All That Bravery and Devotion to Duty Could Do: Aviation in Normandy

A B-26 bomber crew prepares for a mission
Photo 080305-F-3927P-029. Courtesy U.S. Air Force

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“Now, I am become Death, the destroyer of worlds.”

- The *Bhagavad Gita*
What is National History Day?

National History Day is a non-profit organization which promotes history education for secondary and elementary education students. The program has grown into a national program since its humble beginnings in Cleveland, Ohio in 1974. Today over half a million students participate in National History Day each year, encouraged by thousands of dedicated teachers. Students select a historical topic related to a theme chosen each year. They conduct primary and secondary research on their chosen topic through libraries, archives, museums, historic sites, and interviews. Students analyze and interpret their sources before presenting their work in original papers, exhibits, documentaries, websites, or performances. Students enter their projects in contests held each spring at the local, state, and national level where they are evaluated by professional historians and educators. The program culminates in the Kenneth E. Behring National Contest, held on the campus of the University of Maryland at College Park each June.

In addition to discovering the wonderful world of the past, students learn valuable skills which are critical to future success, regardless of a student’s future field:

- Critical thinking and problem solving skills
- Research and reading skills
- Oral and written communication and presentation skills
- Self-esteem and confidence
- A sense of responsibility for and involvement in the democratic process

Participation in the National History Day contest leads to success in school and success after graduation. More than five million NHD students have gone on to successful careers in many fields, including business, law, and medicine. NHD helps students become more analytical thinkers and better communicators, even if they do not choose to pursue a career in history.
What is the Normandy Scholars Institute?

Established in 2011, the Normandy Scholars Institute is a program which teaches high school students and teachers about D-Day and the fighting in Normandy during World War II. The program is a partnership between National History Day and The George Washington University made possible by the generosity of Albert H. Small. Mr. Small is a veteran of the U.S. Navy who served in Normandy during World War II. He is passionate about history education and wants to ensure that the sacrifices of World War II veterans are honored and remembered by America’s youth.

Each winter National History Day selects a group of teachers from across the country to participate in the program. Each teacher selects a student to work with during the institute. The teacher and student work as a team, learning side-by-side, making the institute a unique educational experience. Starting in spring, the team reads books on World War II and on D-Day, giving them a better understanding of the history and historical context of the campaign. Each student selects a soldier from their community who was killed during the war and who is buried at the Normandy American Cemetery and Memorial. The team works with a research mentor to learn about the life of their soldier. In June, the teams travel to Washington, DC for several days of program events before flying to France to visit the historical sites where the teams’ soldiers fought and died. The trip culminates with a trip to the American cemetery where the student reads a eulogy in front of their soldier’s grave. After returning to the United States, the students and teachers share their experience with others by making a website about their soldier and giving presentations at their schools.

In addition to getting to experience Normandy firsthand, students and teachers will:

- Learn the true cost of war and the meaning of freedom and sacrifice
- Improve research and problem solving skills
- Attain a deeper understanding of America’s participation in World War II
- Establish relationships with peers and colleagues from across the country
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Introduction

This guide covers U.S. aviation forces in Normandy. It should be a helpful reference for students who are researching a soldier from any of the types of units listed below. This guide discusses the history, organization, tactics, and combat experiences of the men in these units. It is worth reading all sections of this guide regardless of the type of unit your soldier served with, because these units all worked together. Students researching a soldier from a Troop Carrier Group should consult the Airborne Guide instead. TCG soldiers were part of the airborne team and worked closely with the men they carried into battle, so it is only fitting that we consider them together.

• Bombardment Group
• Photographic Group (Reconnaissance)
• Fighter Group

A fighter pilot in full flight gear. Oxygen equipment was necessary above 10,000 feet altitude.  
Aviation Combat, 1914-1944

The airplane was an American invention, the brainchild of two brothers from Dayton, Ohio who owned a bicycle business. The world’s militaries showed little interest in airplanes until the U.S. Army purchased an airplane from the Wright Brothers for use in experiments in 1908. After successful tests at Fort Myer, Virginia, many European nations began building their own aviation forces. The first combat use of the airplane occurred in 1911, when Italian airplanes conducted reconnaissance and bombing missions in Libya. The airplane was used extensively throughout World War I, in a variety of roles. Airplanes performed scouting missions, adjusted the aim of artillery fire for soldiers on the ground, bombed targets, and fought enemy airplanes. The airplane was almost always used to support the ground troops during the war – in fact, airplanes were often used as an extension of the artillery, scouting for targets and helping gunners aim their weapons. By 1918, they had become an important part of the Army, fulfilling a variety of important missions.1

After the war, some aviation visionaries thought the airplane could do much more than just support soldiers on the ground. Italian Army General Guilio Douhet believed that aviation forces could win wars by themselves. In The Command of the Air, Douhet argued that air forces could win wars without the help of ground or naval forces by targeting the ‘vital centers’ of a nation – factories, transportation networks, and cities. Doing so would destroy a nation’s ability to fight and break the populace’s will to resist. Of the airplane, he wrote that

“by virtue of this new weapon, the repercussions of war are no longer limited by the farthest artillery range of surface guns, but can be directly felt for hundreds and hundreds of miles over all the lands and seas of nations at war. No longer can areas exist in which life can be lived in safety and tranquility, nor can the battlefield any longer be limited to actual combatants. On the contrary, the battlefield will be limited only by the boundaries of the nations at war, and all of their citizens will become combatants, since all of them will be exposed to the aerial offensives of the enemy. There will be no distinction any longer between soldiers and civilians. The defenses on land and sea will no longer serve to protect the country behind them; nor can victory on land or sea protect the people from enemy aerial attacks unless that victory insures the destruction, by actual occupation of the enemy’s territory, of all that gives life to his aerial forces.”2


Military aviators around the world took up Douhet’s argument as a rallying cry to lobby for large independent air forces. In the United States, Brig. General William “Billy” Mitchell waged a public crusade to gain independence from the Army for the U.S. Army Air Service. Mitchell believed that an independent air force was vital for national defense, since, according to him, “neither armies nor navies can exist unless the air is controlled over them.” The air force got more autonomy throughout the 1920s and 1930s, but was not a separate force during WWII – the Army Air Forces (AAF) was one of the three services within the United States Army, along with the Army Ground Forces and the Army Service Forces. A 1943 AAF field manual described the relationship between the air and ground forces by stating that “LAND POWER AND AIR POWER ARE CO-EQUAL AND INTERDEPENDENT FORCES; NEITHER IS AN AUXILIARY OF THE OTHER.” The air force would not get its independence until 1947, when the United States Air Force was created.3

Strategic bombing became a popular cause within the U.S. Army Air Corps in the 1930s. Bomber technology grew by leaps and bounds during the decade. Bombers became faster, better armed, and able to fly farther than fighter planes, leading many to claim that fighter airplanes would not be able to stop a bomber force in an actual war. In 1932, British Prime Minister Stanley Baldwin stated in a speech that “the bomber will always get through.” By the late 1930s, many American Army Air Corps officers would have agreed with him. Strategic bombing was on the rise in the Air Corps – tactical bombing also had its supporters, but it was given an increasingly limited role by Air Corps leaders. In fact, the primary mission of tactical aviation in the 1930s was not to support the ground troops, but to support the strategic bomber forces by destroying anti-aircraft defenses. Nevertheless, far-sighted officers like George Kenney and Claire Chennault believed tactical aviation had an important role to play and continued their advocacy. Tactical bombing was helped by the development of dive bombing by the Marine Corps in the late 1920s. The Marine Corps and Navy enthusiastically embraced dive bombing as a way to precisely deliver bombs to targets, and Army aviators took up the technique as well. Army fighter pilots used dive bombing with devastating effect in Normandy in 1944.4

