

MANUFACTURING

# Fuji signs up to build Eclipse 500 wing

First run of personal jet's Pratt & Whitney PW610 due at year-end as project recovers from engine-related setbacks

Fuji Heavy Industries (FHI) has signed a strategic partnership agreement with Eclipse Aviation under which it will build the wings for the Eclipse 500 jet using the advanced friction stir welding technique pioneered by the Albuquerque, New Mexico-based company.

The surprise move is seen as a major endorsement of the personal jet effort, which appears to be recovering swiftly from last year's engine-related setbacks. FHI Aerospace president Norihisa Matsuo says: "We are confident of success for the programme and future business, that's why FHI has decided to have a firm relationship with Eclipse." FHI already produces the wings for Raytheon's Horizon business aircraft and the centre wing box of the Boeing 777. The wings will be built in Japan but Matsuo adds that "...producing [wings] in the USA is a possibility".

Eclipse Aviation president and

chief executive Vern Raburn says the FHI partnership is a vital part of its recovery strategy which began with the selection of Pratt & Whitney Canada's PW610 to replace the Williams International FJ22.

Parts for the initial PW610, an approximate 10% scaled-down version of the PW615 Cessna Mustang engine, are being produced by P&WC with first run targeted for year-end. First run of the PW615 is expected within the month. Initial production PW610s are due to be

shipped to Eclipse in late 2004 to power the first of seven "conforming" aircraft to be used for the delayed certification programme.

Weight and performance changes associated with the P&WC engine have, meanwhile, driven design changes that are being finalised prior to loading of tools in March. Each engine weighs 34kg (75lb) more fully installed than the FJ22, which with structural increases and around 115kg additional fuel to compensate, means an overall

weight increase of some 410kg. The aircraft's useful load also increased by 115kg while take-off performance is expected to improve, as is cruise speed, by around 20kt (37km/h). To cope with an expected increase in stall speed from 62 to 67kt, a new "hard-working" flap is being designed with a 0.61m span increase on each side. The increase is accommodated by reducing aileron span and putting 0.45m of flap beneath the after body. There are firm orders for 2,050 aircraft.



ECLIPSE AVIATION

There are currently 2,050 firm orders for the Eclipse 500, which is being modified to accommodate new engines

UPGRADE

## Commanders work Magic

Twin Commander Aircraft will begin offering the Meggitt Aviation Magic 2100 Digital Flight Control System (DFCS) across its range of out-of-production twin jetprops, following supplemental type certification (STC) of the three-axis, altitude-based flight control system.

Initial approval for the Magic 2100 was for model 690 A/B Commanders, however the next STC covers the 690C/D and 695A/B types, says Twin Commander vice-president and general manager Jeff Cousins.

The Magic 2100 combines the Magic electronic flight information system – a suite of four large liquid crystal displays that replace all standard electro-mechanical flight, system and engine instruments and gauges on the panel – and the panel-mounted 2100 DFCS.

More than 2,000 Twin Commanders are still in operation today.

TRAINING

## Providers extend their flight simulator fleets

Training providers are responding to the introduction of new and upgraded business-aircraft models by expanding their flight simulator fleets. FlightSafety International will install Level D simulators for the Beechcraft King Air B200 and 350 with new Rockwell Collins Pro Line 21 cockpits at its Raytheon training centre in Wichita, Kansas, in January and February.

FlightSafety will install its first Level D simulators for the Cessna Citation CJ3 in Wichita in May and its first for the Hawker Horizon in Wichita in July. The company will also build a Piaggio P180 Avanti simulator for its West Palm Beach, Florida, centre, close to Piaggio America's new headquarters. In addition, FlightSafety will add a sixth Citation Excel and second Gulfstream G200 to its Level D simulator fleet over the next months.

CAE SimuFlite is to install its first

Citation X simulator at its training centre in Dallas, Texas, and will be ready for training in the fourth quarter of next year. CAE is also adding CAE Simfinity classroom training devices for the Gulfstream GIV and GV at its Dallas centre in the first quarter of next year. Airbus and CAE, meanwhile, are to provide Airbus Corporate Jetliner training at 10 locations worldwide beginning in January.

SimCom Training Centers plans to install a simulator for the Ibis Aerospace Ae270 at its Orlando centre under its agreement to provide factory-authorised training. Planned growth of the Ae270 will trigger construction of the simulator in three years for the first North American delivery. SimCom is installing a second Pilatus PC-12 simulator at its Scottsdale, Arizona, centre, and upgrading its EADS Socata TBM 700 simulator in Orlando.

PRODUCTION

## Ibis resolves wing-mating snag on Spirit

Ibis Aerospace has resolved wing-mating issues that delayed prototypes and has started serial production of its Ae-270 Spirit single engine turboprop.

The Czech-Taiwanese company locked down the design for the Spirit with the production of the sixth and conforming prototype last month. The aircraft, which completed 35h of flight tests prior to being ferried to Orlando for the NBAA show, includes a split cargo door.

Jiri Fidrnsky, Ibis president, says problems in the wing-mating process that led to time-consuming misalignment of borings between the AIDC-manufactured wing and the Aero Vodochody fuselage have been solved through new component testing processes.