



Embraer's Continental sales coup highlighted a renaissance in civil aviation which was reinforced by major order announcements from Airbus, Boeing and McDonnell Douglas. Military manoeuvring was largely limited to the astonishing display of the Sukhoi Su-37. Douglas Barrie, Andrew Chuter, Andrzej Jeziorski, Paul Lewis, Guy Norris and Kevin O'Toole report from Farnborough. Photography by Mark Wagner.

NEWS IN BRIEF

■ CONDOR POWER

Rolls-Royce is to provide the engines for up to 24 Boeing 757-300s ordered by German airline Condor in a deal covering 12 firm orders and 12 options. See P12.

■ GUIDANCE FOR FALCON

The European Joint Airworthiness Authorities has certificated the Flight Dynamics HGS-2850 head-up guidance system for the Dassault 2000 business jet.

CFMI faces new 737 test hurdle

CFM INTERNATIONAL (CFMI) is redesigning the fan-blade-retention device on the CFM56-7B2 for the third time in an attempt to complete certification testing for the engine type for the new-generation Boeing 737.

The new test will take place "around the end of September", says CFMI, which realises that this could be its last chance to complete certification in time to prevent the tight 737 timetable from slipping behind schedule. The first aircraft is due to be rolled out on 8

December and be flown in early February 1997. CFMI says that it is confident that the new test will be "third time lucky", and says that the certification schedule is not threatened at present.

The CFM56-7 is the first of the family to be fitted with wide-chord fan-blades which are around 35% heavier than those of the -3 version which powers all current-generation 737s.

Testing of the Snecma-designed unit and associated changes in the engine have caused problems.

These snags cropped up when the engine failed its blade-off test because the retention device on the blade roots was not stiff enough.

The retainers were strengthened for the retest which took place in late August. The test again failed, this time because the retainers were too strong. CFMI engineers say that the problem will be solved by "re-distributing the energy between the fan and the retainer".

The engine is due to be certificated in late October. □

Sukhoi Su-37 display steals the show

NOT CONTENT with introducing the "Cobra" manoeuvre into the display vocabulary, Sukhoi has gone a step further with an even more stunning manoeuvre from its thrust-vector-modified Su-27M. The aircraft, dubbed the Su-37, stole the show with a display which saw it entering a Cobra-like manoeuvre, only to continue beyond the 100° to complete a full rotation effectively around the aircraft's lateral axis, a move called the "Kulbit" or somersault. In another variation on the Cobra, the aircraft was also flown through a rapid pitch up to around 130°, with this attitude maintained for 2-3s while its airspeed rapidly bleeds off. Vectored thrust is then used to pitch the aircraft's nose forward, with the pilot recovering into a dive. Sukhoi pilots have so far logged some 50 flights on Aircraft 711 from the flight-test research centre at Zhukovsky. The exact status of the Su-37 remains uncertain, as does its relation to the Su-35 project. It is not known whether the Russian air force has placed a production order for either derivative of the Su-27.

The Kulbit

