

# Super Large Jets

These are specialist purpose built business jets rather than conversions and among the most fiercely contested of all aviation market places. Honeywell believes that this segment, combined with ultra long range aircraft will lead to deliveries of more than 1,600 aircraft in the next 10 years. There could be as many as 170 aircraft during peak years. The Bombardier Global 5000 and the Gulfstream 450 often go head-to-head but Dassault with its two Falcon 900 variants is challenging hard.

■ The Gulfstream 450 is a derivative of the classic Gulfstream GIV series and features all of the latest technologies available in the industry.

Artist Tim Hall.

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## BOMBARDIER GLOBAL 5000



### SPECIFICATION

Length	96' 10"	29.5m
Wingspan	94'	28.6m
Height	25' 6"	7.7m
Cabin Length	42' 6"	12.94m
Cabin Width	8' 2"	2.49m
Cabin Height	6' 3"	1.91m
Cabin Volume	1,882 cu.ft	53.29m <sup>3</sup>
Max Range (8)	4,800nm	8,889km
Max Seating	3 + 17	
Typical Seating	3 + 8	
Powerplant	2x Rolls Royce Deutschland BR710A2-20	14,750lbs/65.6kN each
Avionics	Honeywell Primus 2000XP	
Max Cruise Speed	M0.89	513kts/950km/h
Max Ceiling	51,000ft	15,545m
Rate of Climb	1,869fpm	569mpm
Take off Distance	5,000ft	1,524m
Landing Distance	2,670ft	814m
MTOW	87,700lbs	39,893kg
Max Landing Weight	78,600lbs	35,652kg
Useful load	36,870lbs	16,724kg
Payload with full fuel	1,120lbs	508kg
Price	\$36.7m	€28.63m

## Super Large Jets

**THIS** intercontinental jet is designed to fill the niche in Bombardier's product line between the Challenger 604/605 and the ultra-long-range Global Express.

Powered by the same 14,750lbs (65.6kN) thrust Rolls-Royce Deutschland BR710 engines as the Global Express the Global 5000 has a shortened fuselage (32" - 77cm) – but without short cuts on performance.

The aircraft's zero flap takeoff capability allows operations at maximum take off weight at most airports worldwide. This means the Global 5000 can land at smaller airfields closer to business areas.

A balanced field length of just 5,000ft (1,525m) is required for a maximum range mission of 4,800nm (8,889km) at speed Mach 0.85.

For shorter missions it goes even faster – Mach 0.89 (590mph; 950 km/h) and can fly at a maximum ceiling of 51,000ft (15,545m).

The Global 5000 programme was launched in February 2002 and took its maiden flight in March 2003.

Transport Canada (TC) type certification was received in March 2004, European Joint Aviation Authorities (JAA) in July 2004 and US Federal Aviation Administration (FAA) in September 2004.

The aircraft entered service in April 2005, with a Middle East operator as the launch customer.

The aircraft is equipped with a Honeywell Primus 2000XP avionics suite with dual flight management systems, dual Category II autopilot systems and an automatic flight control system.

The long and wide cabin features the Rockwell Collins Airshow 21 integrated cabin electronics system and the Bombardier EVS as an option.

### HERITAGE

The first true derivative of the Global Express which itself was the first clean-sheet designed ultra-long range business jet launched in 1993 with first flight in 1996 certification by Canada in July 1998, FAA in November 1988 and JAA in May 1999. First customer delivery was July 23 1999.

### SPOTTER'S GUIDE



The outline of the Global Express is easily recognisable with effectively a CRJ fuselage mated to a low swept supercritical wing with winglets. It also features a swept T-tail with swept anhedral tailplane. The 10 windows differentiates the Global 5000 from the original Global Express (13) and the Global XRS (15).

## DASSAULT FALCON 900DX



### SPOTTER'S GUIDE

The 900DX features the same tri-engine design as the 50EX and the 7X and has twelve windows each side compared to the fourteen of the 7X. It has swept wings without winglets and the mid-mounted tail is swept with anhedral. As a Falcon it is easily distinguished, but may be confused with the larger 7X.

