CRUISING HEIGHTS
May, 2018

Enter the Falcon 6X

Pushing the boundaries further with the spacious, advanced and versatile twinjet Falcon 6X, Dassault will set new standards in the long-range large-cabin segment

Dassault Aviation recently took the wraps off its 5,500-nm Falcon 6X, the official successor to the Falcon 5X aircraft programme, at a day-long technical briefing at Paris Le Bourget Airport. The Falcon 6X is the most spacious, advanced and versatile twinjet in business aviation and it will replace the Falcon 5X aircraft programme, which was cancelled in December 2017. The much awaited 6X jet sells for about $47 million.

This new aircraft will make its first flight in early 2021 and Dassault will begin deliveries in 2022. Pratt & Whitney Canada's PurePower PW800 engines have been selected to power the Falcon 6X that offers the largest, quietest and most comfortable cabin of any aircraft in its class and more cabin volume than any other Falcon ever designed. It comes equipped with the industry's most advanced digital flight control and cockpit technologies, drawing on the heritage from other recent Falcon models and fighter jet programmes.

The 6X is largely based on the Falcon 5X aerodynamics and system features which were validated during the 5X preliminary flight test programme. It has been optimized to take advantage of the new engine, offering a greater range and a longer cabin. "We wanted to further push the boundaries with this new aircraft, to provide the best flight experience possible using today's aviation know-how," said Eric Trappier, Chairman & CEO of Dassault Aviation. "The Falcon 6X will offer a mix of range, comfort and capability no other large cabin business jet can match while guaranteeing fully mature systems and a proven power plant."

The Falcon 6X cabin is 6 feet 6 inches (1.98 m) high and 8 feet 6 inches (2.58 m) wide — the highest and widest crosssection in a purpose built business jet – and is nearly 40 feet 8 inches

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(12.3 m) long. The cabin can accommodate 16 passengers in three distinct lounge areas, affording room for multiple configurations including a large entry way/crew rest area and a spacious rear lounge.

Every element of cabin style and design has been totally rethought, the result of an extensive survey of customer tastes and inputs from Dassault Aviation's own in-house Design Studio. Flowing uninterrupted lines enhance the feeling of space and declutter the cabin.

Significantly more natural light floods into the cabin, thanks to extra-large windows including a unique galley skylight – the first in business aviation – designed to provide additional brightness in an area usually devoid of natural light.

"The industry has been moving towards ever wider and higher interiors, and customers told us what they wanted most in our new Falcons was more space," continued Trappier. "So we designed the Falcon 6X from the cabin out, making it as passenger-centric as we could while still delivering the high performance and other flying qualities that customers value in Falcons."

The Falcon 6X has a top speed of Mach 0.90 and a maximum range of 5,500 nautical miles (10,186 km), longer than any other jet in its category. It can fly directly from Los Angeles to Geneva, Beijing to San Francisco or Moscow to Singapore at long range cruise speed. It can also connect New York to Moscow, Paris to Beijing or Los Angeles to London at a cruise of Mach 0.85.

The Pratt & Whitney Canada Pure Power PW812D engine rated at 13,000-14,000 lbs thrust has been selected to power the Falcon 6X. The PurePower PW800 engines feature the common core technology of the Pratt & Whitney Geared Turbofan, which is shared by 16 different engine applications and have amassed over 585,000 flight hours.

Equipped with a low maintenance single piece fan and emission reducing Talon combustor, the PurePower PW800 engines offer the highest efficiency, reliability and maintainability in the 10,000-20,000 lb class and have accumulated over 20,000 hours of testing to date.

The Falcon 6X is equipped with an ultra-efficient wing that minimises the impact of turbulence and a next generation digital flight control system that controls all moving surfaces, including a novel control surface called a flaperon. The 6X is the first business jet to use a flaperon, which considerably improves control during approach, especially on steep descents.

The aircraft also comes with industry leading noise suppression systems, based heavily on experience with the new Falcon 8X — the current benchmark in noise comfort — and an all-new cockpit and third generation EASy III all digital flight deck.

Q&A

"The first aircraft to be assembled in Nagpur will be a Falcon 2000"

Vadim Feldzer, Head of Falcon Global Communications, Dassault Aviation, Civil Aircraft, talks to CRUISING HEIGHTS about the world market for Dassault business jets, the work that Dassault's Nagpur facility will do and the delivery of the first Falcon 8X in India.

How has the Falcon 8X been doing ever since its launch?

