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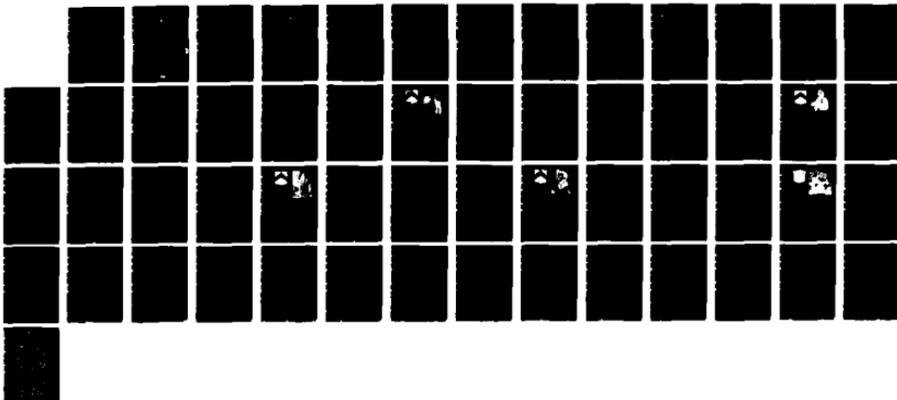
SUCCESSFUL FIGHTER COMBAT - AN HISTORICAL COMPARISON
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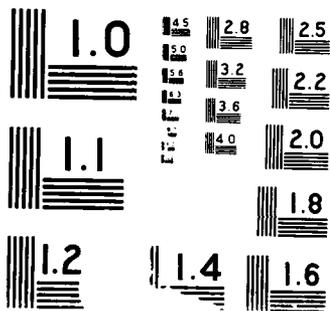
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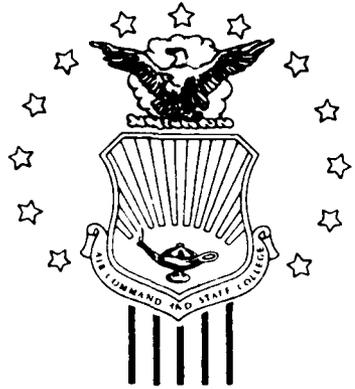




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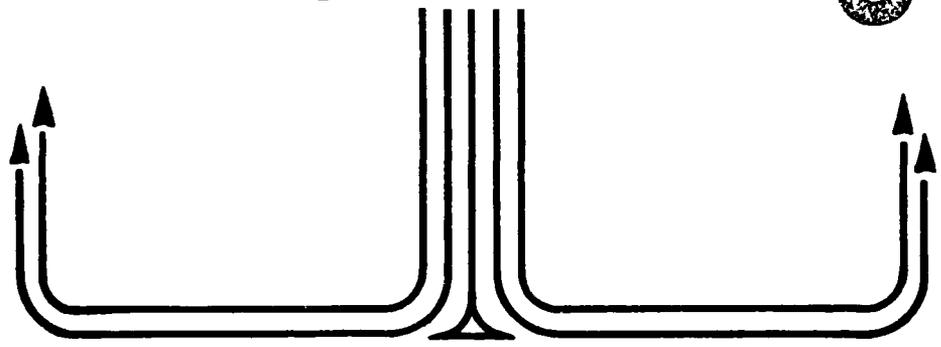


AIR COMMAND AND STAFF COLLEGE

STUDENT REPORT

SUCCESSFUL FIGHTER COMBAT: AN
HISTORICAL COMPARISON OF COMBAT
FIGHTER AVIATION
MAJ JAMES J. FRANKLIN REP #88-0980
"insights into tomorrow"

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REPORT NUMBER 88-0980

TITLE SUCCESSFUL FIGHTER COMBAT: AN
HISTORICAL COMPARISON OF COMBAT
FIGHTER AVIATION

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requirements for graduation.

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PREFACE

In 1982, I was sitting in a safety meeting at Luke AFB, Arizona, and the wing flying safety officer began reading a psychological profile of a pilot who had recently crashed. The safety officer was making a point of how aggressive the dead pilot had been, and how this trait had contributed to his demise. The report contained descriptions and speculations about the individual: "overly aggressive", "independent and a loner", "extremely competitive", "workaholic", "more interested in flying than others in the squadron", "unable to accept failure", and "always striving to win". These characteristics sounded to me like traits that we needed in combat pilots. I looked around the room and saw that others felt the same way.

After the briefing, several pilots asked the safety officer if members of the accident board had expressed any disagreement with this profile as a contributing factor in the accident. He said that it was "their" opinion that this type of aviator was apt to have a higher chance of crashing than others. I challenged him, and asked if he thought that the traits he had just attributed to the cause of an accident, in fact, might not be the same characteristics that would be required of a combat aviator. His answer contained the reasoning that we were at peace, and our job was to have aircraft available to fight the next war, and we wouldn't be able to do that, if "overaggressive" pilots kept flying into the ground. It is very hard to argue that aggressive training in peacetime might not lead to higher accident rates, but my study of history told me that we had made many mistakes in the past by forgetting that fighting spirit and individuals are often the keys to victory. I came away from that meeting with the feeling that tactical air force leadership had forgotten about fighter pilots of the past and was putting false or defeatist restraints on today's pilots.

Four years later, as a flight commander with the 8th Tactical Fighter Wing, "Wolfpack", in Kunsan, Korea, I began to see the results of that feared policy. Lieutenants would report with their flying records but talk about how they were looking forward to completing correspondence courses while they were at our remote location. I told them we had a combat commitment on the Korean

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peninsula that would give them the opportunity to get some of the best flying training in the world. I explained that I expected them to become the best wingmen in the history of fighter aviation. Most walked away with one of two thoughts: "This guy is out of touch with the modern Air Force", or "I guess I better start concentrating on flying."

After a few months of these kinds of interviews, I began receiving comments from the other flight commanders about being misdirected in my desire for complete combat readiness. The other flight commanders had less than 100 hours in the aircraft we flew, and they had less flying time than any instructor in the squadron. I went to the squadron commander and operations officer to talk about the problem. I felt they could ensure I was approaching the issue with the right perspective, since both of them had extensive combat fighter experience.

I told them the squadron was not combat ready because we were lacking in leadership at the flight level. I felt we had flight commanders with perfect promotion folders and adequate flying skills, but they did not possess the ability to lead or succeed in combat. The commander asked me what I thought the traits of a successful combat fighter pilot were, and how we should apply those to our mission. After some mumbling and staring at the floor, I admitted that I only had ideas, and no specifics about the type of pilot that we needed to lead flights and accomplish the combat mission in Korea. This study stems from that conversation.

This is a study of very successful fighter pilots in two wars, who managed to survive and lead their units to victory in the air. I have attempted to apply their traits to modern combat requirements in the hope that fighter pilots will learn from the past. To whatever extent is possible, I have included people who were successful in more than one conflict, and I have given their accounts from the perspective of the fighter pilot and historian. The comparison is my own, but the facts are correlated with other historical opinions and findings over the course of fighter warfare.

My hope is that this study might save the lives of fighter pilots in our next conflict through the knowledge gained from those who have succeeded in the past. With that hope goes the knowledge that application of past lessons while ignoring present restraints will only mean defeat or failure. This comparison has been carefully drawn to avoid excluding present aerial warfare advances.

ABOUT THE AUTHOR

Major James J. Franklin graduated from Mississippi State University and was commissioned in 1974. He completed pilot training in 1975 and was assigned to F-4 training at Homestead AFB, Florida. After graduation from fighter training Major Franklin was sent to the 52nd Tactical Fighter Wing in Spangdahlem, Germany, and during his four years in USAFE, upgraded to F-4G, Wild Weasel, instructor pilot. Upon returning to the United States, he was assigned to George AFB, California as an academic instructor in special weapons and tactics for the Wild Weasel wing. Major Franklin transitioned to the F-16 in 1983 and stayed at Luke AFB, Arizona as an instructor pilot and wing weapons and tactics officer. His last assignment prior to Air Command and Staff College was flight commander in the 80th Tactical Fighter Squadron, Kunsan AB, Republic of Korea. He is a graduate of the USAF Tactical Fighter Electronic Combat Instructor Course, the USAFE Tactical Leadership Program, and has served in Iran, Pakistan, Egypt, Italy, Spain, Germany, Great Britain, Korea, Okinawa, and the Phillipines. He will complete his Master's Degree in Military History from the University of Alabama in June, 1988, and will be assigned to the USAF Wargaming Center, Maxwell AFB, Alabama. Major Franklin is married to Dr. Susan Dudley, a research psychologist and professor with Auburn University at Montgomery.

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REPORT NUMBER 88-0980

AUTHOR(S) MAJOR JAMES J. FRANKLIN, USAF

TITLE SUCCESSFUL FIGHTER COMBAT: AN HISTORICAL COMPARISON OF COMBAT FIGHTER AVIATION

This study compared the traits of successful combat fighter pilots in World War II and the Korean War to modern mission requirements. First, a definition of the "successful" combat pilot was drawn, and five pilots from the two wars were profiled. Next, commonalities of the characteristics displayed by these pilots was compared to studies of success in combat. Finally, these characteristics were examined in the light of the modern arena. Combat pilots in World War II and Korea met severe obstacles to success.

