Pratt & Whitney
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F119
MILITARY ENGINES

F119-PW-100

PROVEN POWER FOR THE F-22 RAPTOR

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Photo Credit: U.S. Air Force

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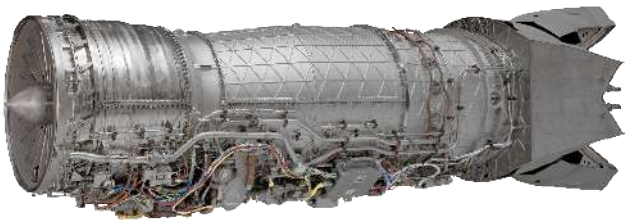
F119



Proven power for the F-22 Raptor

Pratt & Whitney's F119 turbofan engine is the world's first fifth-generation fighter engine. The F119 combines stealth technologies and vectored thrust performance to provide unprecedented maneuverability and survivability with a high thrust-to-weight ratio. The ability to operate supersonically without afterburner— supercruise—gives the F-22 exceptional combat performance without compromising mission range.

ADVANCED TECHNOLOGY

The F119 is equipped with a number of advanced technologies for unmatched operational performance and reliability. Its three-stage integrally bladed fan is powered by a single-stage low-pressure turbine. The robust, yet compact, high-pressure compressor features advanced airfoil aerodynamics and integrally bladed rotor disks for ensured durability. The engine's counter-rotating core has an aerodynamically efficient six-stage compressor driven by a single-stage high-pressure turbine featuring single-crystal superalloy blades and advanced cooling technologies. The engine delivers unparalleled aircraft maneuverability with its unique two dimensional pitch-vectoring exhaust nozzle.

MAINTAINABILITY

Ease of assembly, maintenance and repair were designed into the F119 from its inception using a balanced team approach that included assemblers and flight line mechanics. Requirements for support equipment and labor were significantly reduced, minimizing the overall F119 logistics footprint.

SAFETY

The F119 engine has achieved a best-in-class safety record since its introduction by outperforming legacy engine benchmarks.

ENGINE SPECIFICATIONS

Type	Twin-spool, augmented turbofan
Thrust	35,000 pounds
Engine control	FADEC (Full-Authority Digital Engine Control)
Compression System	Dual-rotor, counter-rotating, axial flow, low aspect ratio - Three-stage fan - Six-stage high-pressure compressor
Combustor	Annular, FloatwallTM configuration
Turbines	Axial flow, counter-rotating - One-stage high-pressure turbine - One-stage low-pressure turbine
Nozzle	Nozzle Two-dimensional pitch-vectoring convergent/divergent