The Benefit of Blended Winglets

Saving Jet Fuel 'Gracefully'

Every day jet aircraft with a capacity of more than 100 passengers consume 120 million gallons of jet fuel or about 44 billion gallons per year. At today's prices this equates to an approximate cost of 35 billion dollars of in-wing fuel costs. These costs are a large share of the operating costs for aircraft owners. Any innovation that would impact the general fuel efficiency of these aircraft would save operators millions and possibly billions of dollars.

This is the exact calling of high performance Blended Winglet systems designed by Aviation Partners Boeing.

Blended Winglet Systems consist of gracefully contoured wing tip devices and supporting structural and system changes. A typical Blended Winglet on an aircraft is shown below:

Winglets reduce the drag of a wing. The reduced drag can be as much as 6% at optimum cruise levels. This equates to 3-4% reduction in block fuel consumption for typical aircraft missions. Across the fleet of all jets as defined above, this would be a savings of more than $1.0 billion dollars of in-wing fuel costs per year. In addition to the reduced fuel consumption the winglets increase lift of a wing. This additional lift increases the capability of the aircraft or, in turn, reduces the amount of thrust for specific missions, which reduces engine maintenance. Blended Winglets have a major impact on the environment because they reduce fuel burn, reduce emissions and reduce the noise foot print over populated areas.

The winglets also provide opportunities for operators to fly longer stage lengths. This can prevent tech-stops for refueling and can open up new routes that were previously not possible. In addition, blended winglet systems provide operators with a 'new look' aircraft. As one operator stated, "Winglets give my aircraft a new personality."

The high performance Blended Winglet technology was developed by Aviation Partners, Inc. using the patented designs of Dr. Louis B. Gratzer, VP Technology for Aviation Partners, Inc. All winglet systems are certified by the FAA. Aviation Partners Boeing has certified winglets for the Boeing Business Jet and the 737-700 and -800 and the 737-300 model aircraft. Aviation Partners Boeing's current business plan includes certification of winglets for the 737-300, 737-400, 757, 767, MD80 and 747 by 2006.

Blended Winglets can be installed on new aircraft or in-service aircraft. An in-service aircraft, installation takes between 2 and 14 days depending on the aircraft model.

Aviation Partners Boeing is a Joint Venture between Aviation Partners Inc. and The Boeing Company.

May 30, 2003