

Fresh Air Matters... with Capt. Yaw

The Boeing Dreamliner team has finally got over the multitudinous technical challenges related to launching an all-new aircraft concept, and the B787 will soon grace the skies of Africa. Already, serial number two is in the air, with its smooth, clean lines and spaceship-like features. Boeing's latest airborne work of art is very different to any other airliner – ever. If you have not been following the progress of this exciting aircraft already having outsold its predecessors before the first machine ever entered service, let me share some of the 'sexy' and technical points related to this ship.

It is plastic. Well, not exactly – it is made of composites. Strong, very strong, and very flexible composites. A range of different composites are in use but the one called 'carbon fibre' is probably the most well-known. This makes the plane very light and very strong. I fly light aircraft for a living – and the 787 enjoys a light construction, but is not by any means a light aircraft.

Capable of carrying (depending on the version) between two and three hundred people, with operational ranges from five thousand to sixteen thousand kilometres (there are three variants of the machine). It is considered 'light' for what it can carry; for example, the '787-8' version is one hundred and ten tonnes empty, and can be loaded with another one hundred and ten tonnes of fuel, cargo and passengers (including carry-on). The '787-9' version is one hundred and fifteen tonnes empty, but can carry over one hundred and twenty tonnes of 'go-juice', people and their belongings... Oh, and it is a bargain – starting at just one hundred and fifty million US dollars for the entry-level version (the 787-3), and rising to over two hundred and fifty million dollars for the extended range, extended luxury, extended arm, deep-into-the-pocket version (the nec-plus-ultra 787-9).

Inside the passenger cabin, there is a lot more room than in conventional machines, thanks to innovative construction methods. More head-room, more leg-room, bigger windows (using a technological breakthrough developed from the propeller hubs used on light aircraft), and a promise of overhead luggage lockers cavernous enough to meet the needs of the African market – that will be interesting in practice...

Boeing is renowned for exciting features in its planes. For example, the 777 had the first 'soft slam' toilet. If you do not believe me, go to the loo on a plane and slam the toilet lid (which can cause a loud bang and 'scare' passengers from what is sometimes referred to as 'the big bang'). OK, it is a bit mischievous, and I am sure that you would never do it – unless you are on a 777. The 777 toilet seat is a unique work of art – you cannot slam it. The little 'slam-arrestor' unit (a very expensive FAA-approved device), developed specifically for the 777, always amuses me on the long transatlantic flights when nature calls. It is really worth watching – honestly. Lift the lid and drop it a little bit forcefully – and watch as Newton's laws are apparently modified by the wonders of Boeing science. It apparently makes travellers more comfortable if they do not hear the toilet seat 'big bang'!

Most of us travel as passengers, but I really have to look in the cockpit to see what the captain of the ship and his buddy have to play with. The 787 is a very different machine to other Boeings – lots of new things and, being 'new', lots of electronics. It is perhaps the most expansive 'glass panel' on any aircraft in service – it could pass for a TV studio if you didn't look too closely at the technical content of the screens... There are computer screens of greater dimension than I

have noted elsewhere, and switches and levers galore – all well laid-out in an ergonomic fashion - and a nice safe place to keep the beverage cup. As a pilot on a long-haul, that is a really important part of the cockpit. There is nothing worse than spilling your drink while looking at the charts, and then explaining to passengers, friends and immigration officials that it was nothing to do with the 'challenging landing' that the front of your trousers is 'a little damp'.

The big, big selling point for Boeing is not the comfort, nor the style, nothing to do with the captain being happy with his cup-holder, gizmos, gadgets and handling of the machine. It is nothing to do with passenger perceptions; it is not to do with politics. So what is this 'Holy Grail' that Boeing is presenting us with on top of the cool points we have masticated to this point in today's newspaper?

Ecology and Economy – the wonders of being kind to nature and the pocket of the airlines. This wondrous composite aircraft burns twenty percent less fuel for the same load compared to other aircraft in the same class. Twenty percent is massive. That saving is enough to make the difference between profitability and bankruptcy for many airlines today. We all know that we would love to save twenty percent on our fuel bills, but I promise you that the airlines will do extreme things to save two percent, let alone twenty.

A few years ago, Air New Zealand reportedly spent millions of dollars on a system that would enable them to save less than one percent on their fuel bills by changing the routes marginally, based on data from a range of systems – and they saved money, by spending money...

The airlines are, quite rightly, absolutely thrilled that this fuel-saving makes eco-news (the news they need, being big polluters of the skies); and the lower fuel burn means lower emissions. It seems that this explains the incredibly-full order book for Boeing during this time of world economic uncertainty. I think that we could all learn from the trend...

The last thing that makes me smile about the Dreamliner is the shape around the engines: it is scalloped. It looks, for all the world, as if some pterodactyl has chewed around the engine cowlings. The reason is noise. These engines are very quiet but, by shaping the engine cowlings, they found that they could reduce noise even more.

Of course, the driving force is profit, but the incorporation of wonderful features for our enjoyment, and the protection of our environment, make this innovative aircraft one to support.

Watch the skies because one will be over us soon... and I for one am ready to be a passenger as soon as they come on-line with Ethiopian, Kenyan, KLM, British or any of the other multitude of airlines with outstanding orders for this eco-economical air-travel solution.

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