### SPECIFICATION

Length	66' 4"	20.21m
Wingspan	63' 5"	19.33m
Height	24' 9"	7.55m
Cabin Length	33' 2"	10.11m
Cabin Width	7' 8"	2.34m
Cabin Height	6' 2"	1.88m
Cabin Volume	1,264 cu.ft	35.79m <sup>3</sup>
Max Range (8)	4,100nm	7,593km
Max Seating	2 + 19	
Typical Seating	2 + 12	
Powerplant	3x Honeywell TFE731-60	5,000lb / 22.24kN each
Max Cruise Speed	474ktas	878km/h
Max Ceiling	51,000ft	15,545m
Rate of Climb	2,055fpm	627mpm
Take off Distance	4,890ft	1,490m
Landing Distance	3,530ft	1,076m
MTOW	46,700lbs	21,183kg
Max Landing Weight	42,200lbs	19,142kg
Useful load	22,430lbs	10,174kg
Payload with full fuel	3,600lbs	1,633kg
Price	\$32.75m	€25.55m

## Super Large Jets



**THE** 900DX is a long range tri-jet featuring Dassault Falcon EASy flight deck and is powered by Honeywell TFE731-60 turbofans producing 5,000lbs (22.24kN) each. It is of a similar overall configuration to the smaller Falcon 50, it uses the same wing, but also offers a wider and longer fuselage.

It can comfortably transport eight passengers 4,100nm (7,593km) and can easily fly from Paris to Chicago and doesn't need three miles of runway at the other end.

At maximum take off weight of 46,700lbs (21,183kg) it will clear the 50' (15m) perimeter fence in 4,890ft (1,490m).

This fast, long range, jet offers 1,264 cubic feet (35.79m<sup>3</sup>) of cabin space, ample room for the typical eight passenger configuration whilst being able to cruise at 51,000ft (15,545m) and a maximum of 474ktas – this jet means business.



### HERITAGE

The first 900 series Falcon was announced in 1983 as a development of the Falcon 50. It first flew in 1984 and was certified in March 1986 and first delivery occurred in December that same year. It has replaced the 900C and bridges the gap between the \$25m 2000EX and the \$35m 900EX. It flew for the first time on 13 May 2005 after having been announced at EBACE in 2004 and certification was awarded in October 2005.

## DASSAULT FALCON 900EX



### HERITAGE

Dassault announced the development of the 900EX in October 1994 and entered the development program with risk sharing partners, Alenia, Hellenic Aircraft Industries, Honeywell, Latecoere and SABCA, which provided 20% of the funding. The 900EX completed its first flight in June 1995. FAA certification was granted in July 1995 and the aircraft entered service in November 1996 with Anheuser-Busch Companies Inc. The aircraft is an upgraded version of the Falcon 900 which was announced at the Paris Airshow in June 1982. The 900 is a derivative of the Falcon 50.

### SPECIFICATION

Length	66' 4"	20.21m
Wingspan	63' 5"	19.33m
Height	24' 9"	7.55m
Cabin Length	33' 2"	10.11m
Cabin Width	7' 8"	2.34m
Cabin Height	6' 2"	1.88m
Cabin Volume	1,264 cu.ft	35.79m <sup>3</sup>
Max Range (8)	4,500nm	8,334km
Max Seating	2 + 19	
Typical Seating	2+ 12	
Powerplant	3x Honeywell TFE731-60 5,000lb / 22.24kN each	
Max Cruise Speed	474ktas	882km/h
Max Ceiling	51,000ft	15,545m
Rate of Climb	3,880fpm	1,182mpm
Take off Distance	5,215ft	1,590m
Landing Distance	3,522ft	1,074m
MTOW	49,000lbs	22,226kg
Max Landing Weight	44,500lbs	18,641kg
Useful load	23,800lbs	10,796kg
Payload with full fuel	2,800lbs	1,270kg
Price	\$36.15m	€28.2m

## Super Large Jets



**WITH** its classic trijet engine design, the Falcon 900EX can use small airports at high altitudes, even on hot days. It's the most versatile aircraft and also one of the safest given, its ability to fly slower on approach than its twinjet competitors... and that can be after a 4500nm (8,334km) nonstop flight.

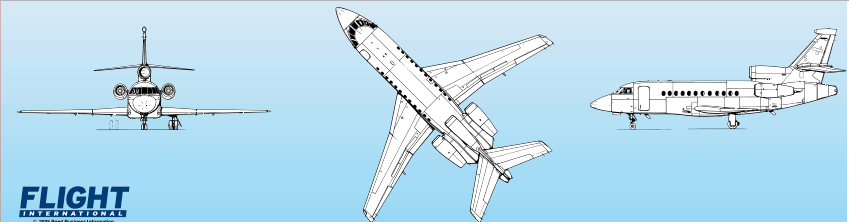
The 900EX cabin length measures 33' 2" (10.11m) from the cockpit divider to the aft pressure bulkhead, devoting 25' (7.62m) to passenger seating. It is a broad 7' 8" (2.34m) wide and 6' 2" (1.88m)

high so passengers can move about easily. Dassault has always been a leader in cabin comfort and facilities.

