

F117-PW-100

Turbofan Engine

Exclusive Power for the C-17 Globemaster III Transport



Pratt & Whitney's F117-PW-100 engine is a member of the PW2000 family of commercial engines. Certified at 40,440 pounds of thrust, the F117 was selected by the U.S. Air Force as the exclusive powerplant for the C-17 Globemaster III, an advanced four-engine transport.

The F117 engines are equipped with a directed-flow thrust reverser capable of being deployed in flight. On the ground, the thrust reverser can back a fully loaded aircraft up a two-degree slope. It is also noteworthy that the F117-powered C-17 set 22 world records during qualification testing before initial operating capability (IOC).

Reliability

Since 2006, Pratt & Whitney's F117 engines have accumulated more than 9 million flight hours in support of military and humanitarian missions around the globe. The world's ever-changing geopolitical landscape requires military flexibility. Whether it's an airlift mission, humanitarian aid or an overnight combat airdrop in an unsecured location, the F117-powered C-17 is ready to respond.

Dependability

Four F117 engines power each C-17 Globemaster III, and with more than 13 million hours of proven military service, the F117 has consistently proven itself as a world-class, dependable engine. Pratt & Whitney's ongoing investment in product improvements has enabled the engine to continuously surpass established goals for time on-wing, in-flight shutdowns and reduced turnaround time.

System Availability

A Full-Authority Digital Electronic Control (FADEC) delivers high operational performance, low fuel burn and excellent maintenance diagnostics. The F117 engine is a solid performer and complements the reputation of the PW2000 family of engines as the world's leading midrange-thrust engines.

Today's F117 engine—the reduced temperature configuration (RTC)—uses technical and material advancements such as second-generation single-crystal turbine materials, improved cooling management and thermal barrier coatings to lower operating temperatures. These enhancements contribute to the F117's excellent reliability, durability and long time on-wing.

Product Facts

Program Milestones

| | | | |
|------|--|------|---|
| 1983 | PW2037 FAA certification | 2009 | Strategic Airlift Capability (SAC) for Europe receives first C-17 |
| 1987 | PW2040 FAA certification | 2009 | Qatar receives first C-17 |
| 1991 | First F117 flight in U.S. Air Force/McDonnell Douglas C-17 | 2010 | 1,000th F117 engine delivery |
| 1993 | First C-17 for operational service delivered | 2011 | UAE receives first C-17 |
| 1995 | C-17/F117 initial operating capability | 2013 | Ten million engine flight hours |
| 2001 | United Kingdom C-17 leases | 2013 | India receives first C-17 |
| 2002 | 500th F117 engine delivery | 2014 | Kuwait receives first C-17 |
| 2006 | Australia receives first C-17 | 2015 | C-17 and F117 production ends |
| 2007 | Canada receives first C-17 | 2016 | Completed over 2,400 overhauls since 2001 |

Characteristics

| | | | |
|----------------|--------------------------|------------------------|----------------------|
| Thrust | 40,440 pounds (179.9 kN) | Maximum diameter | 84.5 inches (2.15 m) |
| Weight | 7,100 pounds (3,220 kg) | Bypass ratio | 5.9 to 1 |
| Length | 146.8 inches (3.73 m) | Overall pressure ratio | 30.8 to 1 |
| Inlet diameter | 78.5 inches (1.99 m) | | |

C-17 Military Applications

| | | |
|----------------|----------------|--------|
| U.S. Air Force | Canada | Qatar |
| United Kingdom | India | UAE |
| Australia | SAC for Europe | Kuwait |



Pratt & Whitney

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