



## From Stockyards to the Sky

In 1939, the United States' aircraft industry ranked 41st among industries in the United States. By the end of World War II in 1945, our country's aircraft industry rose to first place in the United States — and in the world.

The growth of the aircraft industry during WWII is astonishing. From January 1, 1940, to V-J Day (August 14, 1945), more than 300,000 military aircraft were produced for the U.S. military and Allies. Nearly 275,000 of those aircraft were built after the attack on Pearl Harbor on December 7, 1941.

By the end of 1943, more than 2-million U.S. men and women worked in

shifts around the clock in 81 production plants assembling aircraft bodies, engines and propellers. According to the U.S. Centennial of Flight Commission, the total factory space, including engine and propeller production, was 175-million square feet. The dollar value of the industry's 1939 output rose from \$225-million to nearly \$16-billion for 1944.

In May 1940, when President Franklin D. Roosevelt stated that he wanted the country's aircraft industry to produce 50,000 planes annually, the industry had only been producing about 2,000 each year. Airplane manufacturers suddenly needed to turn out 4,000 planes every

month to meet the demands of the U.S. military and its allies, France and Great Britain.

Consolidated Aircraft Corporation was one of those manufacturers — and in 1941, it looked to triple its production capacity beyond its San Diego facility. It needed an additional plant to help fill orders for tens of thousands of B-24 bombers and C-87 transport planes. Consolidated Aircraft chose an ideal design and construction partner that transformed a stockyard in Ft. Worth, Texas, into a state-of-the-art facility in just 10 months.

That partner was The Austin Company — and its method of combining the design and construction phases — had already been successfully proven throughout the aircraft industry. After all, Austin was instrumental in constructing



the enormous facility in Buffalo, New York, where thousands of the famous Curtiss "Jenny" airplanes were manufactured for service in World War I. Austin was ready for this new challenge.

A groundbreaking ceremony was held on April 18, 1941, and in less than a year the Ft. Worth site would surpass the design and construction accomplishments of previous aircraft facilities Austin had built. This plant would be the largest unobstructed indoor working area in the world; it would be windowless and

*Austin's bomber facility in Ft. Worth was completed 100 days ahead of schedule.*



a pioneering example of controlled-conditions design.

The 4.9-million-square-foot facility would be the largest air-conditioned plant in the world, as well as the largest installation of insulated steel curtain-wall construction. It was also the first building to combine rectified fluorescent lighting, light-reflecting fiberglass walls and ceiling, and a white cement floor for a floor-to-ceiling approach to illumination problems.

And, Austin completed the bomber facility 100 days ahead of schedule.

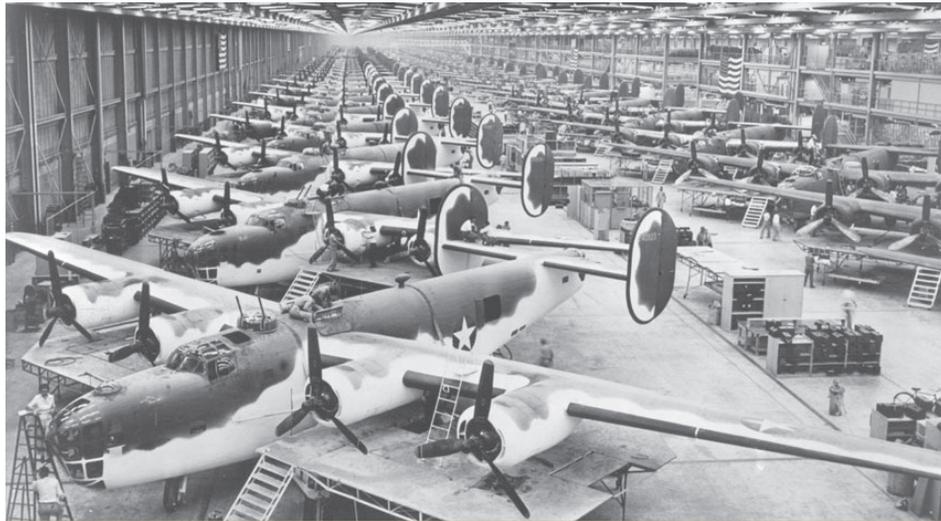
With the plant ready three months earlier than planned, Consolidated Aircraft asked Austin to add a parts factory to the site — nearly doubling the originally planned space.

Nearly one year after groundbreaking — on April 17, 1942, the first B-24

(Liberator) rolled off of the assembly line. In a two-year span, more than 3,000 Liberators and C-87 cargo transporters were assembled at the Ft. Worth plant. Later in the war, a limited number of B-32 heavy bombers (Dominator) were also built at the site.

