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The Boeing 767 Family – Leading the Way in a Dynamic Market

The Boeing 767 family is a complete family of airplanes providing maximum market versatility in the 200- to 300-seat market. The Boeing 767 family includes three extended-range (ER) passenger models – the 767-200ER, 767-300ER and 767-400ER – and a freighter, which is based on the 767-300ER fuselage.

The three passenger models differ primarily in length, with the Boeing 767-300ER approximately 21 feet (6.4 m) longer than the 767-200ER, and the 767-400ER approximately 21 feet (6.4 m) longer than the 767-300ER. The twin-engine 767 – sized between the single-aisle 757 and the larger, twin-aisle 777 – has built a reputation among airlines for its profitability and comfort.

The 767 cabin is more than 4 feet (1.2 m) wider than single-aisle jetliners, and the 767's versatile design allows customers to select the seating that best suits their operational requirements: four, five, six, seven or eight abreast. The 767 seats from as few as 181 passengers in a three-class seating arrangement on the 767-200ER to as many as 375 passengers in a high-density charter configuration on a 767-400ER.

The extended-range airplanes typically have three-class seating of 181 to 245 passengers, using five-abreast, 747-size first-class seats; six-abreast business class seats; and seven-abreast economy class seats.

Lower-deck volume available for baggage and cargo ranges from 2,875 cubic feet (81.4 m³) for the 767-200ER to 4,580 cubic feet (129.7 m³) for the 767-400ER.

All three passenger models are offered in a variety of takeoff weights, which allow operators to choose only the amount of design weight needed to satisfy their requirements. These offer corresponding design ranges from just over 5,645 nautical miles (10,454 km) to as many as 6,600 nautical miles (12,223 km). This range versatility gives the 767 family the ability to efficiently serve routes as short as U.S. domestic and pan-European to long-range flights over the North Atlantic and North Pacific. The 767 crosses the Atlantic from the United States to Europe more often than any other jetliner.

Schedule reliability – an industry measure of departure from the gate within 15 minutes of scheduled time – is nearly 99 percent for the 767. Fleet-wide, daily utilization – the actual time the airplane spends in the air – averages more than 10 hours.

Production Design Begins in 1981 With An Order from United Airlines

Production design of the 767-200 began in 1978 when an order for 30 short- to medium-range 767s was announced by United Airlines. The first 767 – still owned by Boeing – was completed and rolled out of the Boeing plant in Everett, Wash., Aug. 4, 1981. The airplane made its initial flight Sept. 26, 1981.

The 767-300 program got under way in September 1983. This model is longer than the 767-200 by 21 feet (6.40 m), and has 20 percent more seating capacity (approximately 40 passengers) and 31 percent greater cargo volume. The first 767-300 was delivered to Japan Airlines in September 1986.

Each of these models was followed by an increased range (extended range or ER) version, which offers operators even more versatility. This increased range capability, and the 767's uniquely low operating costs, are largely responsible for the fragmentation of the North Atlantic markets.

To take advantage of the airplanes' increased ranges and long, over-water flights, several new features were added: an advanced propulsion system and auxiliary power unit with high-altitude start capability, a fourth hydraulic-motor-driven generator, increased cargo compartment fire-suppression capability and cooling sensors for electronic flight instruments.

Continually Improved Features and Capabilities to Maintain Market Leadership

The 767 wing is thicker, longer and less swept than the wings of earlier Boeing jetliners. This provides excellent takeoff performance and fuel economy. Each 767 is powered by two high-bypass-ratio turbofan engines, which are interchangeable with 747 engines with only minor modifications.

