

**WORKSHOP**

**++ Australian regional Kendell Airlines** has selected **GE Engine Services** to maintain and service the General Electric CF34-3Bs which power its new Canadair Regional Jet fleet. The deal is valued at around \$40 million. **++ KLM** and its subsidiary, **Martinair**, have signed a contract with Boeing covering the exchange, overhaul and repair of Boeing MD-11 landing gear. Between them, the carriers operate 16 MD-11s. **++ Abu Dhabi-based Gulf Aircraft Maintenance (GAMCO)** has secured an aircraft overhaul contract from Canadian charter carrier SkyService, for its Airbus A320 and A330s.

## Helios charters rise in Cyprus

**B**ACKED BY Cypriot and Swiss investors, a new privately-owned charter carrier serving the leisure market will start operations from Larnaca, southern Cyprus, next June.

Already licensed by Cyprus, the carrier, Helios Airways, will launch services with a single 170-seat Boeing 737-400 leased from GE Capital Aviation Services. By March 2001, Helios aims to have upgraded its fleet, with the lease of two 189-seat 737-800s. As well as Larnaca, Helios will serve Paphos on the island's west coast.

Helios' chief executive will be Markus Seiler, formerly head of Swiss leisure carrier TEA. Although the majority holding will be Cypriot, the airline expects to draw heavily on Swiss management expertise, according to Seiler.

Meanwhile, new Greek independent airline Galaxy Airways has just launched services from its base in the northern Greek city of Kavala. A Boeing 737-400 has been leased from Flightlease, with a second coming next year.

Galaxy is aiming to link Kavala and Thessaloniki with key European destinations, as well as serving the Greek Islands.

The carrier is backed by Xifias, one of Greece's largest fisheries companies, which holds a 75% shareholding. □

# Boeing technique leaves trailing vortices behind

ANDREW DOYLE/BRUSSELS

**B**OEING aerodynamicists believe they have discovered a revolutionary technique for tackling aircraft wake vortices and hope to begin flight testing the system "as soon as possible".

Details of the design remain secret because Boeing does not expect to be formally granted a patent until next month, although the company says its patent application has been approved.

The system works by causing an aircraft's wing-tip vortices to collide with each other a short distance behind the aircraft. This results in them dissipating quicker, creating "smoke rings" that feel like a series of small speed bumps if encountered by following aircraft. "It's mutually assured destruction," says Bob Kelley-Wickemeyer, Boeing Commercial Airplane Group chief engineer aerodynamics.

"The approach we used to achieve this was to put a disturbance in the vortex network near the aircraft so that the network collapses upon itself within 3nm [5.6km] of the aircraft," he says.

The aim is to enable air traffic controllers to safely reduce the lateral separation between aircraft during approach, increasing the capacity of congested airports.

The system has been tested in a windtunnel and at the David Taylor Model Basin water tank near Washington DC. The success of the tests using aircraft models persuaded Boeing to patent the idea and carry out flight tests.

"The model is a generic aircraft that allows us to replicate the span load of many aircraft," says Kelley-Wickemeyer. "The next stage is to test it on a flying aircraft."

The company is in talks with NASA with the aim of using the agency's Boeing 757 testbed for the flight trials. This is the favoured option because NASA has specially instrumented aircraft available to measure the air disturbance behind an aircraft in flight.

Kelley-Wickemeyer believes that if the flight tests are successful, the system could be fitted to in-service aircraft after 2005. "I believe it will be retrofittable to the majority of existing aircraft," he adds.

Boeing stepped up its studies

after the 757 was found to produce unexpectedly powerful trailing vortices, following an investigation into the crash of a business jet at Orange County Airport in California six years ago. The 757 was subsequently reclassified as a "heavy" aircraft, putting it in the same category as the 747 and other widebodies.

Separations of up to 5nm (9.25km) are required between heavy aircraft and smaller aircraft following them on the approach, compared with the usual 3nm (5.6km) minimum.

The 757 is particularly prone to the vortex problem because it does not have an inboard aileron separating the inboard and outboard trailing edge flaps.

Finding a way to safely reduce aircraft separations on approach could help airports cope with an expected sharp increase in aircraft movements, which the US company believes will occur as markets continue to fragment, particularly in the Asia Pacific region.

Boeing says that if the technology proves to be feasible, it hopes Airbus will adopt it under licence. □

## FedEx MD-11 in Subic Bay overrun

**A FEDEX BOEING MD-11** freighter was destroyed in a landing accident at Subic Bay freepoint, Philippines, on 17 October. The tri-jet overran the airport's 2,745m (9,000ft) runway 07 and fell into the sea, sinking quickly. Injuries to the two pilots, the only occupants, are reportedly minor. The aircraft (N581FE), inbound from Shanghai, made its approach in light rain at 23:15 local time, but hitting obstacles in the overrun caused the fuselage to fracture near the wing leading edge, and the engines and landing gear separated.



Philippine authorities say that only a salvage crane can recover wreckage