Their success centered around three areas: survival, mission accomplishment, and personal leadership. For the purposes of this study, the successful combat pilot faced at least 12 months of combat and survived. The fighter pilots of this study also had a phenomenal mission success rate. Their flights, squadrons, and groups consistently met mission objectives in both ground attacks and air combat missions. Along with survival and mission accomplishment, the successful combat fighter pilot naturally rose to positions of leadership. This paper only considered pilots who led squadrons in combat operations. Five aviators participating in the two wars were examined.

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Four of the pilots were from the famed 56th Fighter Group of the Eighth Air Force, and the fifth was the leader of the 475th Fighter Group from the Southwest Pacific Theater. They were: David C. Schilling, Francis S. Gabreski, Robert S. Johnson, Walker M. "Bud" Mahurin, and Charles H. MacDonald. All five survived the wars, but two of them, Mahurin and Gabreski, were shot down and captured. Their mission success is easily explained by the fact that they represent three of the top five American aces of all time, and together accounted for over 98 enemy aircraft destroyed. They met the requirement of leadership and rose to lead in combat. Schilling, Gabreski, Mahurin, and MacDonald led groups or wings in combat, while Johnson was a mission commander and squadron leader in the air for the 56th Group. They had common characteristics that contributed to their success.

The common traits were grouped under three headings: motivation, physical ability, and teamwork. All were motivated and carried a sense of mission along with dedication to the task of air warfare. In spite of odds, and in withering enemy fire, they all pressed the attack and achieved phenomenal success. Each possessed physical qualities that allowed him to see the enemy first, and then, be very accurate in shooting him down. Their flying abilities were superb, but they were not considered fine pilots simply for the sake of flying airplanes. Their skills were honed to the combat arena. Along with motivation and physical ability, these aviators were excellent at working with others on a team. Only Johnson had, what could be called, an athletic background, but they all knew the value of teamwork in the deadly skies of World War II and Korea. They taught tactics based on the principle that mutual support in combat was successful.

The qualities of these aviators were compared with the modern arena. The threat has changed some of the basics with the advent of the jet and the air-to-air missile. The ranges at which air combat is fought has lengthened. With the introduction of radar and IR sensors, the enemy may be detected at longer ranges, which might lead the reader to the conclusion that good eyesight and shooting ability are not as necessary in 1988. On the contrary, the enemy must be seen at longer ranges, and the small size of enemy missiles will make combat survival dependent on shooting the enemy before he has a chance to fire. The qualities of motivation and teamwork were little affected by the technological changes in warfare. All the characteristics that the five aviators of this study used to achieve great success have important applications to modern air combat.

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Fighter pilots need to be motivated and use controlled aggression to seek out and destroy the enemy. They need excellent eyesight to survive and take full advantage of advances in technology. Lastly, they need to work as teams and learn the lesson from the past that Johnson showed as paramount to long term success. A team can achieve more together than the individual, and like Johnson, come back alive to tell the story. Technology has not changed the characteristics that lead to success in fighter combat.

"Choose as your inspiration a man who has done well, and follow his example all your life."

IVAN KCZHEDUB, Fighter Pilot

(Veteran of 330 operational sorties, 120 air combats, and never wounded or shot down. Youngest General in Soviet military history.) (8:9)

Chapter One

INTRODUCTION

During World War II and the Korean War, fighter combat rapidly developed as an art form and successful pilots had several common characteristics (57:5). This paper will show characteristics contributing to the success of combat fighter pilots in World War II and Korea and compare these traits to requirements of modern fighter combat in the United States Air Force. In order to make a logical analysis of past success, several limits have been placed on this study.

In selecting pilots for study, only U.S. fighter pilots were considered. Pilots from other nations may have had cultural differences that would have made comparison with modern U.S. aviators very difficult. In addition, the author is not multi-lingual and research of foreign pilots is dependent on translation. Additionally, comparison was difficult because combat situations of Japanese, German, and Korean pilots were dramatically different from those of U.S. pilots. Navy and Marine pilots were excluded in an attempt to eliminate mission differences, such as fleet defense versus air superiority, and to facilitate comparison with modern fighter combat missions. Finally, the study was limited to the examination of five pilots in an attempt to limit the length.

Limiting the paper enhanced the study and its utility to modern aviators, while the methods used to study these men provided a backdrop for organization. First a definition of the "successful" combat fighter is stated, and compared to the pilots in two wars.

Next, five pilots are profiled in short biographical monographs. These biographies are compared for commonalities and characteristics that led to success. Following this comparison, the commonalities are presented in preparation for application to modern combat. In the final chapter, the common traits are applied to modern fighter combat. The value of this paper lies in the comparison of successful pilots of the past with mission requirements of the present.

Chapter Two

WHAT IS "SUCCESS" IN FIGHTER COMBAT?

Success in fighter combat is centered around three areas: survival, mission success, and personal leadership (22:--). No single area overshadows another, and each area should be satisfied for combat pilots to be called "successful". The World War II and Korean War fighter pilot was subjected to a variety of hazards and threats; the degree to which he learned to cope with these was a direct measure of his success in terms of survival (59:58).

The successful fighter pilot faced lengthy exposure to combat and survived. He made it through the worst threats and lived to tell the story (59:70-71). For the purposes of this study, the successful combat pilot must have faced at least twelve months of combat flying and survived. He may have been in the European Theater of Operations (ETO), the Pacific Theater in World War II, or the Korean War, but he survived the war. The successful combat fighter pilot in this study may have crashed, been shot down, or captured by the enemy, but he did not die in a flying accident or in combat.

Successful combat fighter pilots not only survived, but they had very low loss rates in the units they led. Whether leading a flight of two or a squadron of fighters, successful combat aviators had the ability to bring back planes and pilots to continue fighting the war (59:88). This ability is remarkable in light of the fact that these men all displayed a strong reluctance to abort a mission, regardless of its difficulty. They consistently flew more sorties than others and maintained a survival rate that allowed for sustained combat operations (24:24-27).

The fighter pilots in this study have a phenomenal mission success rate. Their flights, squadrons, and groups consistently met mission objectives in both ground attacks and air combat missions. On ground attack sorties these men were aggressive in destruction of targets, and in aerial combat they applied equal aggression to the destruction of enemy aircraft (59:63).

Robert S. Johnson was famous for pressing the attack on the enemy and in his book Thunderbolt describes aces: "All of them, from the first to the very last, are possessed with a hunger to pursue the enemy" (9:xi). The five pilots in this study accounted for over 98 enemy aircraft destroyed in the air and over 50 more on the ground (7:--). Many fighter pilots avoided ground attack missions in World War II because of the danger from ground defensive fire (59:70). During the later stages of the war, four of the five pilots in this study led their units on ground attacks in the face of this fire. Gabreski and Mahurin, were both eventually downed by ground fire, but their overall success nevertheless provided inspiration (44:9)(11:80).

Mission success in aerial victories was not universal. In World War II and Korea only 1300 U.S. aces emerged out of 45,000 fighter pilots: less than 3 percent (17:16). In Korea the aces comprised 5 percent of the fighter force, but accounted for 38 percent of the victories in the war, (24:iii) and the top ten percent produced over 55 percent of the kills (24:2). Clearly the success of a few contributed significantly to the success of the whole effort.

Along with survival and mission accomplishment, the successful combat fighter pilot naturally rises to positions of leadership. This paper only considers pilots who rose to lead squadrons in combat operations. Squadron commanders in World War II were selected based on ability in combat. They were usually very young (17:93-94). In the Korean War commanders were chosen from combat veterans with successful records, and tended to be slightly older (24:16). This can be attributed to the fact that most successful combat pilots in Korea were veterans of World War II and, therefore, were older than the squadron commanders in World War II (24:--). In both wars, the most successful aviators were chosen to lead.

Toliver and Constable, in their definitive work, Fighter Aces of the USA, showed the relationship of leadership to success in combat fighter pilots.

"An outstanding fighter pilot may not necessarily be a high scoring pilot. Leading, guiding and planning fighter operations has called for exceptional talent and has not always led to large tallies of aerial kills. The capacity to function in the sphere of leadership rather than in individual brilliance has been given to very few men. Fighter leaders of this kind who also made ace are extremely rare" (18:93-94).

This leadership manifested itself in successful units and motivated pilots. In other words, the successful fighter pilots not only rose to a position of leadership, they led their units (wing, squadron, or flight) to success (24:8-9).

The above qualities provide a profile of the successful combat fighter pilot. He survived combat operations lasting at least 12 months, had mission accomplishment rates that matched or exceeded other pilots while maintaining low loss rates, to lead a fighter unit in combat. In the following chapter five successful pilots are profiled. They meet all the measures of success, but need comparison to find the individual qualities that made them successful. In Chapters Four and Five these qualities are quantified and applied to the modern combat arena.

