



Pratt and Whitney PW100



The Pratt & Whitney Canada PW100 engine family is a series of 2,000 to 5,000 horsepower (1,500 to 3,700 kW) turboprops manufactured by Pratt and Whitney's Canadian subsidiary, headquartered in Longueuil, Quebec. Fact Sheet.

Pratt & Whitney Canada have adopted a relatively unusual engine configuration for the PW100: a three shaft arrangement. Other engines with this basic configuration include the Rolls-Royce Gem and the EPI TP400-D6. In the PW100, a centrifugal LP compressor (except for the PW150 which uses a 3 stage axial LP compressor), driven by a single stage LP turbine, supercharges a centrifugal HP compressor, driven by a single stage HP turbine. Power is delivered to the offset propeller reduction gearbox via a third shaft, connected to a 2-stage free (power) turbine. The engine first entered service in 1984. Aircraft applications include the ATR-42 (PW127E) and the ATR-72 (PW127F).

Source: Wikipedia, http://en.wikipedia.org/wiki/Pratt_&_Whitney_Canada_PW100

Product Overview

The PW100 is an advanced technology, fuel efficient turboprop engine designed to power 30 to 70 passenger regional transport, as well as utility and corporate aircraft. The PW118 to PW127 series has grown to cover a wide range of power from 1800 shp to 2750 shp. The family concept of turbomachine and reduction gearbox modules has permitted the tailoring of engine models to meet the broad spectrum of performance requirements.

Design Features

Two spool turbomachine incorporating rugged twin centrifugal compressors with no variable geometry or interstage bearings for low complexity, two-stage «free» turbine, two module configuration, the reduction gearbox and turbomachine each with its own data plate and logbook, electronic engine control with mechanical back-up for ease of pilot operation and system redundancy, and conveniently located accessories for ease of maintenance.

Source: Pratt and Whitney Canada, http://www.pwc.ca/en/3_0/3_0_1/3_0_1_3_1.asp