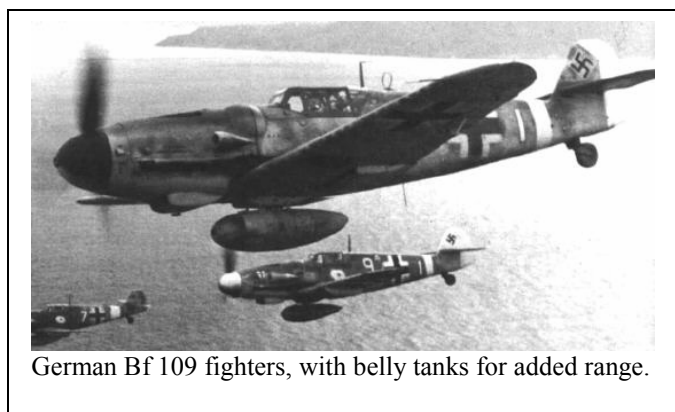


The U.S. 8th Air Force in World War II

The 8th Air Force was formed in Savannah Georgia on January 28, 1942, and it was assigned the mission of bombing Nazi-occupied Europe from bases in England. The 8th Air Force humbly began operations in July 1942 with a bombing raid of Nazi airfields in Holland using six borrowed British bombers. In August it made its first all-American raid when sixteen B-17 bombers attacked Rouen, France. At this time in the war, the German/Nazi army occupied all of Western Europe except England; Spain, Switzerland, and Sweden remained neutral. The Germans had taken over vast areas of Russia and were attempting to deal a final blow to the Russian Army. Until the Americans arrived, the only Allied presence in Nazi-occupied Europe was the British Royal Air Force, which bombed at night. Nighttime provided some degree of protection against the German aerial defenses, which consisted of fighter aircraft and flak guns.

The Germans had a variety of single-engine and twin-engine fighter aircraft that carried multiple machine guns and 20 mm canons. Direct hits from these weapons could bring down an airplane or kill the occupants. Large groups of fighters would attack bomber formations, diving to gain speed and firing their weapons into them as they sped by. Some of the twin engine fighters were equipped with unguided rockets under their wings. They would follow the bomber formations from just outside the maximum range of their defensive

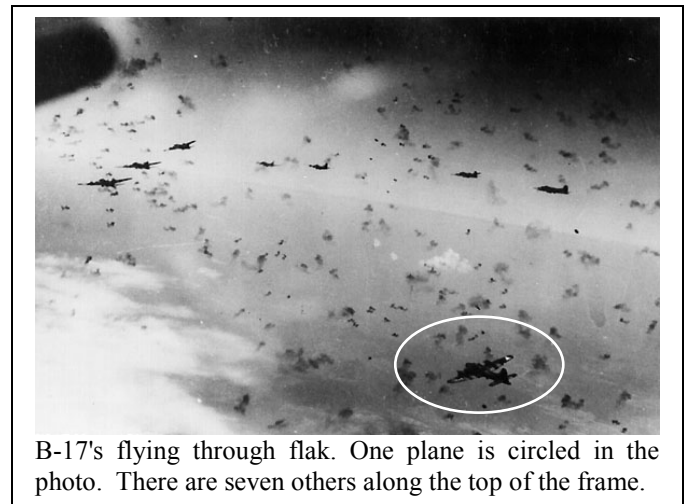


German Bf 109 fighters, with belly tanks for added range.

machine guns, and fire rockets into the formations, sometimes with devastating results. Some of the fighters carried parachute equipped bombs. They would fly ahead of the bombers, outside of the

range of their guns, and drop the parachute-bombs into the path of the oncoming bomber formations.

Flak guns were 88 mm cannons, grouped together in batteries, which fired fused shells up into the air, designed to explode at a pre-set height. The explosions sent shards of metal, called flak, into the air surrounding the explosion, which were capable of causing structural damage to the plane and injury to the occupants. If the shell exploded close enough to an airplane the concussion from the pressure wave could inflict immense damage. If the flak batteries could correctly calculate the height of the incoming airplanes and accurately direct their fire, flak guns could easily destroy an airplane.



