Shorts 360 is right for Wright

BELFAST

Shorts has won its largest order so far for its 360 regional airliner. The new buyer, Wright Air Lines of Cleveland, is Shorts' ninth US 360 customer. The deal is worth more than $36 million including spares. Wright will receive its first aircraft in May and will have five by the end of June. The other three are due for delivery during the first quarter of next year. Sales and options on the 360 now total 90 aircraft. The orderbook has tripled in the last 15 months.

It is not clear yet whether the Wright order represents a sales blow to the F27-42, eight of which were ordered in 1982 for 1986 delivery. Shorts affirms that the 360s have been purchased by the airline, and not taken under short-term lease. Since Wright says that the 360s will be used partly to replace its existing Convair 600s, this could be a threat to the ATR 42 order.

On the other hand, Wright recently acquired Aeromech, a West Virginia-based carrier mainly operating Bandeirantes. The 360s could therefore, represent major expansion for the joint carrier in its smaller markets, with the ATR 42s still to come for its bigger routes.

Shorts aircraft now provide 9-5 per cent of total US regional airline fleet capacity, ousting the DHC Dash 7 from second place in terms of fleet seats provided for the US carriers.

GE launches “un-ducted fan”

LYNN

General Electric has registred the term “un-ducted fan” for its ungeared, contra-rotating, pusher propfan concept. A 25,000lb thrust demonstrator based on an F404 core is due to run in the third quarter of 1985. Under NASA contract, and is scheduled to fly on a Boeing 727 test-bed in late 1986.

Prime programme target is a 20-25 per cent reduction in s.f.c. compared with that of current high bypass-ratio turbofans, assuming twin-engined 80-120 seat airliners operating on stages of about 1,000 n.m. at Mach 0-72 and above.

The GE concept dispenses with a gearbox, as first revealed in Flight, February 4, page 324. It relies instead on two large-diameter, slow-speed, six-stage contra-rotating free turbines to drive directly each of two un-ducted fans. Each fan is 12ft in diameter and has eight blades.

Each set of composite fan blades is disposed radially around its own power turbine and attached directly to it like an aft-fan. All the blades have variable pitch, including the ability to provide reverse thrust.

One set of power-turbine blades radiates outwards in a conventional manner from the discs. The discs, with the fan mounted outboard, via structure attached to the discs. The other turbines radiate upwards from a drum whose exterior carries the other fan.

The stages of the two contra-rotating power turbines alternate with each other, thus acting as each other's stators. Varying the differential rotation rate becomes equivalent to scheduling the angle-of-attack of conventional variable stators.

Born again Solar Max brings Shuttle cheer

HOUSTON

The Space Shuttle astronauts successfully grasped the Solar Maximum Mission (SMM) satellite on April 10. Challenger's remote manipulator arm made contact with SMM at its first try, providing a welcome change from the unsuccessful attempts to come to grips with the satellite on April 7 (Flight, April 14, page 990). Scientists at NASA-Goddard had used the intervening gap to stabilise the satellite's tumble, and had succeeded in halving its original spin of 6 of an r.p.m.

Mission specialists Van Hoften and George Nelson managed to compress two day's worth of work into one, and by the end of a 6hr EVA on April 7 all of the planned repairs were complete. The repairs went so well that Van Hoften even had time to "joyride" an MMU.

SMM's release came on April 12, after the craft had been checked out from the ground. The satellite is now functioning well, and scientists can look forward to at least another two years of solar observations at a fraction of the cost of a replacement.

Challenger and its crew made a safe return to Earth on April 13, a day later than originally planned for mission 41C. They landed at Edwards AFB, California, at 05.38hr local time, having been "waved off" from a Kennedy Space Centre landing because of cloud cover.

USA generous with Belgian Patriots

BRUSSELS

The United States will provide Belgium with Patriot surface-to-air missiles free of charge. An agreement is expected to be signed soon. Because of lack of funds Belgium had opted out of the Patriot programme decided upon by Nato (see Flight, last week, page 997).

Buying Patriot would have endangered Belgium's short-range, sales-denial programme (Shorad), judged to be "imperative" by Defence Minister Fred Vreven. A number of alternatives including lend, lease, and hire deals had been put forward by the USA in an effort to reverse the Belgian decision.

Belgium will receive 20 Patriot launchers-five going to each of four SAM units based on the Rhine in West Germany. The Patriots will be deployed and the or 1990, replacing the current Nikes. Some 1,000 Belgian personnel will man the Patriot batteries, about half the number needed for the Nike. The Belgians will be responsible for first and second-line servicing. Six Belgian Army Hawk battalions based in West Germany will remain.

An RAF Chinook has been equipped as an airborne icing laboratory to develop helicopter de-icing systems. Ian Parker reports on the flying trials from Shearwater, Nova Scotia.

USA generous with Belgian Patriots

Casa in Spain and Nurtanio in Indonesia each rolled out a prototype CN-235 commuter airliner last September. Flight-test progress is reviewed by David Learmount.

Allison Gas Turbines claims 75 per cent of the light helicopter market. The company's predictions of trends and its two new powerplants, the C24 and C34, are the subjects of a report by Ian Parker.