



Pratt & Whitney GTF™ Engines



Pratt & Whitney GTF™ Engine Family – technology features

The Pratt & Whitney GTF™ Engine Family is the next generation of commercial jet engines that offers double-digit improvements in fuel consumption, up to 75 percent reduction in noise footprint and up to 50 percent reduction in nitrogen oxide emissions. It uses an advanced gear system allowing the engine's fan to operate at a speed different from that of the low-pressure compressor and turbine. As a result, the fan pressure ratios are lower and the bypass ratios much higher and all components can achieve their respective optimum speeds, which greatly boosts overall efficiency.

MTU Aero Engines, Germany's leading engine manufacturer, contributes the high-speed low-pressure turbine to the GTF, one of its key components. Moreover, Pratt & Whitney and MTU have collaborated to design a new high-pressure compressor. MTU is responsible for the forward four stages and Pratt & Whitney for stages five to eight. Depending on the application, MTU's stake in the GTF engine varies between 15 and 18 percent.

Key features:

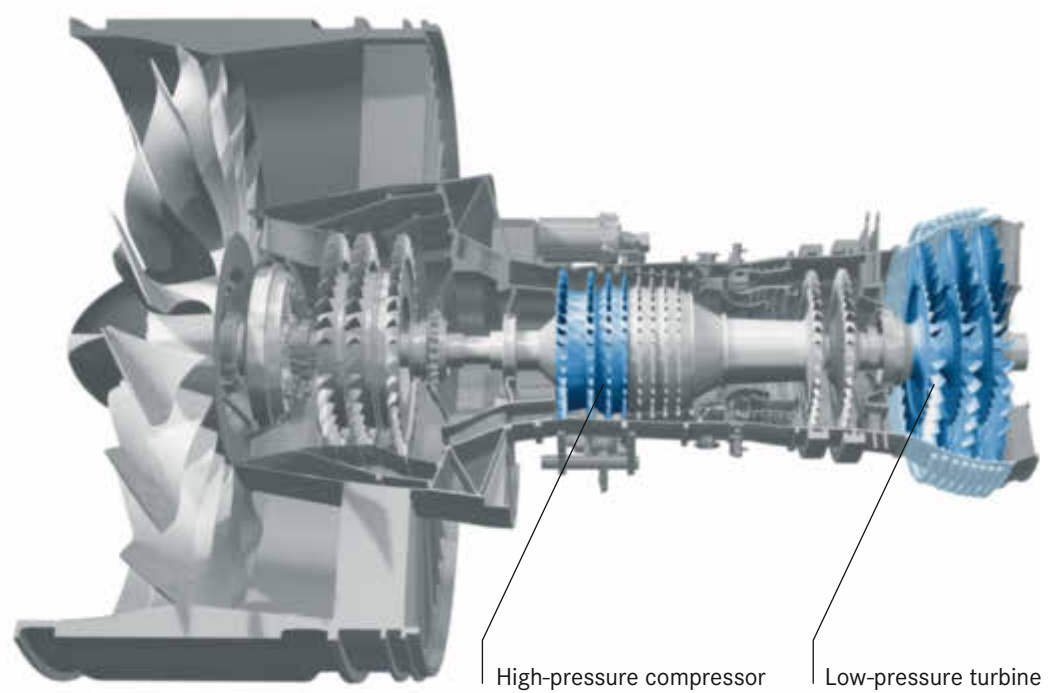
- 14 k to 33 k thrust range (initial product focus)
- Up to 75 percent reduction in noise footprint
- Up to 50 percent reduction in NO_x emissions over 2009 standard (CAEP 6)

Engine Models:

- PW1200G
- PW1500G
- PW1100G-JM
- PW1400G-JM
- PW1700G
- PW1900G

Aircraft powered by the Pratt & Whitney GTF™ Engine Family:

- Mitsubishi SpaceJet
- Airbus A220
- Airbus A320neo
- Irkut MC-21
- Embraer E-Jets E2



Product Specifications	PW1200G	PW1500G	PW1100G-JM	PW1400G-JM	PW1900G PW1700G
Fan Diameter (inches)	56	73	81	81	73 / 56
Bypass Ratio	9:1	12.5:1	12.5:1	12.5:1	12.5:1 / 9:1
Thrust (lbf.)	15-17 k	19-25 k	24-33 k	28-31 k	19-23 k 14-17 k
Weight	3,800 lbs	4,800 lbs	6,300 lbs	6,300 lbs	4,800 lbs 3,800 lbs
Reduction in Noise Footprint	up to 40%	up to 75%	up to 75%	up to 75%	up to 75%
Reduction in NO _x Emissions	up to 40%	up to 50%	up to 50%	up to 50%	up to 50%
Engine Certification Date	May 2017	Feb. 2013	Dec. 2014	May 2016	Apr. 2017 Mid 2020
Entry Into Service Date	2021	July 2016	Jan. 2016	2021	Apr. 2018 2021
Applications	SpaceJet	A220	A320neo	MC-21	E-Jets E2



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