

CRJ family fleet summary

There are more than 1,500 CRJ family aircraft in operation. The demographics of the CRJ family's population is reviewed.

There have been 1,718 orders for the CRJ family, of which 1,583 have been fulfilled, leaving a backlog of 135, according to Flight's Aircraft Fleet & Analytical System (ACAS) data for July 2009.

The CRJ family includes: commercial aircraft (the CRJ-100, -200, -440, -701, -705, -900 and -1000 series); and corporate jets, known as the Challenger 850/870/890, based on the commercial variants. Of the 1,583 aircraft that have been delivered, 1,521 are commercial and 36 are corporate. Another 26 aircraft have been destroyed or retired. This fleet analysis will examine commercial aircraft.

Of the 1,521 aircraft that have been delivered, just 73 are parked. Over 80% of those are in North America. Only four have been converted to freighters: two in Europe and two in North America.

SkyWest Airlines (USA) is the largest CRJ operator, with 228 aircraft from the CRJ-100, -200, -700 and -900 model series, and 14 on order, for delivery over the next year. The next largest fleets are with Atlantic Southeast Airlines (161), Pinnacle Airlines (140), Comair (122) and Mesa Airlines (101), all in North America. The largest CRJ operators are

mainly in Western Europe, which has 16% of the global fleet: Lufthansa Cityline (54), Air Nostrum (46), Brit Air (30) and Eurowings (24). The CRJ fleet in the Asia Pacific is in India, Japan and China, accounting for just 4% of the global fleet. The largest operators are the Chinese Air Force and Shandong Airlines (12 each), J-Air in Japan (9) and JetLite in India (7). There is a good spread of the CRJ fleet across Africa. South African Express is the largest operator (14). The largest of the three operators in South America is MexicoLink (9). The largest of the Middle East's three operators is Yemen's Felix Airways (4).

There are four main variants of the CRJ family of aircraft: the original -100; the similar -200; the -700 (including the -701 and more recent -705); the -900 series; and the very recent -1000. Each model series is divided into two or three models or sub-variants.

Fleet forecast

According to ACAS, as of July 2009, in addition to the 1,521 commercial CRJ aircraft in operation, there is an order backlog for all CRJ variants of 135. As

three are Challenger 850s, this means that 132 commercial jets are yet to be delivered, the vast majority to airlines that already have CRJs. The exceptions are Estonian Air, which has three on order, and the Iraqi Government, which has a backlog of nine, although Iraqi Airways already operate one CRJ-900).

Of the 132, the most popular variant is the CRJ-1000, with a backlog of 64. There is only one example of this new model, which is still with Bombardier for testing and development, and is first due for delivery to airlines from 2010.

The next most popular variant with a delivery backlog is the CRJ-701, with 37 on order. 33 will be the -ER sub-variant and there are four of the -LR sub-variant.

The CRJ-900 has 20 aircraft yet to be delivered, and 11 -900ER sub-variants. This emphasises the growing popularity of the newer -900 along with the -1000.

The largest backlog is for Air Nostrum, which has ordered 35 CRJ-1000s for delivery from 2010 to 2016, followed by myair.com (15 aircraft), Brit Air (14), SkyWest Airlines (USA) (14) and Lufthansa Eurowings (11).

CRJ-100

There are 214 examples of the CRJ-100, with 37 operators, of which 12 -100ERs and 10 -100LRs are parked. The three sub-variants are the ER, LR and SE, with the ER taking 58% of the share.

The ER sub-variant accounts for 125 aircraft, all with the CF34-3A1 engine. Nearly 80% are in North America and nearly 17% in Europe. Just 4% are in Africa and the Asia Pacific, with none in the Middle East and South America.

Comair is the largest operator of the CRJ-100 (84 aircraft), the -100ER (46) and -100LR (38). The next largest -100ER operators are Jazz Air (24), SkyWest Airlines (USA) (16) and Brit Air (15). The next largest -100LR operators, after Comair, are Lufthansa Cityline (12) and Cimber Air (7). The -100LR accounts for 77 aircraft, representing 36% of the -100 fleet. Like the -100ER, it is spread across four continents, with the vast majority in North America and Europe.

The -100SE fleet is much smaller with just 12 aircraft. The Chinese Air Force is the largest operator, with five aircraft that have low flight cycles (FC) of just 10 hours each, compared to well over 1,000 FC for the other seven. All but two aircraft in the -100SE fleet have upgraded CF34-3B1 engines.

More than two thirds of the CRJs in operation are in North America. The CRJ-200 is the most popular type, with more than 700 in service. SkyWest Airlines has the largest CRJ-200 fleet, with 100 aircraft.