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The first strategic bombing campaign of World War II was conducted by Germany during the Battle of Britain in 1940. Germany hoped that bombing London and other British cities would cripple the morale of the British people, forcing them to surrender. It did not, despite London being almost reduced to ruins. The British Royal Air Force (RAF) returned the favor by conducting a night bombing campaign over Germany. This campaign was also unsuccessful. A 1941 RAF study found that only one out of every three airplanes dropped its bombs within seventy-five square miles of the target. American Army Air Forces bombers arrived in England to take their turn at strategic bombing in mid-1942. AWPD-1, the AAF’s blue print for the Combined Bomber Offensive, stated that it was “perfectly feasible to conduct precise bombing operations against selected precision targets, from altitudes of 20,000 to 25,000 feet, in the face of anti-aircraft artillery and fighter defenses.” The Americans believed that they would succeed where the British and Germans failed because American bombers were equipped with a state-of-the-art Norden bombsight, theoretically capable of giving American bomber crews amazing bombing accuracy. AAF leaders also thought that American bombers were so heavily armed with defensive machineguns that they were invulnerable to fighter attack. In practice, the Norden bombsight did not live up to the hopes that air forces leaders had for it and bombers proved to be high vulnerable to fighter plane attack.5

The Eighth Air Force sustained heavy losses in its campaign to knock Germany out of the war, losing about 30% of its crews each month. ‘Mighty Eighth’ bombers, flying without fighter plane protection, were devastated by German fighters. American bomber leaders sent ever-increasing numbers of bombers against factories and oil refineries in Germany and the occupied countries of Europe. Together with the RAF, the Army Air Forces waged a ‘round-the-clock’ Combined Bomber Offensive against German targets – the Americans attacked in the daytime, the RAF struck at night. Germany did not crumble under the strain of the bombing as American and British leaders expected, but the heavy bomber crews did contribute to the war effort. Strategic bombers were vital in isolating the Normandy area from German troops in other parts of France by destroying bridges and railroad lines, and cratering roads. They also devastated German fuel production, making shortages of gasoline and oil a major problem for German units late in the war. Finally, they helped secure air superiority over the battlefield by destroying the German Luftwaffe. The bomber raids were so destructive of property and civilian lives that they presented a challenge from which the Luftwaffe could not shrink – the German air force had to defend its fatherland from the Eighth Air Force’s raids, and it was destroyed in the process.6

Though its activities were less publicized than the Eighth Air Force’s strategic bombing campaign, the Ninth Air Force performed vital support for the American troops fighting in


6 1944-1945 strategic bombing campaign, Keegan, 415-435; Eighth Air Force casualties, Murray, 100; and isolation of Normandy, Hallion, 2-3.
Europe. The Ninth Air Force was a tactical air force – they bombed German troops, protected American soldiers from attack by German bombers, and bombed bridges, roads, and trains to stop the German Army from bringing troops to the front line. The American fighter pilots and bomber crews of the Ninth Air Force were incredibly successful at their task – on July 29 a column of German vehicles was pounded by American fighters for several hours, destroying 66 tanks, 204 vehicles, and 11 cannons. German soldiers learned to fear the American fighter-bombers, which they called *Jabos*. American soldiers knew they could breathe a little bit easier, knowing that the fighter pilots had the tools and the dedication needed to fly through a hail of German fire to provide the support necessary to get the ground soldiers out of a tough spot. General George S. Patton described the relationship between his Third Army and the Ninth Air Force units supporting them as “love at first sight.”

A B-24 Liberator heavy bomber is hit by anti-aircraft fire over Germany, 1943.


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The Winged Gospel

“We are at the opening verse of the opening page of the chapter of endless possibilities.” Such were Rudyard Kipling’s words in 1903 when he learned that the Wright Brothers had invented a flying machine. The men who joined the Army Air Forces during the war grew up in an America obsessed with the airplane. To most Americans, the airplane was not merely amazing – it was miraculous. In his landmark book *The Winged Gospel: America’s Romance with Aviation*, historian Joe Corn argued that aviation became the secular religion of America during the 1920s and 1930s. Boys and girls growing up in the United States during this time period were fed a constant diet of aviation culture and aviation news. They read about the exploits of Charles Lindberg, Jimmy Doolittle, Amelia Earhart, and other aviation heroes. Children built model airplanes and joined aviation-related children’s organizations like the Junior Birdmen of America. They read *Smilin’ Jack* comic strips and listened to *The Air Adventures of Jimmie Allen* on the radio. Many young aspiring aviators read books about learning to fly, like Assen Jordanoff’s 1937 bestseller, *Your Wings*. Older Americans viewed the younger generation’s interest in aviation with pleasure. They believed that the airplane would make the world a better place – war would become obsolete, and people would become stronger, smarter, and even more ethical. The airplane would even eliminate poverty and inequality – people would all own an airplane and would live in utopian skyscrapers in the sky. The younger generation of Americans became the standard bearers of this new sense of ‘air-mindedness.’ In his Nobel Prize winning book *Bombs Away* – which was intended as a recruiting tool for the AAF – John Steinbeck wrote a vivid evocation of the Winged Gospel:

“Probably men have wanted to revolt against the law of gravity since they first noticed that birds and some insects are given a dispensation against it. The great envy that children have of birds, the dreams of flying if one only knew a trick with the hands or could press a magic button under the arm, the complete hunger for flight that is in all of us – all these are answered in the first take-off. Later the preoccupation will be with methods and techniques and instruments, but the first pure joy in release, there is nothing like it. These things, these thoughts and words, have been trite until it happens to you and then the feeling is ringed with fire.”

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The military played a large role in developing this feeling of air-mindedness among the American people, old and young alike. From 1920-1930 Army and Navy pilots dueled with each other in air races held each year, many of which drew over a million viewers. In 1936, the Army Air Corps staged a highly-publicized air show at the National Air Races featuring Curtiss P-36 fighter planes painted in experimental camouflage patterns. In 1938, Americans listened live on the radio as B-17 bombers intercepted the cruise liner SS *Rex* hundreds of miles off the coast of the United States in an exercise that demonstrated the power of the American heavy bomber force. Many American boys noticed these and other spectacles and decided that the life of a military aviator was the one for them.\(^9\)

Though military aviation helped to create the Winged Gospel, it also inadvertently destroyed it. The Winged Gospel was one of the last casualties of World War II – crushed under the debris of London, Dresden, Berlin, Hiroshima, and Nagasaki. After strategic bombing campaigns which left hundreds of thousands of civilians dead, and millions of others homeless, people stopped believing in the airplane as a force for good. Instead, the airplane became at best just another way to get from A to B, and at worst, the harbinger of nuclear destruction in a brave new world.\(^{10}\)

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\(^{10}\) Destruction of the Winged Gospel, Corn, 135-154.
The United States Army Air Forces deployed two air forces to England during World War II: The Eighth and Ninth Air Forces. The air forces were under the command of General Dwight D. Eisenhower, the commander of the Northwest European Theater. Commanded by Lt. Gen. James H. “Jimmy” Doolittle, the Eighth Air Force was a strategic air force. Its job was to carry on a strategic bombing campaign of German cities and production facilities, and to destroy the German Luftwaffe, to cripple Germany’s ability to fight. The Eighth Air Force was only to be used to provide support of ground troops when the mission was “vital and decisive.” In February 1944, the ‘Mighty Eighth’ had 1,481 bombers and 883 fighter planes.

