Enidine by Design

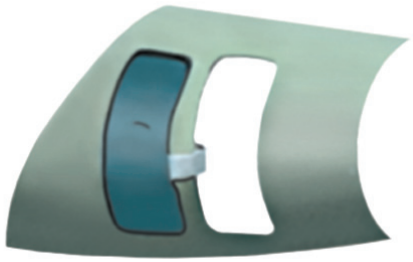
Preventing Damage to Aircraft Doors

Enidine Energy Absorption Application

Application Overview

A major commercial aircraft manufacturer needed to protect the passenger doors of its newly designed aircraft during normal operations. The customer asked Enidine to provide a product solution that would meet the following requirements:

- Operating temperatures of -40ºC to 70ºC (-40ºF to 158ºF)
- Lightweight component design
- Ability to withstand strong side loads on piston rod
- Competitive price
- Useful life of 25,000 cycles
- Low maintenance



Product Solution

To meet these expectations, Enidine developed an adjustable hydraulic damper, with major components adapted from its PRO Series of hydraulic shock absorbers. The damper's aluminum housing, special seal package and long-life bearing solution allowed it to accommodate a wide range of temperature and energy conditions. Enidine's custom shock absorber provided the smooth deceleration required for safe opening and closing of the passenger doors with minimal noise. As a result of this application, each of the new aircraft doors is equipped with a hydraulic dampened end-top, offering smooth operation, avoiding structural stress and reducing noise, especially while operating under strong wind conditions.

Application Opportunity

Hydraulic shock absorption technology is effectively utilized in several other aerospace applications, such as sliding panels, hatches, hinges, seat reclining systems and overhead stowage bin compartments. Enidine was able to design a solution for our customer that exceeded their requirements, while providing the fast response time and competitive pricing that was also required for the application.

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