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LEVERAGING DASSAULT'S FIGHTER JET HERITAGE



What sets the Falcon lineage apart is performance at the extremes – an advantage rooted in Dassault's position as the only manufacturer that designs and builds both combat aircraft and business jets. The 10X's NeXus flight deck (named to reflect its role as the connecting point between pilot, aircraft and mission) draws directly from the Rafale, France's frontline multi-role fighter.

A HOTAS (hands-on throttle-and-stick) system, standard in high-performance military jets, allows Falcon 10X pilots to fly entirely eyes-forward using dual Head-Up Displays with fighter-inspired symbology, keeping attention outside the cockpit rather than scanning instrument panels during critical phases of flight. The Rafale-derived Smart Throttle manages both engines through a single control, automatically compensating during an engine failure precisely when pilot workload is highest. A dedicated Automatic Recovery Mode restores controlled flight from any unusual attitude, including inverted, with a single button press.

The NeXus cockpit pairs that capability with large touchscreen displays and a dual FalconEye Combined Vision System, Dassault's proprietary technology that fuses infrared sensor imaging with a computer-generated terrain picture. This gives pilots a continuous, detailed view of the world outside the aircraft regardless of weather or visibility conditions. For passengers, the effect is straightforward: a quieter, smoother, more predictable journey via a flight deck built to the most demanding engineering standards in aviation.

BEST IN CLASS

One a \$75 million flagship, the other a nimble evolution of the world's best-selling small jet, these are the new aircraft that should be on your radar, says *Paul Sillers*

THE FALCON 10X: VERSATILITY MEETS SPACIOUSNESS



In the evening of 10 March this year, Dassault Aviation pulled back the curtain in its new production hall at Bordeaux-Mérignac on what the company has described as its most ambitious business jet ever. More than 400 customers, partners and industry figures watched the aircraft emerge under the lights of a purpose-built facility that is itself a statement of intent.

Dassault chairman and CEO Éric Trappier set

out the objective: “The Falcon 10X introduces the largest, most comfortable and most versatile cabin ever designed in a purpose-built business jet.” His ambition for what that cabin should accomplish was equally clear: to allow passengers “to experience time on board as just another part of their everyday life, rather than a long interval between origin and destination, arriving refreshed and at their very best”.

The numbers underpin that aspiration: At 2.77 metres wide and 2.03 metres high, the cabin is 20 centimetres wider and five centimetres taller than its nearest competitor. The 16.4-metre-long

interior is divided into four distinct zones, and cabin pressure at 12,500 metres is maintained at the equivalent of just 900 metres – among the lowest in business aviation. (Lower cabin altitude in jets keeps the air pressure closer to sea level, ensuring higher oxygen levels to reduce passenger fatigue, dehydration and headaches.)

Thirty-eight extra-large windows (50 per cent bigger than those on the plane's predecessor, the Falcon 8X) flood the interior with natural light, while 100 per cent fresh air is continuously renewed throughout the flight. Private suites, shower facilities and a full stateroom are among

the configuration options. In total, the 10X offers 78.7 cubic metres of cabin space, the largest interior of any purpose-built business jet in production.

Range is 7,500 nautical miles at a top speed of Mach 0.925, enabling nonstop connections between New York and Shanghai, Los Angeles and Sydney, or Paris and Santiago. Power comes from a pair of Rolls-Royce Pearl 10X engines producing over 18,000 pounds (80.1kN) of thrust each. These will be certified to run on 100 per cent sustainable aviation fuel (SAF). SAF is a replacement for conventional jet fuel, derived

from either waste cooking oil or agricultural residues, that works in existing engines with minor modification. For business jet operators facing growing scrutiny over private flying, SAF offers a straightforward way to cut lifecycle carbon emissions substantially, without impairing performance or range.

Despite its scale, the 10X can target a landing distance below 762 metres, making it compatible with smaller airports (including London City). Deliveries are targeted for late 2027 with a launch price in the neighbourhood of \$75 million (£57m), depending on options.

PHOTOGRAPHY: COURTESY OF DASSAULT AVIATION

THE HONDAJET ECHELON: NEW HEIGHTS IN LIGHT AVIATION

Light business jets (typically in the four- to 11-passenger category) have always demanded compromise (in comparison to the nine- to 19-seat range of the Dassault Falcon family of business jets). The HondaJet Echelon builds on the already acclaimed HondaJet Elite II (which accommodates two pilots and five passengers and is itself the top-selling aircraft in its class) but stretches every dimension that matters: more range, more cabin, more capability, yet with the same lean fuel burn and nimble handling that made its predecessor so compelling. In a category historically defined by trade-offs, Honda has produced an aircraft that aims to punch above its weight category.

When the design concept was first revealed in October 2023, Honda Aircraft Company president & CEO Hideto Yamasaki characterised the HondaJet Echelon as being “born to create

a new category that transcends the travel experience on conventional light jets.” Expanding mobility skyward, he added, “has been Honda’s long-lasting dream, and the HondaJet Echelon marks the exciting next chapter while showcasing a classic Honda story of a product that creates new value for people.”

