Wonder How Boeing Airplanes are Built?

Visit the Boeing Twin-Aisle Assembly Plant in Everett, Wash.

When it comes to building airplanes, the men and women at The Boeing Company build them best. The twin-aisle assembly plant in Everett, Wash., showcases this talent for the visiting public five days a week at the Boeing Tour Center. The tours allow visitors to see how Boeing assembles its huge passenger jets that lead the way in innovation, manufacturing processes and design.

"The Boeing Everett tour is a popular tourist attraction in Washington state," said Bill Bagley, Boeing Tour Center manager. "Yearly, approximately 120,000 visitors from around the world visit the Center."

Visitors can see the world's most recognizable airplane -- the Boeing 747 -- under construction in the company's final assembly plant in Everett, Wash. The building that houses 747 assembly also is home to the Boeing 767 and Boeing 777 airplanes, and is recognized by the Guinness Book of World Records as the largest building by volume (472 million cubic feet of space; 13.3 million cubic meters) in the world. Shown here a 747 body and nose section are joined.
The city of Everett, located about 30 minutes north of Seattle, is home to the Boeing "Queen of the Skies" -- the 747 -- as well as the Boeing 767 and 777. Each day, parts and subassemblies arrive at the manufacturing plant from all over the globe. More than 1,000 suppliers transport components by truck, rail, air and ship from around the United States and throughout the world.

The World's Largest Building by Volume

In 1966, The Boeing Company announced it would build the world's largest jet airliner, the 747. This would require the company to construct an equally impressive manufacturing complex. This massive building is today recognized by the Guinness Book of World Records as the largest building in the world by volume. The original factory was constructed in 1966 and completed in 1969. Its footprint now covers 98.3 acres (39.8 hectares) and houses assembly for Boeing wide-body aircraft -- the 747, 767, and 777.

In addition to being the largest building in the world by volume, the building has grown over the years to enclose 472 million cubic feet of space (13.3 million cubic meters). The main factory building has been expanded twice. In 1980, it grew to accommodate production of the 767 twinjet, and in 1990, the building was enlarged to accommodate production of the 777.

"To visualize the size of this building, picture 911 National Basketball Association (NBA) basketball courts fitting inside the factory," Bagley said. "Or, similarly 2,142 average-size homes (2,000 square feet; 185 square meters) could be accommodated inside the structure -- that's a lot of space!"

Inside the factory, are 26 overhead bridge cranes that cruise 90 feet (27 meters) above the floor on 31 miles (50 kilometers) of networked track, supported by the roof trusses of the factory building. Along with a fleet of more than 100 forklifts, 18 cranes -- each capable of lifting 34 tons (30.8 metric tons) -- carry 747 and 767 parts through the factory. An additional eight 40-ton (36.3 metric tons) cranes are used for 777 production.

Taking the Tour

While on a tour of the factory, visitors will see the 747 final assembly areas where the wings, body and nose are joined together; the 747 nose assemblies and wings are cleaned and sealed; final wiring is connected and hydraulic tubing is installed.

Visitors who tour the Boeing Assembly plant in Everett, Wash., will see 747s in various stages of production.

"Visitors can anticipate hearing rivets or fasteners being drilled onto the wing stringers, panels or nose assembly," Bagley said. "One also can hear forklifts backing up and horns blaring to alert employees of overhead cranes moving sections of airplanes."

On the tour, veteran Boeing employees will describe the company's history, how jets are made and the steps taken to ensure quality and safety during every phase of production. There's a movie for visitors about the history of Boeing, and the tour bus drives right along the flight line. This is where completed 747s, 767s and 777s -- painted in colorful liveries that represent airlines around the world -- are tested before customer delivery.

"It always amazes me how many different cultures, dialects and backgrounds share a common interest in Boeing and its products," Bagley said. "We are all so proud to be a part of this tremendous industry, and we always conclude our tours with the words 'If it's not Boeing, we're not going!'"

Tour Information

- Make your visit to Boeing memorable! Visitors can shop before or after the tour at the Boeing Store adjacent to the Tour

Center. For further information about the gift store, call 425-342-4805.

- Tours are offered Monday through Friday at 9 a.m., 10 a.m., and 11 a.m. and 1 p.m., 2 p.m. and 3 p.m. Additional tours are added as needed. For more information about the tours visit: www.boeing.com/tourcenter or call 1-800-464-1476.
- Tickets are sold on a first-come, first-served basis, on site, for same day use, beginning at 8:30 a.m. (October -- May) or 8 a.m. (June -- September) until all tickets for the day are purchased.
- Ticket prices at the door are $3 for children (15 and under) and seniors (62 and older); $5 for adults. For reservations call 1-800-464-1476.
- Visitors must be at least 4 feet, 2 inches (1.3 meters) tall to go on the tour.
- Boeing does not permit cameras of any kind on company property.
- Visitors must be able to walk one-third mile (0.53 kilometers) and negotiate 21 steep stairs. Assistance can be provided for physically-challenged visitors.
- For more information, call 1-800-464-1476 toll free in the U.S. and Canada, or 206-544-1264 in the Seattle area. Or, visit the Web site for details.

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