Chapter Three

FIVE SUCCESSFUL USAF PILOTS: WORLD WAR II AND THE KOREAN WAR

A study of successful combat pilots cannot begin without some discussion of the groups that fought together in both the Korean War and World War II. Several Fighter Groups performed well in both conflicts, but the 56th Fighter Group in the ETO and the 475th Fighter Group in the Pacific were head and shoulders above their nearest competitors. Both groups compiled impressive air-to-air victories and supported the leading aces in both theaters. They were very successful in spite of overwhelming odds. Four of these aviators have their roots in the 56th, and the fifth commanded the 475th for much of its combat history.

The 56th Fighter Group sailed for England on 6 January 1943 under the leadership of Hubert "Hub" Zemke and arrived on 12 January 1943 to begin fighter operations against the Luftwaffe (45:29). During their period of combat operations the 56th, later to become known as "Zemke's Wolfpack" amassed some 1,006 aerial victories and lost only 128 P-47s to enemy fire. This 7:1 kill ratio is one of the highest in the history of air warfare for units exposed to lengthy operations (9:305). They began combat in April of 1943 and continued until April of 1945, without ever being withdrawn from operations. This total of 25 months of combat operations is unequaled by any American fighter squadron in World War II or the Korean War (44:2). The Group's three squadrons flew sorties at a phenomenal rate. They averaged 36 sorties per group mission, and the 56th normally put up two missions per day (44:2-4).

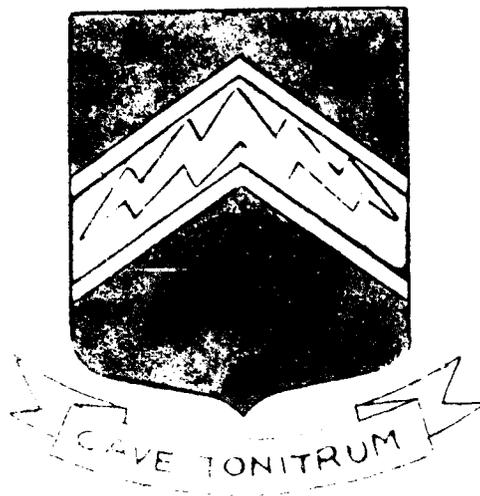
Specific numbers point out the extent to which this unit supported the total war effort. The 56th flew a total of 447 combat missions, with the three fighter

squadrons putting up 20,265 sorties in support. The more important statistic is one of mission success. Out of the over 20,000 sorties flown, only 1,048 (5.1 percent) failed to complete the mission for any reason (44:3-4). Breaking the losses down helps show unit success and reflects on the leadership's tactics. The group lost a total of 145 aircraft for all reasons, but only 58 were attributed to enemy action (28 to flak, 25 to enemy air, and 5 to a combination). The remainder were lost to accidents (12) or unknown causes (75) (44:2). When all losses are considered, the 56th led the ETO in both air-to-air victories-to-losses and sorties put up in support of the total mission.

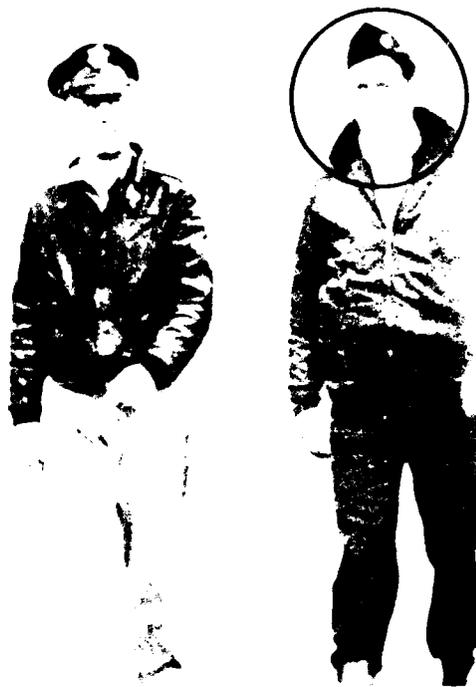
While the 56th was succeeding in the ETO, the 475th Fighter Group, "Satan's Angels", was fighting in the Pacific. Men of the 475th flew the P-38 Lightning, compared to the heavier P-47 flown by the 56th (62:2). They had a disadvantage when compared with other groups in World War II, as they were formed entirely overseas (54:iv).

The group saw its first combat in August 1943, where it shot down 10 Japanese fighters and two bombers while only two of the group's Lightnings were damaged. This performance was to become standard throughout their Pacific campaigns (54:xi). The 475th flew missions in air-to-air and ground attack and put up maximum sorties in spite of abysmal conditions (16:194).

In 24 months of combat, the 475th shot down 551 enemy aircraft, produced 41 aces, and lost only 56 aircraft to enemy action. One of the subjects of this study, Charles H. MacDonald, commanded the 475th through most of its combat. He was the fifth ranked ace of the war and led the group to achieve a kill total equaled by only six other groups in history (54:25-51). The other four pilots in this study came of age in the "Wolfpack" and were among the 40 aces produced by that group. Three of them are among the top five aces in U.S. history, and all were heavily decorated. Two fought in both World War II and Korea, and the total group of five account for 98 enemy aircraft destroyed in the air. All five of these men rose to the position of squadron leader in combat, and three of them commanded combat groups. One of those leaders is David C. Schilling who commanded the 56th Fighter Group and was a flying leader for the entire tour of combat duty the group served in the ETO (18:194).



DAVID C. SCHILLING
"Fighter Pilot"



The future commander of the famed "Zemke Wolfpack" was born in Leavenworth, Kansas and later graduated from Paseo Kansas City High School (45:9). Following high school he went to Dartmouth and graduated with a Bachelor of Arts degree in Geology in 1939 (40:3). His military career began shortly after graduation, when he entered the aviation cadet program and primary training at Tulsa, Oklahoma. He attended basic flight school at Randolph Field, Texas and advanced flight training at Kelly Field, where he scored highest in his class in gunnery (37:2). He received his wings and a commission as second lieutenant on 12 May 1940. In June of 1940 Schilling was assigned to pursuit at Langley Field, Virginia, but was pulled out to go to Buffalo as an Army test pilot (37:2). Only one year after graduating from pilot training he was chosen as an Army acceptance pilot for Bell Airacobras, Curtiss Tomahawk and Warhawk fighters (37:2). Ample evidence of his flying ability rests in the fact that he was next assigned as a flight lead with the 56th Group. He was to teach young pilots to fly the P-47 prior to the unit's departure for the ETO (37:2).

Schilling remained as a flight lead and Instructor Pilot (IP) until the unit set sail for England on the 6th of January 1943. The fighter group arrived six days later, and he began to fly with the 62nd squadron on orientation flights (45:29). As a captain now, he flew his first combat sortie on 13 April 1943. The group leader in the air that day was Zemke, who turned back

early with engine problems. He turned the lead of the group over to Schilling for the 56th's baptism by fire (44:A-1). Subsequently, Zemke appointed Schilling as Commander of the 62nd Fighter Squadron in June or July of 1943 (37:2). By that time Schilling had been in the Army Air Corps a grand total of three years, he was a major, and squadron commander, and a group leader on combat missions. Not a bad feat!

There didn't seem to be any obstacle to the potential for leadership on the fast track in a World War II combat zone. Most of the fighter pilots in the 56th group were adjusting to combat, and Zemke developed tactics with Schilling to improve the unit's performance (37:2). On 21 August 1943, Schilling was appointed group flying executive officer, a position similar to deputy commander for operations in today's fighter wings. He was promoted to lieutenant colonel with a total time in grade as major of less than two months (40:3).

As the group flying executive officer, Schilling found himself leading the group on one of the two daily missions. The group was putting up 48 aircraft on each mission, and each squadron (61st, 62nd, and 63rd) supplied 16 sorties. This was the schedule for several months until Operation Overlord kicked off in June of 1944. At that time the 56th flew three to four missions daily and more than doubled their sortie rate (44:A-3). Schilling shared mission commander duties with Zemke and the Commander of the 61st Fighter Squadron, Gabreski. These three aviators eventually rose to lead the ETO in enemy aircraft destroyed in the air and on ground attack missions.

They demonstrated this leadership on 26 November 1943, when the 56th group destroyed 26 enemy aircraft on two escort missions. Schilling led the group in the morning, with Gabreski as a squadron leader, and they turned around to fly in the afternoon under Zemke's leadership and set a record for the ETO in most enemy aircraft destroyed in a single day (44:A-2). The 56th was beginning to succeed under the leadership of Schilling because he and Zemke stressed teamwork over the individual. They saw the squadron as the cohesive fighting unit, and tried to emphasize the unit's effectiveness over individual scores (60:3).