B-17's flying through flak. One plane is circled in the photo. There are seven others along the top of the frame.

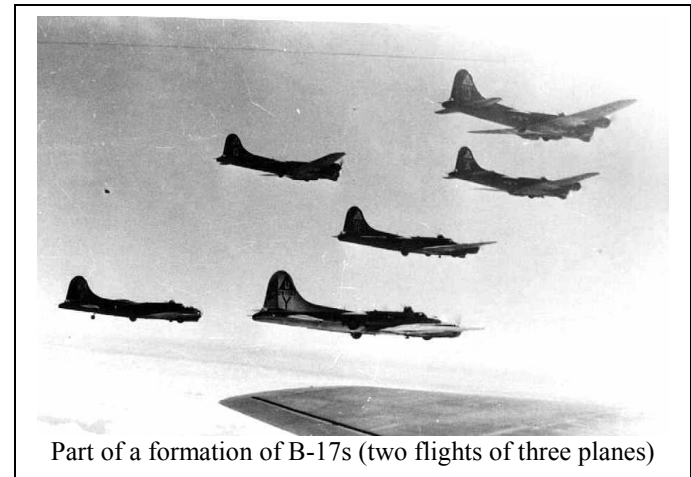
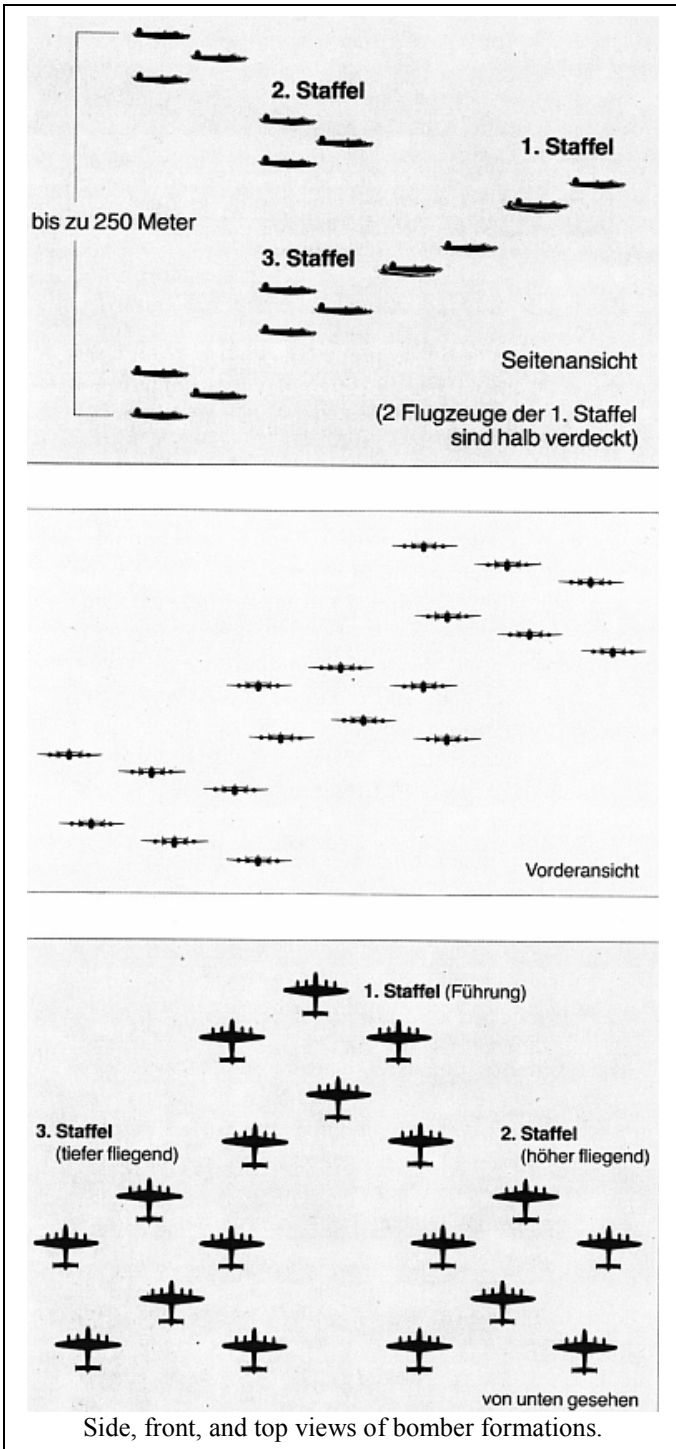
The German air force and flak batteries were very well-equipped and very capable. It was for these reasons that the British chose to avoid engaging them in daylight and instead flew at night. The drawback to this was that their bombing was not accurate – they were aiming at entire cities, which were blacked out (no lights), so aiming was difficult. Dropping bombs randomly on a city did cause serious damage and disruption, and occasionally destroyed vital areas or industry, but in general it was not as effective as accurately aimed bombing.

