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THE “MULTI-ROLE” FALCON FAMILY

The Falcon Multi-Role: an innovative solution of aircraft specifically designed to leverage the efficiency of daily Forces' missions

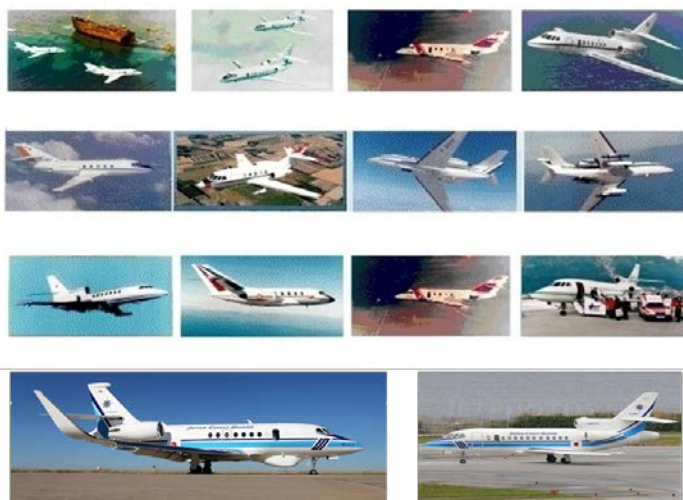
Dassault Aviation is a major private-owned company with over 100 years of experience in the design, manufacturing and maintenance of military and civilian aircraft.

Dassault Aviation has been gaining a strong reputation with their Falcon jet aircraft family, representing more than fifty-five years of success. In addition to the impressive flight qualities associated to an exceptional comfort, the “Falcon” name is synonymous of reliability and efficiency. Over 2,500 Falcon aircraft have been delivered in 82 countries; logging more than 17 million flight hours.

The Falcons are not only used for passenger transportation. When equipped with specific systems, their performance, flexibility and robustness enable them to accomplish a wide variety of military as well as public service missions. 10% of the Falcon aircraft are used by military or governmental entities. The Falcon fleet boasts over 250 Multi-Role Aircraft used for various missions. These aircraft have brought to their operators a very high level of efficiency, reliability and maintainability, whether for civilian or military missions' purposes.

DASSAULT AVIATION

MULTIROLE FALCON AIRCRAFT EXPERIENCE





The Falcon MRA "Multi-Role Aircraft" allows numerous layout possibilities for multirole missions. With the experience gained in Combat and Naval Aviation, in the field of air operations over grounds and seas, Dassault Aviation has designed and launched in production Falcon jet aircraft for Intelligence, Surveillance and Reconnaissance (ISR) missions, such as SigInt and Maritime Surveillance, which allows fulfilling numerous end-users' requirement.

The Falcon MRA, derived from the Falcon business jet, is perfectly sized for military missions. It is persistent, capable and safe. It demonstrates remarkable performance, during all the flight phases and allows a highly operational flexibility.

The Falcon relies on a very light logistical footprint. It can be easily deployed for overseas missions or on remote and isolated airfields. On demand, dedicated variants can be tailored for Maritime Patrol or Intelligence, Surveillance and Reconnaissance.

Falcon MRA configurations

The Falcon's fuselage can be fitted with a fully-fledged advanced mission suite, allowing to detect, classify and identify all kinds of threats and to react with the appropriate response. Other configurations allow the aircraft to be fitted with additional equipment (data links, Signal Intelligence, electronic warfare systems, self-protection suite...). It allows carrying out efficiently the various tasks dedicated to a Multi-Roles Aircraft operated by a reduced crew, thanks to analysing systems and automatic functions.

For Air Forces, Falcon 20 and 2000 were modified and equipped with mission systems, in order to fulfil ISR, SigInt and EW missions.

For Navies, the new Falcon Multi-Role Aircraft family of cost-efficient Maritime Surveillance/Reconnaissance and Patrol Aircraft (MSA/MRA and MPA), built on expertise and feedback experience, gained by Dassault Aviation on previous maritime programs such as Atlantique 2 MPA, Falcon 20 / 200 and Falcon 50M, but also Falcon 900 and 2000, delivered to the French Navy, the US Coast Guard and the Japan Coast Guard.



Today, DASSAULT AVIATION can study and deliver other variants based on a Falcon jet aircraft; the Falcon family starting from the Falcon 2000, up to the Falcon 8X. It is a unique concept of high performance, low cost and low risk development, Long Range / Long Endurance “Special Missions” Aircraft.

Depending on the selected platforms and systems, the crew concept is varying from two, up to ten members, on board the Falcon. As an example, the French MOD selected a variant of the Dassault Aviation FALCON jet for a variant dedicated for the French Air Force.

Falcon family unmatched maintainability

Falcon aircraft are designed to meet the highest reliability, maintainability and safety criteria. Falcon's maintenance policy is intended to maintain these highest standards at a minimum cost and optimum ease operators' work. The Falcon MRA features a very light maintenance costs and demonstrates an impressive dispatch reliability.

The Falcon can be operated from Forward Operating Bases without need for heavy Ground Support Equipment (GSE) and specific ground crew.

