

Falcon 10X Backgrounder

The new benchmark in business aviation

Falcon 10X combines Dassault fighter DNA and new technologies with the largest, most capable and customizable cabin in business aviation

Dassault Aviation began with a clean sheet to create the Falcon 10X, the largest and most capable purpose-built business jet. Its cabin is the largest in business aviation with a new level of flexibility in creating a customized interior environment. New, high-speed aerodynamics yield a maximum range capability of 7,500 nm (13,890 km) and a top speed of Mach 0.925.

Dassault's Digital Flight Control System on the 10X includes safety features new to business aviation, providing protection from inadvertent upsets and other hazards – features that stem directly from the company's military aircraft.

THE LARGEST, MOST FLEXIBLE CABIN IN BUSINESS AVIATION

A modular cabin design that lets owners, essentially “move the walls” and create their own customized spaces

The sheer dimensions of its cabin and the flexibility of interior configurations distinguish the 10X from other ultra-long-range jets.

With a cabin volume of 2,780 cubic feet (79 cubic meters), the 10X offers the largest cabin interior of any purpose-built business jet. It is almost 8 inches (20 cm) wider than its competitors.

- Cabin height: 6 ft, 8 in (2.03 m)
- Max width: 9 ft, 1 in (2.77 m)
- Cabin length: 53 ft, 10 in (16.4 m)

More room, more cabin layouts: The 10X has an ingeniously flexible cabin design, allowing new layout possibilities. Starting with a baseline four-zone platform, the aircraft's interior design concept centers around an entirely new level of modularity so that the cabin can easily be configured for a wide range of mission capabilities and customer needs.

The baseline arrangement separates the interior into four equal sections of 8 feet, 10 inches (2.7 m) with four windows a side each. However, cabin sections can be easily reconfigured into compartments of different lengths and number of windows. Hence, an aft stateroom suite could be 15 feet, 6 inches (4.7 m) long and include seven windows, plus a large lavatory with shower. The 10X stateroom can be equipped with a full-size queen bed— unique in business aviation.

COMMUNICATIONS DEPARTMENT

A three-window small compartment could serve as a section for private conversations or as a media center for presentations or the viewing of videos and streaming news on a large screen.

A dining/conference area can have four or more windows a side. When dining at a four-place table, passengers nearest the windows can use the space between seats to step out without inconveniencing the aisle passenger. In many ways, it is easier to move around the cabin and to do so without disturbing others.

The advantages of more space: The increased cross section and cabin volume convey a number of advantages, some obvious and some subtle. Ample headroom extends toward the sides of the cabin making it easier to pass people in the aisle and stand up straight even well off the cabin centerline. Seats no longer need to be tucked into side ledges to create sufficient aisle width. A forward lavatory has more space in all dimensions, making it more suitable for passengers, as well as crew. Every galley compartment has more storage volume.

Healthy cabin features: Cabin pressurization will be the best in the industry with the lowest cabin altitude—a 3,000-foot pressure altitude in the cabin while flying at 41,000 feet. A next-generation filtration system that eliminates ozone and potential pollutants (volatile organic compounds) will provide 100 percent pure air. Humidity can be maintained at a level that makes long hours aloft more comfortable and healthful. Temperature control will be provided in each of the cabin's four zones with air entering at the top and the bottom of the cabin for an even temperature throughout.

The lowest sound levels: Dassault's current flagship, the Falcon 8X has the lowest interior sound levels of any business jet, the equivalent of a typical suburban living room. The 10X, using Dassault's advanced noise reduction technologies, will be at least this quiet despite the increased cruise speed.

New, larger windows: The 10X's windows are almost 50 percent larger than those on the 8X. Thirty-eight windows line the fuselage for the most window area and brightest cabin in business aviation.

Always in touch with advanced connectivity. The 10X cabin comes with a high-speed connectivity system solution ensuring seamless in-flight communications and high-speed access to the Internet. Connectivity service options include a Ka-band network for fast and more consistent data speed. The cabin will also come equipped with the latest in-flight entertainment and communications network technology designed to distribute crisp, high-definition audio and video content throughout. Passengers will have total command of cabin functions in an easy-to-use mobile app or through cabin touch screens and hard switches.

Lots of baggage space: The 10X's 198 cubic foot (5.60 m³) baggage compartment is the largest in the ultra-long-range segment. Its electrically operated door makes loading and unloading the compartment easier for pilots and ground crews. A dedicated and separated additional compartment of 8 ft, 3 in (0.23 cu m) provides room for specific devices such as a fly-away kit.

