

Ace of Aces: Erich Hartmann the Blond Knight of Germany

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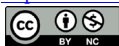
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Abstract

History has seen numerous great aviators and specifically ace fighter pilots. None of them, however, comes close to the exceptionally gifted Erich Hartmann who served mainly on the Eastern Front during World War II. He was the top scoring fighter pilot of all the fighters in World War 2. He flew a staggering 825 missions in recording 352 victories (See **Annexure 1**). All the victories were recorded on the Eastern Front. “The Black Devil” as Hartmann was known, holds a record that has never been broken, and owing to the nature of modern aerial warfare it is unlikely to ever be broken. During the last years of the war, his reputation had grown so colossal that when many Soviet pilots observed his Messerschmitt Bf 109 approaching, they would bolt instead of engaging him in aerial combat. This article provides a synthesized look at this talented contributor to World War II and aviation history in general. This study gives a brief overview of the Hartmann and his exploits during World War Two and was based on a literature study.

Keywords

Ace Pilot, Messerschmitt Aircraft, Luftwaffe, Aerial Combat Tactics, Flying Excellence

1. Introduction and Background

This article presents a synthesis of the literature describing the aviation career of Erich Hartman. Included literature provides context around and details about Hartman’s achievements as an aviator, more specifically the combats that he was involved in and the machines he flew and took down. In *Wolfe’s (2001)* book, “The Right Stuff”, fighter pilots are described as having some interesting traits and Hartmann was no different. He was enormously confident, self-confident, and clearly had a superior cognitive ability and an almost natural ability to fly.

Above all his love of aviation and flying was evident from an early age. He relished the challenges posed by aerial combat and was a very competitive individual with a desire to always be where the action was taking place, and in the heart of all aviation things. Hartmann was a diligent and loyal servant of the Luftwaffe.

During the Second World War, there were numerous fighter aircraft of outstanding quality, but none could match the German Luftwaffe's main single-engine, single-seat fighter, the famous Messerschmitt Bf 109. By late 1940, various Luftwaffe fighter units were being re-equipped with the daunting new Bf 109F-1 and F-2 Messerschmitt variants which had superior performance. Some of the notable German pilots including ace pilot Adolf Galland embraced the Bf 109 as a super plane which was able to outturn the British Supermarine Spitfire, and this was mainly because untried British pilots did not turn as closely as was possible due to their fear of falling into a high-speed stall (Sims, 1972; Green, 1980). Luftwaffe pilots considered the F-1s and F-2s to be exceptional planes which could effortlessly outclass the Spitfire Mk Is and IIs and they closely matched the Mk Vs which were almost ready to enter service. There were some who believed that the Spitfire had a higher rate of turn and a smaller turning circle (Spick, 1983) than the Messerschmitt, but this did not dent the reputation of the latter.

In general terms, the Messerschmitt and Spitfire aircraft were well matched in performance (Caldwell, 1991) and the consequence of an aerial duel was mainly finalized by the quality of the aviator, superior flying tactics, the relative position and the skill level of the opposite pilot (Price, 1995, 1991). RAF fighter pilots usually flew in tight, vee-shaped sections of three aircraft (Delve, 2007) which meant that the pilots were obliged to concentrate on observing each other's positions, rather than being free to keep a necessary vantage point in order to see adversarial aircraft (Duncan Smith, 1981; Bungay, 2000). In addition, "Fighting Area Tactics" also specified that RAF fighter pilots had to open fire on enemy aircraft at long-range, usually from about 275 to 370 m, and then they were to break off without closing in on their prey (Bungay, 2000; Delve, 2007).

2. Superior Luftwaffe Tactics

Luftwaffe fighter pilots flew meticulously designed combat formations and employed the basic unit of a pair (Rotte) of fighters that would be widely spread out by about two hundred meters or so (Sims, 1972). The flight leader was followed to starboard and also to the rear by his wingman, who was competent enough to stay with him at all times. The leader could hunt enemy aircraft, and also cover the wingman's blind spots. The wingman could focus on searching the airspace in the leader's blind spots, both from behind and below (Green, 1980). It was common practice for a *Schwarm* to develop which included two sections teaming up in flight thus affording the pilots the opportunity to observe their surroundings more efficiently as they flew four abreast (Mason, 1973). They were

also more difficult to sight than the RAF vee formation and pilots could manoeuvre their planes far more easily and climbing or descending was not all problematic. *Schwarm* formations allowed pilots to attack in efficient pairs. By contrast, the British vee formations placed planes in very susceptible positions (Bader, 2004). Luftwaffe fighter units flew as a *Staffel* or squadron, in which case three *Schwarme* were usually staggered in height and could defend each other easily.

3. Ace Pilots

“Aces” were pilots who were courageous fighter pilots who were officially credited with five or more “kills”. In the Royal Air Force the concept was not fully recognized and the pilots never really accepted the concept of what an “ace” is. This was likely due to the fact that numerous good pilots never became aces. This was due to a lack of opportunities or sheer circumstance, or because they were killed or severely injured before they could accumulate relatively high “kill” scores. The Soviet Air Forces had the top Allied pilots in terms of aerial triumphs. Ivan Kozhedub was credited with 66 “kills” victories. The German Airforce utilized the notion of “one pilot, one kill”, and ace pilots were known as *Experten* (Schneekluth, 1953). There were over 1000 aces, of whom at least 40 were South Africans (Tidy, 1968). British pilots and essentially most Allied pilots were by comparison not as well trained as Luftwaffe pilots (Shores, 1983). The German pilots tended to fly far more individual sorties and basically kept on flying until they were captured, severely wounded or killed in aerial combat.

Once a fighter pilot destroyed aircraft in air-to-air combat sorties in conjunction with other fighter pilots, each pilot was typically credited with his portion. Thus, if three pilots shared a “kill” each pilot would be attributed with one-third of a “kill”. Assuming a pilot had the essential skills and the right aircraft, an element of luck always existed to place the right pilot in the right place at the right time (Tidy, 1968). Tactics however also played a key part in any aerial encounter between adversaries. Pilots like the renowned South African “Sailor” Malan were influential in developing many improved tactics for the RAF fighter pilots (Franks, 1994).

Tidy (citing Shores and Williams, 1966) asserted that there are three distinct classes of ace, although most of them combined aspects defining each individual type of each kind.

“(1) The Defensive Ace: that is, the pilot flying over his own country or lines, in an effort to prevent the enemy from attaining air superiority. South Africans Tom Pattle and “Sailor” Malan (with 41 and 35 kills respectively) were the supreme examples of this type of ace, and finished first and third in the grand list of all Commonwealth aces. (2) The Offensive Ace: the pilot flying into the enemy’s lines to seek out and destroy him, in an effort to attain air superiority. “Johnny” Johnson was the supreme example of this type and finished second overall (between Tom Pattle and “Sailor” Malan) with 38. (3) The Night Fighter Ace: unlike the other two (although “Sailor” Ma-

lan shot down two enemy aircraft in one night in an individual “hate effort”), he had to fly alone, rather than in a pack, and had to proceed with infinite patience and caution in order to find his prey. John Cunningham was the most successful in this category with 20 kills...” (Tidy, 1968).