Eighth Air Force

- 1st Air Division
  - 1st Bombardment Wing (91st, 381st, and 398th Bombardment Groups)
  - 40th Bombardment Wing (92nd, 305th, 306th, and 492nd Bombardment Groups)
  - 41st Bombardment Wing (303rd, 379th, and 384th Bombardment Groups)
  - 94th Bombardment Wing (351st, 401st, and 457th Bombardment Groups)
  - 67th Fighter Wing (20th, 352nd, 356th, 359th, 361st, and 364th Fighter Groups)
- 2nd Air Division
  - 2nd Bombardment Wing (389th, 445th, and 453rd Bombardment Groups)
  - 14th Bombardment Wing (44th, 392nd, 491st, and 492nd Bombardment Groups)
  - 20th Bombardment Wing (93rd, 446th, 448th, and 489th Bombardment Groups)
  - 96th Bombardment Wing (458th, 466th, and 467th Bombardment Groups)
  - 65th Fighter Wing (4th, 56th, 355th, and 479th Fighter Groups)
- 3rd Air Division
  - 4th Bombardment Wing (94th, 385th, and 447th Bombardment Groups)
  - 13th Bombardment Wing (95th, 100th, and 390th Bombardment Groups)
  - 45th Bombardment Wing (96th, 388th, and 452nd Bombardment Groups)
  - 92nd Bombardment Wing (486th and 487th Bombardment Groups)
  - 93rd Bombardment Wing (34th, 490th, and 493rd Bombardment Groups)
  - 66th Fighter Wing (55th, 78th, 339th, 353rd, 357th, and 358th Fighter Groups)
- 7th Photographic Group (Reconnaissance) (13th, 14th, 22nd, and 27th Photographic Squadrons)11

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In contrast, the Ninth Air Force was a tactical air force. Its mission was to support the ground soldiers by conducting several missions. The top priority was to destroy German airplanes in the battle area – in the air and on the ground. Its next priority was to slow the movement of German troops to and within the battle zone. Its last objective was to provide ‘close air support’ of ground troops by attacking targets selected by the ground soldiers to help them gain their objectives. In Normandy, the Ninth Air Force was commanded by Lt. Gen. Lewis H. Brereton and included about 1,500 aircraft.

Ninth Air Force

- 9th Air Division
  - 97th Bombardment Wing (409th, 410th, and 416th Bombardment Groups)
  - 98th Bombardment Wing (323rd, 387th, 394th, and 397th Bombardment Groups)
  - 99th Bombardment Wing (322nd, 344th, 386th and 391st Bombardment Groups)

- IX Troop Carrier Command
  - 50th Troop Carrier Wing (439th, 440th, 441st, and 442nd Troop Carrier Groups)
  - 52nd Troop Carrier Wing (61st, 313th, 314th, 315th, and 316th Trp Carrier Groups)
  - 53rd Troop Carrier Wing (434th, 435th, 436th, 437th, and 438th Trp Carrier Groups)

- IX Tactical Air Command
  - 70th Fighter Wing (48th, 367th, and 474th Fighter Groups)
  - 71st Fighter Wing (366th, 368th, and 370th Fighter Groups)
  - 84th Fighter Wing (Various groups attached from 100th Fighter Wing)
  - 67th Photographic Group (Reconnaissance) (33rd, 107th, 109th, and 153rd Reconnaissance Squadrons)

- XIX Tactical Air Command
  - 100th Fighter Wing (354th, 358th, 361st, 362nd, 363rd, 365th, 368th, and 371st Fighter Groups)
  - 303rd Fighter Wing (Various groups attached from 100th Fighter Wing)
  - 10th Photographic Group (Reconnaissance) (12th, 15th, 30th, 31st, 34th and 155th Photographic Squadrons)²

² Ninth Air Force mission, War Department, *Command and Employment*. 10-11; aircraft stats, Doubler, 65; and history and order of battle, Maurer, *Combat Units.*
The Bombardment Group (BG) was the main strength behind the Army Air Forces’ air offensive. Day after day, American bombers pounded targets in Germany, Belgium, Holland, and France. Bomber squadrons played an important role in isolating Normandy from the rest of France by destroying the transportation network in the weeks before the invasion. On occasion, they also served as Eisenhower’s so-called ‘Sunday Punch,’ providing heavy bombardment of German forces in support of major operations like Operation Cobra.13

Bombardment groups had between three and five bombardment squadrons, with four being the most common size. The bombardment group was commanded by a colonel, with a lieutenant colonel as second-in-command. Bombardment squadrons were commanded by a major, with a captain as his second-in-command. Each squadron had twelve planes, divided into three flights with four planes in each:

- Bombardment Group (Heavy)
  - 3x – 5x Bombardment Squadrons (each 68 officers, 335 men with 12 airplanes)
    - 4x Flights (each 12 officers, 24 men, with 3 airplanes)
    - Ground echelon (8 officers, 235 men)14

The manpower strength of the bombardment squadron depended on the type of airplanes they flew. The largest squadrons were the heavy bombardment squadrons, with sixty officers and one hundred enlisted men in the bomber crews. Medium bombardment squadrons had seventy-six officers and ninety-five enlisted men as air crew. Each squadron also had a sizeable ground element, to repair, arm, and fuel the bombers, and to provide for administrative and mission planning operations. The heavy bombardment squadron’s ground element consisted of eight officers and two hundred thirty-five men. The ground element stayed at the squadron’s airfield in England and did not go on missions. We will concentrate on the air crew, because the men buried in Normandy were air crew rather than ground crewmen.15

There were two different types of bombardment groups – heavy and medium. The Eighth Air Force’s bombardment groups were all heavy. The Ninth Air Force’s groups were all medium. All squadrons in a group were of the same type – a group would not have a mixture of

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13 Strategic bombing campaign, Keegan, 415-435; and bomber operations in Normandy, Hallion, 20-30.


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heavy and medium squadrons, for example. Each type of squadron flew a different size of bomber. Different sized bombers had different numbers of crewmen – the larger the bomber, the larger the number of crew it required to perform the mission.  

Bombardment Group (Heavy): The heavy bombardment group was equipped with either Boeing B-17 bombers or Consolidated B-24’s:

- Boeing B-17 Flying Fortress: The four-engine B-17 was the ‘classic’ heavy bomber of WWII. The airplane could fly 1,800 miles, had a top speed of 302 mph, could carry 17,600 lbs. of bombs, and was equipped with 13 machineguns for defense. The crew numbered ten men: pilot, co-pilot, navigator, bombardier, radio engineer, flight engineer, and four gunners.

- Consolidated B-24 Liberator: The Liberator was the most common American heavy bomber of the war, though it was not as popular with the public as the B-17. The four-engine B-24J could fly 2,100 miles, had a top speed of 300 mph, could carry 8,800 lbs. of bombs, and had 10 machineguns for defense. A crew of eight men served on the machine: pilot, co-pilot, navigator, bombardier, radio engineer, flight engineer, and two gunners.