With its advanced-design wing and powerful engines, and at a maximum gross weight of 300,000 pounds (136,080 kg), the basic 767-200 can take off on only 5,700 feet (1,735 m) of runway. It can operate nonstop between New York and San Francisco with a two-class load of 224 passengers. Even the extended-range version of this airplane, the 767-200ER, with a maximum takeoff weight of 395,000 pounds (179,170

kg), can take off on about 8,000 feet (2,438 m) of runway. It can fly up to 6,600 nautical miles (12,223 km), making possible such nonstop flights as New York to Beirut, Lebanon; London to Bombay, India; and Tokyo to Sydney, Australia, with 181 passengers in a three-class configuration.

Preferred By Passengers, Now With the Boeing Signature Interior

All passenger models of the 767 family offer a new, even more passenger-pleasing cabin interior. The Boeing Signature Interior, based on the award-winning design of the 777, uses state-of-the-art lighting and design concepts to amplify the feeling of spaciousness on an airplane already prized for long-range comfort.

For passengers, the new interior also includes new, deeper stowage bins, which means it is easier to find space in the compartments. For airlines, the new interior offers increased flexibility in positioning and maintaining lavatories. About 70 percent of the lavatory components are the same as those found on the 777, easing maintenance and reducing the number and type of spare parts in airlines inventories for operators of both models. The interior also features an improved in-flight entertainment interface.

The 767 has earned high passenger ratings in every class of service. In economy class seating, the 767 offers a seat-width that is surpassed only by the Boeing 777. Independent research has shown the seven-abreast seating concept in economy is popular because it places 87 percent of the seats next to a window or aisle. The 767 has the highest percentage of window seats and aisle seats of any jetliner.

The Pioneer of Extended Twin-Engine Operations (ETOPS)

In May 1985, the U.S. Federal Aviation Administration (FAA) approved 767s for long-range flights of up to 120 minutes from an alternate airport. In March 1989, the FAA approved the 767 as the first jetliner for 180-minute extended twin-engine operation (ETOPS). This allows more direct, time-saving trans-Pacific and trans-Atlantic flights from many U.S. gateways. After more than 15 years ETOPS has proven successful and is now part of airlines' routine operations. 767s fly more ETOPS flights than any other airplane.

The Only 60-Ton Freighter With International Capability

The Boeing 767 Freighter was derived from the 767-300ER passenger airplane. It was launched in January 1993, and entered service in October 1995.

The main deck of the 767 Freighter can accommodate up to 24 pallets, each measuring 88 inches by 125 inches (223.5 cm by 317.5 cm) at the base. Total main deck container volume is 11,884 feet³ (336.6 m³), and the two lower holds of the airplane provide 4,150 feet³ (117.5 m³) for 30 LD-2 containers and bulk loading.

These provide a combined maximum payload capability of 16,034 feet³ (454 m³). When carrying the 60.5-ton (54.88 metric tons) maximum payload, the 767 Freighter has a range of 3,270 nautical miles (6,056 km). When carrying 50 tons (45.4 metric tons), the 767 Freighter has a range of 4,255 nautical miles (7,880 km).

The interior of the main-deck fuselage has a smooth, fiberglass lining. A fixed, rigid barrier installed in the front end of the main deck serves as a restraint wall between the cargo and the flight deck. A door in the barrier wall permits in-flight access from the flight deck to the cargo area.

The 767 Freighter keeps ton-mile costs to a minimum with its two-crew flight deck and twin high-bypass-ratio engines offering excellent fuel economy. This contrasts to older cargo-carrying airplanes, such as 707s and DC-8s, which have three-crew flight decks and are powered by four engines.

Type commonality with the 757 Freighter further reduces operating and training costs for carriers that choose to operate both models.

All the advancements in avionics, aerodynamics, materials and propulsion that were developed for the passenger version of the 767 are incorporated in the freighter.

The Boeing 767-400ER: A Versatile New Airplane For a Dynamic Market

The newest member of the 767 family – the 767-400ER – was launched in April 1997 with an order from Delta Air Lines for 21 airplanes. This model features a fuselage that is 21 feet (6.43 m) longer than the 767-300ER model, and carries approximately 15 percent more passengers. The additional seats reduce operating costs relative to the 767-300ER, which already offers airlines the lowest operating costs in its class.

