

ENGINE DEVELOPMENT GUY NORRIS / LOS ANGELES

# P&W completes first phase of PW6000 turbofan testing

Engine maker cranks up the hours for certification of modified powerplant for A318

Pratt & Whitney has completed the first of a three-phase flight-test programme of the final Block 4-configured PW6000 turbofan for the Airbus A318. It says certification of the 18,000-24,000lb thrust (80-106kN) engine is due for the fourth quarter of 2004, three years later than the original schedule.

Fitted with the revised six-stage MTU high-pressure compressor (HPC) in place of the original (Block 2) standard five-stage design, P&W says the Block 4 test engine has performed well since starting the programme on its Boeing 720 testbed on 3 September.

Despite some nuisance issues with accessory systems, the engine "is just cranking on, and we are running up an incredible amount of hours", says PW6000 programme manager Dennis Enos.

P&W has completed simulated altitude tests on a modified PW6000 at the Arnold Engineering Development Center in Tennessee, which "demonstrated the required specific fuel consumption [7% better than Block 2] and thrust performance". The tests were demonstrated "on an initial configuration out of the box", using an engine that had originally been fitted with the initial five-stage HPC. "We had performance demonstrations scheduled for later this year and next, but now that this engine has demonstrated the final performance straight out of

the box we will just complete the rest of the programme," adds Enos.

There are now three of the seven planned engines running in the tests. These include the test engine on the flying testbed, one on general development, higher-temperature endurance tests at West Palm Beach, Florida, and another which began build-up runs for a simulated block test at East Hartford, Connecticut in early October.

On top of more than 350 flight test hours amassed during evaluation of the original five-stage engine on the A318 development aircraft, which concluded in July, the Block 4 engine is scheduled to build an estimated 90h on the 720 flying testbed. This will conduct a second

flight-test phase before year-end, and a third phase early in the second quarter of 2004.

P&W is using an aggressive pricing policy in an effort to recover ground lost to CFM International's CFM56-5 on the A318. The first three A318 flight-test engines will be delivered in late 2004, with entry-into-service planned for a year later.

■ Airbus chief executive Noel Forgeard says A318 deals from Mexicana and Romanian airline Tarom "should close in the coming months". Tarom has a memorandum of understanding for four A318s, while Airbus says Mexicana is "still discussing precise numbers...we're talking tens rather than single digit units".



The 5-stage PW6000 accrued 350h of flight testing on the A318 with Airbus

LOW-COST CARRIERS

## Airlines prepare for Singapore onslaught

Singapore is poised to become the next low-fare battleground as several airlines from throughout South-East Asia prepare to provide the city-state its first low-fare service, write *Leithen Francis and Brendan Sobie*.

Indonesian low-fare carrier Lion Airlines plans to expand into the Singapore market on 14 November with four daily flights from Jakarta. Malaysia's AirAsia has been offered slots at Singapore Changi and Seletar airports and local new-start ValuAir is about to select an aircraft to support its planned mid-2004 launch.

Singapore Airlines (SIA), meanwhile, is nearing a decision on establishing its own low-fare carrier to fend off the new competition. "We have almost completed a study and hope to make a decision before the end of this year," says SIA senior executive vice-president commercial Michael Tan.

AirAsia is committed to adding 13 Boeing 737-300s over the next eight months, giving the carrier a 20-aircraft fleet by mid-2004. Lion says it plans to expand its Boeing MD-82 fleet from 18 to 23 aircraft by year-end and to 35 aircraft by the end of 2004, with several new international routes being considered.

AirAsia's network is limited to domestic services, but the carrier aims to launch flights to Bangkok in December and is studying Singapore to complement its new service to nearby Johor Bahru in Malaysia.

Singapore is trying to woo AirAsia and has offered to extend Seletar Airport's runway to accommodate 737s.

ValuAir is looking at acquiring new 737-700/800s or Airbus A320 family aircraft. Earlier this month SIA decided against launching a low-fare airline in Thailand. This could free SIA to launch quickly a low-fare carrier in its home market.

AIR TRAFFIC MANAGEMENT HILKA BIRNS / CAPE TOWN

## South Africa launches ATM system

South Africa is to install a R228 million (\$33 million) air traffic system that will comply with International Civil Aviation Organisation standards on completion in 2004. This follows the already completed \$23.25 million radar replacement and improvement project.

The South African Advanced Air Traffic System (SAAATS) is being

implemented by Air Traffic and Navigation Services (ATNS), the country's sole provider of air traffic services. The highlights include:

- a complete restructuring of South African airspace;
- separate disaster recovery systems at Johannesburg and Cape Town. Either can cope alone;
- the installation of Thales ATM

Eurocat X software in ATC centres.

■ the implementation of datalink technology to enable routine information and instructions to be exchanged by controller/pilot datalink communication.

SAAATS will also enable a central airspace management unit to be set up, which will ultimately provide full flow management across the country.