Boeing 777-300ER Sets Takeoff Weight Record During Testing

The Boeing [NYSE:BA] 777-300ER (Extended Range), the newest in the 777 family, recently set a maximum-takeoff weight record of 774,600 pounds (351,359 kilograms) the heaviest takeoff ever for a twin-engine airplane.

That takeoff occurred May 19 during U.S. Federal Aviation Administration certification testing at Edwards Air Force Base. Boeing 777 Chief Test Pilot Frank Santoni and FAA Certification Pilot Eugene Arnold were at the controls.

Because the airplane's takeoff weight exceeded the planned 759,600-pound certification weight, restrictions were applied to the airplane's center of gravity locations. Ground and air maneuvers were monitored during takeoff, flight and landing to ensure airplane structural loads were not excessive.

"The higher-than-normal takeoff allowed us to gather data for a number of takeoff conditions without refueling," said Lars Andersen, Boeing 777 Longer Range program manager.

The GE90-115B, the world's most powerful jet engine, is the 777-300ER's power plant. The GE Aircraft Engines [NYSE:GE] product, which generates 115,000 pounds of thrust, also will be on the ultra-long-range 777-200LR (Longer Range) that's now in development.

The 777-300ER takeoff broke a record held by the 777-300. That airplane reached 678,400 pounds (307,722 kilograms) during flight testing in 1997.

Two 777-300ER airplanes currently are being put through 1,600 hours of flight-testing. So far the crews have evaluated takeoff, landing, handling characteristics and fuel-mileage tests, recording results that have exceeded expectations.

For example, fuel mileage tests show a 1 percent improvement in fuel efficiency over original predictions. Such improvement can:

- Reduce by 106,400 gallons (402,724 liters) annually the amount of fuel one airplane uses. That's enough to power 130 cars for one year.
- Reduce by nearly 2.5 million pounds (1.02 million kilograms) carbon dioxide (CO_2) emitted into the environment.
- Increase the airplane's range by 75 nautical miles (139 kilometers) to 7,495 nautical miles (13,881 kilometers).
- Increase the airplane's payload by 2,400 pounds (1,087 kilograms) passengers or cargo on a 7,000 nautical mile (12,964 kilometer) flight.

"Our team is excited about the outcome of these tests," Andersen said. "This is just another example of how Boeing meets or exceeds performance predictions when bringing a new airplane to market. This is a testimony to our world-class engineers, and the great performance of the GE90-115B and the GE90 team."

Certification of the 777-300ER by U.S. and European regulatory authorities is slated for early next year. The first 777-300ER will be delivered next April to International Lease Finance Corp.'s customer, Air France.

The 777 family has captured nearly 70 percent of the market since it was launched in October 1990. More than 30 customers have ordered 619 777s, including 61 Longer-Range 777s ordered by seven customers: Air France, All Nippon Airways, EVA Airways, GE Capital Aviation Services, International Lease Finance Corp., Japan Airlines and Pakistan International Airlines.

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