Computers, fax, telephone, SATCOM, digital datalink, copiers, video displays and conference tables ensure productive flights – and as you would expect from a classic French design there is a galley fully equipped for multiple meals.

The 900EX was the first to incorporate the EASy flight deck born out of a military heritage that demands a highly intuitive and performance enhancing flight environment.

### SPOTTER'S GUIDE



**FLIGHT**  
INTERNATIONAL

The 900EX features low swept and tapered wings with three Honeywell TFE731-60 turbofan engines each providing 5,000lbs (22.24kN) of thrust, two mounted on the sides of the rear fuselage and one on top of the fuselage at the base of the tail. There is a tall swept tailfin and a mid-mounted highly swept tailplane. There are 12 windows on either side of the aircraft.

## GULFSTREAM G450



### HERITAGE

Gulfstream GIV/GIV-SP/G400, of which 500 aircraft were built and sold between 1982 and 2002, formed the basis for the G450. The GIV entered service in June, 1987 and in December 2002, the last GIV was "rolled out" and the manufacturing line was transitioned to produce the Gulfstream G300 and G400. The first G450 test aircraft completed its first flight on April 30th 2003, FAA type certification was awarded in August 2004 and in November 2004 the European Aviation Safety Agency (EASA) validated the FAA certification. Gulfstream are proud of the commonality of the G450 with the G350 and to a degree the G500 and G550 which allows simple pilot type conversions and impressive savings for spares.

### SPECIFICATION

Length	89' 4"	27.23m
Wingspan	77' 10"	23.7m
Height	25' 2"	7.67m
Cabin Length	45' 1"	13.74m
Cabin Width	7' 4"	2.24m
Cabin Height	6' 2"	1.88m
Max Range (8)	4,350nm	8,061km
Max Seating	3 + 19	
Typical Seating	3 + 12-16	
Powerplant	2x Rolls-Royce Tay Mk 611-8C	13,850lb/61.6kN each
Avionics	Honeywell Primus Epic	
Max Cruise Speed	M 0.80	459ktas/850km/h
Max Ceiling	45,000ft	13,716m
Rate of Climb	3,760fpm	1,146mpm
Take off Distance	5,450ft	1,661m
Landing Distance	3,260ft	994m
MTOW	73,900lb	33,521kg
Max Landing Weight	66,000lb	29,937kg
Useful load?	6,000lb	2,722kg
Max fuel Payload?	1,800lb	816kg
Price	\$34.17m	€26.66m

## Super Large Jets

**THE** G450 was unveiled at NBAA in Florida October 2003 as a replacement to the successful G400 and classic GIV series. It outperforms the G400 with a 250nm (463km) additional range capability and improved hot-day and high-elevation takeoff performance. There is an extra 12" (30cm) in the fuselage and changes in the interior arrangement. Inside the cockpit is the fully integrated flight deck utilising Gulfstream's PlaneView.

The cabin can seat up to 19 passengers. It can be customised to the operator's requirements, for example with an aft stateroom, galleys with countertop cooking, exercise bicycles rated to handle 2G bank angles, surround sound entertainment systems, multiple flat panel monitors, satellite telephone and DIRECTV and Broad Band Multi-Link (BBML) internet access.

The cabin has three separately controlled temperature zones with 100% fresh air air-conditioning and 12 heated oval windows.

During 2006 Gulfstream has been using the aircraft to prove the latest technologies. The company is flight testing its second generation of enhanced vision system (EVS),

with certification on the G450 and G550 scheduled for the second quarter of 2007. The EVSII system will be fitted to new production aircraft from late 2007 or early 2008.

The aircraft features an improved Rolls-Royce Tay engine, designated the Tay 611-8C, which produces 13,850lbs (61.6kN) of thrust with a Full Authority Digital Engine Control (FADEC), improved larger diameter fan, modified high pressure turbine and new bypass/core mixer. These improvements have resulted in reduced fuel burn, increased operating margins, increased thrust for improved takeoff and climb performance, and extension of maintenance intervals to 6,000 hours midlife and 12,000 hours for full overhaul.



### SPOTTER'S GUIDE



From the exterior, the discerning observer of the G450 will note the repositioning of the main entrance door and the slightly longer fuselage than that of the GIV/G400. There are 12 distinctive oval windows, a low swept wing with winglets, the Tay engines are mounted on the sides of the rear fuselage behind which is the swept 'T' tail with swept tailplane.