Not all the success of the group was due to the leadership. Much of the success lay in the development of sound tactics against an overwhelming enemy force in the early days of 56th's activity in the ETO. On the 11th of December 1943 Schilling led the group on a sortie into Germany and broke another record. While escorting a bomber raid the "Wolfpack" met Me-109s and FW-190s in the vicinity of the German/Dutch border. The group was outnumbered, but in spite of the odds, Schilling led the squadrons to an advantageous attack and succeeded in destroying 17 enemy fighters with the loss of only one bomber in the raid. This was the most enemy aircraft shot down during any single combat mission to that date in the war. It is important to note here that as a group leader in the air, he maintained a sense of mission focus to protect the bombers and succeeded in that goal. On 29 January 1944, he was awarded the Silver Star for that mission, and was specifically cited for heroism under fire and against "overwhelming odds" (44:A-2).

Still as the group flying executive officer, on the 8th of March 1944, Schilling and Gabreski led the group on another record breaking day. They were back-to-back mission commanders when the group knocked down 30 enemy aircraft and passed the 300 victory mark first in the ETO. As an interesting sidelight, the missions were in support of the preparation for the invasion, Operation Overlord, and resulted in no friendly bomber losses to enemy air (44:A-3).

As preparations for D-Day continued, the 56th found itself flying more ground attack sorties against a reluctant Luftwaffe. After bombers dropped their bombs, and the fighter pilots saw them impact, the fighters would descend and strafe the enemy planes on the ground before the flak guns could be manned (40:8). It was on a mission such as this that tragedy struck.

On the morning of 20 July 1944, Schilling led the group on a bomber escort mission to the heart of Germany. Gabreski was leading the 61st squadron, and after the bombers released their weapons the group descended to strike the Luftwaffe on the ground (36:40). Gabreski, leading his squadron on a strafing attack, flew into the ground trying to avoid the heavy flak, and was seen running from the plane. In the heat of the battle, Schilling did not know that "Gabby" had been lost, but on

return, he found it a costly mission when one of their best squadron commanders did not return (36:40).

It was on this sad note that Dave Schilling took command of the 56th Fighter Group on 12 August 1944, replacing "Hub" Zemke, who had been called to take over the 479th Fighter Group. As group commander of the "Zemke Wolfpack", he had to step in and take over from one of the most respected group commanders in the ETO, but in the shadow of the tragic loss of Gabreski. Schilling's reputation and ability made him a natural for the task.

The 56th group continued its combat performance with no loss in capability. On the 17th of August 1944, five days after taking command, Schilling led the group in the first use of aerial rockets, in an attack on the marshalling yards at Braine-le-Comte. This successful attack set four railcars on fire and introduced a new weapon to the ETO (40:7).

New weapons, superior numbers and mass firepower had begun to be the rule in continental air battles. The odds shift did not lessen the threat on the flak suppression mission assigned to the group in support of the airborne landings in Holland (Operation Market Garden) (40:9). None of the pilots liked to fly the flak suppression mission, and they knew that the odds were in favor of the enemy in this endeavor. The idea was to fly at very low altitude, see when enemy guns began to fire and attack the muzzle flashes. The mission was critical to the survival of the vulnerable troop carriers and gliders (59:70).

On 18 September 1944, Schilling led the 56th on this critical flak suppression mission into the drop zones of Holland. A quotation from the unit citation following the mission may give the reader an idea of the danger involved.

"The 56th Fighter Group, Lt. Col. David C. Schilling commanding, were given the extremely difficult and dangerous mission of direct support of the Airborne landings in Holland where it was their task to attack and silence enemy flak positions that would constitute a grave hazard to the aircraft and gliders that were making the assault. The area assigned to

the 56th Fighter Group was heavily defended by both light and heavy enemy flak positions and the weather was so unfavorable that it forced the fighter planes to go right to the deck and silhouette themselves against a low overcast thus making themselves excellent targets for enemy flak and very dangerous to the pilots and aircraft of the 56th Fighter Group. In spite of all the odds against them, this group, without hesitation and complete disregard for personal safety, swept in ahead of the airborne armada, sought out and attacked enemy flak positions so as to destroy them even in the face of superior and concentrated fire. This mission was so successfully carried out against these heavy odds that the effectiveness of enemy flak against the airborne troops was greatly reduced. The 56th Fighter Group suffered heavy losses and severe damage, (lost 16 aircraft out of 39 dispatched), on this important mission but because of the devotion to duty and courage displayed by the group, the landings were a complete success and a great step toward complete victory over the enemy accomplished" (43:5).

The fact that the unit eventually received the Distinguished Unit citation and Schilling was promoted to Colonel on the 1st of October did little to salve the hurt brought on by the loss of 16 brave men on a single mission. They would have to take solace in the knowledge that the Market Garden landings were a success (9:305).

Shortly after the heaviest single day losses in group history, the 56th took revenge on the Germans. on 23 December 1944, Col. Schilling had his most successful air-to-air combat day of the war, knocking down five enemy fighters. "It was the best day's hunting I ever had," said Schilling (40:3).

The 56th took off at 1006 with 56 P-47s (18 from the 61st, 20 from the 62nd, and 18 from the 63rd) and flew over an undercast to the battle front. Their mission was to support heavy bombing raids deep in the Reich, and on this day the Luftwaffe fighter command responded with a maximum defensive force of fighters. At around 1145 the first enemy fighters were spotted, and before 1230 "a

total of more than 350 S/E E/A (suspected enemy and enemy air) were seen and 250 were engaged in the Bonn area from 28,000 to deck" (40:18). Schilling led the first group of planes on the attack and surprised a package of 40-50 Me-109s shooting down three of them before Germans could react. He took his flight back to the sweep area and attacked a second group of FW-190s ("about 60") destroying two more enemy aircraft (40:18). The success of the mission was measured by the results contained in the combat mission report: The 56th claimed 37 destroyed, 1 probably destroyed, and 14 enemy aircraft damaged with the loss of only three P-47s (40:19). A single mission ratio of over 12 to 1 under the command of David C. Schilling was not a bad way to end a combat tour.

Schilling was withdrawn from combat after this mission, with a total of 34 1/2 enemy aircraft destroyed (24 in the air and 10 1/2 on the ground). He was awarded an oakleaf cluster to his Distinguished Service Cross for the mission and replaced as group commander on 27 January 1945. He had served the the "Wolfpack" from its first combat in April of 1943 until near the end of hostilities and finished the war as the Assistant Director of Intelligence at 8th Air Force Headquarters (44:A-6). He returned to the States in June of 1945, but not before receiving some of the nation's highest honors. His decorations include: The Distinguished Service Cross (with 1 Oakleaf Cluster), Silver Star (with 2 Oakleaf Clusters), Distinguished Flying Cross (with 10 Oakleaf Clusters), Air Medal (with 19 Oakleaf Clusters), and numerous awards from foreign countries (17:123).

After the war Schilling went on to command several groups, including the 56th in Selfridge Field, Michigan, where he re-formed as many of the old group as he could under his command (45:29). He spent one tour in the Pentagon, then took command of the 31st Fighter Escort Wing by direction of Curtis LeMay, commander of the newly formed Strategic Air Command (SAC). He was attending Air War College and was recalled when SAC needed the 31st wing in Manston, England, to support the Berlin airlift (17:123). Schilling lost his life in a tragic car accident in England in 1956 (18:194). His leadership and ability as a fighter pilot will always be a shining example to fighter aviation of SUCCESS IN COMBAT.



FRANCIS S. GABRESKI
"Fighter Pilot"



No discussion of successful fighter aviators would be complete without mention of the greatest living, American ace, "Gabby" Gabreski. As a member of the "Wolfpack", along with Dave Schilling, he helped lead, what was arguably, the finest fighter group in the history of U.S. air warfare. His combat experience spanned two conflicts and put him in a select group, "the Inner Seven", who attained the status of ace in two wars (60:4).

Born in Oil City, Pennsylvania, Gabreski was reared in a large family, learning early in life the value of discipline and self reliance. He entered Notre Dame, studying pre-med, but the expenses were very high. He opted for the Air Force and entered training as an air cadet, graduating from advanced pilot training at Maxwell Field, Alabama on 1 March 1941 (48:1).

In that same month Gabreski left for Wheeler Field and the 15th Fighter Group. When the Japanese attacked Pearl Harbor on the 7th of December 1945, Gabby was stationed at Wheeler and managed to get airborne only to find that the Japanese had returned to their ships (7:28-29). As a flight leader in the 15th, Gabreski began to work his way into an assignment that would land him in combat. He believed that the ETO was where the action was, and began an earnest effort to join battle in the skies over Germany (46:13).

As a native Polish speaker, he believed that the chances were good that he could enter the fray as a liaison officer with a Polish squadron in Great Britain. Ultimately, he went to the 8th Fighter Command, stationed at Northolt, England, to serve with a Polish unit in October of 1942 (48:1). Gabreski flew the British Spitfire and learned aggressive tactics from the Polish flyers. They were considered some of the fiercest fighters in the allied effort, and Gabby learned to press the attack with abandon from these battle hardened veterans (58:34).

During March of 1943, Gabreski joined the 56th Fighter Group at Boxted, Essex, England, starting out as a flight commander (46:13). Shortly after his arrival, he became commander of the 61st Fighter Squadron "Avengers" and led the unit for the rest of his combat tour. His experience and expertise in the aircraft and theater served the squadron and group well (46:13).

