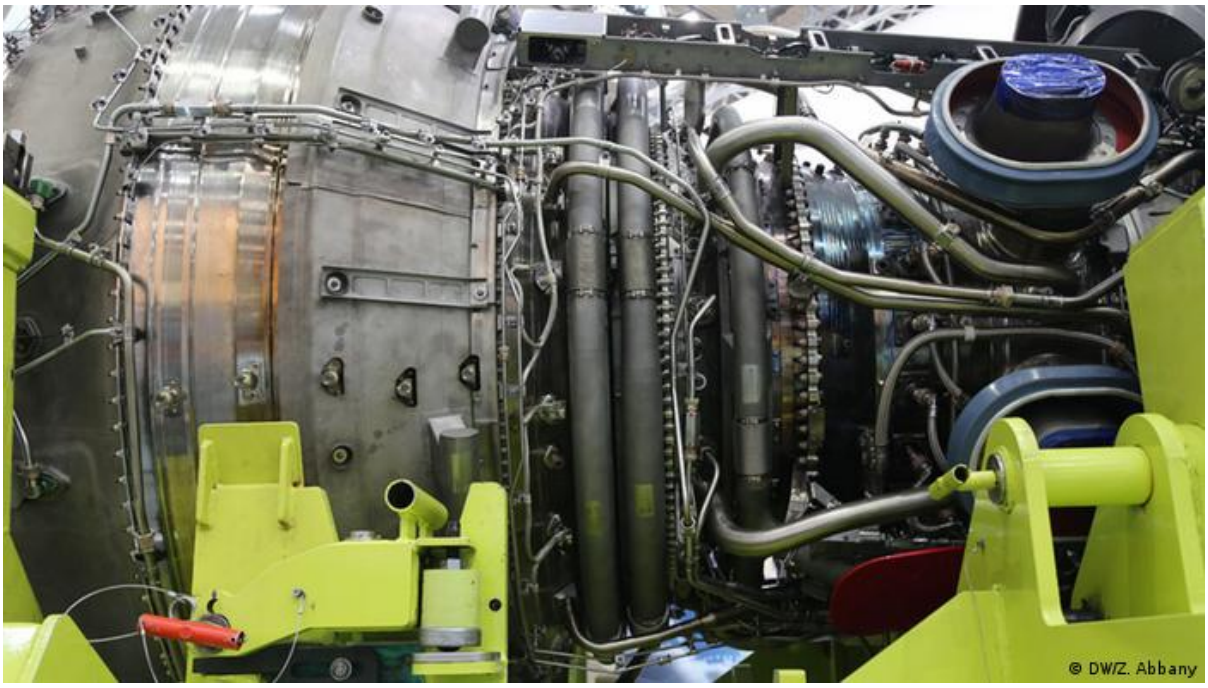
TRENT XWB: THE ROLLS-ROYCE AND AIRBUS A350 JET ENGINE UP CLOSE FOR THE FIRST TIME

News / Manufacturer

Fuel efficiency is good for the environment, but it also saves airlines money. That doesn't mean the price of travel is falling. But it does mean a lot energy goes into advancing jet engine technology.

Rolls-Royce says its Trent XWB is one of the most fuel-efficient jet engines in the world. The "XWB" stands for "extra wide body," and you can see why. Up close, this thing is huge. The fan blades consist of titanium to improve weight specifications and "fuel burn performance." Engineers describe the way it works as "suck, squeeze, bang, and blow" - all technical terms of course.

