

## TRENT 800 DESCRIPTION



The Trent 882 provides power to Cathay Pacific's Boeing 777s

able units out of around 70. Secondly, the Trent 700 programme ran 12 months ahead of the -800, so problems which cropped up on the first were dealt with on the second. "We had a wish-list for both, but, because the -800 had those extra 12 months, it got more of the list," says Terrett.

The air system, for example, is common to both Trents and similar to the RB.211. In the -800, however, carbon seals are used to control leakage of oil into the bearing chambers, as opposed to labyrinth seals on the -700. Changes were also made to the IP turbine cooling-air overheat detection system. In the -700 no overheat warning is sent to the cockpit unless both thermocouples in the same assembly read the same. In the -800 a failed thermocouple is disregarded if it indicates outside a set temperature range, leaving the other device still active.

The Hispano-Suiza high-speed external gearbox has new features on the -800 including a single hydraulic pump supported by aircraft-

mounted hydraulic pumps which are powered both electrically and pneumatically. It also supports a variable speed constant frequency generator which is a back-up engine electrical generator.

Another system, the fuel-oil heat exchanger, which heats the cold fuel from the wing tanks before delivering it to the engine, is basically common with the -700 but is mounted higher on the fan case for easier transportation. The oil system will also be fitted with carbon seals with a design life of 30,000h in place of the -700's labyrinth arrangement. The vibration monitoring system has an additional pick-up and allows engine balancing using weights attached to the LP turbine as well as the fan disc.

The thrust reverser is a different design to the one which gave many headaches on the Trent 700 because of problems with the tertiary lock system introduced late onto the engine after the Lauda accident. The Boeing-designed -800 system uses translating cowls instead of the four tilting buckets on the Trent 700. The cowls are

moved by mechanically linked hydraulic actuators, which block bypass air and deflect it forward through turning cascades. "We were able to do much more cyclic testing with this one, so we had a chance to get ahead of the game," Terrett says.

Getting ahead of the game has become something of a mantra at the UK engine maker's Derby headquarters, where work on the next stage of the Trent programme, the 895, is now well advanced. □



The Trent 800 will power the Boeing 777-300 on its first flight

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