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Mechanics at the airplane manufacturing facility here today began assembling the first of two new longer-range Boeing 777s, the 777-300ER (extended range).

Workers took the first step in the major assembly process for the 777 by loading the new 777's 97-foot-long wing spar into a giant tool that automatically drills, measures and installs more than 5,000 fasteners into the spar. The spar is an internal support structure that runs the full length of the wings and supports the wing.

"We're excited to introduce another new 777 into the growing 777 family of airplanes," said Lars Andersen, Boeing's Longer Range 777 program manager. "The 777-300ER is the 423rd to be produced, and the fourth new model to be introduced since the program began in 1990."

Boeing also manufacturers three other passenger models, including the 777-200, 777-200ER and 777-300. A fifth model, the 777-200LR (longer range), will enter service in 2005.

The new 777-300ER will be among the first 777s to be built using a moving-line process for final assembly. A moving assembly line keeps production moving at a steady pace, allowing employees to gauge status at a glance and reduce the amount of work-in-process inventory. Use of a moving line allows the 777 program to improve quality and reduce costs, while shortening the time it takes to deliver airplanes to its airline customers.

The 777-300ER is based on the popular 777-300 airplane. In addition to extending the 777-300's range by 1,300 nautical miles (2,407 kilometers) to 7,250 nautical miles (13,427 kilometers), the 777-300ER is able to carry an additional 43,500 pounds (19,700 kilograms) of cargo.

Other changes to the 777-300ER include:

- Extending each wing by 6.5 feet (1.98 meters), and adding raked wingtips to improve the overall aerodynamic efficiency. Raked wingtips, similar to those on the 767-400ER, help reduce takeoff field length, increase climb performance and reduce fuel burn.
- Strengthening the airplane's body, wing, empennage and nose gear to support the increased takeoff weight.
- Installing new main landing gear, wheels, tires and brakes.
- Adding a supplementary electronic tailskid. This software feature helps prevent inadvertent scraping of the tail on the runway at takeoff or landing by commanding elevator movement if the airplane's nose-up attitude exceeds pre-set limits.
- Modifying the struts and nacelles to accommodate the significantly higher-thrust engines.
- Providing a new higher-thrust derivative of the General Electric GE90 engine that is offered on the existing 777s. The new engine will provide 115,000 pounds of thrust -- the most ever on a commercial jetliner.

The first 777-300ER is scheduled to roll out of the factory in November, and begin flight-testing in early 2003. The first 777-300ER will be delivered in March 2004.

The 777 family of airplanes has captured 68 percent of its market since launch, with more than 30 customers worldwide having ordered more than 600 airplanes. This includes 49 Longer-Range 777s ordered by six customers including: Japan Airlines, Air France, All Nippon Airways, EVA Airways, GE Capital Aviation Services and International Lease Finance Corp.

Boeing anticipates a market demand for more than 500 of these longer-range 777 models, with about 45 percent of those airplanes going to Asian operators.

Boeing also is developing two new longer-range 747-400s, one a passenger airplane and the other a freighter. The first of these airplanes rolled out of the factory earlier this week, and delivers to launch customer Qantas Airways in October. These longer-range 747-400s complement the 777 family, and together the two airplane programs form the backbone of the Boeing long-range airplane strategy.

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