitraege zur Geschichte des Weltkrieges II, 1939/45 - Die deutsche Luftwaffe im Kriege gegen Russland, 1941 - 1945*. p 139. Schulz claimed that the capacity of the He 111 was 2 tons. Karl Heinrich Schulz, “Luftversorgung Stalingrad (20.11.42 - 1.2.43).” 2 Mar 56, USAF HRA, K113.309-3v9. p 9.

¹⁶ Schulz, 20.

¹⁷ Schulz indicated a capacity of 0.8 tons for the Ju 86. Schulz, p.10

¹⁸ V. Rohden, 139 - 40.

Notes

¹⁹ Bekker claimed that the first FW 200 to land on 9 January 43 was “fortunate to land on snow: it cooled the tyres, which otherwise would probably have burst from the strain imposed by the overloaded aircraft. For its cargo was four or five tons in excess of its permissible carrying capacity of *nineteen* tons.” (emphasis added) Bekker, 289. Nineteen tons appears extremely excessive. Schulz’s calculation of a 6 ton capacity seems much more believable, especially when the first seven planes carried on average around 5 tons of supplies. Schulz, p 10.

²⁰Morzik, 187.

²¹Ibid.

²²Irving, 190-3 and Erhard Milch, “Erfahrungen aus dem Osten 1942/1943 (Stalingrad) - (Auszuege aus der GL-Besprechung am 9.2.1943).” Karlsruhe Collection, document undated, USAF HRA, K113.309-3v9. p.5-6. Milch related that within 7-8 days of being shown the correct procedure, the crews were able to get 65 out of 65 aircraft running, while those still relying on the electrical warmers only had a success rate of 5 or 6%.

²³Bekker, 284.

²⁴Ibid, 285-7. For obvious reasons, Fiebig blamed the Supreme Command (Goering) for the situation. He credited the crews for having overcome terrible weather conditions on departure and for having saved 108 Ju 52s and 16 Ju 86s in the “frenzied take-off.” Fiebig, “Personal Diary of Major General Fiebig 25 Nov 42 - 2 Feb 43.” Annotated by A.W. Herling. USAF HRA, 239.0461-21. p. 44

²⁵Bekker, 291.

²⁶Fiebig, 64-65.

²⁷Much of the primary source information regarding the operation conflicts and/or appears in error upon closer examination. For example, Milch’s statistics for 21 Dec 42 (as referenced in Muller) indicate **362.3 tons** delivered by 144 sorties, or an average of 2.5 tons per sortie. This is more than either the Ju 52 or the He 111 could reasonably carry. Furthermore Fiebig claimed only He 111s were flying: “21 Dec 42: Supply continues, with about 40 He 111’s after 1030. Fog did not allow it any earlier. Weather does not permit any JU transports.” Had this been done by a fleet of a mere 40 He 111’s, it would equal 242 sorties flown or 6 sorties per plane (at the commonly referenced payload of 1.5 tons). Had each aircraft been optimally filled as discussed in Schulz, p. 20 (such as only filling the minimum fuel required for the mission and filling the unused fuel capacity with motor fuel to be unloaded at Stalingrad), the He 111 could carry up to 2.4 tons, or would have required 151 sorties for the fleet of 40 (equating to nearly 4 sorties per day). Even at this maximum effort, 151 sorties still exceeds Milch’s recording of 144. Furthermore “Zahlenangaben” (using Pickert’s diary) confirms 40 HE 111s (gestartet), 120 aircraft (it is not clear what was meant by this figure, i.e. did they all fly and how often?), 32 Cu. m. fuel, 52 to. munitions, 150 to. food, and 8 to. of other, totaling approx. **242 tons** delivered. Using this figure for the 40 He 111’s (loaded to 2.4 tons) would result in 101 sorties, or 2.5 per aircraft. Also “Zahlenangaben” (see Appendix) show that the deliveries *never* exceeded 300 tons, conflicting with Milch’s figures where there were four days which exceeded 300 tons. Much of the error inherent in documentation of the airlift can

Notes

surely be attributed to supplies sent - but not received, aircraft departing - but not arriving (crashing or returning still loaded), variation in measuring tonnage or calculating sorties, human error, missing records, “fog and friction” of war, etc.

²⁸ Fiebig, p 53.

²⁹ Ibid.

³⁰ Ibid., 56.

³¹ Ibid.

³² Schulz, 22-23. During this battle “General Winter” was tougher on the Germans than the Soviets. The Red Army, more dependent on ground forces for their operations to crush Stalingrad and push back the staging areas of the airlift, actually benefited from poor weather since it provided protection from German air attacks. This was seen during the fighting for Morosovskaya airfield where German fighter aircraft held Soviet armor at bay, even inflicting great losses on the tanks by catching them in the open, until the weather turned and the Red Army was able to capture the field.

³³ Ibid., 20.

³⁴ Ibid., 20. He added that neither side had any night fighter capability during the airlift, p 22.

³⁵ Bekker, 288.

³⁶ Schulz, 22.

³⁷ Erhard Milch, “Erfahrungen aus dem Osten 1942/1943 (Stalingrad) - (Auszuege aus der GL-Besprechung am 9.2.1943).” Karlsruhe Collection, document undated, USAF HRA, K113.309-3v9. 1.

³⁸ Pickert disputed that the delivery of foolish items had any significant impact: “The fact that some transport aircraft and paradropped goods now and then contained foolish and unnecessary items is undisputed, but this was an exception which should not be overestimated.” Wolfgang Pickert, “The Stalingrad Airlift: An Eyewitness Commentary.” *Aerospace Historian*, Dec. 1971, Vol. 18, no. 4, pp. 184.

³⁹ Pickert, “The Stalingrad Airlift: An Eyewitness Commentary.” 184.

⁴⁰ Irving, 188.

⁴¹ Fiebig, 64-69.

⁴² Thiel, “Meldung ueber Beschaffenheit des Platzes Gumrak und Rueckgespraeche mit Herrn Generaloberst Paulus.” p 1-10.