Bombardment Group (Medium): Medium bombardment groups were equipped with Martin B-26 Marauder or Douglas A-20 Havoc bombers:

- Martin B-26 Marauder: The two-engine Marauder was initially disliked by its crews, who thought the airplane unsafe after a series of crashes by inexperienced pilots. The airplane went on to have a very impressive combat career, winning over skeptical crews who doubted its potential as a bomber. Flak Bait, a bomber with the 322nd Bombardment Group, flew over two hundred combat missions during the war – more than any other American aircraft. The B-26 could fly 1,000 miles, had a top speed of 315 mph, could carry 4,800 lbs. of bombs, and had 4 machineguns for defense. The airplane had a crew of seven men: pilot, co-pilot, navigator, bombardier, radio engineer, flight engineer, and gunner.

- Douglas A-20 Havoc: The A-20 was said to be the closest thing a bomber pilot could get to being a fighter pilot – the bomber was small, fast, maneuverable, and well-liked by its crews. The two-engine airplane was capable of flying 2,100 miles, had a top speed of 339 mph, could carry 4,000 lbs. of bombs, and had three machineguns for defense (and another six in the nose for strafing targets). The bomber had a crew of three men: pilot,

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16 Eighth and Ninth Air Force bombardment groups, Maurer, *Combat Units.*

navigator, and gunner. In addition to flying, the pilot performed the duties of the bombardier, radio engineer, and flight engineer.\(^{18}\)

As we can see, the airplane’s crew had a number of different specialties. To be successful, each man in the bomber crew needed to work as a team. After spending some time with American bomber crews, John Steinbeck wrote that the crew

“is truly a team, each member responsible to the whole and the whole responsible to the members. And only with its teamlike quality can the bomber successfully function. Here is no commander with subordinates, but a group of responsible individuals functioning as a unit while each member exercises individual judgment and foresight and care.”\(^{19}\)

The pilot and co-pilot sat in the cockpit of the airplane and flew it. The pilot was in charge of the bomber and the co-pilot helped him fly the plane, by watching the instruments and taking over the controls at times to give the pilot a rest. The bombardier sat in the nose of the bomber, which was made of clear fiberglass so he could look through it. While the bomber was flying to and from the target, he scanned the skies for enemy airplanes and used the machineguns in the nose of the plane to defend it, if necessary. When the bomber got to the target, he used his Norden bombsight to aim and drop the airplane’s bomb load on the target. The radio engineer sat at a desk behind the cockpit. He sent and received radio messages to other airplanes in the bombardment group and kept the crew updated on messages being sent to the airplane. The navigator sat at a desk with a map spread over it. He navigated the bomber to and from the target. The flight engineer monitored the engines and the propellers, to make sure they were working properly. If an engine was damaged, he could use fire extinguishers to put out any fire in the engine and then ‘feather’ the propeller – stop it from turning to minimize speed loss and prevent the engine from exploding. The flight engineer sat near the radio engineer and navigator, at a desk equipped with a set of engine instruments just like the pilots had in the cockpit. The radio engineer, flight engineer, and navigator also served as gunners when the airplane was under attack. The gunners were the true specialists at shooting. Their job was to watch the skies and make sure that the bomber was not surprised by enemy fighters. They were usually stationed in a rotating turret equipped with two machineguns. Their job was to protect the bomber so that the crew could get to the target to drop its bombs and then get home again.\(^{20}\)

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\(^{18}\) B-26 and A-20, Chant, 220 and 111.

\(^{19}\) “Is truly a team,” Steinbeck, 4.

\(^{20}\) Crew jobs, see Steinbeck.
When a bombardment group flew a bombing mission, the entire group flew to the target together. The bomber force worked on the concept of mutual protection. A three-plane bomber flight flew in a triangular ‘box’ formation, so that each airplane was close enough to give the others support. By staying close several gunners would be able to combine their fire at an enemy fighter if it attacked. The squadron’s flights formed a larger box, giving the squadron a diamond shape in the air. Other squadrons in the group would trail behind or to the sides of the lead squadron, forming a big ‘box’ formation with dozens of airplanes. The lead plane in the group was commanded by the group commander. His plane navigated the group to the target and home again. When his bombardier dropped his bombs, the other planes in the group dropped their bombs. The group usually flew at altitudes above 20,000 feet, to minimize their vulnerability to anti-aircraft fire from the ground.\(^21\)

Groups and squadrons carried unique numbers. Flights were labeled A, B, C, and D.\(^22\)

**What was my soldier’s job?**

This is a list of the different ranks of soldiers in the bombardment group, along with their most likely job. Further research should help determine exactly what role your soldier played in his unit. We will only consider the squadron’s air crew here:

<table>
<thead>
<tr>
<th>Rank</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colonel</td>
<td>Commanded the group</td>
</tr>
<tr>
<td>Lt. Colonel</td>
<td>Executive officer of the group</td>
</tr>
<tr>
<td>Major</td>
<td>Pilot of an airplane and commander of a squadron</td>
</tr>
<tr>
<td>Captain</td>
<td>Pilot of an airplane, squadron executive officer or commanded a flight</td>
</tr>
<tr>
<td>1st Lieutenant</td>
<td>Pilot, navigator, radio engineer or bombardier</td>
</tr>
<tr>
<td>2nd Lieutenant</td>
<td>Co-pilot, navigator, radio engineer or bombardier</td>
</tr>
<tr>
<td>Master Sergeant</td>
<td>Flight engineer or gunner</td>
</tr>
<tr>
<td>1st Sergeant</td>
<td>Flight engineer or gunner</td>
</tr>
<tr>
<td>Tech Sergeant</td>
<td>Flight engineer or gunner</td>
</tr>
<tr>
<td>Staff Sergeant</td>
<td>Flight engineer or gunner</td>
</tr>
<tr>
<td>Sergeant</td>
<td>Flight engineer or gunner</td>
</tr>
</tbody>
</table>


\(^{22}\) Nomenclature, Maurer, *Combat Units* and War Department, *Bombardment Squadron, Heavy.*

\(^{23}\) Jobs, War Department, *Bombardment Squadron, Heavy.*
Photographic Group (Reconnaissance)

The Photographic Group (Reconnaissance) provided scouting missions for the air force. Their primary mission was to photograph targets. Intelligence officers on the ground would analyze the photographs, looking for targets to bomb. Photographs were also sent to specialized engineer units which used them to make maps for air forces and ground forces officers. After a bombing attack, photographic squadrons once again went in to perform Bomb Damage Assessment (BDA) missions – taking pictures of bombed areas so that intelligence officers could decide how badly damaged the target was or if the area needed to be bombed again.24

Photographic groups consisted of four to six photographic reconnaissance squadrons. Each squadron had sixteen airplanes, divided into four flights with four airplanes each. Each squadron had 16 officers and 36 enlisted men in the squadron’s air crews (note that squadrons equipped with single-seat airplanes would be smaller in manpower):

- Photographic Group (Reconnaissance)
  - 4x – 6x Photographic Reconnaissance Squadrons (44 officers, 297 enlisted men)
    - 4x Flights (each with 4 officers, 8 enlisted men and 4 airplanes)
      - 2x Elements (each with 2 officers, 4 enlisted men and 2 airplanes)
      - Ground echelon (28 officers, 265 enlisted men)25

Like other aviation units, the squadron had both air and ground components. In addition to the flight crews, the squadron had headquarters, photographic laboratory, engineering, and maintenance sections. The ground echelon developed the film taken by the squadron’s aircrews and sent photographs to the units which needed them. Most of the ground echelon’s men were concerned with maintaining and readying airplanes for missions. Men repaired damaged airplanes, refueled them, and reequipped them with new film. Others transported supplies, planned missions, or analyzed photographs. In July and August, the Ninth Air Force’s photographic units moved to airfields in France and the ground element went overseas too. Eighth Air Force photo squadrons stayed in England throughout the war.26

The group was commanded by a colonel, with a lieutenant colonel as his executive officer. Squadrons were commanded by lieutenant colonels, with a major as his executive

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26 Ground echelon, War Department, *Photographic*; and transfer to France, Maurer, *Combat Units*, 45-46, 50-52, and 133-135.
officer. Flights were commanded by captains. Photographic groups used a number of different airplanes, many of which were modified for use as photo recon airplanes:

- **Douglas F-3 Havoc**: The F-3 was a modified A-20 bomber. The two-engine airplane was capable of flying 2,100 miles, had a top speed of 339 mph, and had three machineguns for defense. The plane had a crew of three men: pilot, navigator, and gunner.