During the course of World War II, the ace pilots claimed approximately over 60 percent of all confirmed aerial combat successes, though during the early years of the war this percentage was significantly higher. The most successful RAF pilots were Polish pilots who had been trained by their air force to fly in loose formations and open fire on enemy aircraft from close-range. The Polish Air Force first struggled in the 1939 Invasion of Poland. Although they were pointedly outnumbered and with their aircraft, they were at times outmatched by more innovative German planes (Donald, 2000). Despite this, Polish pilots inflicted substantial damage on the Luftwaffe, shooting down 285 German aircraft for the loss of 333 Polish planes (Zaloga, 2004). Interestingly, Polish pilots, comprised 5% of the pilots who were active during the Battle of Britain, and were accountable for 12% of the total victories in that Battle.

On 11 June 1940, the Polish Government in Exile engaged in an agreement with the British Government to establish a Polish Army and Polish Air Force in the United Kingdom. Ten Polish fighter squadrons went into action in August 1940 and four Polish squadrons participated in the Battle of Britain with 89 Polish pilots involved. All in all, 145 Polish pilots defended British skies. Polish pilots were among the most experienced in the battle, due to their flying style and in any case, most of them having already fought during the 1939 blitzkrieg in Poland and the 1940 Battle of France (Cynk, 1998).

The Messerschmitt as depicted in **Figure 1** above is together with its famous pilot, and focus of this article is responsible for the most air kills during World War II. **Table 1** below provides a complete list of the top-ranking aces of World War II according to their number of kills. The particular aircrafts that were flown in during the kills are also detailed.



Figure 1. A model of the Messerschmitt Bf 109. Source: Author’s own.

Table 1. A selection of the greatest fighter aces of World War II.

Name of Ace Pilot	Country	Aircraft flown	Number of “kills”
Erich Hartmann	Germany	Messerschmitt Bf-109E	352
Gerhard Barkhorn	Germany	Bf-109E, Bf-109G, Fw-190D-9	301
Günther Rall	Germany	Bf-109	275
Walter Nowotny	Germany	Bf-109E, Fw-190, Me-262	258
Erich Rudorffer	Germany	Bf-109E, Fw-190	222
Hans-Joachim Marseille	Germany	Bf-109E, Bf-109F	158
Adolf Galland	Germany	Hs-123, Bf-109E, F-190, Me-262	104
Alexander Pokryshkin	Soviet Union	MiG-3, Yak-1, P-39, P-63	88
Hirooyoshi Nishizawa	Japan	A6M Zero	87
Hans Wind	Finland	B239, Bf-109G	75
Ivan Kozhedub	Soviet Union	La-5, La-7	66
Saburō Sakai	Japan	A6M2 Zero	64
Marmaduke Pattle	Commonwealth	Gladiator, Hurricane	50
Mato Dukovac	Croatia	Bf-109	44
Constantin Cantacuzino	Romania	Bf-109G	43
Tom Pattle	South Africa	Supermarine Spitfire	41
Richard Bong	USA	P-38 Lightning	40
Thomas McGuire	USA	P-38 Lightning	38
A.G. “Sailor” Malan	South Africa	Supermarine Spitfire	35
David McCampbell	USA	F6F Hellcat	34
Frank Carey	Britain	Hawker Hurricane	28
Geoffrey Allard	Britain	Hawker Hurricane,	24
J.J. “Chris” Le Roux	South Africa	Supermarine Spitfire	23.5
Douglas Bader	Britain	Supermarine Spitfire	22
P.H. “Dutch” Hugo	South Africa	Supermarine Spitfire	22
Lilya Litviak*	Soviet Union	Yak-1	12

Female ace pilot*. Sources: (<https://www.ranker.com/list/greatest-fighter-aces-for-all-time/polar-bear> & Tidy, 1968).

4. Erich Hartmann—The Blond Knight of Germany

Erich Hartmann was born in Weissach, in the Weimar Republic of Germany, on April 19, 1922, and had his mother as a role model aviator. In fact, his mother Elisabeth became one of Germany’s first female glider pilots. He was so enamoured by her flying prowess that at the tender age of 15, he was driven to receive his glider pilot’s license. In 1939, aged only 18, Hartmann received his pilot’s license enabling him to fly powered aircraft and so he began to undergo fighter pilot training and for two years trained on a superb plane, namely the

dependable and prevailing fighter aircraft, the Messerschmitt Bf 109 which was the backbone of the German Luftwaffe (Bell, 2017). He developed combat techniques and superb gunnery skills. His advanced pilot training was completed on 31 January 1942, and, from 1 March 1942 to 20 August 1942, he learned to fly the Messerschmitt Bf 109 at the Jagdfliegerschule 2 (Mitcham, 2012).

Hartmann was soon dispatched to the veteran Jagdgeschwader 52 (JG 52) on the Eastern Front and his base of operations was situated in Maykop, Russia. This was near the north-eastern shore of the Black Sea. While he was there he was privileged to be placed under the direction of some of the Luftwaffe's most practiced fighter pilots. Hartmann and some other pilots were originally given the mission of ferrying Junkers Ju 87 Stukas to Mariupol. His primary flight ended with brake failure, and his Stuka crashed into the controller's cabin and devastated it (Kaplan, 2007). He was then allocated to III./JG 52, under the command of Gruppenkommandeur Major Hubertus von Bonin, and placed under the veteran flier Oberfeldwebel Edmund "Paule" Roßmann. He had the opportunity to fly alongside highly skilled pilots such as Hans Dammers and others, and he learned much from them and gradually perfected his combat strategies and developed an excellent reputation as a pilot with "...excellent eyesight, lightning-fast reflexes, great flying instincts, and an uncanny ability to stay cool in combat put him in harm's way time and again. But it was worth it: Hartmann proved to be a formidable flyer" (DeLong, 2018).

5. A highly Efficient Predator

Hartmann became (see Figure 2) the ultimate and leading exponent of the stalk-and-ambush tactics and he favoured the tactic of ambushing enemy aircraft and firing at them from very close range, about 20 m, rather than becoming



Source: <https://www.luftwaffe.cz/hartmann.html>.

Figure 2. Major Erich Hartmann.

involved in challenging and unnecessary dogfights (Spick, 1996). He learned this tactic from one of his prior commanders, Walter Krupinski. It was a formidable tactic in which he flew in such a manner as to only expose his position relative to an enemy plane at the very last moment and then blaze away at them with his Messerschmitt's high-velocity 20 mm MG 151 cannon. He always sought to destroy an enemy plane with the least amount of ammunition and essentially gave the enemy pilot no time to respond by taking any kind of evasive action (Spick, 1996). Hartmann explained his assessment of adversaries:

“I knew that if an enemy pilot started firing early, well outside the maximum effective range of his guns, then he was an easy kill. But, if a pilot closed in and held his fire, and seemed to be watching the situation, then you knew that an experienced pilot was on you. Also, I developed different tactics for various conditions, such as always turning into the guns of an approaching enemy, or rolling into a negative G dive forcing him to follow or break off, then rolling out and sometimes reducing airspeed to allow him to over commit. That was when you took advantage of his failing.” (Final Interview with Erich Hartmann).

Hartmann described his method as “See-Decide-Attack-Reverse”. He thus sought to always detect the enemy, then resolve how to continue with the attack, and finally attack at high speed and disengage to re-evaluate the situation (Patton, 1991). Most of his kills were thus based on firing on enemy planes from the rear and then immediately breaking off his attack (Rall, 2007). He permitted himself to get close enough to an enemy aircraft and then fire off rounds and maneuver away rapidly before the enemy could smash into his plane. He thus contrasted with the likes of Hans-Joachim Marseille (see Table 1), who was an amazing pilot and marksman and the master in the practice of the art of ricochet shooting who shot down 158 enemy aircraft.

