Sneca runs new fighter engine

VILLAROCHE

Bench testing of Sneca's next generation fighter engine, the M88, has begun at the company's Villaroche test centre. Only one engine is being run in the demonstrator programme, which is entirely funded by the French ministry of defence through the Délégation Général pour l'Armements (DGA).

The future of the M88 depends on a continuing flow of DGA money. If Progress under takes this is now guaranteed, although it may take some time to materialise.

France is considering joining other European countries in development of the proposed Future European Fighter Aircraft (FEFA). A new European fighter engine to power FEFA, the XG-20, is also proposed, which would draw heavily on advanced technology from RB.199 manufacturers Turbo-Union.

If France became a FEFA partner, Sneca's work on the M88 would guarantee its entry into the engine programme. France may go it alone, however, in which case the M88 would power its own fighter, the ACT, and be available from 1988.

No flight-tests of the M88 are yet planned, this depending on DGA funding. If a programme was approved, the tests would take place with the engine mounted in the starboard pod of Sneca's Caravelle testbed. The M88 will replace the Atar 9K50 as France's 16,500lb-thrust fighter engine. The 9K50 is the latest version in a series of single-shaft turbojets which began life in 1946.

The M88 is a two-shaft "leaky" turbojet (low bypass ratio turbolan) similar in concept to the General Electric F404. Its weight, at 900kg, is a little over half that of the Atar 9K50.

U.S.A.F. fighter engine choice imminent

WASHINGTON D.C.

A crucial decision on who will be awarded a $10,000 million contract for engines to power follow-on F-15s and F-16s is expected as this issue goes to press. General Electric and Pratt & Whitney are both competing, with powerplants derived from existing engines, but offering much higher durability.

The competition has been bitterly fought. Pratt & Whitney managed to retain its monopoly on the supply of engines for the U.S.A.F.'s front line fighters with an improved version of the F100. General Electric would dearly like to break this stranglehold with its F110, adapted for fighters from the F101 that powers the B-1 bomber.

The USAF wants around 2,500 engines for delivery between 1986-1992. It has not specified whether it will award the entire contract to one company or split the work between the two, and has asked both manufacturers for bids covering all, or various parts, of the programme. The main argument against a split is that an impossible spares situation would result. But proponents of the idea say that the extra durability of the engines would more than offset this.

The demand for durability rather than extra power stemmed in part from the maintenance and operational difficulties that the USAF experienced with the original F100. Most of these have now been solved, but the Air Force has no desire to repeat the experience with another "hot rod" engine prone to unreliability. The "same power" specification has antagonised some USAF officials who believe that more power will be needed to meet the challenge posed by the Soviet Union's new MiG-29 and Su-27 fighters.

General Electric's engine, is, in fact, more powerful than the modified F100, although it is about 600lb heavier. Another argument which might favour the F110 is that the Air Force would not be totally dependent on Pratt & Whitney engines for its fighters. Observers tend however, to lean more towards a decision in favour of Pratt & Whitney. This is because of the 80 per cent commonality which the F110-PW-220 has with the existing engine, and because the -220 fits both the F-15 and F-16 without airframe modifications. The F110 has been flight-tested in an F-16 (and in an F-14), but not in an F-15.

The USAF is likely to be pleased either way, since the competition has forced each manufacturer to pare its costs to the bone.

GE will test contrapropfan

SEATTLE

Following assertions by Boeing's Joe Sutter that propfans "definitely need to be studied for shorthaul airliners", General Electric is said to be near to agreement with Boeing to flight-test a pusher contrapropfan on a 727 in place of one JT8D.

Sutter says that all three major engine manufacturers are working on propfans, and that one is closer to full-scale tests than the others. Flight understands that this is General Electric, which is expected to dispense with a gearbox by using slow-turning, large diameter, multistage free turbines rotating in opposite directions.

Both Rolls-Royce and Pratt & Whitney would use gearboxes coupled to turbines of conventional size and rotation speed. The R-R contrapropfan would be driven by a Spey core.

Nasa is due to award Contracts soon for a 48-month propfan ground and flight-test programme. Several major US aerospace manufacturers have made bids for the work, McDonnell Douglas and Lockheed showing particular interest. McDonnell Douglas has made plans to mount a propfan on the port wing of a DC-9.