



# PurePower<sup>®</sup>

## PW1000G Engine News

Volume 3 • Issue 2 • Sept. 2010

This Changes Everything.<sup>™</sup>

### Customer Testimonial YouTube Video



[youtube.com/user/purepowerengine](http://youtube.com/user/purepowerengine)

### PW1000G Engine Website & Social Media

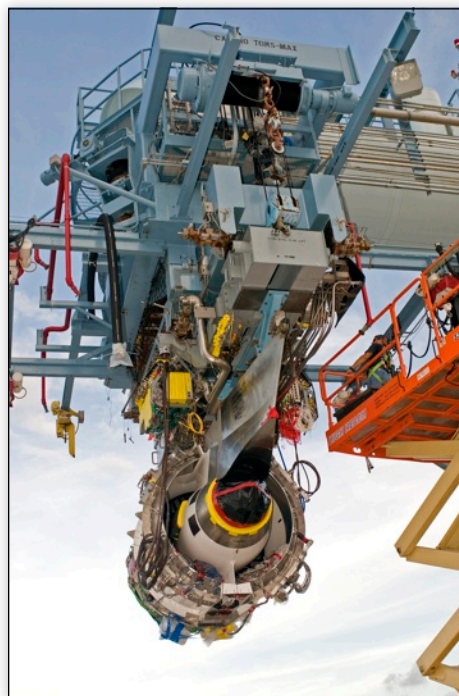
~ story on page 2 ~

### PW1000G: Another Dependable Engine



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### PurePower PW1524G engine is on the test stand!



Pratt & Whitney has completed assembly of its first PurePower PW1524G engine for the Bombardier CRJ-900 aircraft, and we have delivered the engine to our West Palm Beach, Florida facility to initiate testing. The engine Last Bolt Ceremony was held August 25 at our Middletown Engine Center in Connecticut. "The completion of this first full PW1524G engine on time keeps the program on schedule to deliver its extraordinary benefits to customers in 2013. Earlier this year we completed our engine core test program, demonstrating performance and operability on our design targets," said Bob Saia, Vice President, Next Generation Product Family. This marks the beginning of the engine validation and certification program, which will run over the next 24 months. Engine certification and aircraft first flight are scheduled for 2012, with entry into service scheduled for 2013.

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 **Pratt & Whitney**  
A United Technologies Company

# PurePower® PW1000G: another Dependable Engine from Pratt & Whitney

The PW1000G engine comes with proven reliability

Over the past 85 years, Pratt & Whitney's promise has been to deliver dependable engines. The PurePower engine family will be no different. Our rigorous engineering principles ensure that the reliability of our products are our primary goal, and these principles are well-entrenched in the design and validation of the PW1000G engine.

The overall program will undergo extensive high imbalance-cyclic endurance, in order to demonstrate ETOPS qualification during the engine validation program. At the component level, the Fan Drive Gear System (FDGS) has undergone over 1,300 hours and 60,000 cycles of testing prior to full engine testing. The full development

core has undergone over 260 hours of tests, during which it met each design objective.

## Advanced Architecture

The architectural benefits of the PW1000G engine design delivers tangible advantages, compared to direct-drive engines offered by the competition. The 3-stage, high-speed LPC provides an inherent "supercharged" pressure ratio, thus allowing for fewer stages in the HPC. The 3-stage, high-speed LPT requires 3-4 fewer stages than competitive offerings, significantly reducing the number of airfoils and life-limited parts (LLPs) to repair and/or replace. The dramatic increase in propulsive efficiency enabled

by the geared architecture allows us to deliver best-in-class fuel burn, without driving up exit pressures and temperatures, and therefore keeping maintenance cost in check.

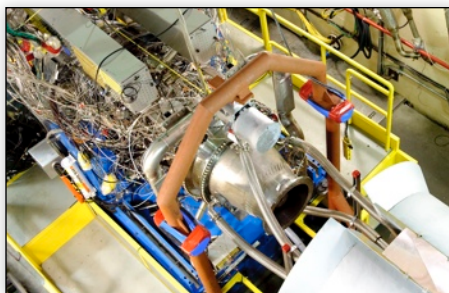
## Dependable Legacy

Across all product lines, Pratt & Whitney has provided dependable engines to our customers, no matter the application. The single-aisle market requires the most reliable engines, due to the high utilization of these aircraft. With over 16,000 engines in service—including JT8D, PW2000, PW6000 and V2500—Pratt & Whitney has the experience to deliver yet another line worthy of the name "Dependable Engines."