- **Lockheed F-5 Lightning**: A modified two-engine P-38 fighter plane with the guns taken out and replaced by cameras. Could fly 2,600 miles, had a top speed of 414 mph, and had only a pilot as crew. The F-5 was the most common American photo recon airplane, and was quite successful.

- **North American F-6 Mustang**: The F-6 was a conversion of the excellent P-51 Mustang fighter plane for reconnaissance duties. Very fast and maneuverable, the P-51 was well-suited to scouting missions, where its speed allowed it to stay out of trouble. The airplane could fly 2,301 miles, had a top speed of 437 mph, and had a pilot as the only crew. The airplane’s guns were replaced by cameras.

- **Supermarine Spitfire PR XI**: A reconnaissance conversion of the British Spitfire fighter plane. Cameras replaced guns in this airplane. Could fly 980 miles, had a top speed of 408 mph, and a crew of one.\(^27\)

In addition to these photo recon airplanes, groups often had Stinson L-1 or L-5, and Piper L-4 liaison airplanes. These airplanes were slow and had a very short range, but were useful for short-range scouting missions. They were unarmed and were vulnerable to German fighters and to anti-aircraft fire. In Normandy, the Army set up a system where Forward Air Controllers (FACs) would work with ground troops to locate targets near the front line for fighters to attack. The liaison airplanes were used for these FAC missions, which helped soldiers on the ground get the air support they needed. Groups also sometimes had standard P-38 and P-51 fighter planes, which were used to escort their F-3, F-5, and F-6 photo recon comrades. The fighters protected the scouting planes from attack while they took their pictures.\(^28\)

The group was usually divided up, with individual flights or squadrons undertaking photographic missions, rather than an entire group being used, as was the case with bombardment groups. The photo recon airplanes used their speed and maneuverability to evade

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\(^27\) Leadership, War Department, *Photographic*; F-3, F-5, F-6, and Spitfire PR XI, Chant, 111, 214, 262, and 297.

\(^28\) Group aircraft, Maurer, *Combat Units*, 45-46, 50-52, and 133-135; FACs, Hallion, 10-13 and Doubler, 69.
enemy fighters and anti-aircraft fire. They did not have weapons, so they could not fight their way out of a bad situation.²⁹

Photo recon groups and squadrons carried unique numbers. Flights were lettered A, B, C, and D.³⁰

What was my soldier’s job?

This is a list of the different ranks of soldiers in the photographic group, along with their most likely job. Further research should help determine exactly what role your soldier played in his unit:

Colonel: Commanded the group
Lt. Colonel: Squadron commander or executive officer of the group
Major: Commander of photo laboratory or operations officer
Captain: Pilot and flight commander, or commander of specialized ground section
1st Lieutenant: Pilot, navigator, or officer in specialized ground section like photo, etc
2nd Lieutenant: Pilot, navigator, or photo laboratory or supply officer
Flight Officer: Pilot
Master Sergeant: Gunner, photo specialist, or led team which loaded film in planes
1st Sergeant: Gunner
Tech Sergeant: Gunner, photo lab specialist, or mechanic team leader
Staff Sergeant: Gunner, photo lab specialist, or mechanic team leader
Sergeant: Gunner, photo specialist, or mechanic
Corporal: Worked in photo lab or mechanic
PFC/Private: Worked in photo lab or mechanic³¹

Ninth Air Force uniform patch

²⁹ Tactical use, War Department, Air Reconnaissance, 9-16.
³⁰ Nomenclature, Maurer, Combat Units, and War Department, Photographic.
³¹ Jobs, War Department, Photographic.
Fighter Group

Marine Corps fighter pilot Doyle Nicholson once said that “there are only two types of aircraft – fighters and targets.” Though many aviation experts forecasted their demise during the 1930s as bomber technology swiftly overtook fighter development, the fighter plane proved to be a very versatile and important weapon during WWII. The primary mission of fighter airplanes in 1944 was the same mission they had in 1916 and the same mission they have today – the destruction of enemy airplanes. Aerial combat was common, especially for fighter groups assigned to the Eighth Air Force. Fighter planes escorted heavy bomber forces on their missions to destroy targets in Germany or occupied Europe. Though the Eighth Air Force took very heavy losses and kept fighting, the losses of the bombardment groups would almost certainly have been unsustainable without fighter protection. The successes the heavy bombers had late in the war was due in no small part to the development of long-range escort fighters like the P-51, airplanes which had the range to shepherd the bombers to Germany and bring them back safely. Ninth Air Force fighter groups played a vital role in the success of the Army in Normandy by providing close air support of friendly ground troops. Fighters circled above the battlefield, ready to attack any German troops giving American soldiers a tough time.32

Each fighter group had several fighter squadrons. A fighter squadron had four flights, each with six airplanes. There was also an airplane for the squadron commander, giving the squadron twenty-five airplanes. The squadron was commanded by a lieutenant colonel, with a major as his executive officer. The flights were each commanded by a captain. Other pilots were 1st or 2nd lieutenants. The flights were divided into three ‘elements’ each one with two planes:

- Fighter Group
  - 3x – 4x Fighter Squadrons (each 39 officers, 284 enlisted men, with 25 airplanes)
    - 4x Flights (each 6 officers with 6 airplanes)
    - 3x Elements (each 2 officers with 2 airplanes)
    - Ground echelon (14 officers, 284 enlisted men)33

The ground echelon contained the non-flying personnel of the squadron. These men repaired the airplanes, armed and fueled them, planned missions, transported supplies, and handled administrative tasks. Ninth Air Force fighter groups began operating from dirt runways


in France only a week after D-Day. These ground support troops came with the pilots, to keep the squadron running. Without them the pilots would not be able to do their jobs.\(^{34}\)

Flying a fighter plane in combat was not an easy task. The fighter pilot had to perform the same tasks that bomber crews performed, but he was only one man, not seven. WWI French aviator Jean Puistienne wrote that

> “you’ve got to keep your eye on the leader, be ready for his every move and signal, and at the same time scan the space about you, watch the ground, listen to your motor, keep an eye on the manometer, thermometer, tachometer, and check your altimeter, your map and your compass. You have to fly, calculate, and reflect all at the same time; the man at the controls of a fighter is pilot, machine gunner, and observer all rolled into one. It’s no picnic.”\(^{35}\)

American fighter squadrons in Europe were equipped with one of three different fighter planes:

- **Lockheed P-38 Lightning:** The fast P-38 was used successfully in Europe during the war, but was being phased out of the European Theater during the summer of 1944. The airplane suffered from a poor heating system, which made life uncomfortable for P-38 pilots flying in freezing conditions at high altitude. Still, the airplane achieved some success as an ‘energy’ fighter and was a capable ground attack airplane. The Lightning could fly 2,600 miles, had a top speed of 414 mph, was equipped with 4 machineguns and a 20mm cannon, could carry 4,000 lbs. of bombs, and had a crew of one.

