Dash 8 & Q Series fleet summary

The Dash 8 & Q Series fleet is sub-divided into four main types. Their displacement is analysed.

There have been 1,018 Dash 8 & Q series aircraft ordered, of which 898 have been delivered since 1984, leaving a backlog of 120. Of the 845 aircraft still in service, 71 are used in military, utility or corporate configurations, while the remaining 774 are in an airline passenger or freighter configuration. It is these 774 aircraft that will be discussed in this fleet analysis. Of the 774, 49 are parked, representing just 6% of the fleet. About half of the parked aircraft are in the North America area, and only two of the 774 aircraft have been converted or are being converted to package freighters. There are 53 aircraft that have been destroyed or retired.

The largest Dash 8 & Q Series operators are Jazz Air (64 aircraft), Piedmont Airlines (53), Flybe (48), Horizon Air (42), Wideroe (30), Air Nelson (21) and Austrian Arrows (21). The largest North American operator is Jazz Air, while in South America it is LIAT (17), and Aires (15). In Europe the largest operators are Flybe, Wideroe and Austrian Arrows. In Asia Pacific it is Air Nelson, Air Nippon Network (19) and Eastern Australia Airlines (18). In Africa the largest operator is Tassili Airlines (8).

There are four main variants of the Dash 8/Q Series: the -100, -200, -300 and -400. These are divided into sub-variants including both the Dash 8 and the Q Series sub-variants.

Fleet forecast

There are six Q300 and 114 Q400 aircraft still to be delivered as of January 2009, according to Bombardier. Production of the Q100 series ceased in 2005, and the last 200 and 300 series aircraft are due to leave the production line in May 2009. The Q400 and its new NextGen incarnation will be the only Dash 8/Q series member of the family still available. It is possible, due to the success of the Dash 8 and its popularity with operators, that Bombardier will develop a stretch version of the Q400 to accommodate 90-100 passengers.

The future of the Q400 NextGen is promising, since SAS has placed a large order despite its previous concerns over the Q400's landing gear problems that caused a grounding of the entire SAS Q400 fleet. Other large deliveries are to be made to Colgan Air (15), Flybe (12), Horizon Air (11), with another 17 aircraft going to smaller operators. First-time operators of this type include airBaltic (8), Arik Air (4), Ethiopian Airlines (8) and SATA (4). There are also 80 options that could be converted into firm orders.

There are many uses for the Dash 8 aircraft. Bombardier produces it in many different passenger and combi configurations, but it is also a multimission aircraft that can be used as a freighter, and in medical evacuation or surveillance operations.

Dash 8-100/Q100

There are 236 examples of this standard passenger airline variant in operation, of which 19 Dash8-100 and no Q100s are parked. The mostly later aircraft are powered mainly by the PW120A, with 44 being powered by the PW121 (1 Dash 8-102, 28 Dash 8-103, 10 Dash 8-106 and 5 Dash 8-103Q).

There are three sub-variants of the Dash 8-100 and one Q100.

The DHC8-102 sub-variant is the most popular of this Dash 8 variant. There are 182 in operation with 46 operators, but it also has the largest number of parked aircraft (16) across the whole Dash 8/Q series fleet, probably because it is the oldest model. These aircraft are now 15-25 years old, and most of the active aircraft have average flight cycle (FC) times of 0.40-1.10 flight hours (FH) over the past 12 months. The biggest operators by far are Piedmont Airlines (42) in the United States and Jazz Air (36) in Canada. Airlines of Papua New Guinea and Skytrans (Australia) have eight aircraft each, while Air Creebec (Canada) and Air Inuit (Canada) have six aircraft each.

There are three passenger Dash 8-103 aircraft in operation, with 12 operators and only two aircraft parked. This sub-variant is 14-24 years old, with most entering service after 1989. Again, the majority have recent average FC times of 0.40-1.10FH, with one exception of 1.90FH. The largest operator of the Dash 8-103 is Wideroe (18) in Norway.

There are 18 Dash 8-106 aircraft, of 15-19 years of age, with 12 operators. One aircraft is currently parked. The average FC times for the past 12 months are 0.60-1.30FH. There are no large operators of this sub-variant, with operators having four or fewer Dash 8-106 aircraft each in their fleet.



The majority of Dash 8s & Q400s are based in north America, and concentrated in large fleets; used to feed major airlines.