Gabreski flew with the group on its first combat in April, 1943, and he continued to fight aggressively, scoring his fifth victory on 26 November 1943 (7:28-29). Still as squadron commander, on 8 March 1944, he led the group, along with Schilling on a mission that pushed the 56th record past any other group in the ETO. On this day the 56th destroyed 30 enemy aircraft and surpassed the 300 mark of total enemy aircraft destroyed, making them first in the ETO (44:A-3).

Shortly after this mission, on 28 June 1944, a lieutenant colonel then, Gabreski shot down his 27th aircraft in aerial combat. One week later, on 5 July 1944 he destroyed his 28th and final aircraft of the war (44:A-4). Gabby's aggressive attitude came out strongly in the words he used to describe the mission in his after-action report. He called his 28th victory, "the longest and best fight I ever had. There were three of them. Two tried to lure me down, while the third stayed up to jump me. But, I realized what they were trying to do, so I banked sharply and went after the top man." The result was one FW-190 down for the "Ace of Aces" 28th, and shortly thereafter the "Avenger" squadron was ranked first in the ETO to score more than 200 aerial victories.

Fate was to have its turn before Gabby could realize his full potential as a fighter leader. On 20 July 1944, he found himself a statistic of the giant war effort. 48 P-47s took off at 0906 to rendezvous with the bomber force at 1002. The group was led by Schilling, and each of the three squadrons put 16 aircraft into the air in the effort. The rendezvous was uneventful and, as luck would have it, no enemy aircraft were sighted on the ingress to the target, Frankfurt (36:40). After the bombers released their weapons, the fighters looked for enemy aircraft. The German fighter response had been light, so Gabby elected to take his squadron down to an airfield, Hassenheim, that he had spotted during the attack.

With three four-ships from his squadron, Gabreski dove on the attack leaving a fourth to protect as top cover (36:40). The squadron raked the enemy airfield with their strafing attacks, and destroyed eight aircraft, with another three damaged, but on his third pass, Gabby was observed to be hit, and bellied into a field. As a standard practice, his squadron returned to strafe the abandoned airplane while he began what would be five days of escape and evasion (36:4). Ten months later, he confirmed what happened during the final portions of the attack, when enemy gunners threw up a low altitude wall of flak forcing him to the ground. His propeller struck a low hill and bent, resulting in the only option, a forced landing in enemy territory (44:9).

From the 25th of July in 1944 until May of 1945, Gabreski was held, along with several members of the 56th Fighter Group in Stalag Luft 1, near Barth, Germany, as a prisoner of war. The Germans knew the fighter pilots of the "Wolfpack" well, and when Gabreski was interrogated by the commandant, he was greeted with, "Hello Gabby. We've been waiting for you a long time." Sometime later, when "Hub" Zemke was captured and taken to the same prison, he was greeted in a similar manner with, "I'm sure Gabby will be glad to see you." Both of these famous leaders spent the remainder of the war in confinement with 9,000 prisoners (7,500 Americans and 1,500 British) (44:5-9).

After his release and return to the States, Gabby went to test pilot school and served as the chief of fighter test operations for three months. He was forced to leave the active Air Force until he could obtain a

regular commission, and went to work for the Douglas Aircraft organization as assistant Vice President for Foreign Sales. In March of 1947 he was recalled to active duty, and attended the Russian Institute at Columbia University for two and one half years, graduating with a bachelors degree (48:1-2). In October 1949 he assumed command of his old wartime outfit, the 56th Fighter Group, stationed at Selfridge Field, Michigan. He served as commander for one and one half years before going to Korea (46:13).

During this interwar assignment, he was promoted to colonel on 15 January 1951 (46:13) and led the 56th Fighter Group in a mass flyover for General Hap Arnold's funeral (11:17). The warning notes were chiming for the conflict in Korea, and Gabby was destined for command in yet another air war.

In May of 1951, he was assigned to the 4th Fighter Interceptor Wing, and on the 8th of July that same year, shot down his first MiG-15 in air-to-air jet combat (7:29). Five months later, in December, 1951 he transferred to the 51st Fighter Interceptor Wing, and took command in time to fly their first sortie, on 1 December 1951, in the F-86E (35:6-8).

Shortly thereafter, notes Bud Mahurin in his book, Honest John, Gabreski became concerned about the morale of the 51st pilots. Having been in the 4th Wing, Gabby thought that the men of the 51st should be more ready to compete for air victories and decided to take some steps to improve the morale of the group. He painted the wings of the unit aircraft with a distinctive yellow and black stripe and obtained personalized scarves for all the pilots in an effort to spur them on to greater aerial feats. He took a personal interest in the well being of every pilot and tried very hard to find the symptoms of combat fatigue early, before they could wreck the unit morale and warfighting capability (11:29). His personal exploits as wing commander marked him as a success in fighter combat with 6 1/2 victories and an ace in both World War II and Korea (60:4).

After the war, Gabreski reported to the Air Force Inspector General, at Norton Air Force Base, California, in June, 1952. One month later he filed his end of tour report to the Headquarters, Far East Air Forces. He made several observations and recommendations as a wing

commander and combat aviator in the theater. In this report Gabby showed his concern for his people and displayed the courage to tell the higher commands what he believed about the proper way to conduct the war. First, he felt that the enemy should be struck on the ground before they could become airborne. He thought the Manchurian sanctuary offered too much advantage to the MiG-15s, and he advocated the use of strikes at the bases they occupied. He had great respect for the young people that were coming to Korea as pilots. On the other hand, he literally called some senior officers "dangerous in the air", and recommended keeping them in the United States until they were proficient. Finally, as a commander, he made no fewer than four recommendations for changes to hardware in the F-86 and follow-on fighter aircraft that showed vision into the development of such aircraft as the F-16 lightweight fighter (48:4-7).

Gabreski went on to serve the United States Air Force until 1967 when he retired. He was elected into the Aviation Hall of Fame, and remains the greatest living ace in the United States (60:4). Why should we consider him successful beyond the personal achievements that he won? There are many reasons, but we should look at them in terms of combat arenas. First, as a squadron commander in World War II his unit was first to reach 100 victories in the air and went on to be the only squadron in the ETO with more than 200 victories at the time of his capture (36:3). He flew 166 combat missions from October 1942 until July 1944 and was credited with 31 enemy aircraft destroyed (28 in the air and 3 on the ground) while the 56th group outperformed its nearest competitor, the 4th Fighter Group. The 56th amassed 300 kills before the 4th had 150, when both units were flying the P-47. After the 4th wing received the more capable P-51, the tally still favored the 56th, with 671 1/2 victories to the 550 of the 4th. In the end, the 56th Fighter Group was the top fighter outfit in the ETO due, in no small part, to the contributions of Francis Gabreski (17:99).

In a personal interview in November 1987, the author asked Gabby why the 56th Fighter Group and the 61st squadron were so successful in combat. His reply was straight forward and as simple to understand as the man himself. Discipline was the key, and the 56th pilots emphasized the strengths of the P-47, not the weaknesses. The 4th tended to think of the weaknesses, and never

really fought the aircraft to its full advantage. As a squadron commander, he felt he was a success if he knew his people's capabilities and limitations. His goal in the squadron was to stay mission oriented and to keep the squadron as the "Nucleus" instead of the individual (60:1-3).

Gabreski took these commitments on to the position of wing commander in Korea and flew in both operational fighter wings in the conflict. He flew 123 combat missions and scored 6 1/2 victories over the communist MiG-15s making him an ace in two wars (48:2). Clearly he is an outstanding example of the successful fighter aviator.



ROBERT S. JOHNSON
"Fighter Pilot"



Five feet, seven inches tall, with blue eyes, and a calm determination, called one of the "deadliest American aces of World War II", Bob Johnson is a great example of the successful fighter aviator (18:120). He is quoted as saying, "There is a make up in a combat pilot. You have to have the aggressiveness and determination. You have to be able to put the gun where you you want it, when you want it--no matter what the situation" (58:123). Unlike Gabreski and Schilling, Johnson spent only one year in combat and left military service after World War II. But, like both of these great aces, he served in the 56th "Wolfpack". Bob Johnson served as an example of a successful fighter aviator at the flight leadership level and walked away from military service to succeed in the civilian world after combat (18:120).

As a boy, Johnson was a boxer, and he maintained excellent physical condition throughout his combat years (20:193). His eyesight was excellent, allowing him to set up his attacks early and see enemy fighters as much as 15 miles away before anyone else could spot the adversary (9:270). In addition to the excellent physical condition and keen eyesight, he was a master at maintaining mutual support in the combat arena.