COMMUNICATIONS DEPARTMENT

**SUPERIOR PERFORMANCE IN THE ULTRA-LONG-RANGE SEGMENT,
CLASSIC FALCON PERFORMANCE FROM THE MOST DEMANDING AIRFIELDS**

Range is 7,500 nautical miles (13,890 km) at 0.85 Mach, making almost every city pair a nonstop flight. As large as it is, the Falcon 10X can still access typical airports serving business aviation as well as those with challenging approaches. The Falcon 10X is London City capable.

Typical ultra-long-range city pairs:

- New York to Shanghai
- Los Angeles to Sydney
- Paris to Santiago
- Hong Kong to New York

Typical city pairs at Mach .90 high-speed cruise:

- Geneva to Singapore
- Moscow to Los Angeles
- New York to Dubai

A VERY SPACIOUS, ADVANCED FLIGHT DECK

The 10X flight deck takes advantage of a larger fuselage cross section and extra length and therefore has more space for the flight crew. New levels of automation reduce workload and fatigue over long distances. New digital-flight-control technology adds breakthrough safeguards.

More space for the flight crew: The cockpit is a roomy space in terms of elbow room and length. It has integrated provisions to anticipate regulatory allowance for duty time credits in two-pilot operations. In the future, pilot seats could be permitted to recline to a flat position for rest.

A major advance in flight deck technology: The 10X's next-generation flight deck represents a breakthrough in the extensive use of touch screens and a more intuitive interface. It reduces crew operations and enhances safety through a series of new capabilities, for example: multi-touch capability to easily expand or shrink navigation images in a quick motion; better windowing flexibility including Onboard Information System ("Open World") integration; or auto-sensing for many switches, easing checklist management. The number of flight deck buttons and switches has been reduced, allowing for a smaller, simplified overhead panel.

Advanced power management: A smart throttle is the primary power control, linking the digital power management of both engines. It features an airbrake control and a fully integrated reverse sector. Its

COMMUNICATIONS DEPARTMENT

auto-throttle is capable of independently piloting the engines and touchdown and can automatically adjusting power on the operating engine in the event of the loss of one powerplant. The smart-throttle is also fully integrated with the Digital Flight Control System and can therefore be automatically activated with full authority in various recovery modes.

A next-generation Digital Flight Control System with new safety features: The 10X digital flight control system expands the capability of previous Falcon flight controls. As on the new Falcon 6X, all secondary flight controls (flaps, slats and spoilers) plus nose wheel steering are tied into the digital control system. The 10X goes another step with automatic protections derived directly from the latest Dassault fighter technology. A “**recovery mode**” can be activated with the touch of one button by pilots experiencing spatial disorientation or wake turbulence induced upset.

Leadership in enhanced vision: Dassault’s breakthrough FalconEye® combined vision system—the first to offer both enhanced and synthetic vision technologies—with dual head-up displays as the sole means for flying, allowing more flexible panel windowing and providing provisions to conduct future e EVS-to-land operations with essentially zero ceiling.

Advanced maintenance diagnostics. A new onboard system, FalconScan, first adopted on the Falcon 6X, sets a new standard in real-time system self-diagnosis. Connecting directly to all aircraft systems, FalconScan monitors more than 100,000 parameters (compared to hundreds in earlier Falcons), providing near instantaneous visibility for on-ground maintenance teams. Patented algorithms will enable fault detection and troubleshooting for individual aircraft plus trend monitoring across the Falcon 10X fleet worldwide.

NEW STRUCTURES, NEW AERODYNAMICS, ULTRA-EFFICIENT POWER

New fuselage: The aluminum fuselage design is entirely new with a circular cross section and frame spacing to permit extra-large windows. Even with a larger fuselage, the aircraft is highly efficient within the ultra-long-range segment due to an aero-optimized airframe with all-new wing design and efficient engine configuration.

New, high-speed wing: The 10X wings have been optimized to provide the best high-speed performance (thanks to high sweep angle and reduced thickness), especially for very high Mach numbers. They also keep Falcon’s traditional ingredients such as efficient moveable slats that ensure best performance and safety margins at low speed. Low-speed lift/drag ratio has been deeply improved, thanks to a very high aspect ratio wing and the choice of dedicated flap architecture. This double optimization (wings optimized for both low-speed and high-speed regime, unique in the business aviation world) has been made possible thanks to the use of innovative carbon fiber wing technology, mastered for years by Dassault Aviation on the Rafale fighter.