⁴³ Tunner, 136.

Chapter 4

The Alternatives

If the critic wishes to distribute praise or blame, he must certainly try to put himself exactly in the position of the commander

—Carl von Clausewitz
On War

Much has been written about the failure at Stalingrad, mostly blaming Hitler for not listening to his generals about the futility of holding onto the banks of the Volga. Of particular salience, however, are the perspectives of those who fought to save the Army. What do they feel could have been done better?

von Manstein

Manstein's account of the failure at Stalingrad offers interesting perspectives, but little in the way of answers. He tried to justify the decision of Paulus to hold at Stalingrad, because there was no way for those on the front to know that Goering's promise to deliver 500 tons was impossible. After all, they had no big picture and could not be in a position to judge what type of commitment and what amount of resources the Reichsmarschall could muster for this effort. This argument fails to consider that no matter how many aircraft the Reich could send his way, the airlift would still be constrained by weather, the capacity of the airfields, and the actions of the hitherto underestimated enemy.

He also repeatedly discussed his efforts to get the Army to break out, going so far as bravely ordering Paulus to link up with the advancing 4th Panzer Army in direct contradiction to Hitler's orders (in effect giving Paulus an excuse to pull out of the cauldron). Had Paulus taken him up on the offer/order, there was a possibility that the army would run out of fuel while in the open and be cut apart by the Red Army. If that had happened, Manstein's biggest fear would have been realized.

The Sixth Army was tying up tremendous Soviet forces which would otherwise have been free to cut off the entire Army Group to the south. He was truly faced with a terrible dilemma; that of deciding who must be sacrificed to extricate the German forces from the monstrous debacle of the Caucasus.

Milch

Milch's account is colored with his perception that the operation was poorly run. He was able to ameliorate some of the problems uncovered by Colonel Petersen, but the statistics don't reveal much of an increase in sorties or deliveries to the pocket.

Irving, in his book on Milch, claimed that on 29-30 January, "the airlift was reaching its second climax. Overnight, 124 aircraft flew over the dropping zones and this time almost all of the supplies were retrieved."¹ Granted, the records confirm there was some increase in sorties and in supplies delivered during these two days, but it is not anywhere near the peak delivery achievements of late December and early January. Furthermore Fiebig recorded the weather for both days as "favorable" with "almost no clouds" and the 30th as "the most beautiful winter day."² Also whether *all* the supplies were retrieved is highly doubtful. What could possibly have improved since the 19th when Thiel witnessed

the inability of the soldiers to even collect the canisters on the Gumrak runway? Certainly there was not a sudden surplus of fuel or horses to collect the supplies.

In spite of Milch's accomplishments in the face of tremendous odds (with the recent loss of Pitomnik and the problems at Gumrak), the facts do not bear out Milch's case that the operation was inherently inefficient. Later he related that he told Hitler that, had he been Paulus, he would have fought his way out despite the orders to the contrary. Perhaps this indicated that he too thought the airlift operation was impossible from the outset.

Pickert

Pickert revealed his opinion early on (22 Nov 42) in his conversations with Schmidt. He wrote in 1971, clearly with the benefit of hindsight not shared by many of his contemporaries, the factors which should have been addressed and could have averted the disaster. First, he felt the need for expanded air transport was apparent as far back as 1941 with the campaigns in Russia and the Mediterranean. The implication is that the Luftwaffe failed to anticipate the needs arising at Stalingrad when they should have. Secondly, he blamed the leadership of Army Group B for having failed to withdraw in the face of the counteroffensive and establishing a defensible line. The Germans failed to reinforce the Rumanians on the flanks primarily because they underestimated the strength of the enemy, which had accomplished a miraculous recovery from the losses of the previous years.

His point regarding the expanded air transport capability is pertinent. Had the Luftwaffe had the foresight to have invested in a reliable aircraft which could have operated in poor weather and could have defended itself such as the He 111, and yet was capable of hauling as much as the FW 200, the results of the airlift might have been better

favorable. Just doubling the two ton capacity of the Ju 52 or He 111 with such an aircraft could have raised the average daily delivery to over 200 tons. Now coupled with increased foul weather capability and being able to fly in daylight, as was denied the Ju 52, a 300 ton per day average should have been possible. Though conceivable by the technology of the day, such an aircraft was not available when it was needed most.

Paulus

Interestingly, Paulus claimed in his conversation with Thiel that he had been betrayed by the Luftwaffe. It seems he forgot that he had in fact been told that the airlift was an impossibility at the very start. Schmidt also appeared to have his memory fail because Fiebig twice told him it was impossible, and yet he insisted on forming the “hedgehog” and that the Luftwaffe would simply *have* to supply the Sixth Army. Paulus stood by his decision that he was obeying Hitler’s orders and that there was nothing else he could have done. In fact there were several opportunities he missed. First, at the very beginning of the encirclement, he should simply have fought a retreat and presented Hitler with a “fait accompli.” Later he was given another opportunity to fight his way out when von Manstein ordered him to link up with advancing 4th Panzer Army with Operation *Donnerschlag*, while simultaneously “retreating” from the front at Stalingrad. Paulus missed both opportunities, instead placing his faith in an airlift all experts told him was doomed to fail.

Fiebig

General Fiebig was also one of the first to point out the impossibility of the air supply operation during his 21 and 22 November 42 conversations with Schmidt and Paulus.

Nevertheless, he was tasked with the mission. According to him, his men and he gave it their best effort³, but unfortunately, even the reinforcement of the numbers of aircraft could not make up for the problems caused by weather, enemy action, and the loss of the airfields.

