

Commercial Aviation Motion Control Products



ENIDINE



Applications



Seats

- Passenger seat recline
- Seat leg rest extensions
- Flight attendant seats
- Executive aircraft seat recline
- Crew seat arms deploy
- Helicopter passenger seat recline
- Seat arm video monitor deploy



Stowage Bins

- Drop-down stowage bin motion control
- Stowage bin door opening actuators
- Life raft stowage bin motion control
- Stowage boxes
- Stowage bin support/noise attenuation
- Pivot Bin motion control



Galley/Lavs

- Faucet time delay
- Toilet seat and lid damper
- Garbage waste flaps
- Galley chiller supports



Interior Panels

- Sidewall / ceiling / floor panel isolation
- Interior noise isolation
- Electronics isolation



Doors/Others

- Escape door actuation
- Avionics shock isolation
- Cargo / Passenger door deployment
- Access panel doors actuation
- Cargo handling energy absorption
- Door latch actuation



Engine / APUs

- APU Isolators
- APU support tube isolation
- Main engine isolation
- Engine electrical isolation
- APU access doors actuation
- Flight critical products

Highly Engineered Products and Services for Aviation Applications



Engineering Design Systems

- Research and Development
- 3-D Modeling Software
- FEA Analysis Capability
- System Modeling
- Integrated PDM System

Certifications

- AS9100 Approved
- ISO 9001
- PMA Part Approvals
- Numerous seat lock products are 16-g tested and approved

Vibration and Dynamic Testing

- Full in-house testing capabilities
- Drop Testing - up to 4,000 lbs. and 600 in./sec.
- Vibration - Electromechanical shakers with digital controllers
- Dynamic testing - up to 500,000 lbs. at 80 in./sec.

Lavatory

Faucet Time Delay

- Controls water flow time
- Minimizes water waste



Waste Flap Control

- Automatic controlled flap return
- Eliminates flap closing noise



Toilet Seat/Cover Closing

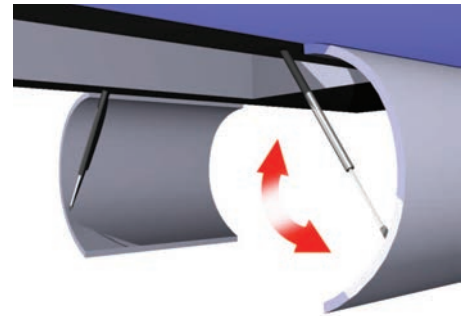
- Smooth seat/cover closing motion
- Eliminates free-fall noise



Auxilliary Power Unit and Main Engines

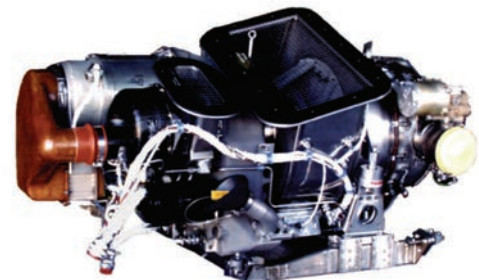
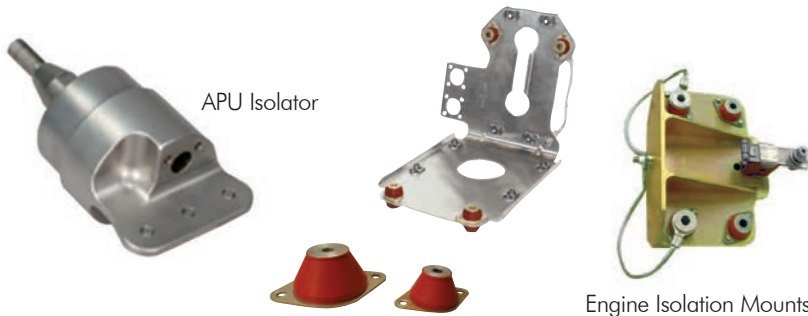
Access Door Control

- Actuates door opening
- Extending force prevents wind load flapping



Engine Isolation

- Statically supports high temperature operating APU
- Isolates power unit vibration to airframe
- Main Engine Isolators
- Isolates engine's sensitive electronic equipment