- **Republic P-47 Thunderbolt:** Well-liked by its crews, the P-47 was one of the best ground attack airplanes of the war. Pilots nicknamed it the ‘Jug’ – some said it was short for Juggernaut, others said it was because it was shaped like a milk bottle. The P-47 was the most heavily armed American fighter of the war and was also the toughest, earning a reputation for bringing her pilots home. The airplane was also very capable against German fighters, using its diving speed to conduct hit-and-run ‘energy’ attacks against enemy airplanes. The P-47 could fly 1,725 miles, had a top speed of 435 mph, was equipped with 8 machineguns, could carry 2,500 lbs. of bombs, and had a crew of one.

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\(^{34}\) Ground echelon, War Department, *Fighter Squadron*; and transfer to France, Maurer, *Combat Units*.

\(^{35}\) “You’ve got to,” Jean Puistienne quoted in Kennett, 75.
• North American P-51 Mustang: One of the classic fighter planes of the war, and also one of the best. The Mustang’s liquid-cooled engine proved vulnerable to anti-aircraft fire and the airplane was not used in ground attack, if at all possible. The P-51 proved to be a brilliant fighter for air combat and was especially prized by Eighth Air Force squadrons who were likely to fight German fighters. The Mustang was very fast and highly maneuverable, making it an excellent ‘energy’ or ‘turning’ fighter. The airplane could fly 2,301 miles, had a top speed of 437 mph, was armed with 6 machineguns, could carry 2,000 lbs. of bombs and had a crew of one.36

Fighter pilots always worked in teams. One pilot was the leader and the other served as his wingman. The leader was generally the more experienced pilot and was usually higher in rank than his wingman, though that was not always true. The leader made tactical decisions and took the lead when the pair attacked an airplane or ground target. The wingman spotted targets for the leader, watched the pair’s back, and helped attack enemy targets. The wingman and leader stuck together in the air, if at all possible. A pair of lone airplanes was easy for a leader-wingman team working together to shoot down. Similarly, the flight leader coordinated the efforts of his elements so that they worked together, while the squadron leader coordinated his flights.37

In aerial combat, pilots could win battles in two different ways. Generally, a pilot needed either a faster airplane than his opponent or he needed a more maneuverable airplane. If a pilot had a more maneuverable fighter, he could engage in a ‘turning’ fight. The pilot used his plane’s superior agility to move behind the enemy fighter and shoot him down. If the pilot had a faster airplane than his opponent, he could use ‘energy’ tactics to win. The pilot made hit-and-run attacks on the German fighter, swooping down on the enemy plane and then using his airplane’s speed advantage to get away. The pilot could then position his airplane for another pass and dive down on his target again. This was also the preferred tactic for use against bombers, because fighter planes were faster than bombers. Most WWII fighter planes were designed as ‘energy’ fighters and American airplanes were no exception. Some airplanes, like the P-51, excelled at both energy and turning fights. Most were good at one or the other.38

Airplanes at a higher altitude had the initiative over airplanes at a lower altitude, because they could dive on their opponents and then use the speed they gained in their dive to zoom back up to high altitude. Because of this, wise squadron leaders always left a flight of airplanes at high altitude as ‘top cover’ while the rest of the squadron dove into the attack. If the squadron was

36 P-38, P-47, and P-51, Chant, 213, 262, and 283.
38 Fighter tactics, see Shaw.
attacked by enemy fighters and needed help, the top cover flight could dive on the German fighters and attack them.\textsuperscript{39}

These tactics – energy and turning fights, top cover, leader and wingman tactics – were developed during WWI, mostly by Captain Oswald Boelcke of the German Army. In 1916, Boelcke wrote a list of nine rules for air combat which became known as the \textit{Dicta Boelcke}. They are still taught to fighter pilots today:

\begin{itemize}
  \item Seek advantage before attacking. If possible, keep the sun at your back.
  \item Having begun an attack, always follow through.
  \item Only fire at short range, and only when your opponent is positively in your sights.
  \item Never lose sight of your opponent, and do not be fooled by his tricks.
  \item In every attack, it is important to approach your opponent from behind.
\end{itemize}

\textsuperscript{39} Top cover, War Department, \textit{Air Fighting}, 52-58.
• If your opponent attacks from above, do not try to evade him but fly to meet him.
• When over enemy territory, never forget your path home.
• For the squadron – attack on principle in flights of four or six.
• When single combat ensues, take care that many do not go for one opponent.\(^{40}\)

When fighters were flying close air support missions, they would be armed with rockets and bombs. Upon spotting the target, the squadron would form into a long line behind the squadron leader. One flight stayed at high altitude as top cover. The other airplanes in the squadron dove one after another and attacked the target. If the attacking planes were shot at by anti-aircraft guns or German fighters, the top cover flight attacked the threat to the squadron. After the attack, the squadron climbed to high altitude and reorganized.\(^{41}\)

Fighter groups and squadrons had unique numbers. Flights were labeled A, B, C, and D.\(^{42}\)

What was my soldier’s job?

This is a list of the different ranks of soldiers in the fighter group, along with their most likely job. Further research should help determine exactly what role your soldier played in his unit:

Colonel: Commanded the group
Lt. Colonel: Squadron commander or executive officer of the group
Major: Executive officer of a squadron or squadron operations officer
Captain: Flight commander, or staff officer (intelligence, maintenance, supply, etc.)
1\(^{st}\) Lieutenant: Pilot (element leader) or staff officer (communications, armament, etc.)
2\(^{nd}\) Lieutenant: Pilot (wingman)
Flight Officer: Pilot (wingman)
Master Sergeant: Maintenance section leader or aircraft inspector
1\(^{st}\) Sergeant: Led administrative team
Tech Sergeant: Maintenance team leader
Staff Sergeant: Crew chief (in charge of an airplane) or specialist in radio repair, etc.
Sergeant: Armed airplanes, or packed parachutes, etc.
Corporal: Armed airplanes, packed parachutes, or repaired cameras, etc.
PFC/Private: Armed airplanes, drove a jeep, cook’s helper, etc.\(^{43}\)

\(^{40}\) The *Dicta Boeleke*, Guttman, 103-104.

\(^{41}\) CAS armament and methods, Doubler, 67.

\(^{42}\) Nomenclature, Maurer, *Combat Units* and War Department, *Fighter Squadron*.