His 16 Jan 43 diary entry reflected numerous causes for the disaster. (1) There was a failure to prepare for the winter as far back as October 42. The lack of preparation was obvious regarding the state of operations at the two staging areas of Morosovskaya and Tatsinskaya. Shelters could have been constructed for the men and some rudimentary shelters in which to service the aircraft. (2) Reports of a Soviet buildup opposite the Rumanian forces failed to generate alarm and an appropriate strengthening of the defenses. (3) He blamed the decision to hold the fortress without withdrawing immediately from the Caucasus. (4) The Army was not ordered to break out and meet with the 4th Panzer Army (perhaps he was not privy to *Donnerschlag*, or expected the command to come from Hitler). (5) The air supply capacity was incorrectly calculated as it appeared it failed to account for the weather, the combat situation, and the fluid and tenuous possession of the airfields. (6) Lower level commanders were denied the authority to make necessary decisions. (7) Wrong assessments were made regarding the strengths of the enemy and the German forces themselves. Finally, (8), Commanders higher up the chain failed to personally assess the actual situation.⁴ It is hard to find fault with his assessment and even though it was made in the midst of the proverbial “fog and friction” of a failing operation, Fiebig’s insight was amazingly clear.

von Richthofen

Like Fiebig and Pickert, von Richthofen was also very much opposed to the operation from the start, claiming it was impossible to support the army because there simply was not enough transport capability. He noted in his diary that everything was being tried to convince the Sixth Army, Goering, OKH, and the Army Group (presumably B) of this.⁵ On several occasions he pressed both Jeschonnek and Zeitzler to relay his feelings to the Fuehrer. They did so, but Hitler would not budge from his decision. Von Richthofen noted that he resigned himself to the situation with the words that “orders are orders and everything will be done to accomplish their intent.” He lamented that the local commanders lacked authority and influence, feeling himself operationally as nothing more than a “highly paid NCO.”⁶

Schulz’ records detailed more of the specific reasoning behind von Richthofen’s opposition to the airlift operation. Specifically, there simply was not enough transport capacity to deliver 500 tons per day because of the distances involved. He calculated that three or four sorties per day would be necessary and that this would require a substantial increase in transport capability. On top of this, the weather in this vicinity was notoriously poor during this time of year resulting from the interaction of continental and Black Sea air masses. The staging areas were also judged incapable of generating the required number of sorties, even if they could be held against the enemy, which in itself was doubtful. The enemy would also not be expected to stand idly by and let the operation continue unhindered by flak and fighter attacks. The Germans did not have enough fighter aircraft to provide adequate escorts at the current range, much less were the distances to increase because of a loss of the staging areas. Von Richthofen tried desperately to make

his superiors take note. Unfortunately they did not realize how prophetic his objections would turn out to be.

Notes

¹ Irving, 197.

² Fiebig, 79-80.

³ The effort of his men was recorded in a 13 Jan 43 diary entry: "Pickert told me that the transport units have done everything in their power. Everybody in the pocket is convinced that flying was done in an unbelievable manner. The loss of 250 aircraft is proof of it. I believe that nobody's hearts beat more strongly for the fate of the 6th Army than those of the men who are charged with the organization and the carrying out of the air supply. We have done our best. If I judge myself, I don't know of any fault of my own, or what I could have done differently or better." Ibid, 60-61.

⁴ Ibid., 65-66.

⁵ Wolfram v. Richthofen, "Luftflotte 4 vor Stalingrad, ab 20.7.42." Karlsruhe Collection, USAF HRA, K113.309-3v9. 24.

⁶V. Richthofen, 28.

Chapter 5

Where did it go Wrong?

Clearly the airlift, in spite of tremendous and heroic efforts, did not go very well for the Germans. Not only did it fail to save the Sixth Army, but it also had long lasting ramifications for the entire Luftwaffe. The gutting of the rest of the force, especially the training schools, would rob Germany of much needed aircraft and crews for the rest of the war. Why was this allowed to happen? Was it only the stubborn insistence of Adolf Hitler to forbid his troops to withdraw from whence they had set foot? It was actually a series of mistakes which led to the disaster, and Hitler's orders to stay were just the final straw.

From the outset, Hitler felt the war with the Soviet Union would be short, perhaps only eight weeks. The initial successes tended to reinforce this notion. That is until he made the fateful decision to divert his forces (against spirited opposition from generals such as Halder and Guderian) from engaging the Red Army in a decisive battle for Moscow. Missing this opportunity permitted the Soviets to regain the initiative and fight the Wehrmacht to a standstill in the muddy (later frozen) steppes outside the capital.

Hitler's next mistake was failing to reopen the offensive on Moscow during the spring of '42. Perhaps it would no longer have been the decisive battle it would have been the previous fall, but it could have inflicted tremendous losses on the Red Army while choking off the nerve center of the nation. Instead, Hitler chose to drive for the resources—a

strange move for one who was focused on a quick victory, perhaps indicating that Hitler was settling into a war-of-attrition mentality. Any comparison of the resources available to the two countries would indicate this as a losing proposition for Germany.

Driving for the Caucasus, with the tremendous distances involved, opened up a very long and exposed flank. To protect such a long flank, the Germans should have kept extremely mobile and capable forces in positions from which they could take advantage of their inherent strengths. Instead, the Sixth Army was drawn into a quagmire where it was unable to take advantage of air power and mobility. Because there was no compelling strategic reason to take the city, the Germans could have denied it to the Soviets with artillery and air power.

Once Paulus was drawn into Stalingrad, his own flanks should have been beefed up¹, even at the expense of the advance into the Caucasus. In retrospect, it seems unconscionable to let first rate units get ground up, while protecting them with units whose battleworthiness had already been in question by German commanders. Especially grievous was this oversight when one considers that the Germans knew in advance that the Russians would attack. The previous winter should have indicated that the Red Army was regaining its strength and should not have been underestimated to this degree.

Once the scope of the attack was clear in late November '42, Paulus, who by then should have realized the foolishness of Stalingrad, should have fought his way out *before* giving Hitler the chance to order him to stay. He should have suspected that Hitler's inclination would be to stand and fight from his refusal to withdraw the previous winter outside Moscow. By this time also, Army Group B should have begun a hasty retreat from the Caucasus to strengthen the central front. Von Manstein correctly feared their being cut

off by a Soviet thrust to Rostov. It appeared, however, that the withdrawal lacked a sense of urgency, especially when part of this force could have been used to support 4th Panzer Army's drive to relieve Paulus.