This stretched version of the 767-300ER addresses the medium-size (240- to 300-seat) intercontinental market, accommodating growth on routes that don't require the capacity of a 777. The 767-400ER also replaces older airplanes serving transcontinental routes. The first 767-400ERs were delivered to Delta Air Lines and Continental Airlines in August 2000. The first 767-400ER went into service on Sept. 14, 2000.

Continually Improved Features and Capability To Maintain Market Leadership

The 767 family has the lowest operating cost per trip of any widebody airplane. This low operating cost, combined with a choice of three sizes, variable range capability, almost universal airport compatibility and ETOPS capability, makes the 767 a versatile family of airplanes. This versatility is an extreme competitive advantage to an operator that needs to serve a variety of different missions and passenger demands. Extensive commonality with the Boeing 757, which includes a common pilot-type rating, offers even more operational versatility to 767 operators.

The 767 has a long history of leading the way in technological innovation. Included in its list of “firsts” are:

- First two-crew flight deck on a widebody airplane
- First, and still the only, common pilot type rating, which is shared with the Boeing 757
- First vacuum toilet waste system
- First to use brakes made of carbon fiber
- First airplane to achieve both 120- and 180-minute ETOPS approval
- First widebody airplane to offer a choice of three passenger sizes – the 767-200ER, 767-300ER and 767-400ER
- First large commercial airplane to use efficiency-enhancing “raked” wingtips

Boeing has delivered 926 767s that are flown by approximately 113 operators around the world. The 767 family has accumulated more than 7.7 million flights, and has carried millions of passengers. About 1.3 million of the 7.7 million flights were on extended twin-engine operations (ETOPS) rules.

767 Family Technical Characteristics

	767-200ER	767-300ER	767-400ER
PASSENGERS			
Typical 3-class configuration	181	218	245
Typical 2-class configuration	224	269	304
Typical 1-class configuration	up to 255	up to 351	up to 375
Cargo	2,875 cubic feet (81.4 m ³)	3,770 cubic feet (106.8 m ³)	4,580 cubic feet (129.6 m ³)
Engines (Maximum thrust)	Pratt & Whitney PW4062 63,300 lb (281.6 kN) GE CF6-80C2B7F 62,100 lb (276.2 kN)	Pratt & Whitney PW4062 63,300 lb (281.6 kN) GE CF6-80C2B7F 62,100 lb (276.2 kN) Rolls-Royce RB211-524T 59,500 lb (264.7 kN)	Pratt & Whitney PW4062 63,300 lb (281.6 kN) GE CF6-80C2B8F 63,500 lb (282.5 kN)
Maximum Fuel Capacity	23,980 U.S. gallons (90,770 l)	Same	Same
Maximum Takeoff Weight	395,000 lb (179,170 kg)	412,000 lb (186,880 kg)	450,000 lb (204,120 kg)
Maximum Range	6,600 nautical miles (12,223 km) Typical city pairs: New York to Beijing	6,105 nautical miles (11,306 km) Typical city pairs: Frankfurt to Los Angeles	5,645 nautical miles (10,454 km) Typical city pairs: London to Tokyo, Newark to Moscow, Chicago to Warsaw
Typical Cruise Speed (at 35,000 feet)	Mach 0.80 530 mph (851 kph)	Same	Same
Basic Dimensions			
Wing Span	156 ft 1 in (47.6 m)	156 ft 1 in (47.6 m)	170 ft 4 in (51.9 m)
Overall Length	159 ft 2 in (48.5 m)	180 ft 3 in (54.9 m)	201 ft 4 in (61.3 m)
Tail Height	52 ft (15.8 m)	52 ft (15.8 m)	55 ft 4 in (16.8 m)
Interior Cabin Width	15 ft 6 in (4.7 m)	Same	Same

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