

FLIGHT-TESTS MAX KINGSLEY-JONES / TOULOUSE

# A340-600 closes on certification

Airbus expects approval for new long-range model in May but has not yet finalised route proving plans with customers



Uncertainty over deliveries mars an otherwise smooth test programme

## Testing shows performance has bettered design target

The eight months of testing to date has allowed Airbus to finalise the A340-600's aerodynamic configuration, and confirm that the aircraft has similar handling qualities to the smaller A340 models. Approach speeds are higher than the A340-300's, but Airbus expects the -500/600 to be approved for single-type rating with earlier models.

According to Airbus chief engineer long-range programme Gordon McConnell, the A340-600's climb to initial cruise altitude performance at maximum take-off weight is "significantly better" than the target of FL (flight level) 330 (33,000ft [10,000m]).

"We can reach FL350 in under 30min," he says, adding that the -600's buffet boundary has also turned out better than predicted at all Mach numbers.

Natural icing flight-trials were undertaken in late December, while the second aircraft will travel to Canada this month for coldsoak ground testing at temperatures of -40°C. Testing of the brake system and the Michelin near zero-growth radial tyres will also be completed by the end of January. "Around 25h of autopilot (A/P) tests have been completed, but we still have a lot of work left to do," says McConnell. Specific areas of testing that are outstanding include the A/P approach modes and the autoland.

Airbus is about to enter the final stages of certification trials of the Rolls-Royce Trent 500-powered A340-600, as the manufacturer prepares to begin flight-tests on its ultra-long-range sister model, the A340-500, next month.

Flight-testing of the 380-seat A340-600, which began in April, has gone smoothly, says Airbus. The three aircraft allocated for testing have accumulated 1,043h of the 1,600h planned for the programme, which is due to be completed by March, according to Gordon McConnell, chief engineer long-range programme. "European JAA [Joint Aviation Authorities] and FAA [US Federal Aviation Administration] certification, as a derivative of the A340-200/300, is expected on schedule in early May," he says.

The first A340-600 hand-over is due in mid-2002. However, deliveries to Virgin Atlantic, which was scheduled to take the first aircraft, are in doubt after the airline told Airbus it is deferring the four aircraft due this year. Meanwhile, orders held by troubled Swissair/Flightlease, due to be another early operator, have been cancelled. Airbus concedes that discussions are continuing with customers about deliveries, but will not confirm the status of schedules.

It is not clear who will be involved in the A340-600 route-proving flights in March, which are traditionally carried out with launch customers. Airbus, which

has already operated simulated passenger flights with employees, declines to identify who will participate in route-proving trials: "We are finalising the plan for the programme in conjunction with customers," it says.

The manufacturer says it originally planned to deliver 16 of the new A340 models this year, but that the current uncertainty in the airline industry makes it difficult to assess what the actual tally will be.

Meanwhile the first A340-500 has finished its ground-vibration testing in Toulouse and the aircraft is due to begin test-flying in February, with certification expected in October, says McConnell.

Much of the data from the -600's trials will be applicable to the -500, so the flight-test programme will use just one aircraft and will last a relatively short 340h, focusing on performance. Around 30h of route-proving will also be flown using a fully furnished aircraft, ahead of deliveries to launch customer Air Canada at the end of the year.

Airbus is offering an optional (and retrofitable) 3t increase in maximum take-off weight to 368t on all -500/600s to cater for the increased weight of cabin equipment since the aircraft's specification was originally finalised.

McConnell says that a weight saving programme is under way which is expected to bring the new A340 models within 0.4% of the originally specified empty weight by aircraft number 23.

CUTS NICHOLAS IONIDES / SINGAPORE

## Cathay grounds aircraft in new cost-cutting bid

Cathay Pacific Airways has expanded capacity-reduction plans by parking aircraft. It will have seven widebodies on the ground from early this year. The plans were unveiled as pilots voted to restart industrial action over pay and rostering issues, and the airline offered staff up to a year's unpaid leave.

The carrier, which in November said it would park two Boeing 747-

200 freighters and an unspecified number of its 67 passenger aircraft, now confirms that it will ground seven aircraft in total. It has stored one 747-200F at Xiamen in China and will ground six more aircraft, with these expected to be A330/A340s, 747-400 passenger aircraft, and another 747-200F.

Hong Kong-based Cathay has suffered a sharp drop in business

since the September terrorist attacks in the USA. Losses are expected for the second half, but the airline still anticipates posting a small profit for the full year ended 31 December.

The airline has said it is doing what it can to avoid lay-offs and is offering its employees up to one year of unpaid leave. Cathay employs around 14,000 staff but

foresees a surplus this year of 200-300 cabin crew, 200 cockpit crew and 200-300 ground staff.

Pilots represented by the Hong Kong Aircrew Officers' Association voted on 19 December to restart the action in the form of strict contract compliance from 2 January. This means pilots will abide by the terms of their original contracts and will not work on days off.