CRJ FLEET SUMMARY

CRJ model	Africa Active	Asia Pacific		Europe		Middle East Active	North America		South America Active	Sub-variant total	Total
		Active	Parked	Active	Parked		Active	Parked			
CRJ-100ER	4	1		21			87	12		125	
CRJ-100LR	3	2	1	21	1		41	8		77	
CRJ-100SE		6		2			4			12	214
CRJ-200ER	14	14	2	43	1	3	211	34	9	331	
CRJ-200LR		21	1	54			293	2		371	
CRJ-200LR(PF)				2					2	4	
CRJ-200SE		2		1			2			5	711
CRJ-440LR							85	1		86	86
CRJ-701				15						15	
CRJ-701ER	2	11		22		2	201	1		239	
CRJ-701LR		1					21			22	276
CRJ-705							16			16	16
CRJ-900	6			46	2	1	140	3	7	205	
CRJ-900ER	4			4	4					12	217
CRJ-1000							1			1	1
Total	33	58	4	231	8	6	1,102	61	18	1,521	

CRJ-200

There are three main sub-variants of the CRJ-200: the ER, LR and SE models. Altogether there are 711, with 64 operators, equating to 47% of the global CRJ fleet. The ER and LR are the most popular by far with a 46.5% and 52.5% share of the CRJ-200 market respectively.

The CRJ-200ER accounts for 331 aircraft and 64% are operated in North America, although it is found worldwide. Just 11% are currently parked. Atlantic Southeast Airlines is the largest operator (112) followed by Air Nostrum (35), Jazz Air (33) and SkyWest Airlines (USA) (22).

There are 375 CRJ-200LRs, including four package freighters (-200LR(PF)), in Europe and South America. The standard -200LR fleet is in Asia Pacific, Europe and North America which has 78%.

SkyWest Airlines (USA) is the largest operator (100 -200LRs), followed by Air Wisconsin (66), Pinnacle Airlines (53), PSA Airlines (35) and Mesa Airlines (28). Only three aircraft are parked.

The CRJ-200SE has just five aircraft: two each in North America and Asia Pacific; and one in Europe. All are active.

All the CRJ-200s have the upgraded CF34-3B1 engines, except the four package freighters which have the original CF34-3A1s. The average age of the CRJ-200 is seven and a half years. The average FC utilisation for the past year is 1,968FC, while average flight hours (FH) are 2,195FH, and the average flight time has been 70 minutes.

CRJ-440

There are just 86 CRJ-440 aircraft, all in North America: 71 with Pinnacle Airlines (with a further one parked); and 15 with Mesaba Airlines. The average age of the fleet is just over five and a half years. The average utilisation for the last year has been 2,302FH and 1,968FC, so the average flight time is 70 minutes.

CRJ-700

There are 292 CRJ-700s, with just 20 operators. The fleet is split into four sub-variants. For the CRJ-701, the standard model, the ER and the LR total 276 aircraft. There are 16 CRJ-705LRs. All the -701ER and standard aircraft are equipped with the CF34-8C1 engine. The -701LR is powered by the CF34-8C5B1 and the -705LR has CF34-8C5 engines.

The largest operator is SkyWest Airlines (USA) (69), followed by Atlantic Southeast Airlines (39), American Eagle Airlines (25), GoJet Airlines (21), Lufthansa Cityline (20) and Mesa Airlines (20). Most CRJ-700s (82%) are in North America, but they are found everywhere except South America.

There are 15 standard CRJ-701s, all with Brit Air in Europe. This is similar to the 16 CRJ-705LRs, which are only operated by Jazz Air in Canada.

There are 239 CRJ-701ERs with 17 operators. SkyWest Airlines (USA) is the largest operator (69), followed by Atlantic Southeast Airlines (39),

American Eagle Airlines (25), Lufthansa Cityline (20) and Mesa Airlines (20).

There are 22 CRJ-701LRs. All but one are with GoJet Airlines in the US.

The average age of the CRJ-700 fleet is five years. Utilisation over the past year has averaged 3,021FH and 1,812FC. The average flight time is just over 1.5FH.

CRJ-900

There are 217 CRJ-900s with 21 operators, with just two sub-variants. All the aircraft are powered by the CF34-8C5. The largest operators are Mesaba Airlines (41), Mesa Airlines (38) and SkyWest Airlines (USA) (21).

There are 205 standard aircraft around the world, except for the Asia Pacific. Five are already parked. The largest operator is Mesaba Airlines again with the same results for the top three operators as in the previous paragraph.

There are only 12 -900ERs, in Europe and Africa. Four European aircraft are parked. Arik Air, Eurowings and myair.com all have four aircraft each, although myair.com's are parked.

The average age for the -900 fleet is 2.5 years, making it the youngest CRJ fleet. The average annual utilisation over the past year is 2,090FH and 1,634FC, so the average flight time is 75 minutes. **AC**

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