He described his favourite method of attack in his last interview as follows:

“Coming out of the sun and getting close; dog-fighting was a waste of time. The hit and run with the element of surprise served me well, as with most of the high scoring pilots. Once a Russian was shot down, especially the leader they became disorganized and easy to attack. This was not always the case, especially later in the war, and there were special units of highly skilled and disciplined pilots, such as the Red Banner units who would make life difficult” (Final Interview with Erich Hartmann).

Hartmann flew his primary combat mission on 14 October 1942 as Roßmann's wingman. They came across 10 enemy aircraft below them, and Hartmann opened full throttle and broke away from Roßmann and engaged the enemy fighters but failed to score any hits, and almost crashed into one. He sped away and later ended crash landed after his plane ran out of fuel. He was subsequently punished, and he was sentenced to three days of working with the ground crew (Patzwall, 2008). Three weeks later he claimed his first “kill” and shot down a

Soviet Ilyushin Il-2 Sturmovik. By year end he shot down one more plane. By the following April, his tally of kills was 11 planes downed. The ace was on his way to flying history. By August of 1943, he shot down an additional 40 Soviet aircraft (Weal, 2001).

In the same year during the famed Battle of Kursk, Hartmann shot down 4 Soviet planes. Sadly, for him, one of his earlier mentors Krupinski, was shot down and wounded over an airfield. Hartmann took this very personally and he immediately upped his kill rate. In the same battle he continued to claimed five more “kills” on the 7th of July, and four more for each of the following two days (Obermaier, 1989; Bergström, 2007). The Battle of Kursk was the initial time in the Second World War that a German strategic offensive was stopped in its tracks before it could break through enemy fortifications and infiltrate into its strategic areas.

The Luftwaffe’s strength on the Eastern Front had started to weaken in 1943 after the debacle of Stalingrad. The Luftwaffe forces in the east were furthermore fatigued and various fighter units were directed back to Germany to defend against the increasing Allied bombing campaigns. By June end, only 38.7 percent of the Luftwaffe’s overall aircraft endured in the east (Murray, 1983). In 1943, the Luftwaffe was able to achieve local air superiority and the objective of the Luftwaffe remained unmoved. The precedence of the German air fleet was to increase air superiority, and Hartmann certainly served this cause as best he could. The objective was to detach the battlefield from enemy reinforcements, and to provide close air support (Corum, 1995). Erich Hartmann was so dreaded on the Eastern Front that Soviet planes would do an about-turn and evacuate air space near him, rather than face him and his sublime flying his skills in his daunting Messerschmitt Bf 109.

In the months prior to the battle, VVS formations that were come across exhibited improved training, and were flying better planes with greater skill levels than the Luftwaffe had seen before (Newton, 2002). Yakovlev Yak-9 and Lavochkin La-5 fighters were brought into the fray and provided Soviet pilots a measure of equivalence with the Luftwaffe’s planes. Enormous supplies of and enough reserves of replacement aircraft suggested the Red Army and VVS formations would be able to conduct a protracted operation without respite in the force of their exertions (Newton, 2002).

By August 1943, Hartmann’s count of destroyed aircraft stood at 42, but this figure more than doubled by the end of that year. In fact, by 1 August 1943 Hartmann turned into an ace-in-a day by claiming 5 kills. He flew 20 missions totaling 18 hours and 29 minutes in six days. Not surprisingly, an additional 7 planes were shot down in the next two days. A supplementary 5 were claimed or destroyed on the 5th of August, a single one was shot down on the 6th August. Another 5 were disposed of on 7 August. On 8 and 9 August Hartmann claimed another 4 kills. Hartmann was unstoppable. However, during an escort mission in August 1943, Hartmann was forced to land due to fragments of wreckage

from one of his kills hitting his plane. He landed behind enemy lines and Soviet troops apprehended him. He pretended to have internal injuries and was able to flee from his guards after which he walked back to German-held territory and to his unit. This prompted the Soviets to give him the epithet *Cherniy Chort* (The Black Devil) which also alluded to his immense flying skills and the paint scheme of his aircraft which included a black tulip.

He also pronounced on his capture in his final interview:

“The Russians were attacking in our area and Hrabak gave us our orders. This was in August 1943, and our mission was to support the Stukas of Hans-Ulrich Ruedel in a counterattack. Then things changed. The Red Air Force was bombing German ground positions in support of their offensive, so my flight of eight fighters located and attacked the enemy, about forty Laggs and Yaks with another forty or so Shturmovik ground attack aircraft. I shot down two when something hit my plane. I made a forced landing and was captured by Soviet soldiers. I faked that I was injured as they approached the plane. They believed me and took me to their HQ and their doctor examined me, and he even believed me. They placed me back in the truck (which was German) on a stretcher, and as Stukas made their attacks I rushed the one guard in the truck. He went down and I left out the back. As soon as I did that I heard the truck stop, so I had to keep moving. I found myself in a great field of very tall sunflowers where I tried to hide as I ran, all the while the men chasing me were firing wildly in my direction. I found a small village occupied by Russians and decided to return to the area I had just come from and wait for nightfall. [It was during this time that Mertens took it upon himself to take off and find Hartmann, armed with only a rifle and water, being concerned when his friend had not returned]. I reached my secure area and took a nap, and later I awoke and took off again headed west. I passed a patrol of Russians, about ten I think, so I decided to follow them. Then the patrol disappeared over a small hill, and then there was a firefight. I knew that that must be the German lines since the men of the patrol came flying back over on my side. I then walked to the other side and was challenged by a German sentry who also fired a bullet at me, which ripped open my trouser leg. I was pretty upset, but this man was in complete fear. I was welcomed into their position, given an interrogation and was asked to prepare for contact. Another group of Russians, obviously drunk walked towards our trenches, and the lieutenant gave the order to fire when they came within about twenty meters. They were all destroyed. I was later told that a group of Russians had entered their perimeter speaking fluent German, claiming to be escaped POWs, and when they came in they pulled out some Tommy guns and killed some men. This explained their caution over accepting me on face value, as I had no identification on me. Everything had been taken when I was captured” (*Final Interview with Erich Hartmann*).

By 20 September Hartmann had shot down over 100 planes (Spick, 1996) and became one of an elite group of German pilots. The Kursk campaign became a strategic Soviet achievement. A major German offensive had been stopped and the Germans were unable to break through the Soviet defenses. Nonetheless, the Soviet victory was expensive, and they lost far more equipment and forces than the German Army. By October 1943, Hartmann claimed another 35 aerial conquests (Deac, 1998). By 29 October, he had shot down 148 planes and was awarded the Knight's Cross of the Iron Cross (*Ritterkreuz des Eisernen Kreuzes*). This total soon shot up to 159 kills.

In 1944, Hartmann rapidly bolstered his "kill" total claimed over 50 more Soviet aircraft and all his claims were verified, by pilots flying in his formation (Weal, 2004). He continued to shoot down large numbers of Soviet planes and soon exceeded the previous record of Gunther Rall's 275 kills. Hartmann along with 26 other recipients deservedly received the Iron Cross, the Knight's Cross with Oak Leaves, Swords & Diamonds, which were usually earmarked for military valour and exemplary leadership.

Hartmann was beckoned to Hitler's military headquarters at Führerhauptquartier Wolfsschanze, close to Rastenburg, to receive the coveted award from Hitler personally. During the encounter, Hartmann discussed at length the inadequacies of German fighter pilot training. Hitler supposedly by his own admission to Hartmann stated that the war was lost and he asserted that he wished the Luftwaffe had more like him (Final Interview with Erich Hartmann).