FALCON 2000 MRA

Concept built from

The Falcon 2000 MRA has inherited from the experience gained on various programs:

- The Long Range Maritime Patrol Aircraft "Atlantic / Atlantique 2" family, delivered to five different Navies and Air Forces.
- The Falcon family aircraft modified for Maritime Surveillance or ISR missions, operated by several foreign Coast Guard Administrations and the French Navy.
- The Falcon derivatives modified for "Special Missions".



Operational capabilities

The Falcon 2000 MRA is customised to fulfil all, or some of the following maritime or ISR missions and tasks, depending on the suite of equipment and sensors selected by the customer:

- Maritime Surveillance/Patrol
- Economic Exclusive Zone (EEZ) and maritime traffic surveillance,
- Search and Rescue (SAR),
- State action at sea,
- Environment protection,
- Lands and Borders Surveillance & Protection
- Anti-Surface Warfare (AsuW),
- Electronic Warfare (EW)
- Electronic Intelligence (ELINT)
- Communication Intelligence (COMINT)
- Signal Intelligence (SIGINT),
- Intelligence, Surveillance and Reconnaissance (ISR),
- Naval forces training (target towing, EW simulation...),
- Medical Evacuation capabilities (MEDEVAC),
- Personnel and light equipment transportation...



Falcon 2000 MRA key features

The Falcon 2000 MRA takes advantage of the Falcon aircraft family outstanding performance.

The twin-jet Falcon 2000 MRA is almost twice faster than a turbo-propulsed aircraft. This is essential for quick reactions, required to fulfil critical missions, as well as to rapidly monitor large zones.

The twin-engine configuration provides a huge reserve of power and unrivalled flight qualities. Fast and safe, the Falcon 2000 MRA is capable of climbing at high altitude and flying above adverse weather conditions, even with one engine inoperative.

It features necessary capabilities for a land based Multi-Role Aircraft:

- No take-off restriction up to ISA+20°C at MTOW,
- Low fuel consumption,
- Long range / long endurance,
- Fast speed to minimize transit time,
- Outstanding manoeuvrability at low speed / low altitude,
- Significant payload, with full fuel.
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The Falcon 2000 MRA is perfectly suited for maritime operations: it is fast, persistent, capable and safe. This platform, associated to a state-of-the-art mission system, is eligible for growth potential to meet any new requirement that could arise during the whole life of the aircraft.

Airframe highlights

The airframe of the Falcon 2000 has demonstrated its aerodynamic excellence, as well as its sturdiness under all climates and skies around the world. To date, around 600 Falcon 2000 have been delivered and have logged around than 2 million flight hours.

To cope with the whole range of Maritime Reconnaissance, Security as well as ISR Missions, the FALCON 2000 MRA is equipped with:

- Four leading edge slats and winglets,
- Oversized observation windows,
- Markers launcher,
- Life rafts dispenser, for SAR mission,
- Multimode radar, under the fuselage,
- Retractable electro-optical turret,
- Array of antennas for various electronic sensors
- Underwing store stations for a wide variety of stores (Air-To-Surface Missiles, Target-Towing equipment, Electronic Warfare /simulation pods...).

Modern propulsion

The Falcon 2000 MRA is powered by two PW 308C engines with 7,000 lbs thrust each. Each engine is monitored by dual channel Full Authority Digital Electronic Control (FADEC), allowing the best efficiency and minimum fuel consumption, during each segment of the mission.

State-of-the-art flight deck

The Falcon 2000 MRA is equipped with the state-of-the-art Enhanced Avionics System (EASy) cockpit defined by Dassault Aviation.



The flight deck is designed for a two-pilot configuration. EASy has inherited of some concepts issued from modern combat aircraft and flight management systems, which improve man-machine interfaces and represent a breakthrough in the crew resources management.

Mission system

The mission system of the Falcon 2000 MRA allows carrying out efficiently the various tasks dedicated to a multi-mission aircraft operated by a reduced crew, thanks to automatic functions and analysis processes.

Other configurations allow the aircraft to be fitted with additional equipment (data links, Signal Intelligence, electronic warfare systems, self-protection suite...).

In a basic configuration, it is composed of:

- A very long range multimode Air-to-Surface radar with dedicated air-to-surface and air-to-sea modes,
- A 15" retractable Electro-Optic turret (EO/IR), providing a 360° coverage,
- Multi-function workstations with automatic analysis functions, equipped with colour displays,
- A complete communication suite, including a SATCOM.

Crew concept

Basic configuration:

- 2 pilots,
- 2 operators / observers.

Enhanced configuration:

- 2 + 1 pilots,
- 3-6 operators / observers.
- Rest area

Dimensions

• Cabin height	74 in.	1.88 m
• Cabin width (maximum)	92 in.	2.34 m
• Cabin width (floor)	75.2 in.	1.91 m
• Cabin length	26 ft 2 in.	7.98 m
• Maximum Take-Off Weight	42,800 lbs	19,414 kg
• Fuel	16,660 lbs	7,557 kg
• Equipped Empty Weight	24,670 lbs	11,200 kg

