

**World War Two and the B-24 Liberator Bomber:
The Emergence of a Legendary Aircraft**

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 work horse 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. Unmodified, the stock version of the B-24 Liberator had these characteristics:

Wingspan	110 ft.
Length	67 ft.
Height	18 ft.
Weight (empty)	36,500 lbs.
(full)	71,200 lbs.
Speed	290 mph
Ceiling	28,000 ft.
Range	2,100 mi.
Engines	4 Pratt and Whitney 1,200 hp

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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 cost 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), 156.

2. Philip Makanna. 1995. *Ghosts in the Skies: Aviation of the Second World War*. (San Francisco: Chronicle Books), 157.

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

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...

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

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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.
4. Bill Gunston. 2000. *History of Military Aviation*. (London: Hamlyn Pub.), p. 93.
5. Charles Gross. 2002. *American Military Aviation: The Indispensable Arm*. (College Station, TX: Texas A&M University Press), p. 106.
6. Bill Gunston. 2000. *History of Military Aviation*. (London: Hamlyn Pub.), p. 93.
7. Charles Gross. 2002. *American Military Aviation: The Indispensable Arm*. (College Station, TX: Texas A&M University Press), p. 207.
8. Christopher Chant. 1992. *The Military History of the United States (Vol. 9)*. (New York: Marshall Cavendish), p. 91.
9. Christopher Chant. 1992. *The Military History of the United States (Vol. 9)*. (New York: Marshall Cavendish), p. 126.

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