CFM56

CFM56-7BE
For the Boeing 737 Family
CFM International is the industry’s leading jet engine supplier, and the CFM56 is the engine of choice for both airlines and leasing companies worldwide.

CFM achieved global leadership by applying a very simple concept: to produce the most reliable, cost-effective engine in the industry, while reinvesting constantly to redefine the state of the art, and by continually introducing improvements into the mature fleet.

CFM is committed to delivering significant added value to its customers – lower maintenance costs and fuel consumption – without sacrificing commonality or residual value.

Throughout its history, CFM has invested in the development of technologies to meet future market requirements and bring enhanced value to the current fleet.

**MILESTONES**

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THE NEW STANDARD FOR THE BOEING
NEXT-GENERATION 737
HIGHER VALUE THROUGH ENHANCED ENGINE HARDWARE

The new model designation “E” means: ENHANCEMENT
and reflects the extensive improvement in engine efficiency

• FUEL CONSUMPTION REDUCED BY 1%
• MAINTENANCE COSTS REDUCED BY UP TO 4%
• 10°C INCREASE IN EGT MARGIN
• FULLY INTERCHANGEABLE AND INTERMIXABLE
• UPGRADE KITS AVAILABLE
Improved surface finish, airfoil alignment and shroud extension reduce aerodynamic losses and lower fuel consumption.

The design of the high-pressure compressor outlet guide vanes has been improved to enhance engine performance.

The new 3-D aero design high-pressure turbine, with 5% fewer blades, reduces fuel consumption and maintenance costs. The blades are installed on a redesigned disk. The high-pressure turbine also features a new forward outer seal that reduces dirt and sand accumulation and clogging.

Better low-pressure turbine aerodynamics improve fuel consumption, while a 9% reduction in the number of airfoils helps lower maintenance costs. The disks and casing have also been modified with a new 3-D aero design that optimizes engine performance.
THE NEW ENHANCEMENT IN ENGINE EFFICIENCY

CFM launched the CFM56-7BE program in 2011 in conjunction with Boeing’s improved Next-Generation 737 to provide better overall fuel efficiency.

• FUEL CONSUMPTION REDUCED BY 1%
The CFM56-7BE improves fuel consumption by 1% compared to the CFM56-7B Tech Insertion engine. Enhancements to the Next-Generation 737 airframe provide another 1% improvement, for a total gain of 2% in fuel efficiency compared to the current Boeing Next-Generation 737.

• 10°C HIGHER EGT MARGIN
The CFM56-7BE provides an additional 10°C EGT (exhaust gas temperature) margin, giving the engine longer time-on-wing. It also helps delay shop visits until major parts reach their life limit, rather than reaching EGT margin limits.

• UPGRADE KITS AVAILABLE
CFM56-7BE upgrade kits were certified by the FAA in the United States and EASA in Europe at the end of 2011. There are three sub-kits:

Outlet guide vanes (OGV); high-pressure turbine (HPT, including disk, blades and forward outer seal); and low-pressure turbine (LPT, including disk, blades, nozzle and casing). These sub-kits can be fitted independently on the CFM56-7B and CFM56-7B/3. CFM is also offering a complete upgrade kit that incorporates all three sub-kits. Any CFM56-7B/3 engine upgraded with the complete kit will be given the CFM56-7BE nameplate.

• MAINTENANCE COSTS REDUCED UP TO 4%
Hardware changes coupled with a 5% reduction in the high-pressure turbine blade count and a 9% decrease in the low-pressure turbine blade count reduce maintenance costs up to 4%.

• FULLY INTERCHANGEABLE AND INTERMIXABLE
The CFM56-7BE is fully interchangeable and intermixable with the rest of the CFM56-7B family. All CFM56-7B engine versions can be interchanged on any Boeing 737 family aircraft. The intermix is managed by the engine and aircraft computers.