Once they decided to support the Sixth Army at Stalingrad by air, the Germans had already descended too far down this hierarchy of mistakes. Even if the 4th Air Fleet been able to supply the promised 500 tons per day, the other forces at work would have attrited this capability and driven them ever further away from the city. Then it still would only have been a matter of time before the army was lost. By November '42, the momentum of the war had shifted to Stalin, and the army was lost the moment General Schmidt uttered the words "einigeln" (hedgehog). The final mistake and real tragedy was sending so many more to die for a lost cause.

Notes

¹Von Manstein commented that "...to leave the main body of the Army Group at Stalingrad for weeks on end with inadequately protected flanks was a cardinal error. It amounted to nothing less than presenting the enemy with the initiative we ourselves had resigned on the whole southern wing, and was a clear invitation for him to surround Sixth Army." V. Manstein, 292.

Appendix A

The Leaders

Adolf Hitler: Dictator of Germany, Fuehrer, Army Commander in Chief

Reichsmarschall Hermann Goering: Commander of the Luftwaffe, successor to Hitler

Field Marshal Friedrich Paulus: Commander-in-Chief, 6th Army

Field Marshal Erich von Manstein: Commander Army Group Don

Field Marshal Erhard Milch: Charged with airlift by Hitler as of 16 Jan 43

Colonel-General (Generaloberst) Freiherr Wolfram von Richthofen:
Commander-in-Chief 4th Air Fleet

Colonel-General (Generaloberst) Franz Halder: Chief of the General Staff, dismissed 24 Sep 42, replaced by Zeitzler

Colonel-General (Generaloberst) Freiherr Maximilian von Weichs: Commander of Army Group B

Colonel-General (Generaloberst) Hoth: Commander 4th Panzer Army

Colonel-General Hans Jeschonnek: Luftwaffe Chief of Staff

Major General Fiebig: Commander, VIII Air Corps. Charged with the air supply of the Sixth Army

General Wolfgang Pickert: Commander 9th Anti Aircraft Division, Ranking Luftwaffe commander attached to 6th Army, charged with the A/L

Major General Arthur Schmidt: Chief of Staff, 6th Army

Major General Kurt Zeitzler: Chief of the General Staff

Colonel Karl Heinrich Schulz: Chief Quartermaster of the 4th Air Fleet

Major Erich Thiel: Commander of III/KG 27–3rd group of 27th Bomber Wing.
Sent to assess Gumrak airfield.

Appendix B

The Chronology

- 22 Jun 41: Invasion of the Soviet Union
- 19 Jul 41: Diversion of Forces from thrust for Moscow (Fuehrer Directive 33)
- 6 Sep 41: Resumption of attack on Moscow
- 5 Apr 42: Initiate Plan to seize the Caucasus (Fuehrer Directive 41)
- 20 Aug 42: Germans cross the Don River
- 22 Aug 42: Begin offensive against Stalingrad
- 14 Sep 42: Germans penetrate city of Stalingrad
- 19 Nov 42: Soviets attack North of Stalingrad - push through Rumanian forces
- 21 Nov 42: Soviets attack South of Stalingrad - again Rumanians failed
Hitler's order to stay
- 21 Nov 42: Army Group Don established
- 23 Nov 42: Stalingrad encircled
- 24 Nov 42: Airlift operations begin
- 2 Dec 42: First Soviet attacks on 6th Army repulsed
- 5 Dec 42: 300 tons flown in - all time high
- 12 Dec 42: 4th Panzer Army attacks to relieve Stalingrad - *Wintergewitter*
- 19 Dec 42: Spearhead of 4th Army w/in 30 miles of Stalingrad
6th Army ordered to break out to southwest by v. Manstein -
Donnerschlag (contrary to Hitler's orders)
Paulus ignored v. Manstein's order & stayed put
- 24 Dec 42: Airfield at Tatsinskaya fell
- 27 Dec 42: 4th Panzer Army begins to be pushed back
- 28 Dec 42: Airfield at Tatsinskaya recaptured
- 29 Dec 42: OKH authorizes retreat of AG 'A' from Caucasus
- 2 Jan 43: Morosovskaya lost
- 9 Jan 43: Soviets ask Paulus to capitulate - negative response
- 10 Jan 43: Soviets launch massive attacks on Stalingrad
- 12/15 Jan 43: Pitomnik falls
- 16 Jan 43: Milch takes over Airlift
- by 16 Jan 43: Morosovskaya and Tatsinskaya fallen, airlift staging areas pushed further
away
- 19 Jan 43: Thiel report on Gumrak & discussion with Paulus and staff
- 22 Jan 43: Gumrak lost - now airdrop only

24 Jan 43: 6th Army divided into three
31 Jan 43: Paulus taken prisoner
1 Feb 43: 6th Army ceases to resist Soviets
2 Feb 43: Northern sector ceases to resist Soviets

Appendix C

The Requirements

Requirements for the resupply of the Sixth Army were estimated by Army Group Don on 23 Dec 42 as:

1. Food

(a) In the present heavy fighting under severe climactic conditions the minimum required to maintain the fighting strength of the troops is 2,500 calories per man per day. (500g bread, 90g tinned meat, 100g vegetables, 90g evening meal, 50g fats, 50g sugar, 20g salt and seasoning, 15g drinks, 25g tobacco - total (including packing) 1,130g.) For ration strength of 250,000 men this equals 282 tons per day.

(b) Horses at present on strength - 7,300 troop horses and 15,700 pack and transport animals. If all are slaughtered, Sixth Army considers it will have enough meat to last until 15 January, and no tinned meat would be required before this date. This would reduce the daily air lift to 255 tons.

Infantry divisions, however, would therefore be immobilized, except for such assistance as could be given them by motorized formations. Preservation of the 7,500 troop horses is therefore considered highly desirable, in order that at least a portion of the heavy weapons and the divisional artillery should remain mobile. This would necessitate supply by air of 22 tons (3 kilo per horse) of fodder per day. The period during which horse flesh would provide the meat ration would be proportionately decreased.