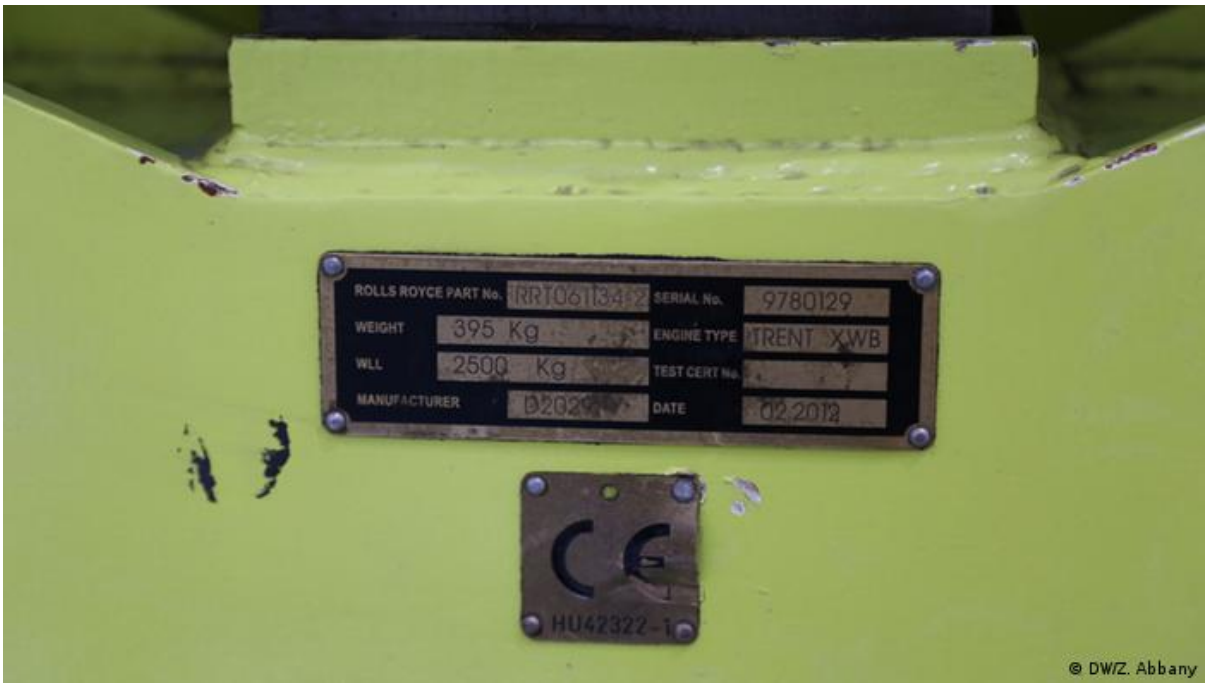


Engineers have to break down the Trent XWB into three parts to transport it. As a result, it's not on show all that often - in fact, the first time was at the 2016 Hanover Fair. It was designed specifically for the Airbus A350 family of aircraft - planes for medium to long-haul flights, seating between 250-440 people. The A350 jetliner entered commercial service in 2015.

Airbus says the new planes are designed for "overcoming the challenges of volatile fuel prices" and addressing environmental concerns. It's a line Rolls-Royce is just as keen to push. Rolls-Royce's Alex Dulewicz says their engines are 15 percent more fuel efficient than in the late 1990s. A 1 percent efficiency gain is equal to a saving of $250,000 (223,000 euro) per aircraft per year, he says.

Rolls-Royce say the Trent XWB features an "optimized internal air system which reduces core air demand and fuel burn." It's also said to be quieter than other models on the market - but it's still a jet engine, which means you are going to hear it. With advanced cooling technology, the Trent XWB can perform in extreme environments.

The Trent XWB is also highly data-connected. By tracking the engine's performance, Rolls-Royce hope to improve its technology over time. The company is also working with Microsoft for its expertise in data processing and analysis. It always works closely with the airlines as they need to release the data, preferably in real-time, as they fly around the globe.



Rolls-Royce say it aims to sell one Trent XWB every day by 2017. That's a lot of jet engines, and a lot of money. A single Trent XWB costs in the range of $20 million (18 million euro). They say it is their fastest seller. They have produced about 1,500 of them so far.

The British car and engine maker, Rolls-Royce, is proud of its new Trent XWB jet engine. They say it's the most fuel efficient engine in the world. It was designed specifically for the Airbus A350 passenger plane and uses light materials to reduce weight and increase fuel efficiency.

Engineers describe it with four words, saying it "sucks, squeezes, bangs, and blows."

The Trent XWB sucks in about 1.3 tonnes of air per second. The air is compressed, or "squeezed," and then in the combustion chamber, it is heated to about half the surface temperature of the sun. Finally, "bang" - and the engine blows the air back out, creating a thrust of 97,000lbs.

It was on show for the first time at the 2016 Hanover Fair.

28 MAY 2016

SOURCE: DW
ARTICLE LINK:
https://50skyshades.com/index.php/news/manufacturer/trent-xwb-the-rolls-royce-and-airbus-a350-jet-engine-up-close-for-the-first-time