Johnson formulated his tactics and habits early in the war as a wingman and taught new people in the squadron the advantage of sticking together in the war

zone (8:73). His example was an easy one to accept, since he always tried to keep his flights of four together, and in all his combat, never lost a wingman to enemy fighters, or had so much as one hit (9:xiii). In fact, he got most of his kills in the early days by looking over his shoulder and seeing the enemy about to attack. He shot seven enemy fighters off Gabby Gabreski and Jerry Johnson but learned a valuable lesson on his first aerial victory. He left the formation to attack a German, and after the kill, was reprimanded severely about ignoring the survival tactics taught in the "Wolfpack". As a result he got the reputation of being a "bad boy" and was labeled "over enthusiastic and unpredictable" (16:153-154).

Johnson learned from the early mistakes and became a tactician and teacher to new pilots in the theater. He developed a system of fluid attack that modern fighters have adopted as standard, and he preached teamwork to attain eight or ten kills for the flight rather than three or four for an individual (58:66). When he could not find enemy aircraft to fight with his flight, he would roam the English countryside looking for P-38s, P-51s, or P-47s to fight in mock combat to train his newest wingmen the Johnson method of fluid attack and mutual support (61:19). These practice sessions undoubtedly built his reputation as a superb gunner.

Say what you want about Bob Johnson, but he could shoot. He started out as a poor gunner in pilot training but improved to become a deadly marksman. He only wore a glove on his left hand in order to fly and shoot with more feeling in his right (16:154-157). Ultimately, his quiet confidence and skill as a gunner impressed peers who said he had "courage and brilliant skill as a pilot" (9:xii). With these characteristics, Bob Johnson's military career unfolded to a naturally brilliant success story.

Born on 21 February, 1920, in Lawton, Oklahoma, Johnson was the youngest of three, but the only boy. He grew up in the country, played football, boxed and hunted (58:1). In 1928 he went to an airshow and saw the "Three Musketeers", and, at the age of eight, was convinced that he would fly airplanes (16:153). In 1936, at age 16, he managed to get 35 hours of flying time, and after graduating from high school enrolled in Cameron Junior College to study engineering (9:27-40). On 11

November 1941, he enlisted as a aviation cadet and reported to Oklahoma City for cadet training. He left Ft. Sill for Kelly Field and preflight training then Sikeston, Missouri, for primary flight training. After completing primary, Johnson married Barbara Morgan on 21 February 1942, (without permission) prior to entering basic flight training at Randolph Field (9:42-90).

At Randolph, Johnson was persuaded by his peers to ask for bomber training and went to Kelly for advanced multi-engine training. In July 1942, he graduated from advanced training and was assigned to fighters and pursuit instead of bombers. Johnson reported to the 56th Fighter Group, and the 61st Fighter Squadron, flying P-47s, in Connecticut on 20 July 1942 (9:90-95). While there, he flew his first P-47 flight, solo, under the supervision of Jerry Johnson (another famous World War II ace) as instructor pilot (9:98).

With initial training out of the way, the 56th group sailed for England in January 1943 and arrived in the typically bad weather of winter. Johnson attributed much of his survival in those early days to the instrument training he received in the advanced bomber course (61:6). With the group station in Halesworth, he flew much of the time as wingman to Gabreski (16:156-157). He did not fly his first combat mission until April 1943, and when he fired his guns for the first time was surprised by the loud noise. In practice, only two of the eight 50 caliber guns were used, and the resultant noise from all eight was quite different (61:8). In this month the group moved to Horsham St., Faith, and the fighting assignments were increasing. Johnson's crew chief rode to the runway on the wing of "Old Lucky" listening to the engine in case anything should go wrong before takeoff. Johnson got his first kill in May of 1943 (9:129-154).

In October of the same year, he was made a flight leader and led the squadron in the air when Gabreski was not flying (58:65). From November of 1943 until January of 1944 there was a shortage of pilots in the 56th group, and pilots were flying three sorties per day. As January approached the missions were airborne longer and pilots had to be in top physical condition to tolerate the strain (61:22). In preparation for the invasion of Normandy, the 56th was flying sorties to the continent, and on 13 April 1944, Johnson shot down two enemy

aircraft in a single mission. A few weeks later he got his 27th and broke the "magic" record of Eddie Rickenbacker on 8 May 1944 (44:A-3&4). Later that month, he left for the United States to begin a promotional tour selling war bonds. During the end of the war he commanded a training squadron in Abilene, Texas, and on 1 January 1946 was released from active duty in the armed forces (36:3).

Why was Bob Johnson a successful fighter aviator, and what did he do to deserve the attention of future generations? First, he flew 120 combat missions, but on 93 of these he managed to shoot down 28 enemy aircraft between April 1943 and May 1944. He was the first American to surpass Rickenbacker's victories and in achieving that feat was never shot down (61:17). Second, as a leader he would give up an individual victory to save a wingman. On 6 March 1944 he repeatedly aborted his own attacks to protect a wingman and stuck with him to achieve single victories (16:164). Last he was a teacher and thinker about the requirements of success in the fighter combat arena, and stated some requirements for the successful fighter aviator. He said fighter pilots needed "aggressiveness, brains, and reaction" along with "tenacity and determination." As an example, he took his eight aircraft flight into a gaggle of 150-180 German fighters on the first Berlin raid because he believed he and his wingmen possessed those qualities (58:67-91).

Bob Johnson ended the war with 28 victories and numerous decorations. His legacy may be the advice he gave his wingmen: "It is better to come home tired with a sore neck from looking constantly in every direction than it is to leave the thing you sit on back in enemy territory" (17:101). Finally, Bob Johnson strove to do battle and compete in everything; nothing was good at the second place level. He was quoted as saying about his outfits in the war: "My squadron was the best squadron of the three. My flight was the best flight in the squadron" (58:113).



WALKER M "BUD" MAHURIN
"Fighter Pilot"



Bud Mahurin is another product of the 56th Fighter Group. He hails from Benton Harbor, Michigan, and is "considered by the aces themselves to be one of the best combat pilots America has ever produced." He is very intelligent and has extremely keen eyesight: "he could spot the enemy long before other pilots." In fact he saw the enemy so early as a wingman, that he was nearly court-martialled for leaving the wing to shoot an enemy aircraft before his leader saw it (17:148).

His interest in aviation started early, when a neighborhood friend had a JN-4 they flew at age 12. He grew up in Ft. Wayne, Indiana, and his father was an architect. During the depression his family lost a great deal of their wealth, and his father succumbed to a nervous breakdown which forced Bud to support the family. He got through high school, but unlike most of the aces, he gave up on athletics (11:109-110).

After high school, Mahurin strove for an engineering degree from Purdue, but the going was rough financially. In his first year, he worked a 50 hour per week job while going to school full time, and his grades suffered. He was a poor student at Purdue and was put on academic probation twice. Ultimately, he enrolled in the Army Air Force in the aviation cadet program and reported to Chikasha, Oklahoma for primary flight training in September 1941. He asked for fighters but was given

bombers. He eventually ended up in the famed 56th Fighter Group under the leadership of "Hub" Zemke (11:112-116).

After training with the group in P-38s and P-40s they finally received the P-47 and began to train for war. On the 6th of January 1943 he set sail on the same convoy that brought Schilling and Johnson to Europe and arrived in England 12 January 1943 as a flight leader. Combat flying was a long time in coming (11:117-121).

On his first mission, 4 May 1943, he was attacked while leading his flight of four, and badly damaged. On 18 July 1943 he had a midair collision with a B-24 while trying to fly too close, was fined \$100, and put on the "bad boy" list (11:121-123). He doubled his efforts to redeem himself and became one of the top scorers in the group. On 17 August 1943 he scored a double victory and on 4 October, scored a triple. He followed the effort on the 26th of November with another triple victory, and on the 30th of January in 1944 he shot down his 15th aircraft to become the leading scorer in the ETO (44:A-1&2).

On the 23rd of March 1944, he was promoted to major and made the Operations Officer of the 61st squadron. When things seemed to be going perfectly, on 27 March he was shot down while attacking a bomber (by tail gun fire) and forced to evade with the French underground. Mahurin was eventually flown out by a British aircraft in support of the evasion forces and ended up in London on 7 May 1944 (44:A-3&4). General Spaatz sent him back to the United States, and during his time in the "Zone of the Interior" he found the publicity "a horrible experience". To get away from the press and the pressures of the environment, Mahurin asked John Allison about joining his 1st Air Commando Unit in the Pacific. Finally he was assigned, by Hap Arnold, as the Commander of the 3rd Fighter Squadron, 3rd Air Commando Group and found himself in a very experienced group of aviators (11:154-157).

Mahurin spent the remainder of the war as commander of this P-51 outfit, flying very long range fighter/bomber missions in support of air drops in the Pacific. Eventually he was given command of the 3rd Air Commando Group, and after the war sent back home to work in the Pentagon. (11:160-169).

When the hostilities broke out in Korea, Mahurin managed to work an assignment into the 51st Fighter Interceptor Wing as Gabreski's special assistant. They had both been promoted to colonel and were on the best of terms (47:8). Bud Mahurin showed his best as a combat leader during the short time he spent with the 51st. He and Gabreski flew together; in fact, he flew his first combat sortie on Gabby's wing, outnumbered 128 to 24. During this first engagement over North Korea, his gunsight went blank, and he thought he had missed the MiG. Later in the debriefing, another member of the flight reported seeing the aircraft go down in flames (11:38-42).

