MITSUBISHI CHEMICAL ADVANCED MATERIALS

Aerospace

Ertacetal® POM-H / Acetron® POM- H

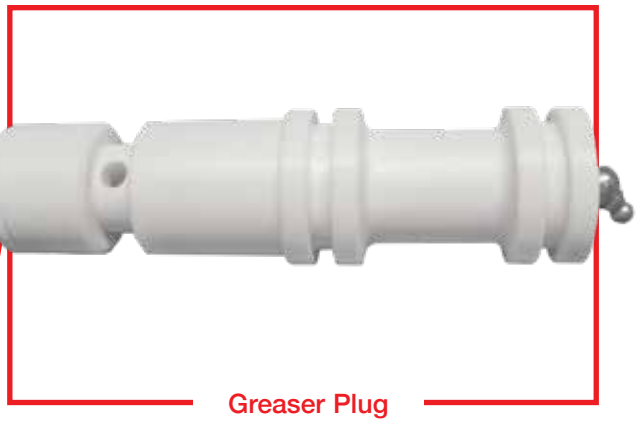
Aircraft Landing Gear Greaser Plug

Challenge

Provide the customer with a true "one stop shop" solution, streamlining the existing time and resource consuming process

The landing gear is a critical part of an aircraft, or spacecraft. It supports the craft when not flying and allows it to taxi, take off, land and brake smoothly and without damage to main structure. Aircraft landing gear usually includes structure, actuating system, and the rolling assembly consisting of wheels, brakes, and tires. This undercarriage is a relatively heavy part of the vehicle, it can be as much as 7% of the takeoff weight, but more typically is 4–5%.

On larger aircraft the landing gear is stowed away in the fuselage or wing compartments whilst in flight and therefore has to retract and extract from the undercarriage. Extraction of the landing gear is extremely safety relevant and needs to be 100% reliable.



Greaser Plug

The system incorporates critical bearing joints that also mounts the landing gear to the undercarriage. The assembly consists of a bronze spherical bearing and a pintle pin which requires lubrication. This internal lubrication is achieved by the use of a 'greaser plug' that fits within the pintle bore and facilitates the application of grease.

Key Requirements

- Chemically resistant to the grease and other contaminants
- Material should not scratch the pintle bore
- Excellent machining properties to facilitate deep drill holes, combined with expert machining capability to drill deep & small diameters
- Must remain free of distortion to aid assemble and removal

Customer Benefits

- Use of a polymer rather than alloy bronze made a weight saving of 5:1 possible
- As a result of working with Mitsubishi Chemical Advanced Materials the customer has benefited significantly from reduced work in progress, simplified certification, reduced finished stock and lower overall costs

Why Ertacetal® POM-H / Acetron® POM-H?

Mitsubishi Chemical Advanced Materials manufactures Ertacetal® H stock shapes using Homo-polymer which is traditionally very hard to produce in the size required without centreline porosity.

- Excellent mechanical properties allows use of standard fasteners
- Excellent stability and machining properties reduce machining cost
- Durability of material allows easy installation and removal (low distortion)
- Chemical resistance enables very long service life time

Mitsubishi Chemical Advanced Materials Added Value

- Utilize machining know-how within dedicated plastic machining centers to now offer the complete supply from resin to assembly
- Global experience and quality in manufacturing engineering polymers shapes in combination with our highly developed machining capabilities
- Our material processing and machining facilities are accredited to AS9100 rev C management system
- Use knowledge, experience and test capability, built up over five decades, to ensure that the extruded stock shape is consistent both in its mechanical properties and its dimensional stability

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