One of the Echelon’s key selling points is its capability of nonstop transcontinental flight across the US, while offering 40 per cent better fuel efficiency than some larger midsize jets. “This will save time and fuel cost while having a significantly lower environmental impact than other transcontinental-capable aircraft,” says the company.

For owners who have grown quietly frustrated watching their light jet stop for fuel while their schedule doesn’t, that is a meaningful promise. A range of 2,625 nautical miles, a cruise speed of 450 knots and a ceiling of 14,326 metres place the Echelon firmly in the operational territory of aircraft that cost considerably more to acquire and run. A 1,006-metre take-off run extends access to smaller airports that larger category rivals cannot use, offering a practical freedom.

The cabin, with accommodation for 11 passengers, is where the Echelon makes its most persuasive case. Standing height of 1.6 metres (that’s good in this category of aircraft) and 2.1 metres between facing seats in the dual club configuration (two pairs of armchairs facing each other) are not light jet numbers – this is a layout more typical of a much larger aircraft.

What distinguishes the HondaJet visually from virtually every other business jet is its engines, mounted on pylons above the wing rather than bolted to the rear fuselage. This unconventional arrangement delivers three tangible benefits: more interior volume (up to 20 per cent more cabin and baggage space than comparably sized rivals), a dramatically quieter cabin and improved high-speed aerodynamics. The interaction between wing and engine nacelles reduces drag in ways that conventional rear-mounted configurations cannot match, allowing the HondaJet to cruise faster, higher and more efficiently than aircraft of equivalent size and power.

More meaningfully still, a cabin altitude of 1,939 metres while cruising at 14,326 metres (some 3,000 metres above the mainstream commercial air

THE CABIN, WITH ACCOMMODATION FOR 11 PASSENGERS, IS WHERE THE ECHELON MAKES ITS MOST PERSUASIVE CASE

traffic) is impressively class-leading. Passengers who travel frequently in private aircraft know that cabin altitude correlates directly to how they will feel upon arrival. The Echelon’s numbers suggest that longer journeys, including transatlantic routing, become considerably less punishing.

The flight deck reflects a similar philosophy of doing more with less visible effort. Built around a customised Garmin G3000 platform, the avionics suite incorporates autothrottle, autobrake, an Advanced Steering Augmentation System and Emergency Autoland, a system that can autonomously take control and land the aircraft in an emergency without pilot input. It is a technology whose implications for solo and owner-pilot operations are considerable, and its

inclusion at this category level marks a genuine shift in what light jet ownership means in practice.

As for the Echelon’s development, testing and production momentum, Honda began assembly of the first prototype unit at its Greensboro, North Carolina, headquarters this February, starting with the aircraft’s wing structure. “We are proud of the achievements we have made in the last several months, and it is just the beginning,” said Honda’s Amod Kelkar, senior vice president and CCO. “We have a series of additional targets to hit in the coming months, each of which will bring us closer to the actual first flight.”

That inaugural flight is slated for later this year, with FAA-type certification targeted for 2028 – the US Federal Aviation Administration’s official “stamp of approval”, proving that the aircraft is safe enough to be mass-produced for the public. Moreover, says Kelkar, “market interest in the HondaJet Echelon grows, with almost 500 letters of intent signed to date, and numbers increasing every month.” And in the business aviation niche where sophisticated buyers are notoriously difficult to impress, that level of pre-certification interest says more than any specification sheet.

FROM CALENDER SKETCH TO THE SKY



One night in 1997, Honda engineer Michimasa Fujino woke up with an idea he couldn’t ignore. Finding no paper to hand, he tore a page from a wall calendar and sketched a jet with engines mounted above the wing. It was one of aviation’s more consequential doodles.

Honda’s curiosity about flight had in fact been brewing since 1986, when a small engineering team was dispatched to Mississippi State University to conduct advanced aeronautics research – at a time when Honda’s reputation rested entirely on cars and motorcycles. That work produced two experimental aircraft before Fujino’s sketch crystallised the vision. A proof-of-concept aircraft first flew in 2003, and a public debut at EAA AirVenture Oshkosh in 2005 (the world’s largest annual aviation gathering, where manufacturers build credibility and gauge market appetite) convinced Honda’s leadership to commit fully. Honda Aircraft Company was formally established in 2006.

FAA type certification arrived in December 2015, following more than 3,000 hours of flight testing – the rigorous US regulatory approval without which no business jet can be sold commercially in the world’s largest aviation market. Within 18 months of first deliveries, the HondaJet was the top-selling twin-engine light business jet in the world. Fujino was recognised by the National Academy of Engineering in 2017, retiring in 2022. The Echelon is the next generation of that vision

PHOTOGRAPHY: COURTESY OF HONDA AIRCRAFT COMPANY