DASH 8 Q SERIES FLEET SUMMARY

Aircraft model	Aircraft sub-variant	Africa		Asia Pacific		Europe		Middle East		North America		South America		Unknown	Sub-variant total	Variant Total
		Active	Parked	Active	Parked	Active	Parked	Active	Parked	Active	Parked	Active	Parked	Parked		
Dash 8-100	DHC8-102	14	1	26	1	8		2		114	13	2	1		182	231
	DHC8-103			4		18		1		5	2	1			31	
	DHC8-106	5		1		3				8	1				18	
Q100	Q103			5											5	5
Dash 8-200	DHC8-201			1											1	6
	DHC8-202			2						3					5	
Q200	Q200			2											2	71
	Q201			3		3				1	2	11			20	
	Q202	6		5				2		32	4				49	
Dash 8-300	DHC8-301			2						15		3	2	1	23	113
	DHC8-311	7		5	1	8				24	1	17			63	
	DHC8-314	7		6		1				10		3			27	
Q300	Q311	1	2	26		6				1	3	6			45	120
	Q314			6		16						1			23	
	Q315	9		22		20					1				52	
Q400	Q401	2		5	1	24	11			21					64	228
	Q402	6		43	1	64				50					164	
Dash 8/Q Series		57	3	164	4	171	11	5	0	284	27	44	3	1	774	774

The Dash 8-103Q, otherwise known as the Q100, is only operated by two airlines, both based in Japan. The oldest example is 12 years old and the youngest is just six years old. The average FC times are noticeably shorter on this aircraft, and are 0.45-0.59FH. Ryukyu Air Commuter operates four aircraft, and Amakusa Airlines operates one Q100 aircraft.

Dash 8-200/Q200

In total there are 77 of these aircraft in operation with 24 operators. Only six are parked.

The Dash 8-200 has two sub-variants accounting for six aircraft with four operators. There is one Dash 8-201 and five Dash 8-202s (two Dash 8-202s and three Dash 8-202Bs). These sub-variants entered service from 1995 to 1997. The average FC times for the past 12 months are 0.88-1.21FH.

The Q200 has three sub-variants, consisting of 71 aircraft with 18 operators. There are two Q200Bs with a single operator, 20 Q201s with seven operators, and 49 Q202s with 13 operators. The average FC times are 0.50-1.70FH. The Q200 entered service in 1996 with the most recent aircraft delivered in January 2009.

For all the Dash 8-200/Q200 variants, the largest operators are Commutair (17), Mesa Airlines (12) and Aires of Colombia (10).

Dash 8-300/Q300

There are 233 of these aircraft with 51 operators, of which 11 are currently parked. The largest operators of this variant are Jazz Air of Canada (28), Air Nelson of New Zealand (21), LIAT of Antigua (14), Eastern Australia Airlines (13), Austrian Arrows (11), Denim Air of the Netherlands (11) and Piedmont Airlines (11).

The Dash 8-300 has three sub-variants involving 113 aircraft, of which five are parked.

The Dash 8-301 accounts for 23 aircraft, with Jazz Air being the biggest operator with 14. Aircraft ages range from 18-20 years, while average FC times for the past 12 months are 0.61-1.13FH.

There are 63 Dash 8-311 aircraft, with Jazz Air again being the largest operator with 14, followed by LIAT (12) and Piedmont Airlines (7).

The oldest Dash 8-314 is nearly 19 years old and the youngest is now 13 years old. It accounts for 27 aircraft, and the largest operators are South African Express (6), Piedmont Airlines (4), Skippers Aviation of Australia (4) and Voyageur Airways of Canada (4).

The average FC times for the Dash 8-311 and -314 are in the 0.60-1.60FH range.

The Q300 has three sub-variants, involving 120 aircraft with six aircraft parked. All the Q300 sub-variants have an average FC time of 0.33-1.36FH. The first Q300 was delivered in late 1996, and six are still to be delivered.

There are 45 Q311 aircraft, consisting of 44 Q311 and one Q311B (operated by LIAT). The largest operator is Air Nelson, with 21 aircraft. There are 23 Q314 aircraft, of which Austrian Arrows operates the largest fleet with 10.

The Q315 sub-variant accounts for 52 aircraft. The main operators are Eastern Australia Airlines (13), Denim Air (11), Air Nostrum (8) and Air Nippon Network (5).

Q400

There are 228 Q400 aircraft with 26 operators. There are 114 awaiting delivery, and the type consists of two main sub-variants. The main operators are Flybe (48), Horizon Air (37), Air Nippon Network (14), Colgan Air (14), Sunstate Airlines of Australia (14), Japan Air Commuter (11), Austrian Arrows (10) and Lynx Aviation (10).

There are 64 Q401 aircraft, of which 12 are parked. This sub-variant ranges in age from 5-11 years, and has recent average FC times of 0.67-1.38FH. The main operators are Horizon Air (20), Augsburg Airways (9), Austrian Arrows (8) and Air Philippines (6). SAS and SAS Norge have five Q401s each, but they are all parked due to SAS's concerns over the safety of the landing gear mechanisms, after a number of incidents in 2007. The 64 Q401 aircraft include two freighters operating with Sweden's Nordflyg, although one is currently parked.

The most popular sub-variant across the whole Q Series fleet is the Q402, of which there are 164, with only one currently parked. The recent average FC times are the same as those of the Q401. The delivery schedule for the Q402 has been from early 2000 until the present day, and will continue for at least the next few years. The largest operator by far is Flybe, with 44 aircraft. These are also some of the most recently delivered. Flybe is followed by Horizon Air, which has 17 Q402 aircraft, while Air Nippon Network, Colgan Air and Sunstate Airlines each have 14 aircraft. AC

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