

What is a Turboprop Engine?

A Turboprop Engine is a turbine designed engine that drives an airplane propeller or in the case for helicopters a Turboshaft Engine. The turboprop design consists of an intake duct / propeller / propeller reduction gearbox / compressor / combustor(s) / turbine stage(s) to drive the compressor / power stage(s) / exhaust nozzle. The exhaust nozzle exit gases are not sufficient to provide enough direct thrust, since almost all of the engine's power is needed to drive the propeller.

In the following Gallery, you will see images of the Super King Airplane equipped with twin turboprop engines. This design developed from an original piston-engine airplane from Beechcraft Corp. In the 1960s, Pratt & Whitney Canada (PWC) re-equipped this airframe with their PT6 Turboprop and Beechcraft was so impressed with such an amazing performance increase, that they put the King Air series in production with the "new" engine which remains to this day. deHavilland Canada (DHC), which was involved in the early testing of the PT6 Engine, added a PT6 to a redesigned and stretched DHC-2 "Beaver" airframe, thereby creating the "Turbo Beaver" with increased payload and performance. PWC continued with research and development of turboprop engines, and in subsequent later years improved the PT6 Engine and launched a higher - powered series named the PW100. The PW100 Series powers the ATR and DHC aircraft and many more types around the world. The various turboprop features are shown in the gallery for your interest.

For further reading and understanding, we recommend a book by Bill Gunston (2006) "The Development of Jet and Turbine Aero engines ISBN 0-7509-4477-3. There are also some

Turboprop Videos on U-Tube.

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