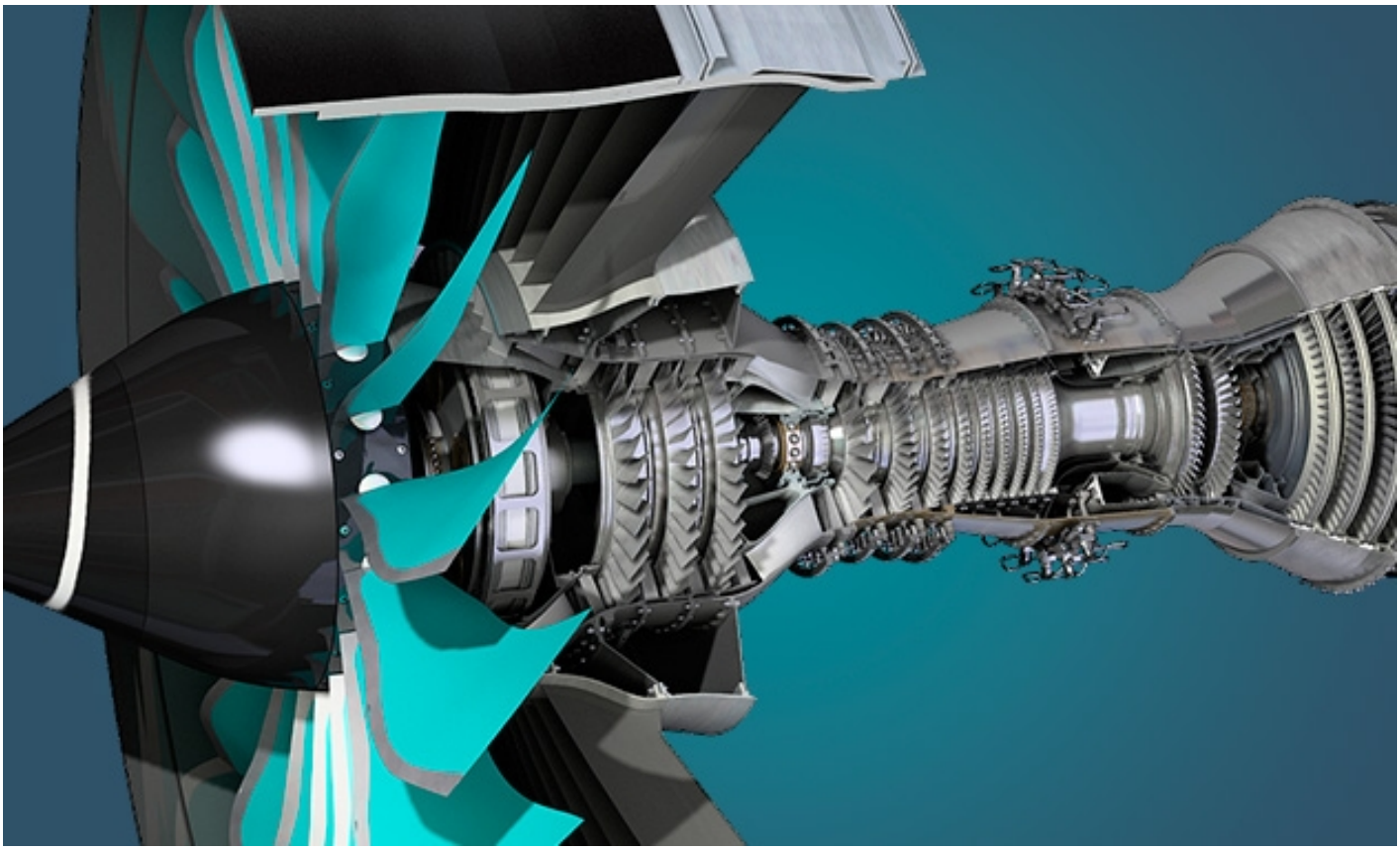
ROLLS-ROYCE RUNS WORLD'S MOST POWERFUL AEROSPACE GEARBOX FOR THE FIRST TIME

News / Manufacturer



Rolls-Royce has run the world's most powerful aerospace gearbox for the first time, marking a significant step in the development of its new UltraFan™ engine design.

The first run of the Rolls-Royce Power Gearbox (PGB), at the company's facility in Dahlewitz, Germany, marks the start of a series of tests which will see the gearbox reach up to 100,000 horsepower – the equivalent of more than 100 Formula 1 cars.

Mike Whitehead, Rolls-Royce, Chief Engineer and Head of Programme UltraFan Technologies, Civil Aerospace, said: "This is another significant step in bringing our future technology to life. We launched the UltraFan design in 2014 and now we are putting our new infrastructure to work to turn it into reality."

The power gearbox is a vital component of the UltraFan design as it enables the engine design to offer efficient power over a wide range of take-off thrusts.

© 2015-2026 50SKYSHADES.COM — Reproduction, copying, or redistribution for commercial purposes is prohibited.

The first run took place on Rolls-Royce's Attitude Rig, which allows engineers to simulate the effects of the gearbox being on the wing of an aircraft that is climbing after take-off, coming in to land or banking while in flight. The initial run confirmed rig dynamics and oil system functionality at low pressures and speeds.

More advanced testing will take place during the rest of the year to provide additional data on low power high speed combinations at various pitch and roll angles and at different simulated altitudes. High power testing will take place next year on the PGB Power Rig where the gearbox will reach full power.

UltraFan, available from 2025, will offer a 25% fuel efficiency improvement over the first generation of Rolls-Royce Trent engine. It will feature:

- A new engine core architecture – to deliver maximum fuel burn efficiency and low emissions.
- A CTi Fan System – carbon/titanium fan blades and a composite casing to reduce weight
- Advanced ceramic matrix composites – heat resistant components that operate more effectively by requiring less cooling air
- A geared design will deliver efficient power for high-thrust, high-bypass ratio engines of the future.

Rolls-Royce is working in partnership with Liebherr-Aerospace, through their Aerospace Transmission Technologies joint venture, to develop manufacturing capability and capacity for the new power gearbox. Rolls-Royce leads the design definition and design integration of the power gearbox, as well as testing activities.

© 2015-2026 50SKYSHADES.COM — Reproduction, copying, or redistribution for commercial purposes is prohibited.

Rolls Royce UltraFan engine

Image not found or type unknown

24 OCTOBER 2016

ARTICLE LINK:
https://ut.50skyshades.com/news/manufacturer/rolls-royce-runs-worlds-most-powerful-aerospace-gearbox-for-the-first-time

© 2015-2026 50SKYSHADES.COM — Reproduction, copying, or redistribution for commercial purposes is prohibited.