More than 19,000 B-24s were produced by four manufacturers (Consolidated Aircraft, Douglas, Ford and North American) in five plants across the country. According to records from 1942 and 1943, there was more aluminum, aircrew and effort put into production of the B-24 than any other aircraft in history. It is said that at one time, one Liberator was being produced every 100 minutes.

The B-24 bomber saw extensive service throughout Europe, the Pacific, Africa and the Middle East during WWII.



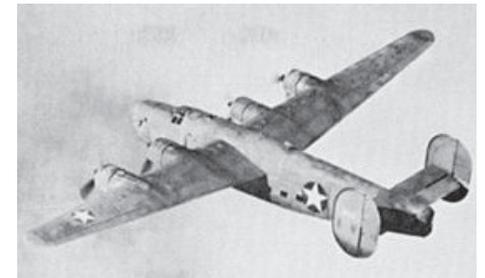
The Austin Company designed and built the 4.9-million-square-foot facility that manufactured thousands of B-24 bombers during WWII.

During WWII, nearly 300 C-87 heavy cargo transport planes were built at Consolidated Aircraft's Ft. Worth, Texas facility



Compared to its predecessor, the B-17, the B-24 had a longer range, higher top speed, heavier bomb load, improved wing design and performance, and tricycle landing gear. The Liberator had a 3,000-mile range, 35,000-foot ceiling, averaged 300 mph, and was powered by a 1,200 hp Pratt & Whitney turbocharged radial engine.

In addition to the B-24 production in Ft. Worth, Consolidated Aircraft built the C-87 Liberator Express. In 1942, there was



an immediate demand for heavy cargo and personnel transport planes, and Consolidated Aircraft quickly designed the C-87, basing it on the B-24 bomber.

Conversions of the bomber included:

- Eliminating gun turrets and other armaments
- Strengthening the cargo floor, including a floor running through the bomb bay
- Cargo door added to the port side of the fuselage, and a row of windows were placed along the sides of the fuselage
- The bombardier compartment was replaced with a hinged metal cap to allow for front cargo loading

The C-87 could carry 20 to 25 passengers or 12,000 pounds of cargo. The Ft. Worth plant built 287 C-87 planes

for the U.S. Army Air Forces.

For more than 70 years since the end of WWII, the Ft. Worth facility has served the aircraft industry. Its original design has accommodated decades of change in products and manufacturing techniques. It remains in use today by Lockheed Martin to design and build the Joint Strike Fighter. The Joint Strike Fighter (JSF) Program is the U.S. Department of Defense's initiative for defining affordable next-generation strike aircraft weapon systems for the Navy, Air Force and Marines.

## Women and Warplanes

On September 28, 1942, President Roosevelt toured the Consolidated Aircraft Corporation facility and a Ft. Worth newspaper noted:

"This bomber assembly plant contains what is probably the longest assembly line in the world — 3,000 feet, in a building 4,000 feet long. It employs 8,500 people, 20 percent of whom are women. It is expected that the percentage of women will later become 70 percent."

"Rosie the Riveter" became the iconic image of the women who proudly and eagerly filled the roles needed at aircraft assembly plants across the country. More than 310,000 women worked in the U.S. aircraft industry in 1943, representing 65 percent of the industry's total workforce (compared to just one percent in the pre-war years).



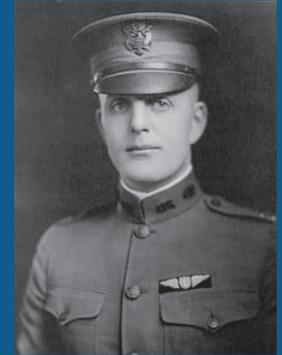
## Major Reuben H. Fleet

In 1923, aviation pioneer Major Reuben H. Fleet formed the Consolidated Aircraft Corporation. The company was formed when Fleet took over Gallaudet Aircraft's business and then acquired the rights to Dayton-Wright Company designs from General Motors.

Fleet had served as second in command in charge of training U.S. pilots during World War I and later organized the first Airmail Service.

As a leader in the aviation industry, he had a significant role in developing the first supercharger which allowed planes to achieve faster speeds at higher altitudes. He is also credited with organizing the development of the first military parachute.

At Consolidated Aircraft, Fleet set out to produce a safer trainer airplane. The company manufactured the PT-1 "Trusty" and the NY-1 "Husky" which were used by U.S. and foreign militaries during the 1920s and 1930s.



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