

October 20, 2009

Light jet carries heavy load

By Rohit Jaggi

Just before I took off in Embraer's lightest jet, the wind blowing across East Midlands Airport was strong enough to rock me off my feet.

An hour later, on my final approach to land, the big screen in front of me says the Phenom 100's groundspeed is nearly 30 knots less than its 120kt airspeed, hinting that the 38kt quartering wind gusts might well provide a challenging test for my first landing in the aircraft.

Yet it takes little effort to keep my approach in the Brazilian aircraftmaker's new baby smooth and stable. And the touchdown, at exactly the point on the UK airport's runway I am aiming for, is gentle.

For an aircraft intended to be a high-hours workhorse of the skies, certified for single-pilot operation, benign handling qualities are a necessity. And Embraer is placing a heavy burden on the \$3.68m very light jet (VLJ) – the first of a range designed for the business aviation sector. It has more than 800 Phenom orders, and expects to deliver over 100 this year.

Four years ago when Embraer announced plans for the four-to-six-passenger Phenom 100, and its larger Phenom 300 sibling, Vern Raburn's Eclipse Aviation was pressing ahead with a pioneering VLJ originally intended to be built at a rate of 600 a year and sell for less than \$1m – putting a jet if not in every driveway, then at least within reach of many more pockets than before.

Rivals vied to be the first to bring to market this breed of aircraft, with advanced avionics and two efficient turbofan engines, at a purchase price millions of dollars below that of existing light jets.

New and established aircraftmakers hoped to cash in on demand from air-taxi start-ups trying to extend private air travel's client base downwards using cheaper VLJs.

But overambitious plans and the storm clouds of the credit crunch dashed many of those hopes. Eclipse went bankrupt and other manufacturers also shut up shop.

The main remaining rivals for the Phenom 100 are the \$2.9m four-passenger Cessna Citation Mustang, of which more than 200 have been delivered, and the bigger \$3.9m HondaJet – although first deliveries of the carmaker's aircraft have been put back to the last quarter of 2011.

Cessna, which has had to slash its workforce in response to falling orders for its larger Citation jets, is turning Mustangs out at the rate of 100 a year and has no available delivery slots before 2012.

The entry-level Citation is in service with one of Europe's first air taxi operators, UK-based Blink. Peter Leiman, joint managing director, claims both reliability and high utilisation.

Good dispatch rates are key, and Embraer is promising long intervals between maintenance. That is one attraction for FlairJet, a UK-based charter company starting with two managed Phenom 100s, the first due to arrive at its Oxford base in days. "Embraer is used to building airliners," says David Fletcher, chief executive and a pilot. "Its products fly 18 hours a day."

European air taxi start-up JetBird, however, which has orders for 59 Phenoms and options on another 41, says aircraft certification delays allied to a pilot training bottleneck made its planned launch in Germany last month impossible.

But Stefan Vilner, JetBird chief executive, admits the "delays were quite fortuitous", allowing his company to work on assembling a chunk of required financing. Now, he says: "We're looking better. And private aviation, especially in Germany, is picking up." The company aims to launch next month. Mr Vilner also says that, having had a chance to examine the Phenom 100, he is unlikely to take any Phenom 300s.

Opinion is divided about the air taxi model, though. “In this market it would take a very brave person to say it would work,” says Geoff Wood-Hill, Ernst & Young aerospace and defence team director.

But Archie Garden of consultancy Oriens Advisers points to cuts in scheduled routes. “We believe the market opportunity is there, and there is a gap the Phenom and the Mustang will increasingly fill,” he says. “But we do think it’s a market education issue.”

Educating customers is made easier by some performance figures being better than Embraer initially promised. Range is now 1,185 nautical miles with generous reserves. And maximum cruise speed is 390kts – a healthy 50kts higher than the Mustang.

Sitting in the cockpit’s left-hand seat, this does feel like a comfortable environment for three-hour trips. The avionics suite, with three big screens, is Embraer’s own development of a comprehensive Garmin system, and the level of integration and automation is impressive. Pilot workload is simplified by highly automated management of the Pratt & Whitney Canada PW617F turbofans – engines from the same family that power the Mustang.

The BMW-designed passenger cabin is also light and spacious, with buyers getting the option of a chemical toilet or another two seats. It looks – and rides – like a larger jet.

From a pilot’s point of view, there is plenty of sophistication to help but enough feel to make the aircraft responsive. By contrast the Eclipse 500 I flew was twitchy and less stable, but the Mustang gives the Phenom a close run – for quite a bit less money.

Mr Fletcher, however, has no doubts. “It’s the best and easiest aircraft I’ve ever flown,” he says. “It’s the most fun I’ve ever had in an aircraft, too.”