Hartmann explained:

"When I arrived at the Wolfschanze the world had changed. Hitler had already begun the trials and executions of those involved and everyone was under suspicion. You had to enter three areas of security, and no one was allowed to carry a weapon into the last section. I told Hitler's SS guard to tell the Fuehrer that I would not receive the Diamonds if I were not trusted to carry my Walther pistol. The guy looked like I had just married his mother. He went to speak with von below, who was a Colonel then, and Below came out said it was all right. I hung my cap and pistol belt on the stand and Hitler came to me, and said, "I wish we had more like you and Ruedel", and he gave me the Diamonds, which were encrusted upon another set of Oak Leaves and Swords. We had coffee and lunch, and he confided in me, saying "militarily the war is lost", and that I must already know this, and that if we waited the Western Allies and Soviets would be at war with each other. He also spoke about the partisan problem and he asked me about my experience. Hitler asked me my opinion of the tactics used in fighting the American and British bombers. Since I did not have a lot of experience with this, I simply stated what I thought was a fact. Goering's orders to combat them and the method employed was in error. I also informed him of the deficiencies in pilot training; too many minimally trained men were simply throwing their lives away. He also spoke about the

new weapons and tactics, and then we parted. That was the last time I saw him, 25 August 1944. I flew back to the unit, where an order for ten days leave waited. I also had to report to Galland, where we discussed the Me-262 situation. I went back to marry my Ushi, that was all that mattered to me” (*Final Interview with Erich Hartmann*).

On May 8, 1945, when the Germans were getting ready to surrender to the rapidly advancing Allies, Hartmann made his last bold kill. Soviet troops in Brunn, a small town in Eastern Germany were observing a Soviet ace going through his paces with a series of acrobatic manoeuvres. Unexpectedly, Hartmann’s ME 109 swept down on it out of the sun. The 20-mm machine gun cannons obliterated the Soviet Yak-9’s fuselage. This was Hartmann’s concluding kill witnessed by dumbfounded Soviet infantrymen.

6. The Post War Years

Once Germany was defeated, Hartmann and his comrades of JG 52, surrendered to United States Army forces and were subsequently handed over to the Red Army. This act was in agreement with the Yalta Agreements, which specified that airmen and soldiers fighting Soviet forces had to surrender directly to them. The Soviets tried to coerce him to offer his services to the communist East German National People’s Army, and he was tried on war crimes charges and convicted and ultimately sentenced to 20 years imprisonment, which was later increased to 25 years. He was charged with war crimes, explicitly the “deliberate shooting of 780 Soviet civilians” in the village of Briansk, attacking a “bread factory” on 23 May 1943, and destroying 345 “expensive” Soviet aircraft. He refused to acknowledge the charges and directed his own defence, which the presiding judge criticized as a “waste of time” (*Kaplan, 2007*).

He spent 10 years in several Soviet prison camps and gulags and was released in 1955. In 1997, the Russian Federation retrospectively relieved him of all charges that were pressed against him and he returned to West Germany where he was inducted into the West German Bundesluftwaffe, assuming the rose to the rank of a colonel.

The world’s most fruitful flying ace pilot was now in charge of West Germany’s first all-jet fighter squadron, a group of Canadair F-86 Sabres. Hartmann also made numerous trips to the United States, where he was trained on U.S. Air Force planes. He died on 20 September 1993, at the age of 71 in Weil im Schönbuch.

Hartmann, despite being a predator ace pilot, clearly had some endearing opinions:

“One thing I learned is this: Never allow yourself to hate people because of the actions of a few. Hatred and bigotry destroyed my nation, and millions died. I would hope that most people did not hate Germans because of the Nazis, or Americans because of slaves. Never hate, it only eats you alive.

Keep an open mind and always look for the good in people. You may be surprised at what you find” (Final Interview with Erich Hartmann).

7. Conclusion

Hartmann was the most successful fighter ace pilot in the history of aerial warfare. His cumulative 352 kills (350 Soviet and 2 American) over 30 months was incredible given the odds for such a number of “kills”. He flew in 1404 combat missions most of which took place on the Eastern Front against the Soviet Union. In the execution of his service to the Luftwaffe and Germany, he was obliged to crash-land his plane 16 times because of mechanical failure or damage sustained by the debris of planes he had just shot down. Matthews and Foreman (2015) have researched the German Federal Archives and found records for 352 aerial victory claims, as well as two further unverified claims. The downed planes include two American P-51 Mustangs, and 350 Soviet Air Force planes shot down on the Eastern Front (Kaplan, 2007). Hartmann deservedly received Germany’s highest military decoration. It is doubtful if there will ever be another fighter pilot of the calibre of Erich Hartmann, the ace predator.

Dedication

This article is dedicated to the memory of the late Sidney Dorrington Hind, born on the 13th of September 1939. Sidney was a keen aviation enthusiast and was well admired among his peers for his vast knowledge of the evolution of aviation, and particularly his knowledge of World War II history. Sidney’s fact loving mind informed his captivating history lessons and was topped only by his patience in a continuous pursuit for perfection in recreating aircraft through model building, each detail caringly and accurately constructed through careful research. Sidney finally received a new set of wings on the 5th of January 2016, after a long and hard-fought battle with cancer. Wherever your new wings have taken you, we hope you enjoy this read and we miss your history lessons.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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Annexure 1. The Record of Hartmann's Kills

Available online at: <https://www.luftwaffe.cz/hartmann.html>.

No.	Date	Time	A/C Type	Unit	Location/Comments
1	5.11.1942	12:05	Il-2	7./JG 52	44,793 at 400 m
2	27.1.1943	11:30	MiG-1	7./JG 52	15,112: at 2.500 m
3	9.2.1943	10:20	LaGG-3	7./JG 52	86,722: at 1.000 m
4	10.2.1943	6:15	Boston	7./JG 52	86,671: at 3.200 m
5	24.3.1943	13:00	Il-2	7./JG 52	86,712: at 20 m
6	27.3.1943	11:50	I-16	7./JG 52	85,171: at 800 m
7	15.4.1943	15:33	P-39	7./JG 52	85,192: at 200 m
8	26.4.1943	11:35	R-5	7./JG 52	86,722: at 700 m
9	28.4.1943	9:30	LaGG	7./JG 52	85,122: at 5.000 m
10	30.4.1943	16:00	LaGG	7./JG 52	85,712: at 4.000 m
11	30.4.1943	16:20	LaGG-3	7./JG 52	85,752: at 4.000 m
12	7.5.1943	8:05	LaGG	7./JG 52	75,262: at 5.000 m
13	7.5.1943	16:43	LaGG	7./JG 52	85,171: at 500 m
14	11.5.1943	5:45	LaGG	7./JG 52	75,234: at 3.000 m
15	11.5.1943	5:50	LaGG	7./JG 52	85,144: at 5.000 m
16	15.5.1943	12:10	U-2	7./JG 52	86,544: tiefflug
17	23.5.1943	5:45	LaGG	7./JG 52	85,253: at 5.000 m
18	5.7.1943	3:40	Il-2 m.H.	7./JG 52	61,663 at 300 m
19	5.7.1943	7:10	LaGG	7./JG 52	61,151 at 1.500 m
20	5.7.1943	14:00	IL-2 m.H.	7./JG 52	61,333 at 200 m
21	5.7.1943	18:15	LaGG	7./JG 52	61,124 at 2.000 m
22	7.7.1943	3:50	Il-2	7./JG 52	61,183: at 500 m
23	7.7.1943	3:52	Il-2	7./JG 52	61,154: at 200 m
24	7.7.1943	6:05	Il-2	7./JG 52	61,331: at 500 m
25	7.7.1943	6:10	LaGG	7./JG 52	61,182: at 1.000 m
26	7.7.1943	17:15	LaGG	7./JG 52	61,214: at 3.000 m
27	7.7.1943	17:20	LaGG	7./JG 52	62,873: at 2.000 m
28	7.7.1943	17:30	LaGG	7./JG 52	62,792: at 3.500 m
29	8.7.1943	9:05	LaGG	7./JG 52	61,223: at 2.500 m
30	8.7.1943	9:10	LaGG	7./JG 52	61,221: at 2.500 m
31	8.7.1943	18:05	LaGG	7./JG 52	62,872: at 2.500 m
32	8.7.1943	18:25	LaGG	7./JG 52	61,134: at 1.000 m
33	9.7.1943	7:25	IL-2 m.H.	7./JG 52	61,272: at 500 m
34	9.7.1943	9:10	LaGG	7./JG 52	62,871: at 2.000 m
35	9.7.1943	9:20	LaGG	7./JG 52	62,844d: at 2.000 m

