

Briefings



Fuel of the future?



Is this the answer to our avgas problems? Chemical company BASF and the DLR Institute of Thermal Dynamics in Stuttgart have designed the first manned aircraft that can take off and fly solely on the power of a fuel cell.

The experimental aircraft, an Antares DLR-H2 motor glider with an electric engine, is expected to take to the air before the end of 2008 using only power generated from a fuel cell based on a high temperature polymer electrolyte membrane (PEM). The aim of the project is to evaluate the potential of the technology for future applications in commercial aircraft rather than to create a GA engine – BASF sees an early application for fuel cells as a replacement for APUs in commercial jets – but flying a GA aircraft is seen as the best way to test and develop fuel cells.

The fuel cell system, together with hydrogen

tanks, is fitted in two under-wing pods and provides electricity to the power train of the Antares DLR-H2, a single-seat motor glider with a 20-metre wingspan and a weight of 660 kg. The fuel cell generates electricity with a high degree of efficiency and low emissions thanks to the electrochemical oxidation of hydrogen. The waste produced is H₂O, which is useful in a commercial aircraft because it means it can take off carrying less water for the passengers. Exhaust air is very low in oxygen when it leaves the fuel cell, and can be used as an inert gas in kerosene tanks.

DLR also runs an Airbus A320 test-bed, but the Antares is a far cheaper way of running most of the same experiments.

Will it ever become an alternative power source for GA? Don't rule it out, but don't hold your breath either. Apart from the problems of handling hydrogen fuels, the evaluation has only just begun. ■

Buy a Spitfire



It's an ill wind that blows nobody any good, and the wild currency fluctuations of recent weeks have thrown up some bargains. There's never been a better time to buy a Spitfire – the Australian 80 and 90 percent sized kits, that is. In the last couple of months the pound has firmed against the

Aussie dollar by 20 percent, which adds up to quite a hill of beans considering the basic Mk 26 kit costs \$A153,000. I'd convert that into sterling but the way things are going, this time tomorrow the calculation would be nonsense. The company's UK dealer Mike Rae says the exchange rate has sparked a flurry of interest in the Australian kits. Get 'em while they're hot.

FAA spends on GA

The Federal Aviation Administration in the US has set out its goals and priorities for the next four years, from 2009 to 2013, and reducing general aviation accidents is one of the agency's top objectives. It's refreshing to note that it plans to do this by investing money in new infrastructure rather than by adopting the European approach of imposing new restrictions on the industry and spending as little as possible.

Enhancements will include 500 new Wide Area Augmentation System (WAAS) approaches to be published by mid-2010. The FAA has already spent some \$4 billion on WAAS for the benefit of GA – WAAS enhances the accuracy of GPS signals so they can be used as a landing aid. The US now has more than 1300 WAAS approaches, which means they outnumber ILS approaches. Over the next 10 years, the FAA aims to reduce GA fatal accidents to no more than one per 100,000 flight hours.



One-stop-shop

Rod Wren, who set up and ran CTC Aviation Training and was once Head of Training at OAT, is heading up a new commercial flight training operation, Bristol Aviation Ltd, to provide a 'one-stop-shop' for airlines who need personnel.

As well as training pilots the company aims to provide experienced and newly-qualified flight crew to airlines and other commercial aircraft operators. Based at – where else – Bristol, they're also offering aircraft flight test and ferrying.

The company is a wholly-owned subsidiary of Newcourt Group plc, which is listed on the Irish stock market. ■

VAT break in 2009

Danish tax experts Opmas are stressing that the loophole which allows owners to import aircraft through Denmark without having to pay VAT remains open until January 1st, 2010, so you've got all of next year to buy that Citation you've got your eye on without adding a 17.5 percent handout to the government.

Stories have been circulated to the effect that the current system ends on the last day of this year, but Opmas CEO Lasse Rungholm says: "Not only is there still 15 months to go, but we can still import and deliver aircraft in 2010 for which a contract has been concluded with us, or for which an invoice has been raised by us before January 1st, 2010."

The VAT anomaly has been an enormous boost for Danish general aviation companies and they are keen to maximise the potential while they still can. Thousands of aircraft have now been imported into Europe through Denmark, with the GA industry collectively saving millions of pounds in tax. Aircraft constructed for aerobatic manoeuvres, straight gliders and weight shift ultra lights are not allowed.