

World war two and the b-24 bomber

War



**ASSIGN
BUSTER**

Several aircraft from the World War Two era have achieved iconic status. The F4U Corsair, TBM Avenger, and the B-17 and B-29 Super fortresses are all legendary in their service for the Allied cause. There is another such aircraft that never achieved the fame of those mentioned but was critical to the Allies war effort none the less. The Consolidated B-24 Liberator was the workhorse of the Allied fleet. Its entrance into the war came at a critical and vulnerable time for Allied survival in Europe. After proving its effectiveness in early missions the B-24 would go on to be used in all theatres of the conflict.

It was the most numerous, most versatile, and possibly the most effective Allied plane of World War Two. The Design Stage The B-24 bomber was designed as part of the strategic bombing plans drawn up by the Allies in the 1930s. Built by Consolidated Aircraft of Ypsilanti, Michigan, the bomber took its first flight in late December of 1939. Consolidated was a subsidiary of the Ford Motor Company, an icon of American business. The Ford factory was able to produce more than four hundred B-24s per month. By 1941 the plane would enter wartime service. High demand in 1942-43 prompted Consolidated to expand its production facilities.

The San Diego plant was increased to three times its original size. A new plant was built in Fort Worth, Texas. The flagship plant was built in Willow Run, Michigan in 1942. At the time this plant was the largest industrial plant of any kind in the United States. In the process, thousands of Americans were put to work. The vastness of the Willow Run Plant made for some interesting accommodations. At a certain point in the assembly line, the planes would be mechanically turned at a right angle. The purpose was to avoid having the planes crossing into a neighboring county where taxes were

higher. Consolidated had received the contract to produce the B-17 bomber only one year earlier in 1938. After examining the capabilities of the B-17, the Army requested a faster and higher flying plane. The updated plans would result in the building of the B-24 Liberator. Designed as a strategic heavy bomber the airplane was affectionately referred to as the “ Lumbering Lib” by the RAF pilots who used it to patrol the Atlantic. 2 “ Liberator” would then be incorporated officially as part of the aircraft’s name. The plane almost immediately went into heavy production. A mainstay of the Army and Navy air forces, it was also used by the RAF (Royal Air Force) and the RCAF (Royal Canadian Air Force). The plane costs about \$300, 000 to build. By wars end over 19, 000 B-24s had been built 3.

This exceeds the total of any other Allied aircraft.

1. Philip Makanna. 1995. Ghosts in the Skies: Aviation of the Second World War. (San Francisco: Chronicle Books), p. 156.
2. Philip Makanna. 1995. Ghosts in the Skies: Aviation of the Second World War. (San Francisco: Chronicle Books), p. 157.
3. Bill Gunston. 2000. History of Military Aviation. (London: Hamlyn Pub.), p. 93. The bomber design was still in its infancy and the B-24 did have some problems. It was prone to fire due to the placement of its fuel tanks. The only way to enter or exit the plane was through the bomb bay, a difficult proposition in a crisis situation. It was also somewhat cumbersome to fly. The plane’s designers had to make these tradeoffs in order to maximize the performance and the long-range capability of the aircraft. The plane was also somewhat vulnerable to enemy fire, given its relatively lightweight construction. The high altitude capability

of the plane helped minimize this threat. There were a substantial number of orders for the plane even while it was still only a prototype. In addition to the three dozen ordered by the Army, the French and British had each ordered more than three times that number. The French order was cut short by the German invasion in 1940. The British received their order and immediately put the planes to use on critical missions. Introduction to the War Ultimately, the B-24 would serve a wide-ranging role in all corners of the conflict. It would be used to “equip 45 groups all over the world”

4. The initial role for the B-24 was to conduct deep-ocean patrols. The British were in dire need of a long-range patrol aircraft, Prior to the arrival of B-24s in the Atlantic, German U-boats were wreaking havoc on Allied shipping. British reconnaissance activities had a limited range. The arrival of the B-24 allowed the Royal Air Force to patrol much farther out into the ocean. As a result, the U-boats were driven back into areas where they could be more easily targeted. The ultimate result was impressive -“ The arrival of radar-equipped RAF B-24s in _____.

5. Bill Gunston. 2000. History of Military Aviation. (London: Hamlyn Pub.), p. 93. Ireland...temporarily ended sinkings in the mid-Atlantic”

6. In 1942 the British began to use the B-24 in long-range bombing missions in the Middle East. Up to this time the plane had primarily served in recon and transport functions. American entry into the war also led to a buildup of forces in England. Had the RAF Atlantic patrols not been effective; it is likely that the buildup would have taken much

longer and Britain may have been lost. “ The Mighty Eighth” was among the early American air groups transferred to Britain

7. The eighth brought with them numerous B-17s and B-24s. As the British and American forces continued to gain their footing, their mission would gradually evolve from the Atlantic patrols to the long-range bombing missions over Germany. In the early years of the war radar-equipped B-24s proved more than a match for the German U-boat menace. The RAF was able to drive the U-boats out of the middle Atlantic, at least for a while. The Germans would make modifications to the U-boat strategy to counter the effects of the B-24s, but safe passage for shipping at this vital stage would play an important role in stemming the German tide. The British were able to gain their footing and the Americans were able to get a foothold in Europe. By defeating u-boats, the allies established control of the Atlantic, Saved Britain, and made possible the invasion of Nazi-occupied Europe.