Continued

36	10.7.1943	7:05	LaGG	7./JG 52	62,872: at 2.000 m
37	11.7.1943	16:55	LaGG	7./JG 52	62,883: at 2.600 m
38	15.7.1943	17:20	LaGG	7./JG 52	54,562: at 1.500 m
39	16.7.1943	14:15	LaGG	7./JG 52	54,661: at 1.500 m
40	17.7.1943	19:25	LaGG	7./JG 52	54,974: at 1.800 m
41	31.7.1943	10:00	LaGG	7./JG 52	54,623: at 1.000 m
42	31.7.1943	16:55	LaGG	7./JG 52	64,541: at 3.000 m
43	1.8.1943	11:40	LaGG	7./JG 52	64,523 at 4.500 m
44	1.8.1943	14:40	LaGG	7./JG 52	54,663 at 3.000 m
45	1.8.1943	17:05	LaGG	7./JG 52	53,491 at 3.000 m
46	1.8.1943	19:21	LaGG	7./JG 52	53,131 at 2.000 m
47	1.8.1943	19:40	LaGG	7./JG 52	54,584 at 2.500 m
48	3.8.1943	11:17	LaGG	7./JG 52	61,334 at 1.000 m
49	3.8.1943	11:22	LaGG	7./JG 52	61,412 at 1.000 m
50	3.8.1943	11:45	LaGG	7./JG 52	61,192 at 1.000 m
51	3.8.1943	18:05	LaGG	7./JG 52	61,193 at 3.000 m
52	4.8.1943	10:19	LaGG	7./JG 52	61,391 at 3.500 m
53	4.8.1943	10:30	LaGG	7./JG 52	61,331 at 2.000 m
54	4.8.1943	10:50	LaGG	7./JG 52	61,334 at 1.000 m
55	4.8.1943	13:43	LaGG	7./JG 52	61,343 at 2.500 m
56	4.8.1943	15:40	LaGG	7./JG 52	51,462 at 3.000 m
57	5.8.1943	9:00	LaGG	7./JG 52	61,351 at 3.000 m
58	5.8.1943	11:50	LaGG	7./JG 52	61,323 at 4.000 m
59	5.8.1943	12:00	LaGG	7./JG 52	61,314 at 3.500 m
60	5.8.1943	17:04	LaGG	7./JG 52	61,333 at 4.000 m
61	5.8.1943	17:27	LaGG	7./JG 52	61,441 at 5.000 m
62	6.8.1943	16:08	LaGG	7./JG 52	61,393 at 3.500 m
63	7.8.1943	8:30	LaGG	7./JG 52	61,391 at 3.000 m
64	7.8.1943	8:35	LaGG	7./JG 52	61,384 at 2.500 m
65	7.8.1943	11:55	Pe-2	7./JG 52	61,561 at 4.000 m
66	7.8.1943	12:00	LaGG	7./JG 52	61,551 at 3.500 m
67	7.8.1943	12:20	Pe-2	7./JG 52	61,373 at 2.000 m
68	8.8.1943	7:15	LaGG	7./JG 52	61,572 at 3.000 m
69	8.8.1943	9:53	LaGG	7./JG 52	61,632 at 4.000 m
70	8.8.1943	10:18	LaGG	7./JG 52	61,612 at 3.000 m
71	8.8.1943	12:54	LaGG	7./JG 52	60,253 at 3.000 m
72	9.8.1943	6:14	LaGG	7./JG 52	61,821: at 400 m

Continued

73	9.8.1943	9:30	LaGG	7./JG 52	61,581: at 4.000 m
74	9.8.1943	16:30	LaGG	7./JG 52	61,561: at 4.000 m
75	9.8.1943	16:40	LaGG	7./JG 52	61,814: at 4.500 m
76	12.8.1943	8:55	LaGG	7./JG 52	61,772: at 5.000 m
77	15.8.1943	9:14	Pe-2	7./JG 52	60,214: at 4.500 m
78	15.8.1943	18:10	LaGG	7./JG 52	70,762: at 3.000 m
79	17.8.1943	5:20	LaGG	7./JG 52	70,841: at 4.500 m
80	17.8.1943	12:30	P-39	7./JG 52	70,791: at 2.500 m
81	17.8.1943	13:05	LaGG	7./JG 52	70,842: at 5.000 m
82	17.8.1943	17:40	P-39	7./JG 52	70,871: at 3.500 m
83	18.8.1943	10:00	LaGG	7./JG 52	60,193: at 3.000 m
84	18.8.1943	12:45	LaGG	7./JG 52	61,792: at 3.000 m
85	18.8.1943	12:55	LaGG	7./JG 52	60,134: at 2.000 m
86	19.8.1943	10:35	LaGG	7./JG 52	88,263: at 5.000 m
87	19.8.1943	10:50	LaGG	7./JG 52	98,132: at 3.500 m
88	19.8.1943	16:25	P-39	7./JG 52	88,281: at 3.000 m
89	20.8.1943	6:07	Il-2	7./JG 52	88,263: at 50 m
90	20.8.1943	6:08	Il-2	7./JG 52	88,263: at 50 m
91	15.9.1943	12:20	Yak-9	9./JG 52	68,314: at 2.000 m
92	18.9.1943	7:35	LaGG	9./JG 52	69,563: at 4.000 m
93	18.9.1943	10:30	LaGG-3	9./JG 52	68,391: at 4.000 m
94	18.9.1943	13:55	LaGG	9./JG 52	68,392: at 5.000 m
95	18.9.1943	13:55	LaGG	9./JG 52	68,332: at 4.000 m
96	19.9.1943	14:40	LaGG	9./JG 52	58,6614: at 1.200 m
97	19.9.1943	15:20	LaGG	9./JG 52	56,599: at 800 m
98	20.9.1943	13:20	LaGG-3	9./JG 52	59,394: at 2.000 m
99	20.9.1943	13:40	LaGG	9./JG 52	59,474: at 2.000 m
100	20.9.1943	15:35	P-39	9./JG 52	58,682: at 6.000 m
101	20.9.1943	15:50	LaGG	9./JG 52	58,334: at 2.000 m
102	25.9.1943	7:55	LaGG	9./JG 52	58,532: at 3.000 m
103	25.9.1943	12:43	LaGG	9./JG 52	58,831: at 5.000 m
104	25.9.1943	16:35	LaGG	9./JG 52	58,611: at 4.000 m
105	26.9.1943	6:55	LaGG	9./JG 52	58,691: at 5.000 m
106	26.9.1943	7:05	P-39	9./JG 52	58,554: at 600 m
107	26.9.1943	9:55	P-39	9./JG 52	58,592: at 6.000 m
108	27.9.1943	11:15	LaGG	9./JG 52	58,611: at 4.600 m
109	27.9.1943	11:25	LaGG	9./JG 52	58,643: at 3.000 m

