Military Engines

Unmanned Systems

F100-PW-220U Powered X-47B

Proven Propulsion for Unmanned Combat Air Systems (UCAS)

Pratt & Whitney's F100-PW-220 turbofan, one of the world's most reliable fighter engines, has been modified to meet the needs of the U.S. Navy X-47B UCAS, the first autonomous, aircraft-carrier-capable, unmanned aircraft system, built by prime contractor Northrop Grumman.

The F100-PW-220U's high-pressure-ratio compression system provides the thrust required to conduct the demanding UCAS program. The engine is designed to satisfy the aggressive packaging and integration needs that a highly embedded propulsion system and survivable air vehicle require, delivering an exceptional balance of performance, safety and reliability.

The proven -220U components and processes are common to today's F100-PW-229 and F119/F135 family of engine technologies that allow low-risk spiral development for operational flexibility, increased fleet commonality, and reduced life-cycle costs.

- **Dependable, proven single-engine safety**
- **Excellent reliability**
- **Worldwide basing supportability**

The X-47B team achieved first flight in 2011 and the first-ever catapult launch and arrested landing of an unmanned aerial vehicle (UAV) on a carrier at sea in 2013. The UCAS program will be used to mature relevant carrier operation and integration technologies that will inform future Navy programs to develop carrier-based unmanned systems.

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Product Facts

Characteristics	
Type	Twin-spool, nonaugmented (dry) turbofan
Thrust	16,000-lb. dry thrust
Compression	Twin spool, axial flow, moderate aspect ratio - 3-stage fan - 10-stage compressor
Combustor	Annular
Turbine	Axial flow - 2-stage high-pressure turbine - 2-stage low-pressure turbine

Military Applications

U.S. Military: X-47B UCAS

This document contains forward-looking statements concerning future business opportunities. Actual results may differ materially from those projected as a result of certain risks and uncertainties, including but not limited to changes in government procurement priorities and practices, budget plans and availability of funding, and in the number of aircraft to be built; challenges in the design, development, production and support of advanced technologies; as well as other risks and uncertainties, including but not limited to those detailed from time to time in the companies' Securities and Exchange Commission filings.

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Pratt & Whitney F100-PW-220U Powered X-47B

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Photo Credit: Northrop Grumman X-47B UCAS

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