2. Ammunition

For purely defensive purposes (exclusive of any major action) 100 tons daily.

3. Fuel

For distribution of supplies and defensive action by panzer and anti-aircraft units - 75 tons per day.

4. Total air-lift volume required to maintain Sixth Army in its fortress position is therefore 550 tons per day”¹

Notes

¹AHQ teleprinter signal No. 421026/42, dated 23 Dec 42, as referenced in Walter Goerlitz, *Paulus and Stalingrad*, trans. Colonel R.H. Stevens (New York: The Citadel Press, 1963), 275-76.

Appendix D

The Weather

The following chart shows the days on which there were exceptionally high rates (over 150 tons/day) of supply delivery and the associated weather for those days:¹

<i>Date</i>	<i>Supply</i> ² (tons)	<i>Weather</i> ³
7 Dec	363	Foul weather, damp cold, muddy, evening flurries
8 Dec	210	Bitter cold, at times clear and cloudless, snowstorm. clear in evening.
10 Dec	157	Clear and frost.
11 Dec	266	Clear and cold weather
19 Dec	273	Sharp, clear frosty weather (in Stalingrad); Mild, low clouds (departure areas)
20 Dec	215	No info avail - 270 t. delivered ⁴
21 Dec	362	Stalingrad foggy, departure areas fog until 10.30, Ju 52 transports, only He 111s because of weather ⁵
No		
31 Dec	310	Morning fog, then better ⁶
1 Jan	206	No info
3 Jan	168	Bad weather ⁷
4 Jan	271	Massive frost
5 Jan	161	Snowfall, sleet, icy wind from the east ⁸
9 Jan	350	Weather a little better
10 Jan	162 ⁹	Partly foggy, lightly covered at high elevation ¹⁰
11 Jan	190	Snow drifts, strong wind with snow in the evening ¹¹
13 Jan	225	Lightly overcast

Days of exceptionally low deliveries compared as follows:¹²

3 Dec	0 tons	Dreary, mild, snow, sleet, snow, fog ¹³
9 Dec	0 tons	Snow and mild weather, ¹⁴ temperatures above zero
24 Dec	0 tons	Fog, ice, blowing snow (Tatsinskaya) ¹⁵
25 Dec	9 tons	Stalingrad: snowstorm, icy winds from the east, sun and again more snow, terrible weather ¹⁶
2 Jan	0 tons	Fog, no supply possible, dreary, fog, mild ¹⁷

24 Jan

7 tons

Supply traffic brought to an almost complete standstill because of the weather¹⁸

Notes

¹Figures taken from reference to KTB Sonderstab Milch, NARS T321/207 referenced in Muller, 96.

²Figures given for the amounts of supplies delivered vary widely, depending on the source. Partly this was due to differences in the perspectives of the parties involved. The sending side recorded what was loaded and sent. The receiving end recorded what was received. Variances between the two can be attributed to aircraft lost or shot down and airdropped cargo which went to waste as it could not be found or collected. Differences could rarely be corrected. Schulz, p. 18.

³Weather stats taken from "Die Taegliche Wetterlage waerend der Luftversorgung Stalingrad." Karlsruhe Collection, 13 Dec 55. USAF HRA, K113.309-3v9. Exceptions as noted.

⁴"Die Taegliche Wetterlage waerend der Luftversorgung Stalingrad" report claimed 270 tons; V. Richthofen, p. 37, recorded over 300 tons delivered.

⁵Fiebig Diary, page 35

⁶V. Richthofen, 42. Interestingly, this source claimed only 180 tons delivered.

⁷Fiebig, 51. He noted: "good supply operations by JU's and HE's, despite poor weather conditions. Everybody is trying as hard as possible."

⁸Fiebig, 53. He related: "Only 21 HE's could take off. The outlook for the night is bad, too. JU's cannot fly any supplies in because of icing in the air and on the ground."

⁹Fiebig, 57. He stated that 60 tons (31 JU 52s) had to be turned back because of the fog at Stalingrad that night.

¹⁰Wolfgang Pickert, "Records of Brig. Gen. Pickert, 25 Jun 42 - 23 Jan 43." Annotated by A.W. Herling. USAF HRA, 239.0461.20, 43-44. He recalled that Pitomnik came under long range fire that day and that the "enemy was very active in the air, dropped bombs from individual aircraft at great altitude in the midst of harassing fire."

¹¹Fiebig, 58. Again, flights were turned back, unable to land. Some He 111s got through but the "Ju's have tried but haven't succeeded."

¹²Delivery figures taken from reference to KTB Sonderstab Milch, NARS T321/207 in Muller, 96.

¹³Pickert, 35. Pickert recorded that "The weather remained cloudy, with snow flurries, precluding air transports, a regrettable loss."

¹⁴Pickert, 36. He recorded that "It is snowing. Unfortunately no chance to fly in supplies." he added that in the afternoon the "weather was mild with light snowfall." Nevertheless it appeared the conditions were not sufficiently clear for flight operations. Fiebig recorded "snowfall in the whole flying and combat area. Poor visibility and bad temperatures. No missions." Fiebig, 27.

¹⁵Fiebig, 40-43. He recorded that on this day Tatsinskaya came under enemy fire and was evacuated as artillery rounds landed on the airfield and tanks were heard. He recorded heavy fog, "snow flurries on the runway, hardly any visibility....Visibility about 500 meters. Ceiling 30 meters."