\(^{43}\) Jobs, War Department, *Fighter Squadron*. 
Aviation Combat in Normandy

Air Force historian Dick Hallion wrote of the Allied air offensive in 1944 that by D-Day “months of concentrated air warfare had given the Allies not only air superiority, but air supremacy as well.” By the spring of 1944 the Luftwaffe was a shadow of its former self, having sustained heavy losses in the defense of Europe against attacks from Eighth Air Force bombers. The Luftwaffe lost over 25% of its fighter pilots in May 1944 alone. The Allied air forces pursued a strategy to isolate Normandy throughout the spring of 1944, by bombing bridges and rail yards. Their efforts paid dividends on D-Day, when the movement of German units to the battlefield was hampered by the destruction of the French transportation system. Ninth Air Force bombers continued to attack targets behind German lines throughout the Normandy campaign. Heavy bombers of the Eighth Air Force were also used to provide bombing support for Operation Cobra in late July. The bombers were vital to the success of the operation, inflicting heavy casualties on German units through a carpet bombing attack on the front lines on the morning of the operation. It is estimated that half of all German casualties during Operation Cobra were the result of aircraft bombing.44

Allied air supremacy made a major contribution to victory in Normandy. German units moving to the front lines faced two choices: Either move very slowly and carefully to the front lines, taking days to move a distance that should have taken hours, or be savaged by bombing and strafing attacks by Allied fighters. The Ninth Air Force alone claimed over 2,600 German vehicles destroyed during the battle. Not only did fighter units slow the movements of German troops, but they provided valuable close air support missions for ground troops as well. Army units developed a system where ground commanders could send requests for bombing missions to a Division Air-Ground Coordination Party (AGCP) at division headquarters. The team sent the requests to the Ninth Air Force, which passed mission orders to a fighter squadron. Ground troops also sometimes got help from a Forward Air Controller (FAC), a pilot sent to the frontlines on foot, in a tank, or overhead in an L-4 or L-5 airplane. The FAC had a radio link to fighters armed with bombs and rockets, which he could direct towards German troops attacking American soldiers. By using these methods, the air force was able to provide effective support for ground troops and still remain flexible enough to respond to events.45

44 “Months of concentrated,” Hallion, 2; 25% of fighter pilots lost, Hallion, 2; bomber operations in Normandy, Headquarters, Army Air Forces. Sunday Punch in Normandy: The Tactical Use of Heavy Bombardment in the Normandy Invasion. Washington: Center for Air Force History, 1992; and half of casualties the result of bombing, Hallion, 27.

45 Ninth Air Force interdiction of German troops, Hallion, 13-20; 2,600 vehicles claimed, Hallion, 44; and AGCPs and FACs, Hallion, 10-13 and Doubler, 69.
In late July, the Army launched Operation Cobra, the offensive which broke through the German defenses in Normandy and began a race through France in pursuit of the retreating German Army. Fighter squadrons provided vital support for the breakout from Normandy in the form of Armored Column Cover (ACC) missions. Each column of tanks and soldiers received help from a fighter squadron circling overhead. When the fighters got low on fuel, they were relieved by a new squadron, so that the tanks always had fighter support available. The airplanes scouted along the road in front of the advancing American troops, attacking German soldiers and tanks hidden in their path.46

Unlike their comrades in the Army Ground Forces and the Army Service Forces, AAF soldiers enjoyed comfortable conditions on the ground. They lived in barracks at airbases in England, where they could relax when they were not out on a mission. They lived indoors, slept in beds, ate hot meals, and had recreation available. Eighth Air Force crews and Ninth Air Force bomber crews stayed in England throughout the campaign. Ninth Air Force fighter and photo recon pilots and ground crews began moving to France within a week of D-Day. Living conditions in France must have been a shock to AAF men. They flew out of small airfields leveled by bulldozers and covered in metal Marsden matting sheets. The men lived in holes in the ground near the airfield, which was often located uncomfortably close to the front line. At the forward airfields, the men were sometimes subjected to artillery and bombing attacks. The move to France allowed pilots to fly more missions to support the troops – as many as five a day – but it also meant more strain and fatigue for the men.47

Combat flying was dangerous and very stressful. One AAF general estimated that six months of combat flying aged a man ten years. Air crews quickly wore out from the strain. Some men were able to regain their edge after a short break from flying – others never did. Lord Moran studied the effects of combat fatigue on Royal Air Force pilots:

“The leader of a fighter squadron notices that a pilot flies higher, that he no longer possesses the offensive spirit. He has too much dash or too little. Without knowing it he is so concerned with his own safety that he has lost his concentration, and no longer keeps to formation under fire or in bad weather, or he stays with the flight instead of finishing off his man. He no more wants to fly, though he will still go up.”48

46 ACC missions, Doubler, 70-72 and Hallion, 10-13.

47 Donald L. Miller, Masters of the Air: America’s Bomber Boys who fought the Air War against Nazi Germany. New York: Simon & Schuster, 2006, 2; and transfer to France, Hallion, 16.

Of course, ground crewmen in France were not immune to the effects of combat fatigue either. Living in primitive conditions and being exposed to artillery and air bombardment took its toll on the men. According to Moran, “men wear out in war like clothes.”

On the ground, pilots and air crews tended to stay aloof from the ground crewmen, who did not share in the experience or danger of flying. Within the group, the key to status in a squadron was combat experience. More experienced men got first choice of bunks, first choice of airplanes, and other perks. New men were usually saddled with the obnoxious roommate, had the worst equipment, etc. Leadership positions within the squadron were based largely on experience, but leadership ability was a must. An experienced, skilled pilot who did not have the trust of his comrades for whatever reason was not likely to be a flight or element leader for long. According to sociologist Robert Stone, “the qualities of the leader are dependability, stamina, quick judgment, a ‘cool head,’ aggressiveness in the air, and usually superior flying ability. The most important of all these qualities is the ability to make quick judgments and keep a cool head.” Leadership was vital to survival in air combat, where decisions had to be made quickly. The lives of the men in the squadron very much depended on the ability of the squadron leader and the flight leaders to make good decisions and to get their men to work together as a team.

A P-38 Lightning lands at an airfield in France. An L-4 Grasshopper is parked on the right.

Army Signal Corps Photo. Courtesy Stolly.org.uk

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49 The psychological toll of combat, Moran, 67-71; “men wear out,” Moran, 70.

Books

The U.S. Air Force’s Historical Studies Office (http://www.afhso.af.mil) has a number of excellent books on the Army Air Forces during WWII. I would particularly recommend *D-Day 1944: Airpower over the Normandy Beaches and Beyond* by Richard Hallion, for a look at both tactical and strategic operations in Normandy. *Sunday Punch in Normandy* was a report published by AAF headquarters about heavy bomber missions in Normandy. *The Command of the Air* by Guilio Douhet is almost an Air Force holy book – it is worth reading to get into the mindset of an AAF airman. Rebecca Hancock’s *Training to Fly: Military Flight Training 1907-1945* gives a detailed picture of AAF air crew training. For those wishing to learn about Army aviation in the 1920s and 1930s I would recommend *Aviation in the U.S. Army, 1919-1939* by Maurer Maurer. *Combat Squadrons of the Air Force: World War II and Air Force Combat Units of World War II*, both by Maurer Maurer, are worth looking at for short histories of your soldier’s squadron and group. There are a number of other books which you should be able to find in a local library. Ronald Schaffer’s *Wings of Judgment* gives a critical view of American strategic bombing operations in World War II. Donald Miller’s *Masters of the Air* also looks at strategic bombing, but with a different perspective. *Closing with the Enemy: How GIs Fought the War in Europe, 1944-1945* by Michael D. Doubler is a detailed look at Army fighting methods during the war and has an excellent chapter about air-ground cooperation in Europe and another on fighting in the hedgerows of Normandy. The book can be a bit dense at times, but it is the best single volume on how the Army waged the war in Europe. Lord Moran’s observations of combat psychology in *The Anatomy of Courage* are fascinating and worth reading. Other looks at the psychology and physiology of combat can be gained from *On Killing: The Psychological Cost of Learning to Kill in War and Society* and in *On Combat: The Psychology and Physiology of Deadly Conflict in War and in Peace*, both by Dave Grossman and Loren Christensen.