8. Charles Gross. 2002. American Military Aviation: The Indispensable Arm. (College Station, TX: Texas A&M University Press), p. 106.

9. Bill Gunston. 2000. History of Military Aviation. (London: Hamlyn Pub.), p. 93.

10. Charles Gross. 2002. American Military Aviation: The Indispensable Arm. (College Station, TX: Texas A&M University Press), p. 207. The plane would also become a key asset in the Pacific theater. With the B-29 still in development, U. S. forces needed a long-range bomber to cover the vast distances of the Pacific Ocean. As additional bombers came on-line, the B-24 proved especially amenable to

modification for different purposes. In that sense “ It was altogether more versatile” than the B-17 and B-29

11. In the Pacific, the B-24 was considered the “ standard” heavy bomber. The range was a primary asset of the B-24. Its ability to complete 2, 000-mile missions without refueling made it possible to conduct missions far out at sea or over hostile territory. The plane could carry over 8, 000 pounds of bombs. For defensive purposes, it was armed with ten. 50 caliber machine guns. The B-24 had been among the early generation of long-range bombers developed in between World Wars one and two. Even so, the aircraft boasted many new innovations and capabilities. Its design also allowed for great flexibility of use. Some B-24s were modified for use in reconnaissance missions. Their high altitude capabilities added to their effectiveness in this role. The B-24s engines also had the power for the plane to be used in the transport of materials and personnel. A few were used as fuel tankers. The B-24 was even used as a VIP transport plane. The Prime Minister of Britain, Winston Churchill, used one as his personal transport plane. Turbo supercharged engines were first added to the XB-24B model along with body armor and self-sealing tanks. Power driven turrets and additional nose guns were added to the 24C. The development of the Norden bombsight enabled the B-24 to drop its bombs accurately from a vertical distance of up to five miles. All in all the B-24

12. Christopher Chant. 1992. The Military History of the United States (Vol. 9). (New York: Marshall Cavendish), p. 91. Liberator was a fearsome weapon of war. The Liberator: ...had the defensive firepower

and high altitude performance to fight their way through screens of Axis fighters and then deliver their bombs with pinpoint accuracy.

13. The B-24H produced in 1943 was an even more formidable weapon. This version had a power-operated gun turret in the nose of the aircraft. It also had an autopilot system and a refueling system. An improved version of the Norden bombsight provided even better bomb accuracy. Analysis and Conclusion The B-24 Liberator filled a critical gap in the offensive and defensive capabilities of the Allied air forces. It was heavily relied upon throughout the war. In the early part of the war, it provided a vital strike capability against the German U-boats in the Atlantic. The B-24 also proved itself in peacetime. It was used well into the 1950s by the Coast Guard for rescue and weather reconnaissance missions. Near the end of the war and half a world away a B-24 launched the first radar-guided air to the ground missile in 1945. At the beginning of the war, long-range bombing formation tactics were still in their infancy. Losses for the B-17 and the B-24 were high. As the war continued, tactics improved and the B-24, in particular, became more effective. The B-24 was flexible enough to be used in all theaters of the war. Not only was it a constant presence in Europe and the Pacific; it also performed well in Africa, India, and the Middle East. The Liberator ultimately made its name in the Battle of the Atlantic. The “ Atlantic

14. Christopher Chant. 1992. *The Military History of the United States* (Vol. 9). (New York: Marshall Cavendish), p. 126. Gap” was an area of the ocean where German submarines had previously operated with impunity. This threatened to cut off England from critical military and humanitarian supplies. The B-24 was the first aircraft with the

range to effectively patrol the gap. For this reason, it has been credited by some with saving Britain. It is possible that without them, attrition could have weakened Britain to the point where they were vulnerable to invasion. The redesigns of the B-24 were both effective and creative. Many of the ideas for these modifications came from soldiers in the field. In one example, soldiers used a damaged B-24 to design a transport plane. Back in the United States, Consolidated put their ideas into mass production. The B-24 was rugged, innovative, and flexible. It might be argued that its greatest effect on the war came from the sheer number of planes produced. More B-24s flew in the war than any other plane. The Ford Motor Company was the unquestioned master of mass production. It had an unrivaled ability to produce huge numbers of machines very quickly. It is this type of industrial might that eventually overwhelmed the Axis powers. The B-24 Liberator was symbolic of that power.

Reference

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