Continued

110	28.9.1943	16:30	LaGG	9./JG 52	58,641: at 2.000 m
111	29.9.1943	6:56	LaGG	9./JG 52	58,644: at 4.000 m
112	29.9.1943	8:55	P-39	9./JG 52	58,682: at 4.000 m
113	30.9.1943	6:55	LaGG	9./JG 52	58,681: at 4.500 m
114	30.9.1943	14:30	P-39	9./JG 52	58,732: at 2.500 m
115	30.9.1943	16:40	P-39	9./JG 52	58,583: at 5.500 m
116	1.10.1943	12:20	LaGG	9./JG 52	58,641 at 5.000 m
117	1.10.1943	12:30	LaGG	9./JG 52	58,762 at 3.500 m
118	2.10.1943	8:40	LaGG	9./JG 52	58,833 at 5.000 m
119	2.10.1943	8:50	Pe-2	9./JG 52	58,762 at 6.500 m
120	2.10.1943	11:40	P-39	9./JG 52	58,851 at 5.000 m
121	2.10.1943	13:55	LaGG	9./JG 52	58,672 at 4.000 m
122	3.10.1943	10:10	LaGG	9./JG 52	58,592: at 3.500 m
123	3.10.1943	16:05	LaGG	9./JG 52	58,591 at 2.000 m
124	4.10.1943	7:25	P-39	9./JG 52	58,614 at 5.000 m
125	11.10.1943	13:40	LaGG	9./JG 52	58,124: at 2.000 m
126	12.10.1943	7:00	LaGG	9./JG 52	58,134: at 1.500 m
127	12.10.1943	7:15	LaGG	9./JG 52	58,241: at 2.000 m
128	12.10.1943	7:35	LaGG	9./JG 52	58,211: at 1.000 m
129	12.10.1943	15:00	LaGG	9./JG 52	58,161: at 1.000 m
130	13.10.1943	10:35	LaGG	9./JG 52	58,181: at 3.000 m
131	14.10.1943	8:20	LaGG	9./JG 52	58,184: at 4.000 m
132	14.10.1943	8:25	LaGG	9./JG 52	58,151: at 3.500 m
133	14.10.1943	15:20	LaGG	9./JG 52	58,153: at 3.000 m
134	15.10.1943	8:59	LaGG	9./JG 52	58,153: at 4.000 m
135	15.10.1943	9:05	LaGG	9./JG 52	58,154: at 4.000 m
136	15.10.1943	11:50	LaGG	9./JG 52	58,181: at 4.000 m
137	20.10.1943	7:15	P-39	9./JG 52	39,472: at 4.000 m
138	20.10.1943	7:20	P-39	9./JG 52	39,393: at 3.500 m
139	20.10.1943	14:42	P-39	9./JG 52	39,534: at 1.500 m
140	21.10.1943	7:40	LaGG	9./JG 52	39,481: at 4.500 m
141	24.10.1943	14:10	LaGG	9./JG 52	57,753: at 2.000 m
142	24.10.1943	14:35	P-39	9./JG 52	58,534: at 3.500 m
143	25.10.1943	10:00	Pe-2	9./JG 52	49,523: at 6.500 m
144	25.10.1943	15:30	LaGG	9./JG 52	57,182: at 2.000 m
145	26.10.1943	8:08	P-39	9./JG 52	57,181: at 4.000 m
146	26.10.1943	8:15	P-39	9./JG 52	57,153: at 4.500 m

Continued

147	29.10.1943	8:50	LaGG	9./JG 52	38,151: at 5.500 m
148	29.10.1943	11:05	P-39	9./JG 52	29,499: at 2.000 m
149	7.12.1943	13:46	LaGG	9./JG 52	SSE Dneprovka: 4.000 m
150	13.12.1943	10:10	LaGG	9./JG 52	S Jsnigirevka: at 900 m
151	15.12.1943	12:32	LaGG	9./JG 52	NW Chervonovershka: at 800 m
152	15.12.1943	12:45	LaGG	9./JG 52	N Verblyuzhka: at 700 m
153	15.12.1943	14:16	LaGG	9./JG 52	NNE Chervonovershka: at 900 m
154	17.12.1943	14:10	LaGG	9./JG 52	E Novgorotka: at 5.000 m
155	17.12.1943	14:20	P-39	9./JG 52	NE Novgorotka: at 4.000 m
156	17.12.1943	14:24	P-39	9./JG 52	S Verblyuzhka: at 4.000 m
157	20.12.1943	9:02	LaGG	9./JG 52	NE Verchniy: at 200 m
158	20.12.1943	12:13	LaGG	9./JG 52	W Tomakovka: at 250 m
159	20.12.1943	12:13	LaGG	9./JG 52	NW Verchniy: at 200 m
160	3.1.1944	12:10	LaGG-3	9./JG 52	38,893 at 1.000 m [Novo Krasnoye]
161	7.1.1944	14:20	LaGG-3	9./JG 52	29,361 at 4.000 m
162	7.1.1944	14:25	LaGG-3	9./JG 52	29,344 at 3.000 m
163	8.1.1944	14:15	P-39	9./JG 52	29,371 at 3.500 m
164	8.1.1944	14:20	P-39	9./JG 52	29,352 at 3.000 m
165	8.1.1944	14:30	P-39	9./JG 52	29,552 at 4.000 m
166	16.1.1944	10:15	P-39	9./JG 52	29,343 at 3.500 m
167	16.1.1944	10:26	LaGG	9./JG 52	19,464 at 4.000 m
168	16.1.1944	10:47	LaGG	9./JG 52	19,492 at 4.000 m
169	17.1.1944	9:44	LaGG	9./JG 52	29,512 at 3.000 m
170	17.1.1944	12:19	LaGG	9./JG 52	29,521 at 2.500 m
171	17.1.1944	12:24	Pe-2	9./JG 52	19,492 at 1.000 m
172	17.1.1944	14:06	LaGG	9./JG 52	29,341 at 4.000 m
173	23.1.1944	11:30	LaGG	9./JG 52	29,342 at 3.000 m
174	23.1.1944	13:20	LaGG	9./JG 52	19,262 at 1.000 m
175	23.1.1944	13:25	LaGG	9./JG 52	19,264 at 1.000 m
176	23.1.1944	13:45	LaGG	9./JG 52	19,293 at 1.000 m
177	24.1.1944	10:25	LaGG-3	9./JG 52	19,262 at 2.000 m
178	30.1.1944	10:05	LaGG	9./JG 52	19,274 at 400 m
179	30.1.1944	10:10	LaGG	9./JG 52	19,283 at 300 m
180	30.1.1944	12:25	LaGG	9./JG 52	19,241 at 4.000 m
181	30.1.1944	12:30	LaGG	9./JG 52	19,243 at 3.000 m
182	30.1.1944	14:25	LaGG	9./JG 52	19,261 at 2.000 m
183	30.1.1944	14:30	LaGG	9./JG 52	19,432 at 2.300 m