Notes

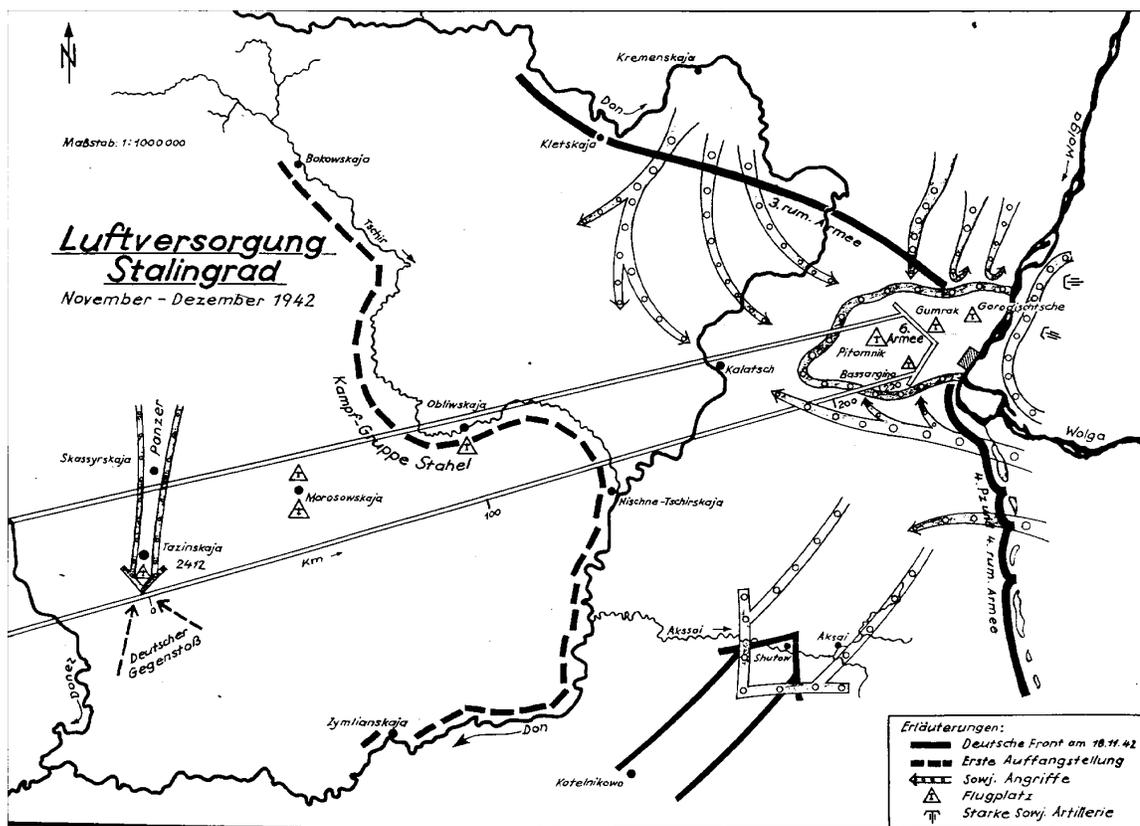
¹⁶Pickert, 39. Fiebig recorded Russian pressure to the north of Morosovskaya. Fiebig, 45.

¹⁷Pickert, 41. He recorded the weather as “Muggy, foggy, mild. Very poor visibility. ...nothing to be seen in the pea-soup fog.” Fiebig confirmed: “Fog in the fortress all day long. No possibility of taking in supplies...Morosovskaya and Tatsinskaya are also under fog.” Fiebig, 50.

¹⁸Fiebig, 76. Supplies were airdropped over Stalingrad. Radio beacons at Gumrak were lost. “Supply operations were almost completely paralyzed by weather conditions. Clouds over the fortress, with a ceiling of less than 50 meters...Heavy anti-aircraft fire despite clouds...(night) operations had to be discontinued completely because of the lack of a radio marker, heavy icing and very low clouds.”