After combat missions, Mahurin and Gabreski held meetings in their quarters about the day's activities, in an effort to improve the operation, and educate the "new guys". From these sessions emerged new tactics that would prove very successful against the Communists. Mahurin suggested that the practice of flying multiple formations on a long trip up to the Yalu river only served to waste gas, and he suggested that the flight size be reduced to four ships. This became common practice and proved to be very effective for the duration of the war (121:45-49).

On 21 February 1952, Mahurin was assigned to the 4th Fighter Interceptor Group as the commander, and began to institute the same changes that worked so well in the 51st under Gabreski. As North Korean MiGs appeared less often, the F-86s began bombing missions for the war effort. On 13 May 1952, during a bombing attack in North Korea, his aircraft was hit by enemy ground fire. He crash landed and spent the remainder of the war as a prisoner (11:80-94). Many of Bud Mahurin's battles were fought in the air, but none more taxed his ability as a human being than his months as prisoner of the North Koreans.

Mahurin is the only ace with Japanese, German and Korean victories, and he spent many hours working on his wing tactics to achieve that goal. He possessed superior eyesight and aggressively engaged the enemy whenever he found them (59:171-190). In a letter to the commander of the 8th Fighter Command after his tour in the ETO, he summed up his thoughts on air-to-air warfare in a few statements:

"The enemy is only seen for a few seconds.....
good fighter pilots must have composure during
the attack."

He spent hours thinking about what he was going to do and
believed it paid off in victories.

"believe in reading all the mission reports from
the days operation."

"A good wingman is worth his weight in API"

The 56th did a lot of training and stressed pride, even
in takeoff and landing.

"An ace must be a good shot"

Bud Mahurin possessed qualities that enabled him to
rise to leadership in the fighter business. His
motivation to seek out the enemy and aggressively attack
is pointed out in the comments he wrote to 8th Fighter
Command. Likewise, he was eager to get to the Korean War
and went to extremes to be reassigned to the combat
arena. His keen eyesight and deadly shooting ability
helped him score enough victories in two wars to rank in
the top ten American aces with 24 1/2 kills. Finally,
his team work allowed him to survive. He acknowledged
the value of wingmen in his comments to the fighter
command and developed mutual support tactics in Korea
that led his F-86 unit to victory over the North Koreans.
Mahurin truly embodies all the characteristics needed in
the successful fighter aviator.



CHARLES H. MACDONALD
"Fighter Pilot"



Charles Henry MacDonald was born in Dubois, Pennsylvania and rose to be one of the greatest airmen in the history of the United States. His spot in this paper is not derived from great personal achievements, but from tremendous leadership ability. Of all the aviators that are presented in this thesis, the author's personal pick for the best leader would have to be MacDonald. In the author's personal interviews with over 50 great aces, not a single one has had a bad word about the leadership of Charles MacDonald. In the next few pages we will see how the Air Force would be well served in building a mold around the attributes of this man.

As a background, MacDonald's early life was unremarkable. He graduated from college in 1938 to be commissioned in the service in 1939. He was on Pearl Harbor during the Japanese attack, but made his way across the U.S. to the east coast (54:21). From there he set sail with the full intention of landing in England, but the boat docked, instead, at Brisbane, Australia leaving MacDonald with his winter flying gear in the heat of the "down under" (62:1). Early Pacific war records are very hard to come by, and when found are often incomplete. The author has had to piece much together from interviews and available histories.

It is certain that the days in Australia were spent in the pursuit of aircraft to fly and a unit with a

mission. MacDonald ended up joining his command in Dobodura in October of 1943 as the group executive officer (54:21). On the 25th of that month he was lead on a bomber escort mission and had to get airborne under a Japanese attack on the airfield. The rest of the group turned back due to weather, but he pressed on because he could hear the bombers going to the target. This "sense of mission" lasted for the duration of his combat tour.

In late November he took command of the 475th "Satan's Angels" as a lieutenant colonel. The living conditions were horrible, and the group had a high casualty rate from malaria. In addition, they were in a pitched battle with the Japanese, and found themselves the only aircraft with range to take the battle to the enemy (62:2). A few months later, in June of 1944 Charles Lindbergh joined the 475th and struck up a friendship with MacDonald.

Lindbergh taught the pilots of the 475th how to maximize their fuel endurance and range to get the most out of the aircraft and he participated in combat operations with the group. Because of increased range estimates, MacDonald began to ask the commanding general for permission to attack the island airfield of Palau. His estimates were that the enemy had 73 fighters on the field, and the 475th could surprise them with only four and mop up (10:860).

The general's answer was, "no", but the opportunity for a four aircraft strike presented itself on the 1st of August in 1944. Enemy strength was around 150 fighters, according to the intelligence briefer, and MacDonald selected his four ships to include Lindbergh as number three in the formation. They took off at 0927 and arrived on target at 1205 where MacDonald shot down a float plane. His tactic was to keep the four ships together for protection, and it paid off. When Lindbergh was jumped by a zero, MacDonald managed to attack in defense. They withdrew on MacDonald's order, before the odds became overwhelming, and brought all four home (10:890-892).

After landing, trouble was brewing from higher headquarters. It seemed that the commanding general had been turning down escort mission to Palau because the P-38 "did not have the range to make it." MacDonald was

grounded for 60 days and sent on leave to the U.S. where he saw his newborn son for the first time (10:893).

After his leave, on 7 December 1944, the 475th had its biggest day of war, knocking down 28 enemy aircraft. MacDonald accounted for three of these. The sad part of the day occurred when his wingman, Meryl Smith, was lost, and MacDonald launched on a fourth sortie in a vain search attempt (16:194-209). The reason for the concern is apparent in a quote attributed to MacDonald in late 1944: "The reason that we beat the Nip is because we work as a team." This sense of mutual support would not allow a wingman to be lost without maximum effort to recover him (54:68).

MacDonald went on to lead the 475th through 15 July 1945, when he was replaced by his executive officer. After the war MacDonald continued in the Air Force and advanced to serve as an F-84 group commander, F-86 wing commander and as air attache in Sweden (54:84). In all his years as commander of the Satan's Angels he managed to maintain aggressiveness in air combat and tried never to turn back when the mission was started.

He relied on quick, aggressive action which helped make him the 5th ranking ace in the United States and the 3rd ranking ace in the Pacific Theater (54:--). His leadership of the 475th resulted in 551 victories (only six groups exceeded 500 in any theater) against only 56 aircraft lost for a ratio of just under 10:1. The group produced 41 aces and two of the top five (54:--). MacDonald's decorations include: Distinguished Service Cross (with 1 Oakleaf Cluster), Silver Star (with 1 Oakleaf Cluster), Distinguished Flying Cross (with 5 Oakleaf Clusters) and numerous Air Medals (16:209).

Closing with a lasting qualification of MacDonald's success, Chuck Brammeier said it best in his history of the 475th: "It would be difficult to overstate the reverence with which he was and still is held by those he led. He cared about his men first. Everyone wanted to be in his flight" (54:51).

His motivation to seek out the enemy and aggression in attack contributed to his success. MacDonald's shooting ability and eyesight were among his strongest qualities. His most impressive quality was his emphasis on teamwork, and the record of the 475th is an excellent

tribute to his leadership. He emphasized four ship tactics and mutual support for low losses and high kill rates. Motivation, physical ability, and tremendous teamwork qualities were combined in Charles H. MacDonald to make him one of America's most successful fighter aviators.

Chapter Four

COMMON CHARACTERISTICS OF SUCCESSFUL COMBAT FIGHTER AVIATORS

Studies on success in fighter aviation began during World War II and have continued to the present day. Most have centered around analysis of various traits found in pilots who survived and shot down the most enemy aircraft. In December of 1944, Bond and Burchell published the results of a study on pilot resistance to combat stress. The study revealed some interesting points about fighter pilots that bear mentioning in this study (26--).

Bond and Burchell were the first authoritative source to suggest that motivation was a primary characteristic that led to success in combat. They found that the successful pilots never "gave up" and that the incidences of combat stress were much lower in the fighter pilot community than among other pilots in the study. A much higher success rate was found in aviators who were aggressive and "loved flying" (26:4-8). More comprehensive works were published following the Korean War.

Two very good studies were published between 1955 and 1957 about qualities leading to pilot success during the Korean War. Both works resulted from a concern that most enemy aircraft were shot down by very few pilots, and were directed at finding common characteristics in the most successful pilots. Strawbridge and Kahn published a report attributing success to a pilot's opportunity to kill the enemy but only touched on personal characteristics that may have contributed to success (53:71-72). They proved that the pilots who were exposed to the enemy most often were the most likely to achieve kills. This is, in itself, not a surprising finding, but they went on to compare some characteristics

of pilots exposed to the enemy and found that "physical aggressiveness and risk taking" were significant factors in the most successful pilots (53:71). Strawbridge and Kahn cited an early study by E. Paul Torrance as a basis of their research findings.