Continued

184	31.1.1944	11:10	LaGG	9./JG 52	19,241 at 2.000 m
185	31.1.1944	11:15	LaGG	9./JG 52	19,132 at 1.200 m
186	1.2.1944	8:10	LaGG	9./JG 52	19,284 at 800 m
187	1.2.1944	10:00	LaGG	9./JG 52	19,162 at 2.500 m
188	1.2.1944	10:05	LaGG	9./JG 52	19,241 at 2.000 m
189	1.2.1944	12:00	LaGG	9./JG 52	19,124 at 1.500 m
190	1.2.1944	12:02	LaGG	9./JG 52	19,134 at 1.000 m
191	3.2.1944	13:40	LaGG	9./JG 52	19,152 at 400 m
192	4.2.1944	11:40	P-39	9./JG 52	10,783 at 3.500 m
193	26.2.1944	9:08	P-39	9./JG 52	29,381: at 3.000 m
194	26.2.1944	9:16	P-39	9./JG 52	29,384: at 3.000 m
195	26.2.1944	11:45	P-39	9./JG 52	29,524: at 4.000 m
196	26.2.1944	11:48	P-39	9./JG 52	29,521: at 3.000 m
197	26.2.1944	11:53	P-39	9./JG 52	29,514: at 3.000 m
198	26.2.1944	11:58	P-39	9./JG 52	29,524: at 2.500 m
199	26.2.1944	12:03	P-39	9./JG 52	29,524: at 2.000 m
200	26.2.1944	14:40	P-39	9./JG 52	29,552: at 2.500 m
201	26.2.1944	14:45	P-39	9./JG 52	29,531: at 3.000 m
202	26.2.1944	14:50	P-39	9./JG 52	29,512: at 2.000 m
203	23.4.1944	15:45	LaGG	9./JG 52	35,351: at 1.500 m
204	24.4.1944	11:55	LaGG	9./JG 52	35,474: at 2.000 m
205	24.4.1944	12:15	P-39	9./JG 52	35,472: at 5.000 m
206	26.4.1944	14:15	P-39	9./JG 52	35,474: at 4.000 m
207	26.4.1944	14:20	P-39	9./JG 52	35,481: at 4.000 m
208	3.5.1944	15:45	LaGG	9./JG 52	35,273: at 2.000 m
209	4.5.1944	16:10	LaGG	9./JG 52	35,424: at 3.500 m
210	4.5.1944	17:35	LaGG	9./JG 52	35,424: at 5.000 m
211	4.5.1944	17:50	LaGG	9./JG 52	35,214: at 2.500 m
212	5.5.1944	8:20	LaGG	9./JG 52	35,421: at 3.000 m
213	5.5.1944	10:45	LaGG	9./JG 52	85,614: at 2.000 m
214	5.5.1944	10:48	LaGG	9./JG 52	35,612: at 2.000 m
215	5.5.1944	10:54	LaGG	9./JG 52	35,532: at 1.500 m
216	5.5.1944	14:15	LaGG	9./JG 52	35,274: at 1.500 m
217	5.5.1944	14:15	LaGG	9./JG 52	35,423: at 4.500 m
218	6.5.1944	10:45	LaGG	9./JG 52	35,442: at 2.500 m
219	7.5.1944	9:22	P-39	9./JG 52	35,644: at 5.000 m
220	7.5.1944	9:30	P-39	9./JG 52	35,641: at 5.000 m

Continued

221	7.5.1944	9:40	P-39	9./JG 52	35,483: at 3.500 m
222	8.5.1944	9:25	LaGG	9./JG 52	35,612: at 1.000 m
223	8.5.1944	13:45	LaGG	9./JG 52	35,362: at 4.000 m
224	20.5.1944	12:24	LaGG-5	9./JG 52	98,754: at 2.500 m
225	20.5.1944	18:35	LaGG-5	9./JG 52	98,711: at 2.000 m
226	29.5.1944	15:35	P-39	9./JG 52	78,764 L tiefst
227	30.5.1944	11:25	P-39	9./JG 52	78,644: at 3.500 m
228	30.5.1944	14:38	P-39	9./JG 52	78,613: at 4.000 m
229	31.5.1944	18:05	P-39	9./JG 52	78,647: at 4.000 m
230	31.5.1944	18:08	P-39	9./JG 52	78,614: at 5.000 m
231	31.5.1944	18:13	P-39	9./JG 52	78,733: at 3.500 m
232	1.6.1944	11:31	LaGG	9./JG 52	78,677: at 200 m
233	1.6.1944	11:32	LaGG	9./JG 52	78,813: at 2.000 m
234	1.6.1944	14:20	LaGG	9./JG 52	78,648: at 2.000 m
235	1.6.1944	14:30	LaGG	9./JG 52	78,673: at 1.000 m
236	1.6.1944	14:32	P-39	9./JG 52	78,673: at 2.000 m
237	1.6.1944	14:35	LaGG	9./JG 52	78,675: at 1.000 m
238	2.6.1944	17:10	P-39	9./JG 52	78,685: at 4.000 m
239	2.6.1944	17:15	P-39	9./JG 52	78,640: at 4.000 m
240	3.6.1944	13:30	P-39	9./JG 52	78,825: at 4.000 m
241	3.6.1944	13:33	P-39	9./JG 52	78,813: at 3.000 m
242	3.6.1944	14:00	LaGG	9./JG 52	78,733: at 500 m
243	3.6.1944	16:17	LaGG	9./JG 52	78,568: at 600 m
244	4.6.1944	15:10	P-39	9./JG 52	78,733: at 1.500 m
245	4.6.1944	15:25	LaGG	9./JG 52	78,595: at 200 m
246	4.6.1944	17:13	P-39	9./JG 52	78,596: at 2.000 m
247	4.6.1944	17:23	P-39	9./JG 52	78,591: at 2.500 m
248	4.6.1944	17:53	P-39	9./JG 52	78,590: at 2.000 m
249	4.6.1944	18:15	P-39	9./JG 52	78,565: at 2.000 m
250	4.6.1944	18:18	P-39	9./JG 52	78,560: at 2.000 m
251	5.6.1944	13:12	P-39	9./JG 52	25 km NW Jasi: at 5.000 m
252	5.6.1944	13:19	P-39	9./JG 52	5 km W Jasi: at 5.000 m
253	5.6.1944	15:20	LaGG	9./JG 52	78,582: at 3.500 m
254	5.6.1944	17:10	LaGG	9./JG 52	78,722: at 100 m
255	5.6.1944	18:07	LaGG	9./JG 52	78,562: at 2.500 m
256	5.6.1944	18:35	P-39	9./JG 52	78,674: at 5.000 m
257	5.6.1944	18:43	P-39	9./JG 52	78,583: at 4.000 m

