

Multi-Degree of Freedom of Operation Realized with APU Isolator Enidine Vibration Isolation Application

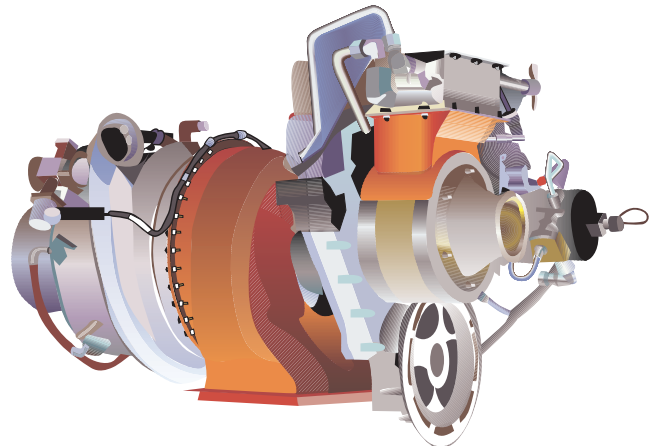
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Product Overview

Auxiliary Power Units (APU) on aircraft serve a very important role. An APU is a gas turbine engine located in the tail section of an aircraft. It is used for starting the main engines, providing air for cooling the cabin when the aircraft is on the ground and also generating the electrical power for the aircraft.

The APU on a large commercial aircraft weighs 350 pounds and is usually supported by three isolators, two supporting loads in compression and the third in tension. The APU isolators and their supporting struts are the only structural support between the APU and the aircraft frame. The APU isolator handles both input frequencies from the APU and from the airframe structure.

The isolator must also protect the APU from shock during harsh landings. The isolator must operate at a normal temperature of 350°F (177°C) and survive 2000°F (1093°C) for 15 minutes during a fire.



Product Solution

ITT Enidine Inc. has developed an APU isolator, which incorporates wire mesh-isolating assemblies within a high strength stainless steel housing. The APU Isolator meets all performance and environmental requirements, including:

- Vibration isolation
- Shock protection
- High temperature performance
- Fire resistance/survivability
- Compact package/minimal weight
- Maintenance free service life

When exercised, the wire mesh damping elements convert to input energy to heat. Friction is created when woven stainless steel wire strands in the wire mesh are displaced relative to one another.

Application Opportunity

The ITT Enidine Inc. APU Isolators operating on aircraft offer maintenance free, long service life while providing the critical operational performance necessary to assure auxiliary power unit performance.