

# 757-200/-300 fleet analysis

The 757 fleet can be divided into six main groups. The two most numerous types are RB211- & PW2037-powered -200s.

There were 1,039 757s built over the 22-year period between 1982 and 2004. Out of this number 998 aircraft are still in civil operation and another 27 are in storage or are temporarily inactive, taking the total available fleet to 1,025. A small number of civilian aircraft has been destroyed, and a few others are operated by Boeing, NASA, and various governments and air forces.

The 757 can generally be subdivided in two ways: between the two major engines types (the Rolls-Royce (RR) RB211-535 series and the Pratt & Whitney (PW) PW2000 series); and between -200 series passenger-configured aircraft, -200 series freighter-configured aircraft, and -300 series passenger-configured aircraft.

This means that there are six main groups of aircraft, with the total available fleet is divided between 600 RB211-powered aircraft (see table, page 9), and 425 PW2000-powered aircraft.

There are 826 -200 series passenger-configured aircraft in service, of which 466 are RB211-powered and 360 are PW2000-powered. A further 14 RB211-

powered aircraft and 13 PW2000-powered aircraft are in storage or temporarily inactive, and include one Alcoa-SIE aircraft that is being converted to freighter.

The 480-RB211-powered passenger-configured aircraft form the largest group of the global 757 fleet. The 373 PW2000-powered aircraft are the second largest group of aircraft.

There are 127 active aircraft in freighter configuration. These are split between 79 factory-built 757-200PFs and 38 aircraft that have been converted to freighter. The factory-built freighters are mainly operated by UPS. Most of the 38 converted aircraft were converted by Boeing. Only three have been modified by Precision Conversions.

While the 757-200 series was successful, only 55 757-300s were produced, all of which are still in operation.

## 757 production

Production of 757s ceased in October 2004, after 22 years. Production rates peaked between 1989 and 1994, and then

again in 1998 and 1999, averaging 47 units per year.

The 757 sold well to US majors, with American Airlines placing one of the largest orders for the 757 in 1988 for 75 units. Many of these aircraft were delivered in the early and mid-1990s. A surge in aircraft orders in the late 1990s from American, Continental, Delta and United accounted for the second wave of peak production.

The majority of aircraft built in the last four to five years of production were -300 series aircraft.

The 757 is operated in large numbers by American, Delta, Northwest and United. The fleets of Continental, USAirways, America West and American Trans Air (ATA) were medium sized, but collectively account for a large number of aircraft. Iberia and several Chinese airlines also operated medium-size fleets. The remainder of 757s in operation are small fleets operated by a variety of carriers.

## -535C-powered -200s

The RB211-535C was the initial RB211-535 variant used on the 757. This was quickly followed by the higher thrust rated and more fuel efficient -535E4 that contributed to the aircraft operating at higher weights and on long-haul missions. Most RB211 customers selected the -535E4, and British Airways (BA) was the only main customer for the -535C since it only used the aircraft on short-haul services. A few other carriers took a small number of -535C-powered aircraft.

All 34 of BA's -535C-powered fleet have been converted to freighter using Boeing's passenger-to-freighter modification. These aircraft are all now operated for DHL's European subsidiary European Air Transport.

The only other remaining -535C-powered aircraft in passenger configuration are two ex-Europe and one ex-Lufttrans-Sud aircraft, being operated for Pace Airlines and Orient Thai. A third ex-Air Europe aircraft is in storage, and is owned by Pegasus.

## -535E4-powered -200s

There are 288 -535E4-powered aircraft in operation, which form the second largest single sub-fleet of all types of 757. The first of these was built in March 1982, just one month after the first 757 produced, and production continued throughout the 22 years of 757 manufacture.

The -535E4 is rated at 40,100lbs thrust. A higher rated variant, the -535E4-B, was launched by Rolls-Royce. This is rated at 43,100lbs thrust. The main difference over the earlier variant was that the initial -535E4-Bs built had

### SUMMARY OF 757-200/-300 PRODUCTION & IN-SERVICE AIRCRAFT

Aircraft variant	-200	-300	-200CF	-200PF	TOTAL
<b>ACTIVE FLEET</b>					
RB211-535C	3		34		37
RB211-535E4	288		4	43	335
RB211-535E4-B	175	27			202
RB211-535E4-C		12			12
PW2037	320				320
PW2040	40			36	76
PW2043		16			16
<b>TOTAL</b>	<b>826</b>	<b>55</b>	<b>38</b>	<b>79</b>	<b>998</b>
<b>STORED FLEET</b>					
RB211-535C	1				1
RB211-535E4	8				8
RB211-535E4-B	5				5
PW2037	12				12
PW2040	1				1
<b>Total</b>	<b>27</b>				<b>27</b>

The fleet of PW2037-powered 757-200s is the largest sub-fleet of the world's 757s. This group of 320 aircraft is dominated by the three fleets of United, Delta and Northwest; which have 265 aircraft between them.

different turbine materials to withstand higher temperatures. The two engines were then later built with a common bill of materials, which included a Phase V combustor. The only difference between the -535E4 and -535E4-B in this case is engine control software. This means that later built -535E4s, with a Phase V combustor, can be upgraded to the -535E4-B, while earlier -535E4s cannot be upgraded.

