



COMMERCIAL AIRCRAFT ENGINES

CFM56-5B

CFM56-5B

Powers the Airbus A318, A319, A320 and A321

Three-dimensional aerodynamic design throughout

Pioneer in low NOx technology for single-aisle aircraft

Over 2,100 engines into service, which have logged over 24 million flight hours

Ranging from 22,000 to 33,000 pounds in takeoff thrust, jointly certified by the US Federal Aviation Administration (FAA) and the French Direction Générale de l'Aviation Civile (DGAC) authorities in 1993, the CFM56-5B is the only engine which powers all members of the A320 family.

The first engine entered into service in 1994 and, since then, the CFM56-5B family has achieved an outstanding level of engine reliability, keeping operating costs low.

Designed to minimize the overall engine cost of ownership, the CFM56-5B combines the proven industry-leading CFM56 derivative architecture with the latest state-of-the-art technology, such as three-dimensional (3D) aerodynamic design of all the blades and vanes throughout the turbomachinery for increased efficiency.

Building on the CFM56 family robust architecture, the CFM56-5B provides very high levels of dispatch reliability. The engine has achieved early ETOPS* approval.

Since 1995, to meet the most demanding clean air restrictions, CFM International offers airlines an optional advanced Double Annular Combustor (DAC), reducing by as much as 40 percent the emissions

of nitrogen oxides (NOx) compared to a standard combustor design.

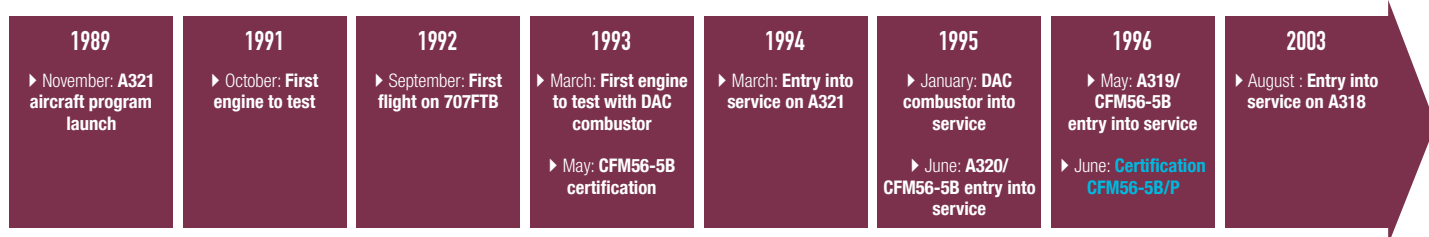
Benefiting from fewer and longer-lasting life limited parts and top engine reliability, the CFM56-5B offers low line and shop maintenance costs. Since August 1999, the CFM56-5B also powers the Airbus A318, at a thrust ranging from 21,000 to 23,300 pounds. With an engine able to cover the entire A320 family, CFM International is therefore in a position to provide a wealth of commonality benefits to mixed-fleet operators.

(*) ETOPS for 120-minute Extendedrange, Twin-engine OperationS

ENGINE FEATURES

	-5B1 / -5B2	-5B3	-5B4	-5B5 / -5B6	-5B7	-5B8 / -5B9
Max. takeoff thrust (lb)	30,000/31,000	32,000	27,000	22,000/23,500	27,000	21,600/23,300
Bypass ratio	5.50	5.40	5.70	6/5.90	5.70	6/5.90
Flat rate temperature (°F)	86 (30 °C)	86 (30 °C)	111 (44 °C)	113 (45 °C)	111 (44 °C)	113 (45 °C)
Max. climb thrust (lb) 35,000 ft – Mach = 0.8 – ISA Engine installed	6,420	6,420	5,630	5,630	6,420	5,705
Overall pressure ratio at max. climb	35.90	35.90	32.60	32.60	35.40	32.60
Length (in)	102.40	102.40	102.40	102.40	102.40	102
Fan diameter (in)	68.30	68.30	68.30	68.30	68.30	68.30
Applications	A321	A321	A320	A319	A319	A318

PROGRAM MILESTONES



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