

BOMBARDIER

BACKGROUNDER

BOMBARDIER CHALLENGER PROGRAM OVERVIEW

TOTAL DELIVERIES – 637

TOTAL FLYING HOURS 2,796,284

Challenger 600

Description: Powered by two Honeywell 502 high bypass turbofan engines each capable of 7,500 lb. thrust (33.4 kN) at takeoff. Optional fuselage fuel tanks add 261 gal. (988 l), for a total capacity of 2,451 gal. (9,278 l).
Maximum cruise speed of Mach 0.80 (528 mph; 850 km/h), maximum altitude of 41,000 feet (12,497 m) and a range of 2,800 nm (5,186 km) or 3,123 nm (5,784 km) with optional fuel tanks.

First flight: Nov. 8, 1978

Certification dates: Aug. 11, 1980 (Transport Canada)
Nov. 7, 1980 (US FAA)

First customer delivery: Dec. 30, 1980

Final customer delivery: June 22, 1983

Status: 84 aircraft delivered

Total flight hours: 575,908 (as of Dec. 31, 2004)

Challenger 601-1A

Description: Principal changes:
° powered by two General Electric CF34-1A high bypass turbofan engines, each with 8,650 lb. thrust (38.5 kN) at takeoff and 9,140 lb. (40.7 kN) with APR;
° fuel capacity increased to 2,451 gal. (9,278 l) from 2,190 gal. (8,290 l);
° winglets added for increased aerodynamic efficiency;
° range increased to 3,365 nm (6,232 km).

First flight: Sept. 17, 1982

Certification dates: Feb. 25, 1983 (Transport Canada)
March 11, 1983 (US FAA)

First customer delivery: May 6, 1983

Final customer delivery: May 29, 1987

Status: 67 aircraft delivered

Total flight hours: 574,838 (as of Dec. 31, 2004)

Challenger 601-3A

Description: Principal changes:
° CF34-3A engines flat rated to 70° F (21° C) for maximum thrust of 8,729 lb. (38.8 kN) and 9,220 lb. (41.0 kN) with APR (versus 59 deg. F /15°C) for CF34-1A engines;
° factory-installed comprehensive digital avionics suite with five-tube EFIS, dual channel digital flight guidance system, dual laser inertial reference units, dual flight management systems with worldwide data base, LASERTRAK backup navigation display unit, turbulence-detecting, four-color digital radar.

First flight: Sept. 28, 1986

Certification dates: April 21, 1987 (Transport Canada)
April 30, 1987 (US FAA)

First customer delivery: May 6, 1987

Final customer delivery: Oct. 29, 1993

Status: 134 aircraft delivered

Total flight hours: 742,602 (as of Dec. 31, 2004)

Challenger 601 with extended range option

Description: A version of the Challenger 601-3A modified to increase fuel capacity to 2,635 gal. (9,975 l) and range to 3,585 nm (6,639 km). Also available at customer's option for retrofitting in-service Challenger 601-1A and 601-3A aircraft.

Principal features:
° tail cone fuel tank of 184 gal. capacity (697 l) in place of standard tail cone fairing;
° main landing gear modification to increase ramp and takeoff weights by 2,000 lb (907 kg);
° redesigned tail fairing similar to MD-11 for improved aerodynamics.

First flight: November 8, 1988

Modification approved: March 16, 1989

First customer delivery: March 17, 1989 (601-1A)
May 19, 1989 (601-3A)

Final customer delivery: Oct. 29, 1993

Status: 92 modification kits ordered

Challenger 601-3R

Description: An evolution of the 601-3A featuring airliner-proven engines, built-in intercontinental range capability of 3,585 nm (6,639 km), improved reliability and maintainability, and reduced operating costs.

Principal changes:
° powered by two General Electric CF34-3A1 engines developed for the Canadair Regional Jet* program, featuring a maximum thrust of 8,729 lb. (38.8 kN) and 9,220 lb. (41.0 kN) with APR;
° extended range tail tank as standard equipment;
° increased standard maximum takeoff weight to 45,100 lb (20,457 kg);
° improved system reliability and maintainability.

First customer delivery: July 14, 1993

Final customer delivery: Jan. 29, 1996

Status: 59 aircraft delivered

Total flight hours: 241,644 (as of Dec. 31, 2004)

Challenger 604

Description:	The most significant product upgrade since the 601-1A, the <i>Challenger 604</i> combines a 4,027 nm (7,458 km) intercontinental range with exceptional short- and medium-range efficiencies. Principal changes include: <ul style="list-style-type: none">° powered by two new General Electric CF34-3B high bypass turbofan engines flat-rated to ISA +15°C (86° at sea level) to improve hot and high performance while reducing specific fuel consumption;° new Collins ProLine 4 avionics suite features six-tube EFIS with EICAS and MDC;° fuel capacity increased to 20,000 lb (9,072 kg) and maximum takeoff weight increased to 48,200 lb (21,864 kg);° optional maximum takeoff weight of 48,200 lb (21,864 kg);° new landing gear and rolling assembly (brakes, wheels, tires), anti-skid system;° New optional extended cabin interior with 10 per cent more usable space
Certification dates:	Sept. 30, 1995 (Transport Canada) Nov. 2, 1995 (US FAA)
First customer delivery:	March 19, 1996
Status:	293 aircraft delivered
Total flight hours:	647,414 (as of Dec. 31, 2004)

Challenger 604 with Bombardier PrecisionPlus upgrade

Description:	This innovative avionics upgrade increases operating efficiencies and performance capabilities. The principal changes include: <ul style="list-style-type: none">° automatic look-up and display of takeoff, approach, landing and missed-approach speeds as primary information. This reduces pilot workload and improves accuracy by eliminating pilot reference to manual charts;° automatic look-up and display of thrust setting (N1) for takeoff, climb, cruise and go-around as primary information, reducing the possibility of pilot error, and helping prolong engine life through improved engine thrust management;° blending of actual observed wind and entered wind to improve the prediction of flight time and fuel requirements and enhance mission planning;° position reporting in non-radar environments such as the North Atlantic;° improved polar navigation, enabling cockpit crews to navigate and steer the aircraft at latitudes over 89 degrees;° full-time DME Distance reporting on the pilot's Multifunction Display (MFD); and° EICAS improvements include Metric Fuel Indication capabilities, logic enhancements and Flight Management System (FMS) performance enhancements. Optional features: <ul style="list-style-type: none">° 3-D flight plan map providing increased crew awareness;° long-range cruise allows pilots to select an FMS-computed cruise speed for either maximum range or maximum speed, reducing pilot workload;° search pattern feature enables pilots to fly fixed search patterns; and° expanded Flight Data Recorder to record all parameters required for FAR 135.152,
Certification dates:	May 30, 2001 (Transport Canada) June 20, 2001 (US FAA)
First installation:	Challenger 604 – s/n #5500
Status:	Retrofits are available at Bombardier Business Aviation Services facilities.

Bombardier Challenger 600, Challenger 601-1A, Challenger 601-3A, Challenger 601-3R, Challenger 604 and Precision Plus are trademark(s) of Bombardier Inc. or its subsidiaries.

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