

## Sharklets

### Topics:

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- Winglets
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A press release from Airbus dated 15<sup>th</sup> November 2009 outlines that they have joined Boeing in pushing forward the efficiency of its legacy fleet. The press release announced that Airbus have developed a new wingtip device, called the 'Sharklet' to improve fuel burn, environmental effects, range and payload. The launch customer will be Air New Zealand (ANZ) who has recently announced an order for A320 aircraft that will be delivered in 2012. This product is likely to be a large benefit to operators such as ANZ that have relatively long sector lengths.

With the wide body Airbus aircraft having large winglets as standard and the A320 family having a wingtip fence, it was considered 'a matter of time' before the benefits migrated their way to the smaller aircraft. However, in 2006 Airbus trialed a number of designs but were unable to gain sufficient efficiency over the weight increases to rollout this modification previously. The standard A320-200 winglet already has a 1% enhancement, thus requiring a significant improvement to require the change. The new Sharklet has been developed with the assistance of Aviation Partners, who developed the modern Boeing installations.

For some years Boeing and Aviation Partners have rolled out its winglets across the model range that now covers B737 Classic and New Gen, B757-200 and B767-300ER aircraft. The winglets are proving popular across the whole of the Boeing fleet with most new B737 aircraft coming off the production line with winglets pre-installed.

There are a number of positive factors associated with the installation of wingtip devices on both aircraft types and these are likely to become more common on new build and retro-fit aircraft of this type over time.

The following table details some of the major benefits of both the Airbus and Boeing products:

	Airbus A320 (Projected)	Boeing 737-800
Fuel Burn Reduction	Greater than 3.5%	Typically 3.4%
Payload Increase	Up to 500kg	Up to 415kg
Range Increase	Up to 150nm	Up to 130nm
CO <sub>2</sub> Reduction	Approx 3%	3%
Noise Reduction (%)	Approx 5%	6.5%
Aircraft Annual Fuel Bill Reduction (%)	3-4%	3-4%
Aircraft Annual Fuel Bill Reduction (US\$)	\$200,000 - \$220,000	\$150,000 - \$175,000
Height of Winglet	2.4m	2.49m
Price Uninstalled - List Price	\$850,000	\$925,000
Price Installed - ASG Figure	\$900,000 - \$950,000	\$950,000
Total Maintenance Cost Reduction (%)	Up to 2%	Approx 1.5%
Residual Value Enhancements Over Non Winglets	Up to 2%	Up to 2%
Asset Value Enhancements Over Non Winglets	Approx 2.5%	Approx 2%

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Boeing 737 'Winglet'



Airbus A320 'Sharklet'

I trust the above has proved to be useful for all and it is clear that improved efficiency of existing aircraft designs is a higher priority than developing a 'blank page' replacement product. The market clearly believes that these products are advantageous for all parties and, as such, due consideration should be given to this modification.

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- *Airline Technical Audits and Risk Surveys*
- *Maintenance Check Technical Representation*
- *Repossessions, Extractions and Lease Termination Inspections*
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