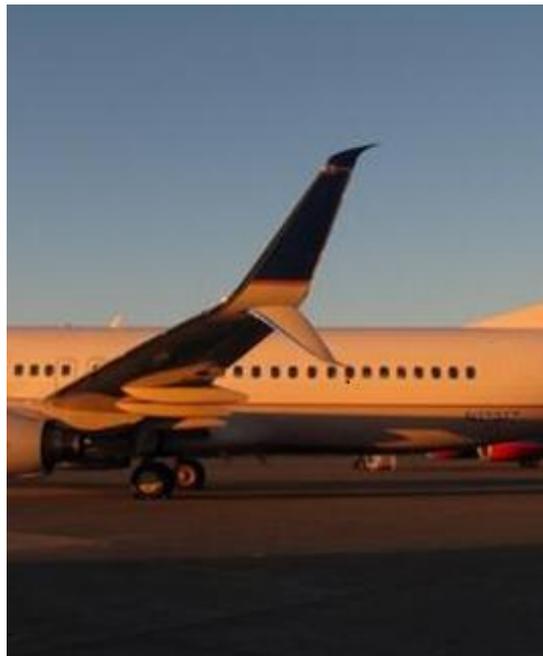


Potential Hazard of Split Tip Winglets

Introduction

Aircraft have been fitted with winglets or sharklets since the 1970s. There are several benefits to the aircraft operator, such as improved handling characteristics and reduced turbulence for following aircraft, but the main benefit is improved fuel efficiency. This is achieved by reducing the aircraft's drag by decreasing the amount of energy lost in the production of vortices at the wing tip.

Some Airbus aircraft are already fitted with a *wingtip fence* which extends both above and below the wing tip, but more recently a new design of winglet has been developed and it is now being fitted by Boeing on its newer B737 models. The new winglet from Boeing can also be retrofitted on older derivatives.



The *split scimitar* winglet

These new *split tip winglets* have both an upward projection and a more significant downward projection. The type being fitted to the Boeing 737 aircraft is known as the *split scimitar* winglet.

The new winglets are already appearing on US-based airlines operating Boeing 737s and, given the scale of the fuel savings forecast (1.5%), they could be appearing globally in the near future.

What's the problem?

The purpose of this Bulletin is to warn airport managers and operations staff of the existence of the new winglets. We do not have any details of the dimensions of the downward blade of the winglet, and this may be subject to change as designs evolve. However, it is clear that the winglets reduce the clearance under the wing tip. They are therefore vulnerable to damage from fuelling vehicles and additional care should be taken when approaching and departing from aircraft fitted with these winglets.

Recommended Actions for Into-plane Fuelling Operations by end June 2014

Managers should ensure that all fuelling operators are made aware of this new design and of the need for caution when approaching and departing from aircraft fitted with them. Toolbox talks to consider potential hazards presented by the split tip winglets are recommended.

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