The 8X is doing really fine...if you remember before we did a world tour we got all the certification requirements obviously but in addition to that we decided to do a world tour which was really interesting so we put not only a test crew in the aircraft but also a lot of flight engineers at the back of the airplane to check out all the systems, the cabin, the connectivity which is also key to make sure that the aircraft is perfectly mature at its entrance. It has been beneficial because first of all, 8X or the 7X, was already a proven aircraft, a proven platform. We made sure all the systems and the aircraft entered very smoothly. We did not have any problems or any single issue entry into service. It was very rewarding for us, for the customer.

So, (there was) smooth entry into service and production (is) going pretty well. We are, amongst the first (plane manufacturers), I think, to have delivered the same aircraft worldwide to the customer last year so, far. We are very enthusiastic, very satisfied. We have received also very good comments – positive. It's very important feedback and that's critical to know what your customer thinks... truly speaking it's not a marketing guy who speaks. We have very positive feedback about the cabin, the noise level inside the cabin which was already very good in the 7X but in the 8X we tried to set the bar higher in terms of noise — not cancellation but noise insulation. The cabin is really quiet. It is really the quietest cabin that we have seen in business

Anil D Ambani, Chairman Reliance Group & Eric Trappier, Chairman & CEO, Dassault Aviation lay the foundation stone for Dhirubhai Ambani Aerospace Park

aviation. So, that's a real benefit for passengers. The 7X offers a very smooth ride because of the digital flight control system. That digital flight control system acts very quickly — much more than human capacity — and when you are facing turbulence it helps to address the consequences of turbulence. So, the ride is smoother. That is the nice comment we received some years ago when we introduced the 7X.

The 8X, as you may remember, the shape of the wing is quite similar. We just optimised the winglet. We did something which is not visible. Because the aircraft was heavier, we had to find some ways to save weight and one way to do that was to redesign a little bit the architecture of the wings and so we made the wing lighter but ultimately the benefit is that the wing is more flexible. The feedback that we have received, first of all by our test team and now by our passengers is that it acts even more against turbulence. So, you have a perfect smooth ride.

● You have not shared the number of 8X that you have sold. Is there a reason for that?
We are not giving the breakdown by numbers. Honestly, last year, the market was challenging.

It (the market) is getting better. The market is still fragile.

In fact, we have launched a new version of the 900X in the last two years. It has been proven a good choice because last year we have been pretty successful with the 900X which is a known platform but totally upgraded new system, the new entertainment system with high broadband connectivity, FalconEye...everything. So, it comes as a brand new aircraft but using an older platform. In the US typically, it is an airplane which has been successful in the past. We have seen some of our current customers upgrading their old 900X version with the 900LX — not willing to choose a 7X or 8X. That is because they are happy with the previous generation of the non-digital flight control system. The Falcon 2000 operates in more than a third of the total Falcon aircraft in service in India because of the economics and because for domestic flights it is the perfect airplane. It has a large cabin and a range of 4000 nautical miles. The Falcon 2000S is even cheaper in terms of purchasing price.

In connection with India, talking about the Falcon 2000, we will be starting to produce parts for new Falcons in the new facility in Nagpur with Reliance. The first aircraft to be assembled in Nagpur will be a Falcon 2000 as well.

● What are the specific parts that they will be manufacturing here in India? Will the Nagpur facility be a part of the global supply chain?
Yes, yes. Obviously, it is part of the deal with the fighter aircraft offset definitely. But more than that it is Dassault's investment centre for Dassault talent... the most talented people in India. It won't be just a question of setting it up but it will be a part of new supply chain so we are investing in this facility and it is beyond the offset in terms of supply chain and being more productive in a very efficient manner.

● By when do you think the Nagpur facility is going to start?
Before the end of this year the facility will start operating. Honestly, I can't tell you what parts. Actually, I don't know...It will be significant assembly. Some structure first, then fuselage and aircraft.

● In terms of the 8X, is it more individual customers or is it more charters that are buying the plane?
We are really in a global market now. It is very difficult to tell you which airplane is better in this region or in this area. There are some regions like Russia, for instance. Russian operators are in love with three engines. Beyond that, in India, the Falcon 2000 has been very successful because we have good range and it is good economically.

● Have you received any queries for the 8X from India?
Yes. We delivered our first aircraft. At the end of the (Wings India) show, we will use the airplane for a demo. We are confident of making new deals. You know we have very loyal customers. I think it is part of Dassault's DNA. We have our customer's trust meaning that they will buy a Falcon one day and they are continuously grading their fleet.

In India, in particular the market has been flattening except for the first 8X. Honestly, the market has been flat except we have been lucky to sell four aircraft in the few past months in India which is a great sign for the quality of the market.

● How many falcons are now flying in India?
26. Roughly speaking, more than one-third are Falcon 2000s. We had a few 7Xs and the first 8X and some of what you call legacy aircraft, the Falcon 50. I think there are some in service in India. CH

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