

ARCHIVED REPORT

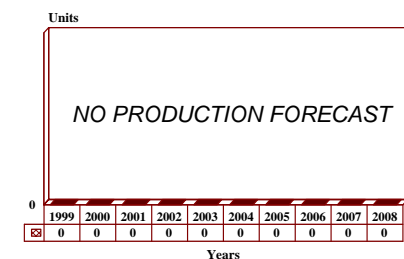
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BAe Jetstream 41 - Archived 7/2000

Outlook

- Final deliveries in late 1998 following May 1997 decision to end unprofitable program
- Further transactions of used J41s seen, but line to remain closed

10 Year Unit Production Forecast
1999-2008



Orientation

Description. Twenty-nine to 40-seat pressurized regional/commuter passenger transport aircraft.

Sponsor. British Aerospace.

Contractors. British Aerospace plc, Jetstream Aircraft Division. Manufacturing performed at Prestwick Airport, Ayrshire, Scotland, UK. Risk sharing partners are Field Aircraft, Derby, England, UK; Pilatus Aircraft Ltd, Stans, Switzerland.

Status. Final deliveries in late 1998.

Total Produced. BAe produced 101 aircraft through 1998, production completed.

Application. Short-range regional/commuter passenger transportation. Additional commercial and military/paramilitary uses envisioned as well.

Price Range. J41, \$6.85 million in 1998 US dollars.

Technical Data

Design Features. Cantilever low-wing monoplane of conventional light alloy construction, using a conventional cantilever tail unit and retractable tricycle-type landing gear. It is derived in major part from the Jetstream 31 and Super 31. Major changes from the Jetstream 31 include a fuselage stretch of 16 feet yielding a fuselage that is 63 feet, five inches in length (19.34 m). The longer fuselage allows 10 additional

passengers, a new forward passenger door with integral airstair, and a new aft baggage door. The wing/fuselage junction is changed, lowering the wing and placing the wing spar carry through structure below the cabin floor, not above it as in the J31. The windscreen is also redesigned for improved visibility and aerodynamic efficiency. The aircraft is certificated to FAR/JAR 25 introducing redundant control system routing.

Dimensions

Length overall
Height overall

Metric

19.25 m
5.74 m

US

63.20 ft
18.83 ft

	<u>Metric</u>	<u>US</u>
Wingspan	18.29 m	60 ft
Cabin width	1.85 m	6.07 ft
Cabin height	1.80 m	5.906 ft
Cabin length	9.55 m	31.33 ft

Weight

Maximum take-off	10,433 kg	23,000 lb
Maximum ramp weight	10,483 kg	23,110 lb
Maximum zero fuel weight	9,389 kg	20,700 lb
Operating empty	6,350 kg	14,000 lb
Maximum payload	3,039 kg	6,700 lb
Usable fuel	2,631 kg	5,800 lb

Performance

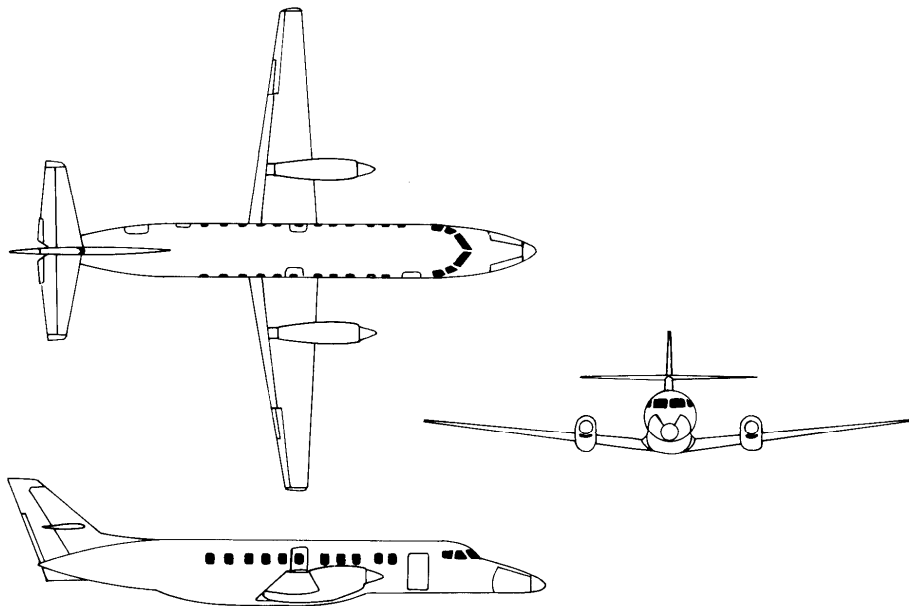
Maximum cruise speed	546 km	295 knots
Take-off run, 29 passengers, fuel for 590 nautical mile segment, no obstacles	1,341 m	4,400 ft
Landing run	1,280 m	4,200 ft
Range, with 29 passengers, reserves	1,093 km	590 nm
Range, with 27 passengers, reserves	1,359 km	734 nm

Propulsion

- Jetstream 41 (2) Allied Signal Propulsion (Garrett) TPE 331-14 centrifugal flow, single spool turboprop engines flat rated to 1,118.6 kW (1,500 shp); each driving a five-bladed aluminum propeller system.
- (2) TPE 331-14 engines rated 1,230 kW (1,650 shp) each. Available from January 1994.

