Douglas shows off propfan demonstrator

LONG BEACH

Airline executives from around the world have been flying aboard McDonnell Douglas's MD-80 ultra-high-bypass (UHB) propfan demonstrator during the last two weeks, reports Julian Moxon. Most seem agreed that the engine feels little different to conventional powerplants, the principal questions usually being "how much does it cost?" and "how reliable and maintainable is it?".

*Flight* was among a group invited to fly on the MD-80/UHB last week. The general view was that passenger acceptance would not be a factor in a decision to buy the propfan-powered MD-91 and MD-92 airliners which McDonnell Douglas wants to launch this summer.

The MD-80/UHB flight demonstrations are the beginning of a major campaign to launch the two aircraft as extremely fuel-efficient replacements for 110/170-seat narrowbodies, for which a 2,000-plus market is seen over the next decade.

Kim Still, MD-90 programme manager, also wants to enter the MD-92 in the US Navy's competition for a new anti-submarine warfare aircraft, which must be based on a commercially available airframe. The Navy is to decide the winner later this year. "That's one of the reasons we're trying very valiantly to launch this summer," he says.

General Electric, whose proof-of-concept GE36 unducted fan engine is mounted on the port pylon of the MD-80/UHB, says that cost and maintenance benchmarks for the production engine (designated GE36-C25) will be "basically the same as those of the CFM56-5/A320 powerplant". A GE executive admits that, because it is an all-new engine, "reliability will probably fall somewhere between that of the CFM56-5 and the IAE V.2500."

McDonnell Douglas has begun flying prospective customers in its MD-80 propfan demonstrator

The principal sensation gained as *Flight*'s reporter took a seat at the back of the MD-80/UHB demonstrator, just forward of the idling GE36, was of a light vibration, felt principally through the seat. While it was barely enough to cause ripples in a beaker of water, the vibration (which we were told has an amplitude of around 20Hz) continued throughout take-off and climb, but virtually disappeared as we reached the cruise sector of the 50min flight (when the aircraft was flying at 33,000ft and Mach 0.76). McDonnell Douglas and GE are working on a number of improvements to achieve the promised "completely vibration-free cabin environment."

During the steep noise-abatement take-off from Long Beach Airport, the GE36 produced the "buzz saw" whine characteristic of propfans and high-bypass-ratio turbfans at full power. The noise was not oppressive, normal conversation being possible as we moved about the 24-seat rear cabin, which is deliberately located in the noisiest section of the aircraft.

UHB programme manager Walter Orłowski says that the noise treatments that have been applied to MD-80 cabin have been "very, very successful". Sonic levels are about one third of those expected, he says: "We had to turn up gain on the noise monitors to register a signal."

Jordan Mirage

PARIS

The Royal Jordanian Air Force has decided to buy 20 Dassault-Breguet Mirage 2000 fighters, and to have its Mirage F.1s updated. The deal was clinched in Paris during a recent visit by Jordan's King Hussein, after two years of negotiations and in the face of tough competition from the Panavia Tornado and Mikoyan MiG-29.

The Royal Jordanian Air Force will be receiving 20 Mirage 2000E export versions. The Service's 32 Mirage F.1s will be equipped for ground-attack and anti-shipping missions.

Lighter Seawolf

LONDON

Royal Navy Invincible-class aircraft carriers and some Type 42 destroyers, are to be armed with a lightweight version of the Seawolf anti-missile missile.

British Aerospace has received a £40 million contract to develop and manufacture the lightweight Seawolf. This comprises four boxed missiles on a modified SeaCat missile launcher.

On the Invincible-class carriers up to four lightweight Seawolf launchers will supplement existing Phalanx anti-missile guns.

London Gatwick Airport's only runway, the busiest of any major international airport, is to be resurfaced. David Learmount finds out how the airport hopes to operate at full capacity while the work is in progress.

Gilbert Sedbon reports on Crouzet's ten-year programme to provide voice control for present and future fighter-bombers and helicopters.

In the light of recent Western launcher failures and the growing Soviet space capability, Tim Furniss reviews commercial launch vehicles.

Ian Goold reports from the Helicopter Association International Convention in California.