The American approach was to bomb in the daylight, using the Norden bombsight, which could, in theory, drop bombs within 100 feet of their aim-

point from 25,000 feet high. Our bomber missions targeted the individual buildings of factory complexes, destroying aircraft and armament assembly plants, ball-bearing factories, as well as submarine pens, oil refining facilities, railroad marshalling yards, and other high-value targets. Although the theoretical accuracy of the Norden bombsight was very good, in reality, under combat conditions, with typical European overcast weather, it was far from ideal. Bombing was measured in

percentage of bombs placed within 1000 feet of the aim point, as compared to today where we can place a single bomb through an office window.

To compensate for the problems of bombing accuracy, the bombers flew in formations of a dozen to several dozen planes, and when they simultaneously dropped their bombs they formed a large pattern, blanketing the targeted area. Typically a well-skilled bombardier was chosen as the lead bombardier for the group; when he dropped his bombs the others immediately released theirs in unison, creating the pattern. This meant that the bombers had to stay in a formation when they were approaching the target, which is precisely where the flak guns were concentrated. Thus, for several minutes, the bombers were perfect targets for the flak gunners who were attempting to shoot them down as they were on their bomb run.



Another advantage of flying in formation was mutual protection. B-17 bombers carried ten .50 caliber machine guns, and by staggering the planes in intricate formations, it was possible to arrange them so that no gunner had his field of fire entirely blocked by another plane. This meant that every gun on every plane could contribute to the defense of the entire formation. Tight formations also prevented the enemy fighter planes from flying in-between the bombers when they made their strafing runs. Getting inside formations made it impossible for the gunners on the bombers to shoot at the fighters without hitting other, friendly aircraft.

This mutual protection was essential for the bombers to survive. Up until about January 1944 there were few U.S. fighter planes that could