COMMUNICATIONS DEPARTMENT**A CLEANER, LEANER, SMARTER ENGINE**

The 10X's Rolls-Royce Pearl® 10X will be the industry's most advanced business jet engine. It is the latest, largest and most powerful of the Pearl engine series, delivering more than 18,000 pounds of thrust.

The Pearl 10X incorporates multiple innovations derived from Rolls-Royce's Advance2 technology demonstrator programs, including new materials and internal aerodynamics for more efficient combustion, longer life and lower maintenance. It is equipped with a new blisk fan for greater efficiency, an innovative combustor for lower emissions and an advanced high-pressure turbine for longer life.

The Pearl engine family is part of the Rolls-Royce Intelligent Engine vision for longer service life and lower maintenance. It has a revolutionary Engine Health Monitoring System that adds advanced vibration detection to thousands of other parameters. It's a user-friendly diagnostic system that keeps maintenance managers better informed of engine condition, delivering exceptional levels of availability and reliability.

The engine is fully supported by Rolls-Royce's industry-leading, CorporateCare® Enhanced engine service program.

UNIQUE FALCON SAFETY FEATURES**Military level safety features built in**

Falcons are built alongside Dassault's renowned Rafale fighters and meet the same high manufacturing standards, protecting, for example, the fly-by-wire system and fuel tanks from potential damage. All critical systems are meticulously segregated, and the fuel tanks are pressurized. Quality measures like these go far beyond minimum regulatory requirements and are unmatched in the industry.

Falcon 10X timeline

The Falcon 10X will enter service end of 2025.

COMMUNICATIONS DEPARTMENT

FALCON 10X SPECIFICATIONS

PERFORMANCE

- Range: 7,500 nm (13,890 km) at Mach .85 (8 pax, 4 crew, ISA, SL, Zero Wind, NBAA IFR Reserves)
- Maximum Mach Operating (MMO) speed: Mach .925
- Maximum Certified Altitude: 51,000 ft (15,545 m)
- Balanced Field Length (MTOW, SL, ISA) : < 6,000 feet (1,829 m)
- Landing Distance (SL, Public Transport) : < 2,500 ft (762 m)

ENGINES & AVIONICS

- 2 Rolls-Royce Pearl 10X Engines
- Max Thrust: 18,000+ lbs

- Next Generation Flight Deck
- With Honeywell Primus Epic System

EXTERNAL DIMENSIONS

- Wing Span: 110 ft 3 in (33.6 m)
- Length: 109 ft 7in (33.4 m)
- Height: 27 ft 7 in (8.4 m)

INTERNAL DIMENSIONS

- Cabin Height 6 ft 8 in (2.03 m)
- Cabin Width 9 ft 1 in (2.77 m)
- Cabin length (excluding flight deck and baggage): 53 ft 10 in (16.4 m)
- Cabin Volume 2,780 cu. ft. (78.7 cu. m.)
- Baggage Volume: 198 ft³ (5.60 m³)

WEIGHTS/CAPACITIES

- Maximum Ramp Weight: 115,400 lbs (52,345 kg)
- Maximum Takeoff Weight: 115,000 lbs (52,163 kg)
- Maximum Zero Fuel Weight: 67,800 lbs (30,754 kg)
- Maximum Fuel Weight: 51,700 lbs (23,451 kg)

COMMUNICATIONS DEPARTMENT

ABOUT DASSAULT AVIATION:

Dassault Aviation is a leading aerospace company with a presence in over 90 countries across five continents. It produces the Rafale fighter jet as well as the complete line of Falcons. The company employs a workforce of over 12,500 and has assembly and production plants in both France and the United States and service facilities around the globe. Since the rollout of the first Falcon 20 in 1963, over 2,500 Falcon jets have been delivered. Dassault offers a range of six business jets from the twin-engine 3,350 nm large-cabin Falcon 2000S to its flagship, the tri-engine 6,450 nm ultra-long range Falcon 8X and the new ultra widebody cabin Falcon 6X. For more information about Dassault Falcon business jets, visit: dassaultfalcon.com

[DOWNLOAD HIGH RES PHOTOS](#)**DASSAULT AVIATION PRESS CONTACTS****Saint-Cloud, France**

Vadim Feldzer, Head of Falcon Global Communications
Tel. +33 (0)1 47 11 44 13

Teterboro Airport, USA

Andrew Ponzoni, Senior Manager, Communications
Tel. +1 201 541 4588