## PurePower engine core testing completed

High pressure compressor, combustor and turbine meet design goals

The PurePower engine core performed extremely well in over 260 hours of testing, verified with over 1,200 pieces of test instrumentation. The 2-stage high pressure turbine has met its design goals, the low-emissions TALON™ X combustor demonstrated excellent lighting capability, and the 8-stage high pressure compressor met its performance and operability goals. The PurePower engine core is ready to power our first engine to test.



We designed the PurePower engine core to meet the high-cycle demands of the single-aisle market. Built for durability, this advanced core is scalable, which means Pratt & Whitney can deliver a complete family of engines—to give operators the performance, reliability, and ease of maintenance that they demand.

## Become a geared turbo "fan"

Follow the PW1000G engine on Facebook, Twitter, YouTube, and at PurePowerEngines.com

Pratt & Whitney recently launched social media pages to engage in conversation and to help people stay up-to-date with what's happening with the PurePower engine family and the PW1000G engine.

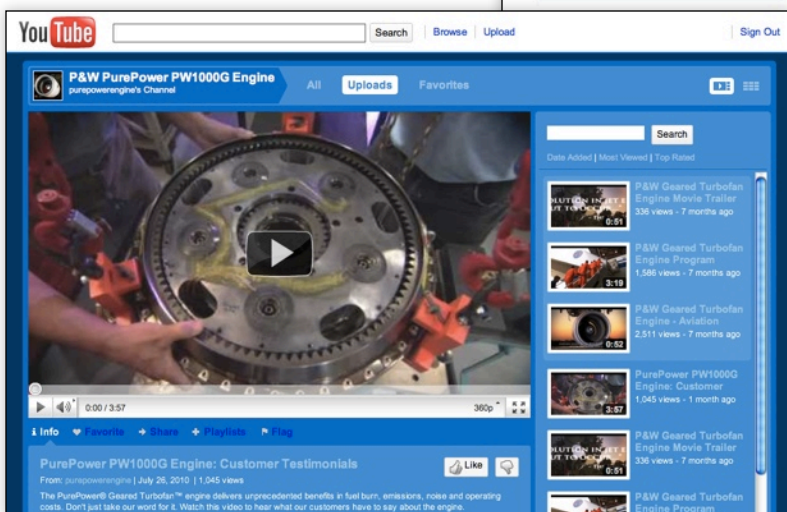
You can keep up with the latest news and key program milestones by becoming a fan on Facebook, Twitter and YouTube<sup>2</sup>:

- [facebook.com/purepowerengine](https://facebook.com/purepowerengine)
- [twitter.com/purepowerengine](https://twitter.com/purepowerengine)
- [youtube.com/user/purepowerengine](https://youtube.com/user/purepowerengine)

All social media pages can be accessed at the [PurePowerEngines.com](http://PurePowerEngines.com) website—the one-stop shop for all the latest news and information you need to evaluate the PW1000G engine.



The screenshot shows the Facebook page for PurePower Engine. The page header includes the Facebook logo and a search bar. The main content area features a post from Monday at 12:28pm with 4 likes. The post text reads: "PurePower Engine Bloomberg: Putting new engines on the A320-series planes would help Airbus satisfy airlines seeking greater fuel efficiency in the face of rising oil prices." Below this, there is a link to "Airbus Nears A320 Upgrade as Boeing Questions Efficiency Gains | Bloomberg" and a short paragraph of text. The post also includes a video thumbnail and a "Write a comment..." field.



The screenshot shows the YouTube channel page for "P&W PurePower PW1000G Engine". The page features a video player at the top with a play button and a progress bar. Below the player, there is a list of video uploads, including "P&W Geared Turbofan Engine Movie Trailer" (336 views, 7 months ago), "P&W Geared Turbofan Engine Program" (1,586 views, 7 months ago), "P&W Geared Turbofan Engine - Aviation" (2,511 views, 7 months ago), "PurePower PW1000G Engine: Customer" (1,045 views, 1 month ago), and "P&W Geared Turbofan Engine Movie Trailer" (336 views, 7 months ago). The page also includes a search bar and navigation options like "All", "Uploads", and "Favorites".

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