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258	6.6.1944	15:25	LaGG	9./JG 52	78,598: at 600 m
259	6.6.1944	15:30	LaGG	9./JG 52	78,591: at 1.000 m
260	6.6.1944	19:15	P-39	9./JG 52	78,582: at 1.500 m
261	6.6.1944	19:25	P-39	9./JG 52	78,569: at 1.000 m
262	6.6.1944	19:35	P-39	9./JG 52	78,728: at 800 m
263	12.6.1944	14:00	P-39	9./JG 52	78,862: at 1.500 m
264	12.6.1944	14:05	P-39	9./JG 52	78,831: at 3.000 m
265	24.6.1944	9:50	Mustang	9./JG 52	65,136: at 3.000 m
266	27.6.1944	18:10	LaGG	9./JG 52	85,229: at 3.000 m
267	27.6.1944	18:15	LaGG	9./JG 52	85,245: at 2.000 m
268	1.7.1944	17:30	LaGG	9./JG 52	94,173: at 4.000 m
269	1.7.1944	17:32	LaGG	9./JG 52	94,179: at 3.000 m
270	15.8.1944	11:43	LaGG-5	9./JG 52	01,633 at 1.500 m
271	15.8.1944	11:45	LaGG	9./JG 52	01,663 at 1.500 m
272	17.8.1944	12:25	P-39	9./JG 52	11,267 at 3.000 m
273	17.8.1944	12:30	P-39	9./JG 52	11,273 at 5.000 m
274	17.8.1944	15:27	LaGG	9./JG 52	11,277 at 800 m
275	18.8.1944	16:27	LaGG	9./JG 52	11,272 at 500 m
276	20.8.1944	12:00	LaGG	9./JG 52	11,779 at 1.500 m
277	20.8.1944	12:03	LaGG	9./JG 52	11,757 at 1.200 m
278	20.8.1944	12:10	LaGG	9./JG 52	11,724 at 1.200 m
279	22.8.1944	12:20	P-39	9./JG 52	11,274: at 3.000 m
280	22.8.1944	12:30	P-39	9./JG 52	11,335: at 2.000 m
281	22.8.1944	12:31	P-39	9./JG 52	11,339: at 2.000 m
282	22.8.1944	15:17	P-39	9./JG 52	11,411: at 2.000 m
283	22.8.1944	15:22	P-39	9./JG 52	11,271: at 1.500 m
284	23.8.1944	14:15	LaGG	9./JG 52	11,411: at 1.000 m
285	23.8.1944	14:18	LaGG	9./JG 52	11,413: at 1.200 m
286	23.8.1944	14:20	LaGG	9./JG 52	11,278: at 1.000 m
287	23.8.1944	17:10	LaGG	9./JG 52	11,363: at 1.500 m
288	23.8.1944	17:12	LaGG	9./JG 52	11,333: at 1.500 m
289	23.8.1944	17:15	LaGG	9./JG 52	11,412: at 1.200 m
290	23.8.1944	17:17	LaGG	9./JG 52	11,421: at 1.000 m
291	23.8.1944	17:30	LaGG	9./JG 52	11,444: at 3.500 m
292	24.8.1944	13:15	LaGG	9./JG 52	11,417: at 1.500 m
293	24.8.1944	13:18	LaGG	9./JG 52	11,416: at 2.000 m
294	24.8.1944	13:19	LaGG	9./JG 52	11,421: at 1.200 m

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295	24.8.1944	13:25	LaGG	9./JG 52	11,427: at 1.500 m
296	24.8.1944	13:27	LaGG	9./JG 52	11,419: at 1.000 m
297	24.8.1944	13:40	P-39	9./JG 52	11,443: at 3.000 m
298	24.8.1944	16:00	LaGG-5	9./JG 52	11,335: at 1.500 m
299	24.8.1944	16:03	LaGG-5	9./JG 52	11,363: at 1.200 m
300	24.8.1944	16:06	P-39	9./JG 52	11,447: at 1.200 m
301	24.8.1944	16:10	P-39	9./JG 52	11,441: at 1.000 m
302	24.8.1944	16:20	LaGG	9./JG 52	11,422: no height
303	25.8.1944	13:27	LaGG	9./JG 52	1663: at 200 m
304	27.8.1944	18:00	P-39	9./JG 52	11,353: at 2.500 m
305	27.10.1944	10:16	Yak-9	4./JG 52	18,265: at 2.500 m
306	31.10.1944	15:30	Yak-7	4./JG 52	98,799
307?	1.11.1944	14:35	LaGG-5	4./JG 52	98,836: at 2.500 m
307?	7.11.1944	13:35	Yak-7	4./JG 52	98,563: at 1.000 m
308	13.11.1944	14:10	Yak-9	4./JG 52	89 ---: at 5.000 m
309	13.11.1944	14:15	Yak-9	4./JG 52	9866-: at 4.200 m
310	13.11.1944	14:25	Yak-9	4./JG 52	0854-: at 4.000 m
311	13.11.1944	14:30	Yak-9	4./JG 52	98,637: at 4.000 m
312	14.11.1944	11:35	LaGG-5	4./JG 52	98,494: at 2.000 m
313	14.11.1944	11:45	LaGG-5	4./JG 52	08,471: at 800 m
314	16.11.1944	8:45	Yak-9	4./JG 52	98,368: at 4.000 m
315	16.11.1944	8:50	Yak-9	4./JG 52	98,487: at 1.000 m
316	17.11.1944	14:25	Boston III	4./JG 52	98,584: at 2.000 m
317	22.11.1944	11:40	Yak-9	4./JG 52	98,453: at 3.500 m
318	22.11.1944	11:45	La-5	4./JG 52	98,452: at 4.500 m
319	22.11.1944	-	Il-2	4./JG 52	-
320	22.11.1944	-	Il-2	4./JG 52	-
321	22.11.1944	-	Il-2	4./JG 52	-
322	22.11.1944	-	Yak-3	4./JG 52	-
323	23.11.1944	-	Yak-3	4./JG 52	-
324	23.11.1944	-	Yak-9	4./JG 52	-
325	23.11.1944	-	Yak-9	4./JG 52	-
326	23.11.1944	-	Yak-9	4./JG 52	-
327	23.11.1944	-	Yak-9	4./JG 52	-
328	5.12.1944	13:20	LaGG-5	4./JG 52	98,419: at 1.200 m
329	5.12.1944	13:25	LaGG-5	4./JG 52	98,278: at 1.000 m
330	9.12.1944	13:10	Yak-9	4./JG 52	88,683: at 2.000 m

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331	9.12.1944	13:20	Yak-9	4./JG 52	88,694: at 2.000 m
332	I.-II.1945	-	Yak-9	Stab I./JG 52	-
333	I.-II.1945	-	Yak-9	Stab I./JG 52	-
334	I.-II.1945	-	Il-2	Stab I./JG 52	-
335	I.-II.1945	-	Boston III	Stab I./JG 52	or Mitchell
336	I.-II.1945	-	Il-2	Stab I./JG 52	-
337	4.2.1945	-	Yak-9	Stab I./JG 53	-
338	20.2.1945	-	La-5	Stab I./JG 52	-
339	20.2.1945	-	P-39	Stab I./JG 52	-
340	6.3.1945	-	La-5	Stab I./JG 52	-
341	6.3.1945	-	Yak-9	Stab I./JG 52	-
342	7.3.1945	-	Yak-9	Stab I./JG 52	-
343	7.3.1945	-	Yak-9	Stab I./JG 52	-
344	9.3.1945	-	Yak-9	Stab I./JG 52	-
345	11.3.1945	-	Yak-9	Stab I./JG 52	-
346	16.3.1945	-	E/a	Stab I./JG 52	-
347	??3.1945	-	Mustang	Stab I./JG 52	-
348	10.4.1945	-	B-26	Stab I./JG 52	-
349	11.4.1945	-	Yak-3	Stab I./JG 52	-
350	17.4.1945	-	Yak-9	Stab I./JG 52	-
351	25.4.1945	-	P-39	Stab I./JG 52	-
352	8.5.1945	8:30 - 9:20	Yak-9	Stab I./JG 52	Brün area: at 4000 m