Seating

Three abreast seating for 29 passengers at 30-inch seat pitch.



BAe JETSTREAM 41

Source: Forecast International

Variants/Upgrades

Improved Jetstream 41. Minor derivation. Improvements announced in April 1993 for early 1994 introduction include higher rated TPE 331s, a 450 kg increase in landing weight, and 320 kg increase in zero fuel weight.

Corporate Shuttle. Announced in late 1994, this model seats 12-14 and, while capable of 1,400-nautical mile

stage lengths, is targeted specifically at the 200-500 nautical mile trip segment. The aircraft offers more room per passenger than a number of more expensive business aircraft while also offering an impressive baggage capacity.

Program Review

Background. British Aerospace and the predecessor aircraft companies which it now encompasses have been a major player in the regional/commuter aircraft business for the better part of four decades. The manufacturer's 748, Jetstream 31 and Super 31, and 50-seat class ATP represented BAe in the commuter segment of the airline business, with the four-engined BAe 146 and subsequent RJ series being sold to both regional and major operators.

The sole survivor of this distinguished line is the 29-passenger Jetstream 41. During the mid-1980s BAe saw the trend toward larger capacity aircraft in this market segment and, in May 1989, the company launched the long-awaited stretched derivative of the 19-seat Jetstream Super 31, powered by Garrett TPE 331-14 turboprop engines.

Program Schedule. As BAe was about five years behind its most important competition, the EMBRAER Brasilia, it was imperative that it get the Jetstream 41

into the air first. This was the primary reason it stayed with Garrett for main propulsion. The Jetstream 31 used the TPE 331, and wing changes for the Dash 14 turboprop would be minimal. BAe had hoped to offer over 300 knots of maximum cruise speed in the aircraft, but felt the risk of integrating a new powerplant such as the GE CT7 or Pratt & Whitney Canada PW100 was too great to consider. Furthermore, having as much airframe and engine commonality as possible would enhance the Jetstream 41's sales potential.

Risk Sharing Partners. While BAe could easily have rationalized launching the 29-passenger Jetstream 41 into a very competitive market segment, it did not do so without spreading the aircraft's development costs. Pilatus and Field Aviation signed on as risk sharing partners, Pilatus producing tail structure and ailerons and Field doing all aircraft completions.

Other major contractors include:

ABG-Semca	Pressurization system
AMI	Crew seats
AP Precision Hydraulics	Nose and main landing gear
BF Goodrich	Anti-icing systems
Crane Hydro Aire	Anti-skid system
Dunlop	Tires, wheels and brakes
JC Carter	Pressure refueling and fuel valves
Gulfstream Aerospace	Wings
Hartman Electrical	Electric power distribution unit
Honeywell	Digital avionics including the SPZ-4500, EDZ-805, four-tube EFIS, Primus 650, Primus II integrated communications system, AHRS, DADC
Lucas Aerospace Avitron (USA)	Starter/generating system
Lucas Actuation Division	Aircraft hydraulic system
McCauley	Propellers
Normalair-Garrett Ltd	Environmental control system
Ozone Industries	Landing gear components
SafeFlight	Stall protection system
Smiths Industries	LED Engine indicating system

Westland Design Services Door design
Program Termination. In late May 1997 BAe announced it was ending Jetstream 41 production upon completion of the existing order backlog, and final deliveries were made at the end of 1998. The

manufacturer cited poor pricing and profitability, coupled with intense competition, as prime factors in the decision.

Funding

Development cost of the Jetstream 41 estimated at \$150 million (1991 US).

Timetable

<u>Month</u>	<u>Year</u>	<u>Major Development</u>
May	1989	BAe launched Jetstream 41 Garrett TPE 331-14 selected to power the aircraft
May	1991	Prototype rollout
Sep	1991	Prototype first flight
Feb	1992	Second prototype flew
Nov	1992	JAA certification
Jan	1993	First aircraft (S/N41005) delivered to Loganair
Apr	1993	FAA certification and initial US delivery, Atlantic Coast Airlines
Late	1994	Corporate shuttle version announced
Late	1998	Production ended

Worldwide Distribution

See Airline Inventories, Orders and Options section.

Forecast Rationale

BAe delivered the final three Jetstream 41s in late 1998. Although the aircraft had proven to be one of the most economical in its class, the 25-30-seat capacity segment had become overcrowded and the manufacturer was losing money on each aircraft it built.

Perhaps the death knell of the program was the introduction of a new generation of 30-35-passenger regional jets offering higher frequencies and/or longer stage lengths. BAe's Asset Management-Turboprops unit continues to remarket and place used J41s but no new production is involved in these activities.

Ten-Year Outlook

ESTIMATED CALENDAR YEAR PRODUCTION

Aircraft	(Engine)	High Confidence Level				Good Confidence Level				Speculative				Total 99-08
		thru 98	99	00	01	02	03	04	05	06	07	08		
BRITISH AEROSPACE A/C GROUP														
JETSTREAM 41(a)	TPE 331-14A/B	101	0	0	0	0	0	0	0	0	0	0	0	0
Total Production		101	0	0	0	0	0	0	0	0	0	0	0	0

(a)Includes two prototype/flight test aircraft.