Appendix E

The Area



Map of main airlift operation area.¹

Translation of German terms

Luftversorgung Stalingrad - Airsupply Stalingrad

Maßstab (the B-like symbol equates to a double "s") - scale

Panzer - tank

rum. Armee - Rumanian Army

deutsche Front - German front

Erste Auffangstellung - first defensive line

Sowj. Angriffe - Soviet attacks

Flugplatz - airfield

Starke Sowj. Artillerie - strong Soviet artillery

Notes

¹USAF HRA R113.309-3v9

Appendix F

The Accomplishments

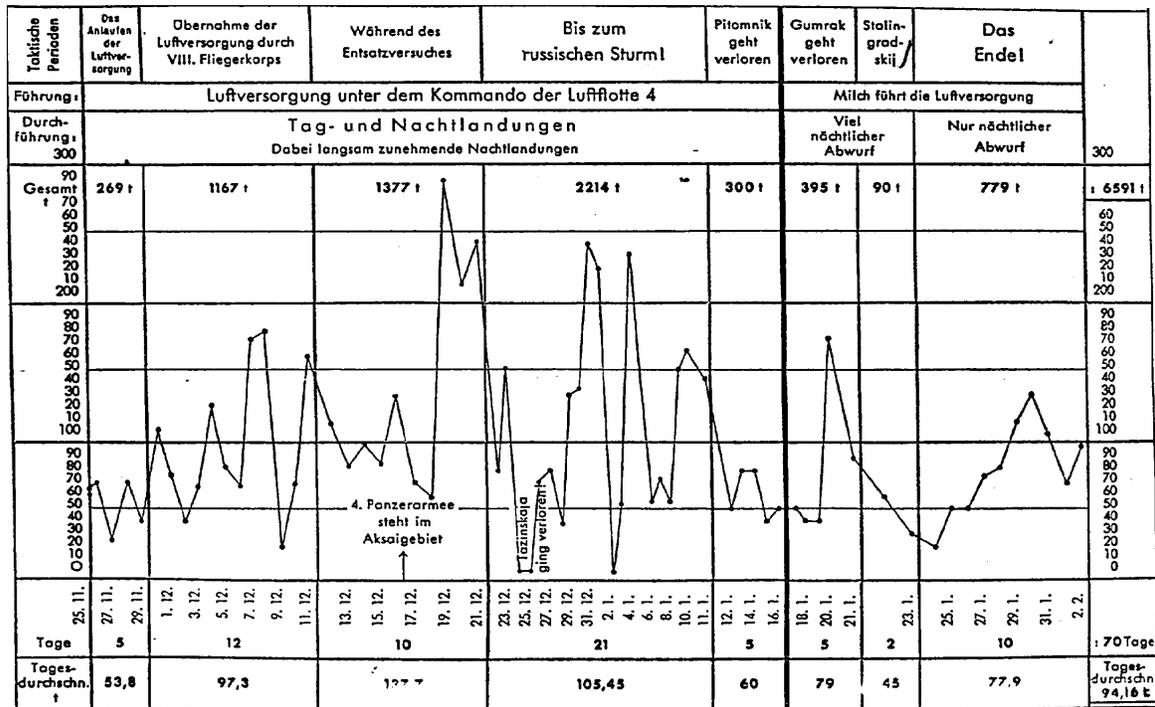


Chart reflecting the delivery tonnage for the Stalingrad airlift¹

Translation of German terms

Taktische Perioden - tactical periods

Das Anlaufen der Luftversorgung - Initiation of the air supply

Übernahme der Luftversorgung durch VIII. Fliegerkorps - Taking over of the airlift by VIII Air Corps

Während des Entsatzversuches - during the relief effort

Bis zum russischen Sturm - until the Russian "storm" (assault)

Pitomnik geht verloren - Pitomnik lost

Gumrak geht verloren - Gumrak lost

Das Ende - the end

Fuehrung - leadership

Luftversorgung unter dem Kommando der Luftflotte 4 - Airlift under the command of 4th Air Fleet
Milch fuehrt die Luftversorgung - Milch leads the airlift
Durchfuehrung - means of delivery
Tag- und Nachtlandungen - Day and night landings
Dabei langsam zunehmende Nachtlandungen - with slow increase in night landings
Viel naechtlicher Abwurf - Much nighttime airdrop
Nur naechtlicher Abwurf - Only nighttime airdrop
Gesamt - total
4 Panzerarmee steht im Aksagebiet - 4th Tank Army in vicinity of Aksay
Tazinskaja geht verloren - Tatsinkaya lost
Tage - days
Tagesdurchschn(itt)t - daily average tons

Notes

¹“Zahlenangaben zur Luftversorgung Stalingrad, 25 Nov 42 - 2 Feb 43.” Karlsruhe Collection, USAF HRA, K113.309-3v9. Source derived the data from: the diary of Lt. Gen. Fiebig, the diary of Maj. Gen. Pickert, Milch’s diary, diary of OKW-Fuehrungsstabes (leadership staff), and records of von Rohden. The researchers commented that the data conflict regarding sorties flown and supplies delivered, but that Pickert’s diary appeared as the most reliable source. They assumed the conflicting data resulted from deliveries not reaching the desired destination (i.e. airdropped, not recovered and/or taken by “Unberechtigte”—those not entitled)

Bibliography

Books

- Barnett, Correlli, ed.. *Hitler's Generals*. New York: Quill/William Morrow, 1989.
- Bekker, Cajus. *The Luftwaffe War Diaries*. Translated by Frank Ziegler. New York: Doubleday & Co., Inc., 1966.
- Brown, Captain Eric. *Wings of the Luftwaffe Flying German Aircraft of the Second World War*. New York: Doubleday & Co., 1978.
- Bullock, Alan. *Hitler - A Study in Tyranny*. New York: Harper & Brothers, 1952.
- Carell, Paul. *Hitler's War on Russia*. Translated by Ewald Osers. London: George G. Harrap & Co., 1964.
- Chuikov, Vasili I. *The Battle for Stalingrad*. Translated by Harold Silver. New York: Holt Rinehart and Winston, 1964.
- Clausewitz, Carl von. *On War*. Edited and translated by Michael Howard and Peter Paret. Princeton, N.J.: Princeton University Press, 1976.
- Dupuy, Colonel T.N. *A Genius for War - The German Army and General Staff, 1807-1945*. Falls Church: Nova Publications, 1996.
- Freidin, Seymour and Richardson, William, ed. *The Fatal Decisions*. Translated by Constantine Fitzgibbon. New York: William Sloane Associates, 1956.
- Frischauer, Willi. *The Rise and Fall of Hermann Goering*. Boston: Houghton Mifflin Company, 1951.
- Frischauer, Willi. *Goering*. London: Odhams Press Limited, 1950.
- Gilbert, Felix. *Hitler Directs his War*. New York: Oxford University Press, 1950.
- Goerlitz, Walter. *Paulus and Stalingrad*. Translated by Colonel R.H. Stevens. New York: The Citadel Press, 1963.
- Irving, David. *The Rise and Fall of the Luftwaffe - The Life of Field Marshal Erhard Milch*. Boston: Little, Brown, and Company, 1973.
- Keegan, John. *The Second World War*. New York: Penguin Books, 1989.
- Morzik, Generalmajor a. D. Fritz. *German Air Force Airlift Operations*. Montgomery: Air University, USAF Historical Division Research Studies Institute, 1961.
- Morzik, Fritz. *Die deutschen Transportflieger im Zweiten Weltkrieg - die Geschichter des 'Fussvolkes der Luft'*. Frankfurt a/M.: Bernard & Graefe Verlag fuer Wehrwesen, 1966.
- Muller, Richard. *The German Air War in Russia*. Baltimore: The Nautical and Aviation Publishing Company of America, 1992.
- Payne, Robert. *The Life and Death of Adolf Hitler*. New York: Praeger Publishers, 1973.
- Price, Alfred. *Luftwaffe Handbook 1939-1945*. New York: Charles Scribner's Sons, 1977.
- Price, Dr. Alfred. *Pictorial History of the Luftwaffe*. Wisconsin: Motorbooks International Publishers and Wholesalers, 1991.

