UDF prepared for flight

EVENDALE

Ground-testing of General Electric's Unducted Fan (UDF) engine is complete. The UDF has "demonstrated the safety of the engine for flight-testing and proved that the UDF concept works," says GE programme manager Bruce Gordon.

The proof-of-concept (PoC) UDF has been through ground tests totalling 100 hr, 100 flight cycles, and more than one million cycles at critical frequencies, says GE. The engine, based on an F404 core, ran successfully above its 25,000 lb thrust rating. Its specific fuel consumption of less than 0-24 lb/lb/hr was better than predicted and "more than 20 per cent better than the best turbfans today," says Gordon.

UDF flight tests are scheduled to begin late this month from GE's Mojave, California, test facility on a Boeing 727-100 with each. The engine will replace the starboard JT8D turbofan on the 727. The flight-test programme will cover some 75 hr over two months, evaluating operability, performance, noise, and installation effects.

Ground tests were not without their difficulties. They were interrupted when resonance in the UDF's contra-rotating turbine caused turbine blades to collide, and again when the engine shed one of its sickle-shaped propeller blades.

Despite these problems, the ground-test programme has left GE confident that its UDF will meet performance and noise goals. Few have seen, or heard, the UDF running, however. Gordon admits that the PoC engine would probably exceed FAR Part 36 Stage 3 noise limits by about 4 dB, but claims that model testing at Boeing, Nasa, and GE has demonstrated that a production version would meet Stage 3 limits, and stricter Washington National regulations for night operations.

A second UDF engine will be built for the McDonnell Douglas MD-80 flight-test programme next year. Although still based on the F404 core, this engine will incorporate several improvements resulting from the test programme to date.

A decision on whether to proceed with UDF development is expected in 1987, possibly leading to certification of a 22,000 lb-thrust engine in December 1990, and entry into service on Boeing's 7J7 150-seater in 1992.

Committee backs Heseltine over Westland

LONDON

The UK House of Commons Select Committee on Defence has vindicated former Secretary of Defence Michael Heseltine over his stance during the Westland row earlier this year.

In its report on the defence implications of the future of Westland, published last week, the Committee supports Heseltine's arguments in favour of a European solution to Westland's financial problems. The Committee also argues for the establishment of a Ministerial Aerospace Board to provide a forum across Government Department lines, in which the strategic implications of Britain's defence industry can be addressed properly.

Although the report backs Westland's decision to select the Sikorsky/Fiat capital reconstruction plan in favour of that proposed by the European consortium of Aérospatiale, Agusta, British Aerospace, GEC, and MBB, the Committee concludes that this might not be in Britain's best long-term interests.

"The association with UTC-Sikorsky seems likely to meet the commercial needs of the company. On the other hand, although we believe that the association with UTC-Sikorsky will in itself cause little damage to European helicopter procurement, an association with the European Consortium might in the long term have better served the broader defence interests of the United Kingdom," the report reads.

"The Committee says that there is a case for strengthening Europe as a defence industrial entity," and favours Heseltine's view that a commitment to European collaboration should sometimes override narrower commercial considerations.

The Committee as a whole endorses the idea of a Ministerial Aerospace Board, and generally supports Heseltine's view that the defence interest was broader than the best turbofans.

The report backs Heseltine over his stance on a possible substitute for the Lavi, which the country now needs. The Committee concludes that the Westland proposal is "a case for strengthening Europe as a defence industrial entity," and favours Heseltine's view that a commitment to European collaboration should sometimes override narrower commercial considerations.

The Committee as a whole endorses the idea of a Ministerial Aerospace Board, and generally supports Heseltine's view that the defence interest was broader than the best turbofans.

Pentagon requests Lavi details

TEL AVIV

The Pentagon has asked Israel to disclose the specifications of some avionic systems of the Lavi that were developed without US co-operation. This is to facilitate the choosing of a suitable substitute to the Israeli fighter, reports Ari Egozi.

The US Department of Defence still maintains its position that the Lavi project should be terminated because of its cost. Pentagon officials say that even at this stage Israel should make the decision to buy a US airframe on which many of the Lavi's systems would be installed. Israel is reluctant to disclose any information on the fighter's systems. "I hope that no one in the Government will make this mistake. It is vital to the security of Israel that this information is not shared with anyone," said an Israeli source.

Meanwhile, the US Department of Defence has released $69 million, earmarked for the Lavi project. This sum was earlier frozen by the Pentagon as part of the effort to persuade Israel to cancel the project and settle for an un-freezing is a precondition to any negotiations on a possible substitute for the Lavi, which the country does not seek.

Israel Aircraft Industries is adamant that the US Department of Defence has made several mistakes in its process of estimating Lavi's cost. Dov Zackheim, US Deputy Under-Secretary of Defence for Planning and Resources, visited Israel with a team of accountants in February and later predicted that Lavi's development cost would probably exceed $22.1 million, rather than the $15-2 million estimated by IAI. Adding life-cycle costs, Zackheim calculated that Israel's 300 Lavis would eventually cost $20-6 billion, whereas IAI and the Israeli Ministry of Defence put the cost at $14-7 billion.

FLIGHT INTERNATIONAL, 2 August 1986