Many AAF units have been the subject of book-length unit histories. The Air Force has a useful bibliography of books written about various units here: [http://www.afhso.af.mil/shared/media/document/AFD-101004-052.pdf](http://www.afhso.af.mil/shared/media/document/AFD-101004-052.pdf)

Once you locate a book, the best place to find it in a library is WorldCat, the international library database: [http://www.worldcat.org](http://www.worldcat.org)

Online Resources

The U.S. Army’s Center of Military History has published a series of excellent books on World War II, including *From Utah Beach to Cherbourg, Omaha Beachhead, Cross Channel*
*Attack, and Breakout and Pursuit:*

The Eighth Air Force Historical Society’s website has some useful information about the organization in WWII: http://www.8thafhs.org/

*Lone Sentry: Photographs, Documents, and Research on World War II* is a true gem of a resource. Most useful are the ‘GI Series’ of booklets. These are short histories published by units just after the war. Be sure to check the ‘Air Force’ section of the GI Stories for publications about the Ninth Air Force. The website also has numerous articles, training manuals and intelligence bulletins which provide interesting primary sources for various topics: http://www.lonesentry.com/

*American D-Day* has a number of useful items, including primary source documents, images, and videos: http://www.americandday.org/

*6 Juin 1944* also has useful documents, oral histories, maps, and photographs: http://www.6juin1944.com/assaut/en_index.html

*The Veterans History Project* at the Library of Congress’s website is a great place to find oral histories of veterans from your soldier’s unit. Check the relevant boxes and search for your soldier’s squadron or group: http://www.loc.gov/vets/

These are only a selection of the many websites with WWII information available. It is a good idea to type your soldier’s name or his unit into a search engine and see what you can find!

**Images and artwork**


http://www.history.army.mil/art/Posters/WWII/WW2.htm


http://www.history.navy.mil/ac/d-day/exdday/exdday.htm

http://www.stolly.org.uk/ETO/

http://www.theatlantic.com/infocus/ww2.html

http://www.archives.gov/research/military/ww2/photos/#aviation
http://www.archives.gov/research/african-americans/ww2-pictures/

http://www.archive.org/ (NOTE: Has many WWII-era newsreels and documentaries)

Archival Sources

The National Archives has a handy brochure on researching WWII soldiers:

The American Battle Monuments Commission’s (ABMC) website allows you to search for soldiers by name, by state, or by unit here: http://www.abmc.gov/search/wwii.php

The first step in researching him is to find his enlistment record. Even pilots were enlisted when they joined the AAF – they were only commissioned upon graduation. The enlistment record lists some basic information about the soldier – marital status, age, race, height, year of birth, selectee or volunteer, etc. They are available online at the National Archives’s website. The best way to search is by using the soldier’s service number (S/N). ABMC’s listing for that soldier will give you his service number. If you do not have the soldier’s service number, try searching for his name instead. Most of the records are here:


If you don’t find the soldier, try here:


You may be able to get the soldier’s military personnel file from the National Personnel Records Center (NPRC) in St. Louis, Missouri by mailing in Standard Form 180. The form lists the place to mail the form on the last page. Most WWII U.S. Army records were destroyed in a fire in 1973, but it is worth a try:


The Army created an Individual Deceased Personnel File (IDPF) for each soldier killed during the war. The IDPF takes months to get, but gives valuable information and often contains correspondence with family members regarding the deceased. The ones I have seen do not contain any images or descriptions of the state of the body, but it is probably a good idea to have the file sent to your teacher, just in case. To get your soldier’s IDPF, fill out the Freedom of Information Act request at the end of this section and mail it to:

The Human Resources Command, FOIA Office, 1600 Spearhead Division Avenue, Building 1, Third Floor, Ft. Knox, KY 40122.
The National Archives’s website has lists of military personnel killed during the war by state and by county. The forward to these books often has interesting information about your state’s participation in the war. The Army lists are here:

http://www.archives.gov/research/arc/ww2/army-casualties/

The best place to do research on your soldier’s family is http://www.ancestry.com. Ancestry offers a two week free trial, so you should be able to find your soldier’s census data using the information from ABMC’s website and his enlistment record (if applicable). Some libraries have Ancestry on a computer for free use. By now, you hopefully know where your soldier was from and have a year of birth. Using that information, you can think about where he may have gone to high school. What high schools were around in his town or city in the late 1930s? Contact the school’s librarian. They may be able to find a yearbook picture of the soldier. It is also a good idea to talk to the people at your local or state historical society. They may be able to help you find resources. Try finding a library or university with the soldier’s local newspaper archived. You may be able to find an article about him or an obituary. Remember that obituaries were sometimes not printed until months after the soldier died. It often took weeks for the Army to send information regarding the soldier to his family. A city or county directory may have been published for your soldier’s area by R. L. Polk & Company. These directories list each resident in alphabetical order and give a one-sentence listing of their place of work, job title, and address. Check WorldCat or your local library for listings. Researching the soldier’s personal life is the most difficult part of fallen soldier research. You have to think like a detective and be creative to try to find sources. Sometimes a piece of evidence from one source and another scrap of information from another source can lead to wonderful results.

Your soldier’s military records are housed in two different archives. The Air Force Historical Research Agency (AFHRA) at Maxwell Air Force Base in Alabama has official records created by your soldier’s squadron. The National Archives at College Park, Maryland has copies of some of these records too. The records contain all kinds of military documents. You can find after action reports discussing what happened during a battle, orders from your soldier’s commander, lists of medals or awards, and even minute-by-minute logs of messages coming in to the unit’s staff officers. Sometimes, these records have really interesting items, like cartoons, unit newspapers, and other items that give you an idea of what life in your soldier’s unit was like. You can request copies of a squadron’s reports by writing to AFHRA here:

HQ AFHRA/RS
600 Chennault Circle
Maxwell AFB, AL 36112-6424

The National Archives at College Park, MD and AFHRA also have Missing Air Crew Reports (MACR) on microfiche. The AAF created a MACR for each airplane lost in combat during WWII. The MACR has details on the fate of the airplane and the crew. The National
Archives also has translated copies of *Kampf Flugzeuge* USA reports, commonly called ‘KU reports.’ These KU reports were created by the German military and detailed the wreckage of each airplane shot down in German territory, including giving details of the fate of the crew. You can obtain copies of your soldier’s MACR and KU report by writing to NARA here:

National Archives at College Park  
8601 Adelphi Road  
College Park, MD 20740-6001

Sometimes you find the information you want very quickly during your research and other times you have to work for it. Sometimes the information is just gone forever. But it is best to ‘leave no stone unturned’ and to try everything. Your hard work will usually be rewarded with good results. Take a lesson your soldier had to learn in Normandy – be flexible, be creative, and don’t give up.

Ground crewmen load ammunition into a P-47 fighter plane.  
Photo 080307-F-3927O-012. Courtesy U.S. Air Force
Freedom of Information Act Request

TO: Department of the Army
   Human Resources Command of Excellence
   ATTN: FOIA, Bldg 1, 3rd Floor, Suite 17
   1600 Spearhead Division Avenue
   Fort Knox, KY 40122

E-mail address: Foia.hrc@conus.army.mil
Telephone: 502-613-4400

I request a copy of the Individual Deceased Personnel File (IDPF) pertaining to:

Soldier’s Rank and Name: ________________________________________________
Serial Number if known: ________________________________________________
Date of Death: _______________________
Conflict: _______________________
Next of Kin requesting documents: __________________________________________
Next of Kin day time phone number: _______________________
Mailing address where documents will be sent: _______________________________

__________________________________________
Signature of requestor and Date
Bibliography


An F-5 Lightning over France, 1944.
Photo 080306-F-3927A-047. Courtesy U.S. Air Force