- Probert, Air Commodore H.A. *The Rise and Fall of the German Air Force 1933-1945*. New York: St. Martin's Press, 1983.
- Schroeter, Heinz. *Stalingrad*. Translated by Constantine Fitzgibbon. New York: E.P. Dutton & Company, Inc., 1958
- Spahr, William J. *Zhukov-The Rise and Fall of a Great Captain*. California: Presidio Press, 1993.
- Tarrant, V.E. *Stalingrad*. London: Leo Cooper, 1992
- Trevor-Roper, H.R. *Blitzkrieg to Defeat - Hitler's War Directives, 1939 - 1945*. New York: Holt, Rinehart and Winston, 1965.
- von Manstein, Field Marshal Erich. *Lost Victories*. Edited and translated by Anthony G. Powell. Novato: Presidio Press, 1982.
- von Rohden, Hans Detlef Herhudt. *Europaeische Beitrage zur Geschichte des Weltkrieges II, 1939/45 - Die deutsche Luftwaffe im Kriege gegen Russland, 1941 - 1945*.
- Zhukov, Georgi K. *Reminiscences and Reflections*. Translated by N. Burova, R. Daglish, P. Garb, G. Kozlov, S. Sossinsky, and M. Sydney. Moscow: Progress Publishers, 1985.
- Ziemke, Earl F. *Stalingrad to Berlin: The German Defeat in the East*. Washington D.C.: United States Army, Office of the Chief of Military History, 1968.

Periodicals

- Backlund, Donald R. "Stalingrad and Dien Bien Phu: Two Cases of Failure in Strategic Resupply." *Aerospace Historian*, Summer/Fall 1970, Vol. 17, pp. 60 - 68.
- Pickert, Wolfgang. "The Stalingrad Airlift: An Eyewitness Commentary." *Aerospace Historian*, Dec. 1971, Vol. 18, no. 4, pp. 183 - 185.
- Tunmer, William H. "Another View of the Stalingrad and Dien Bien Phu Airlifts." *Aerospace Historian*, Sept. 1971, Vol. 18, no. 3, pp. 135 - 137.

Primary Source Material

- "Die Taegliche Wetterlage waerend der Luftversorgung Stalingrad." Karlsruhe Collection, 13 Dec 55. USAF HRA, K113.309-3v9.
- Fiebig, Major General. "Personal Diary of Major General Fiebig 25 Nov 42 - 2 Feb 43." Annotated by A.W. Herling. USAF HRA, 239.0461-21.
- Greffrath, "Russlandkrieg: Die Luftversorgung Stalingrads - Gesamtueberblick." Karlsruhe Collection, 10 Mar 56, USAF HRA, K113.309-3v9.
- Heinemann, Oberst Lothar von. "Betrifft: 'Jeschonnekplan Versorgung Stalingrad'." Karlsruhe Collection 13 Mar 56, USAF HRA, K113.309-3v9.
- Kersten, Lotte. "Jeschonnek und die Luftversorgung fuer die 6. Armee in Stalingrad." Karlsruhe Collection, 15 Jun 56, USAF HRA, K113.309-3v9.
- Leuchtenberg, Werner. Untitled letter discussing Stalingrad. Karlsruhe Collection, 29 May 56, USAF HRA, K113.309-3v9.
- Loerzer, Generaloberst. "Bericht ueber eine Auskunft ueber Goerings Stalingrader Zusage durch Generaloberst Loerzer." Karlsruhe Collection, 29 Apr 56, USAF HRA, K113.309-3v9.

Milch, Field Marshal Erhard. Untitled letter to General Hermann Plocher discussing Stalingrad. Karlsruhe Collection ,10 Jun 56, USAF HRA, K113.309-3v9.

Morzik, Fritz. Untitled letter discussing Stalingrad. Karlsruhe Collection, 31 Dec 55, USAF HRA, K113.309-3v9.

Pickert, Brigadier General. "Records of Brig. Gen. Pickert, 25 Jun 42 - 23 Jan 43." Annotated by A.W. Herling. USAF HRA, 239.0461.20.

Pickert, Genlt. a.D. "Buchbesprechung: 'Der Feldzug nach Stalingrad'." Karlsruhe Collection, 16 Mar 56, USAF HRA, K113.309-3v9.

Pickert, Genlt. a.D. "Stalingrad - Versuch einer geschichtlichen Studie" 1947. Karlsruhe Collection, USAF HRA, K113.309-3v9.

Plocher, General Hermann. "Auswirkung der Luftversorgung Stalingrad auf die Luftwaffe." Karlsruhe Collection, 19 Jun 56, USAF HRA, K113.309-3v9.

Schulz, Karl Heinrich. "Luftversorgung Stalingrad (20.11.42 - 1.2.43)." 2 Mar 56, USAF HRA, K113.309-3v9.

Special Headquarters, Field Marshal Milch. "War Diary - 15 Jan - 3 Feb 1943." USAFHRA, 239.0461.19.

Suchenwirth. "General d. Fl.a.D. K. Bodenschatz ueber die Zusage Goerings bzgl. Luftversorgung der 6. Armee in Stalingrad." Karlsruhe Collection, 7 May 56, USAF HRA, K113.309-3v9.

Thiel, Major Erich. "Meldung ueber Beschaffenheit des Platzes Gumrak (Kessel von Stalingrad) und Rueckgespraeche mit Generaloberst Paulus." Karlsruhe Collection, 21 Jan 43. USAF HRA, K113.309-3v9.

von Heinemann, Oberst i.G.a.D. Lothar. "Beitraege zu Stalingrad." Karlsruhe Collection, 25 - 27 Apr 56, USAF HRA, K113.309-3v9.

von Richthofen, Generaloberst Frhr. "Luftflotte 4 vor Stalingrad, ab 20.7.42." Karlsruhe Collection, USAF HRA, K113.309-3v9.

"Zahlenangaben zur Luftversorgung Stalingrad, 25 Nov 42 - 2 Feb 43." Karlsruhe Collection, USAF HRA, K113.309-3v9.

Zeitler, Major General Kurt, "Generaloberst Zeitler Ueber das Zustandekommen des Entschlusses, Stalingrad aus der Luft zu versorgen." Karlsruhe Collection, 11 Mar 55, USAF HRA, K113.309-3v9.

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