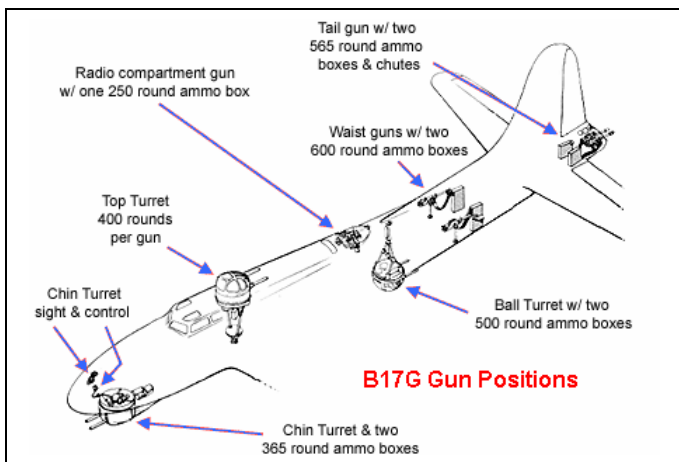
accompany the bombers on their missions all the way to the targets due to their limited flying range. The bombers could fly missions with up to three tons of bombs 1000 miles or more, but the early fighter planes had a much more limited range. If the missions were to areas in western France or Belgium and Holland, the bombers often had fighter protection to help fend off enemy fighters. But targets deeper into France or in Germany itself left them alone over enemy territory, sometimes for hours, where they were constantly under threat of attack from German fighter planes. Once long-range fighter planes were supplied to the 8th Air Force it helped tremendously, but bombers were still subject to devastating attacks from German fighter planes that managed to penetrate the U.S. fighter protection. Sometimes bad weather prevented fighter planes, which were based at different airfields, from taking off. When a scheduled rendezvous did not occur for weather or other reasons, the bombers had to go into enemy airspace without escort. If a bomber became damaged and could not keep up with the rest of its formation it fell behind the others and attracted the attention of the enemy fighter planes; sometimes a dive to low altitude would allow it to escape, but most often these planes were swarmed by the enemy fighters and quickly shot down.

The majority of bombers used by the 8th Air Force were B-17 bombers. A B-17 typically carried ten men: two pilots, a navigator, a bombardier, a flight engineer, a radio operator, two waist gunners, a ball turret gunner, and a tail gunner. They communicated with each other through an intercom. Everyone on board, except the pilots, manned a single .50 caliber machine gun or twin-machine

guns, and was essential to the defense of the aircraft. The flight engineer manned a top-turret that rotated 360 degrees around and 90 degrees vertically. This turret could engage virtually all aircraft attacking the top hemisphere of the B-17. There was a ball-turret located on the belly of the plane that carried twin guns that covered the lower hemisphere. A tail gunner operated twin machine guns that protected the rear of the plane from tail attacks. The waist gunners had fields of fire that overlapped some of the areas covered by the ball turret and top turret along the sides of the plane. The radio operator had a limited field of fire along the top, rear area of the plane. The nose was more problematic. Early versions of the B-17 had cheek guns that fired from the sides of the nose of the plane, but there was a blind spot right at the front of the plane. A fighter coming straight and level at the bomber could not be engaged by any defensive guns until he turned away, unless he was engaged by another plane in the formation. Later models of the B-17 addressed this problem with a remotely controlled turret under the nose of the plane (the “chin turret”) that was aimed by the bombardier.

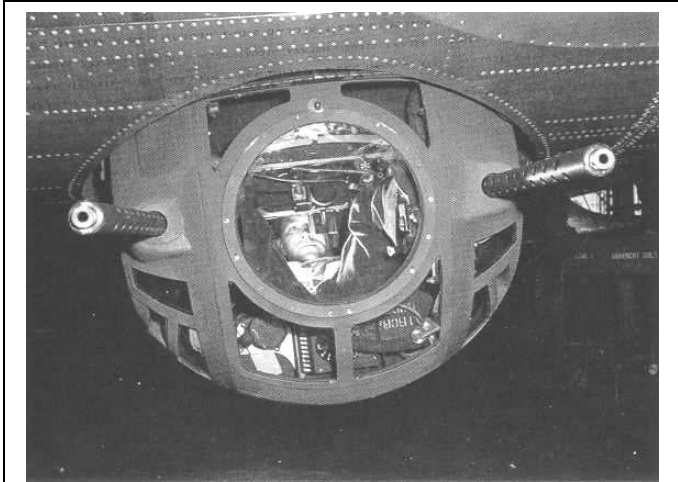


An American B-17 bomber, model G, with chin turret



The bombers were un-pressurized and unheated, and conditions on these planes were extremely harsh. At altitudes of 25,000 feet or more, temperatures ranged from 20 to 60 degrees below zero. Bare skin would freeze to metal, so gloves had to be worn. The airmen wore multiple layers of clothes to keep warm, and topped that off with flak jackets that afforded some protection to the torso. Air pressure was very low, so an oxygen mask had

to be worn or the crewman would pass out and die from hypoxia in a matter of minutes. If you wanted to walk around within the plane you had to carry a portable oxygen bottle; these bottles were also used if you had to bail out (parachute) from a high altitude.

