Upgrade for Avro RJ

Following the divorce from ATR and cancellation of AI(R) Jet, BAe Regional Aircraft is considering a package to upgrade the Avro RJ to the RJ-X. This comes just six years after the BAe 146 was upgraded to the Avro RJ. The Avro RJ initially sold well, but orders have slowed since the arrival of the CRJ-700 and other twin-engined jets.

The upgrade package for the Avro RJ will bring the BAe 146's original operating costs closer to similar sized twin-engined aircraft.

The upgrade package BAe is considering for the Avro RJ centres on a re-engining programme. The targets set by BAe are a reduction in hull weight of 900kg, a fuel burn reduction of 15% and a decrease in direct maintenance cost of 20%. Despite the improvements made, twin-engined alternatives still have an engine maintenance and spare provisioning cost advantage. The fuel and maintenance cost reduction targets BAe has set itself are ambitious but should bring the RJ-X closer to its competitors.

The Avro RJ still has the advantage of superior take-off and landing field length performance but the disadvantage of a 435 knot cruise speed which will be low compared to the Do 528/728/928Jet family. (*See article on page 38.*)

The two engines under consideration are the Allied Signal AS907 and Pratt & Whitney Canada PW306A. Either powerplant will reduce fuel burn by approximately 15%, providing cost savings and increased range. The new engines are also lighter than the current ALF 507. The weight saving would take the aircraft's gross weight down below 40 tonnes, an important weight threshold in Eurocontrol navigation charges. The lower weight would also realise some marginal landing charge savings.

The new engines will also have a guaranteed 20% reduction in direct maintenance costs over the Avro RJ's current engines. Each engine choice has far fewer parts, a much longer life for life limited parts and lighter shop visit workscopes.

From the improvements in fuel burn, engine maintenance charges, landing fees and navigation charges a saving of $200 for a 400nm trip cost is expected. This could generate an annual saving of $400,000.

The Allied Signal AS907 will have a thrust rating of 7,000lb, a 35-inch fan with wide chord blades and a by-pass ratio of 4.2:1. This engine is expected to have at least a 10% lower bare engine maintenance cost. The powerplant will have a direct drive fan rather than the geared fan of the LF502 and ALF507. This development should lead to improvements in on-wing reliability. The AS907 will also have 50% fewer parts which will reduce shop visit costs, an on-condition maintenance programme, extended on-wing times between removals and extended turbine blade lives.

The alternative, the Pratt & Whitney Canada PW306A, will have a thrust rating of 7,350lb, full authority digital engine controls, a 32-inch intake fan and a bypass ratio of 4.2:1.

NEWS IN BRIEF

Dornier selects CF34-8D

After months of deliberation between the PW300 series and CF34, Fairchild-Dornier has selected the General Electric CF34-8D series for the Do 528/728/928Jet.

The CF34-3B1 and -8C1 power the CRJ and CRJ-700 and are rated at 8,729lb and 12,670lb thrust respectively. The CF34-8D series will be rated at 8,730lb thrust for the 528Jet, 12,650lb thrust for the 728Jet and 13,650lb thrust for the 928Jet. These higher thrust ratings represent significant thrust growth from the CF34-1A's original rating of 8,650lb.

The first of the three Fairchild-Dornier jets to enter service will be the 75-seat Do 728Jet in mid 2001.

The CF34-8D series will have 100% common turbomachinery with the -8C1 engine. The CF34-8D was selected partially because of its establishment in the market on the CRJ. The engine will also be common for all three jet models.

Amercian Eagle to drop Saab 340Bs?

It seems as if regional jet operators are going jet crazy. In addition to several US regional operators reportedly interested in placing orders for 35+ and 50-seat regional jets, Amerian Eagle is said to be interested in placing an order for ERJ-135s.

American Eagle has a fleet of about 25 Saab 340B+s, which were placed by Saab on a three year lease deal. Many of the aircraft placed by Saab were owned by the manufacturer and leased to operators through a series of leasing companies. One example of such a lessor is Lambert Leasing.

The three year term of American Eagle's Saab 340B+s is close to termination and a possible order for ERJ-135s would suggest the carrier is now looking towards an all jet fleet.

American Eagle already has ERJ-145s and CRJ-700s on order and these will largely replace its ATR 42s and ATR 72s. American Eagle has high performance requirements for the regional aircraft it operates from its San Juan hub. Jet performance is therefore a consideration for the carrier.

If American Eagle were to order ERJ-135s to replace its Saab 340s, the aircraft would be returned to Saab and its asset management division, which has in recent years enjoyed a period of few Saab aircraft being idle, may find that it has to re-market American Eagle's young fleet. With an imminent order from Crossair for Do 728Jet's, Saab may also find itself re-marketing Crossair's returned Saab 2000s.