Torrance and two other psychiatrists followed up the Strawbridge study and examined eight times as many pilots involved in the conflict. They found that successful pilots tended to have a higher motivation: "From the interviews, evidences of superior motivation among the aces and near-aces were found...." (24:30). In addition, the fighter pilots most successful were more able to react favorably to stress, more likely to take risks, highly competitive ("enjoy competing against other"), but above all were highly aggressive (24:21-24). The study went on to deal with leadership and teamwork. They found that while the good fighter pilots tended to be very competitive and aggressive, they were demanding of good leadership and valued teamwork (24:9). Specifically, they saw their commanders as fighters and believed that success came from flights working together for the benefit of the whole (24:9). Both Torrance and Strawbridge studies dealt exclusively with the Korean War aces, but a comprehensive analysis of successful analysis of successful fighter combat was published in 1977 by MacDonnell Douglas Corporation.

Edward W. Youngling, along with three other scientists, studied successful fighter aviators in World War II, the Korean War, and Vietnam for common characteristics. They combined the research of the other studies, then conducted oral and written interviews with fighter pilots from all three wars. Their results are far more extensive and provide a list of common characteristics of the successful aviators (22:--). The most common characteristic was aggression. In addition, they found that the combat effective pilot had "motivation, determination, dedication, desire, instinct and deliberateness of attack." Besides having "adequate flying ability and aerial gunnery skills", "the ideal fighter pilot should be in good health and have excellent visual target acquisition..." (22:3-90). Youngling's characteristics can be grouped into three categories: motivational characteristics, physical ability, and attributes that made the successful pilot a team player.

Motivational characteristics included: aggression, confidence, willingness to take risks, desire and drive (22:3-91). These characteristics were not found to be the only combinations that produced success, but they were the most common found in the group. Most of the aces the team interviewed felt that the other two categories of attributes could be overshadowed by motivational factors (22:3-92).

Physical ability comprised the second grouping of characteristics of the successful aviators. Flying ability, shooting ability, and excellent eyesight were most common, but good health and fast reactions were subsets of the same. Physically, the most successful pilots possessed superior eyesight, good flying skills, and exceptional shooting ability (22:3-91).

The authors combined the final grouping of characteristics under the heading, teamwork. Leadership, survival of wingmen, loyalty, and trust in teamwork were all exhibited in one form or another by the most successful aviators (22:3-81).

Do these qualities of the past constitute lessons for the future? Martin Caidin, in the foreword to Robert Johnson's autobiography: Thunderbolt said it best:

"All of them, from the first to the very last, are possessed with a hunger to pursue the enemy in the air, force a fight under all circumstances, to hound the quarry, and to make the kill. When they fly as fighter pilots, this is their sole justification for being in the air" (9:xi).

These qualities should apply across time, and the next chapter will compare motivation, physical ability, and teamwork in the combat arena of today.

Chapter Five

LESSONS LEARNED FROM THE PAST

When past wars were compared with the modern battlefield there were only minor differences in terms of human requirements. Even though the weapons and threat were different, most pilot factors remained much the same as World War II. The most obvious difference came with the introduction of the jet fighter into the battle for the skies over North Korea. The jet made its debut in the Luftwaffe during the late stages of World War II, but did not see extensive combat. The MiG-15s and American F-86, Sabres fought for air superiority along the Yalu River in "MiG Alley." The basics remained the same in the jet war with requirements on the pilots not entirely different than those faced in World War II (14:--). While there were minor differences in aircraft, comparison of the MiG and Sabre was not appreciably different than the comparison between the Mustang and the German Me-109. Each aircraft had its own advantages and disadvantages, but none changed the requirements on the pilots. A significant point is that the primary ordnance carried in both wars was the cannon. This put a premium on pilot skill in maneuvering and required the pilot to close with the enemy at very short ranges in order to assure a kill.

The Vietnam conflict brought a significant change in the surface threat and improved capabilities in fighter aircraft. Lethal surface to air missiles ringed the city of Hanoi, while the chief surface threat in World War II and Korea had been ground fire by anti-aircraft-artillery (AAA) (14:210-219). The North Vietnamese flew the MiG-21 and MiG-17 in combat, and these aircraft were not significantly different in maneuver capability than the

MiG-15 faced in the Korean War. The main difference came in armament: the MiGs began carrying air-to-air missiles which increased the lethal zone of attack available to the enemy fighter pilot. American pilots in Vietnam greatly outnumbered their adversaries, but the MiG-17 and 21 were small and difficult to see at missile firing ranges (14:204-207). The air war had shifted to one of missile employment rather than gunfire. This led to some reduced effectiveness on the part of fighter pilots, and revealed the future of air operations (14:--).

In Vietnam the biggest advance came with the lethality of the guided missile over the cannon bullet. Air-to-air missiles approached the point that if an enemy could see a target (on radar or with the human eye) he could shoot it, and missiles were lethal enough to kill any target engaged. The final area that changed the face of the air battle came in the field of sensors.

Today's weapon systems use radar and IR sensors to engage targets well before the pilot can see the adversary. This requires a pilot to spend much more of his time with details inside the cockpit. He must choose the target and weapon much earlier in the air battle and engage the enemy to take advantage of his own capabilities while limiting the enemy's. All of this must be done, at times, outside of visual range (14:228-233).

Missiles have increased the engagement ranges of air battle, and they have changed threat envelopes from the tail cone to a full 360 degrees around an adversary. In other words, missiles have enabled the fighter pilot to attack or be attacked from anywhere around his aircraft. The sensors, the missiles, and weapon lethality have significantly changed the ability of pilots to avoid a fight. In World War II and Korea, it was relatively easy to leave an air battle when outnumbered, but in the missile age it has become much more difficult to leave the fight and survive.

In addition, airframes have changed. Aircraft are capable of flying faster, turning under tighter G forces and sustaining those G forces for longer periods of time.

They have become more complicated and require significant knowledge to fly (55:33-34). A price tag that is prohibitive has come with the technological advances. In World War II a vast air fleet was available to the fighter pilots. Today, there is not an industrial or economic basis to produce replacements for the fleet in being. All these changes in systems, ordnance and airframes have been matched by the enemy. Now the American fighter pilot is looking at an equal adversary that has become more lethal and able to engage at longer distance. What kind of characteristics are necessary in fighter aviators of today?

Motivational characteristics found in the subjects of this study contributed significantly to their success. They were aggressive and possessed the desire and dedication to attack an enemy regardless of odds. Today's pilot must curb his aggression, and do battle when he can maintain survivability. Aggressively seeking out the enemy is still a desirable trait, but the distances of doing battle and weapon lethality require controlled aggression. Most of the pilots in this study were risk takers and fighter pilots have to be willing to take the risks and curb fears that would give the enemy an advantage. The chief risks have become the "unknown" enemy since much of the battle is determined before either pilot sees the other. Motivational factors of aggression, desire, dedication, and willingness to take risks are as valid in the success of today's aviator as they were in Korea or World War II; the threat environment changes how dominant a characteristic should be.

Physical ability is even more important to the successful aviator. Visual acuity has changed from the primary tool of the attacker to the primary tool of survival. A fighter pilot must see the enemy at longer ranges while he is flying at greater speeds. If the enemy is not seen, the pilot must defend against a very small, lethal missile instead of an enemy airplane. Good eyesight is still necessary to attack the enemy. Radar and IR sensors will get the pilot to the enemy, but many times the enemy must be visually identified before attack is authorized. The better a pilot's visual ability the sooner he will control the fighting.

Shooting ability produced results that pilots with less skill could never achieve. Today a pilot must be able to shoot missiles or guns in "the heart of the

envelope" to assure more kills (15:--). World War II pilots closed to ranges that assured target destruction. The modern pilot must maneuver to positions at greater distances that assure the same destruction. Shooting ability is still important, but weapons advances have redefined the art.

Flying ability was a requirement for success in World War II and Korea. The necessity to fly instinctively exists today. Cockpit distractions have come with advances in technology, and superior flying skills help overcome the tendency to concentrate on distractors. A pilot in World War II and Korea had to fly the aircraft to a position of firing or defend by maneuvering the airframe. The modern pilot must choose the fight based on information in the cockpit, pick the weapon and engagement, then maneuver to a position of advantage and shoot. The ability to fly the aircraft is more important because there is less time available in the cockpit to concentrate on flying the aircraft.

The last characteristic found in successful aviators was the ability to perform as a part of a team. Johnson expressed it as a leader and wingman working together to achieve more kills than an unprotected, lone pilot. Radar and IR sensors create a requirement for the leader and wingman to split their responsibilities and cover more area. One member of the team is still responsible for the attack (15:--). Supporting tactics are more important since engagements may occur beyond visual range. Today's pilot must support the team to survive.

In conclusion, the characteristics found in Schilling, Gabreski, Johnson, Mahurin, and MacDonald are valid for today's fighter aviators. Motivational factors of aggression, and desire; physical abilities like eyesight, shooting ability and flying ability; and ability to work as a team are necessary characteristics for success in the modern fighter aviator.

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