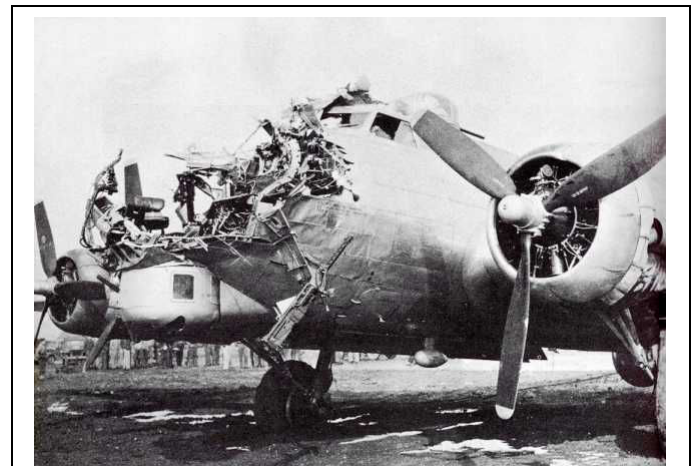


The ball-turret, located on the plane's belly, was an extremely tight space to fight from. Most gunners couldn't wear their parachutes while inside it.

Bailing out from a damaged plane was no easy option for the airmen. Sometimes their parachutes were damaged from flak, machine gun, or cannon fire and were unusable. Bailing out from an unstable, damaged airplane might cause you to slam into a tail stabilizer and kill or injure you. Enemy fighter planes would sometimes strafe the helpless men dangling from their parachutes with machine gun fire. Some men landed in the cold waters of the North Sea and drowned or froze to death before they could be rescued. And if you landed inside Germany and were caught by civilians before the German army got to you, it was possible you would be murdered. If a plane went into a spin when its control surfaces or an entire wing was shot off, the centrifugal force of the spin prevented the men inside the plane from reaching an exit and escaping before it crashed. There was no medical care on board, only whatever first-aid that could be provided by your crewmates. If you were wounded early in a mission it might be hours before your plane returned to base and you could receive proper care.

All of the airmen of the 8th Air Force in World War II volunteered for this duty, and it was

extremely dangerous and deadly. Of the 210,000 men who actually flew combat missions during the 34 months of the air war, 26,000 of them lost their lives. This is an astounding fatality rate of 12.38 percent. An additional 21,000 men were wounded. In the 1942- 1943 period of the war, only 35 percent of the crewman completed their 25 mission tours – the others were killed, wounded, or shot down and captured. At one point the expected lifespan of an airman was eleven missions. It was very dangerous, but very important work. In 1942, the bombing campaign was the only Allied direct attack upon Nazi territory. The Germans quickly recognized the threat to their war industry and they directed enormous resources to defend against it. Industry that might have produced more offensive ground weapons, such as tanks, was diverted to either producing air-defense weapons, or repairing industry destroyed by the bombing. Aircraft and other resources that might have enabled them to defeat Russia were instead devoted to defense of their homeland. And by drawing their aircraft into combat against our bomber forces, we eventually decimated their fighter forces of planes and experienced pilots. This allowed us to achieve air superiority that enabled our invasion of Europe to succeed, and allowed our ground forces to enjoy the benefits of that air superiority.



This B-17 took an incredible amount of damage and still came home, but the bombardier and navigator were killed.

The first air-strike of the 8th Air Force consisted of only sixteen bombers, but by the end of the war we were able to launch missions of up to 2000 bombers and 1000 fighter planes. There has never been an air force as large and mighty as the 8th Air Force of World War II, and it is unlikely that there ever will be again.