Virtually all -535E4-powered aircraft have a fuel capacity of 11,483 US Gallons (USG). The fleet contains several large fleets, the majority of which are leased, but no large US fleets with the exception of USAirways' fleet of 31 aircraft.

There are several other major fleets, some of which are owned and others that are leased. BA owns 13 aircraft and Monarch seven; some of Iberia's 10 and Icelandair's 10 aircraft are owned. Most of America West's 13 aircraft, First Choice's 18, Britannia's 19 and Thomas Cook's 15 aircraft are leased.

There are several large fleets in China, including 13 aircraft with Air China, nine aircraft with China Xinjiang, 20 aircraft with China Southern and nine with Xiamen Air. Most of these aircraft are owned by their operators.

The majority of the remainder of the fleet is operated in small fleets of up to six or seven aircraft by a large number of different operators. This includes Air Astana, Air Atlanta Icelandic, Air Finland, Arkia, Astraeus, Avianca, Belair, MyTravel, Ryan Airlines, Skyservice Airlines and VARIG. Most of these aircraft are leased from the major lessors that include Aerfi, ILFC, GECAS, CIT, AWAS, Babcock & Brown, GATX and Aviation Capital.

### **-535E4-B-powered -200s**

This fleet of 175 active and five stored aircraft is dominated by American Airlines which accounts for 124 units. Most of these are owned by American and come from two order batches for 75 and 50.

The next largest fleet is 41 aircraft operated by Continental. This is a mixture of owned aircraft, units leased from GECAS and others owned by various financial institutions.

The remainder of the fleet is split between just three operators: Air



Horizons (3 aircraft), American Trans Air (6 aircraft) and Vulcan Aircraft (1 aircraft). There are also five stored aircraft, four of which are ex-ATA units.

### **PW2037-powered -200s**

This is the largest 757 sub-fleet, with 320 units, although the RB211-535E4 and -535E4-B fleets may be considered as a single group. The PW2037-powered fleet is dominated by a few carriers.

The largest fleets are operated by Delta (121), United (96), and Northwest (48). American also has 17 ex-TWA aircraft, and Shanghai Airlines has 13. Two Shanghai airlines aircraft, which are owned by ILFC, are being converted to freighter by Precision Conversions. The remaining 23 aircraft are operated in small fleets by airlines that include Royal Air Maroc, Mexicana, Fischer Air, Far Eastern Air Transport, Aeromexico, Blue Panorama, and Uzbekistan Airways.

Delta, United and Northwest own many of their aircraft, which have uniform specifications and so represent good opportunities for possible freighter conversion.

### **PW2040-powered -200s**

Aircraft with PW2040s are limited in number, comprising 40, mostly used and re-leased aircraft, aircraft obviously with the advantage of higher thrust rated engines. A large number are ex-Condor aircraft which are now operated by Mexicana, Air Italy and Russian carrier Vim Airlines. Ethiopian Airlines also has four passenger-configured aircraft, while Uzbekistan Airways has three. ILFC has 16 aircraft which are leased to Finnair,

Eos Airlines, Fisher Air, Mexicana, and American Airlines. There is one aircraft in storage.

### **-535E4-B/C-powered -300s**

The RB211-535E4-B and -535E4-C dominate the 757-300 fleet. There are 27 -535E4-B aircraft. Condor accounts for 13 and Continental another nine aircraft. The remainder are operated by Arkia, Thomas Cook, and Icelandair.

There are 12 -535E4-C-powered aircraft, which are split between three Continental aircraft and nine ATA aircraft.

### **PW2043-powered -300s**

Northwest is the only customer for the PW2000-powered 757-300, with a fleet of 16 owned aircraft.

### **757-200 freighters**

The fleet of 38 converted freighters includes 34 ex-BA RB211-535C aircraft converted by Boeing for DHL.

The other four include three RB211-535E4-powered aircraft that have been converted converted by Precision Conversions, two of which are now operating for Icelandair, and a third for DHL.

Out of 79 factory-built freighters, 75 were built for UPS. The first 35 were equipped with PW2040 engines, and the later 40 with the RB211-535E4.

One PW2040-powered aircraft was built for Ethiopian. Three RB211-535E4-powered aircraft are operated by Icelandair, Pacific Airlines and Royal Nepal. [AC](#)