Stowage Bins

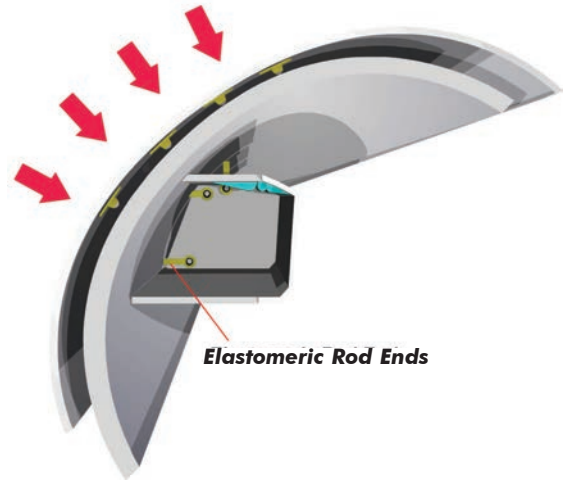
Structural Borne Noise Abatement

- Statically supports equipment
- Inhibits vibration and noise transmission into cabin interior



Noise Abatement Isolators

Exterior Structural Borne Noise



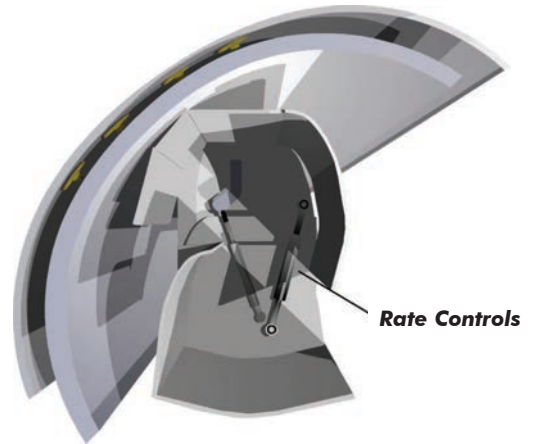
Elastomeric Rod Ends

Drop-Down Stowage Bin Motion Control

- Smooth, controlled articulating or pivot bin opening motion
- Bin closing counterbalance lift assist and anti-slamming control



Rate Controls



Rate Controls

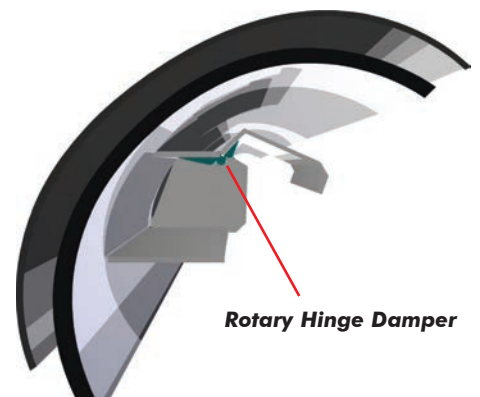
Door Opening Stowage Bin

- Automatic, smooth door lift
- Door held in full open position for easy passenger access



Actuator/Rate Controls

Rotary Hinge Dampers



Rotary Hinge Damper

Seats

Passenger Seat

Recline control:

- Easy, smooth passenger seat recline
- Long, in-service life expectancy
- 16G crash certified hardware

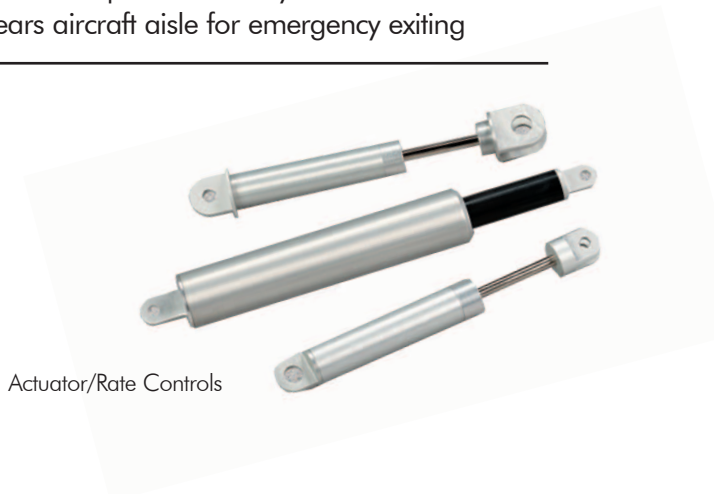
Leg rest deployment:

- Smooth leg rest extension
- 16G crash certified hardware



Flight Attendant Seat Positioning

- Seat folds up automatically
- Clears aircraft aisle for emergency exiting



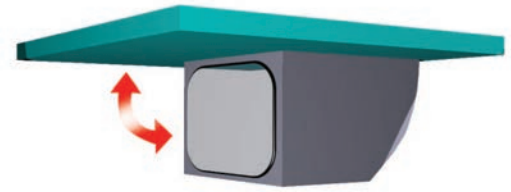
Flight Attendant Seating



Ceiling Equipment

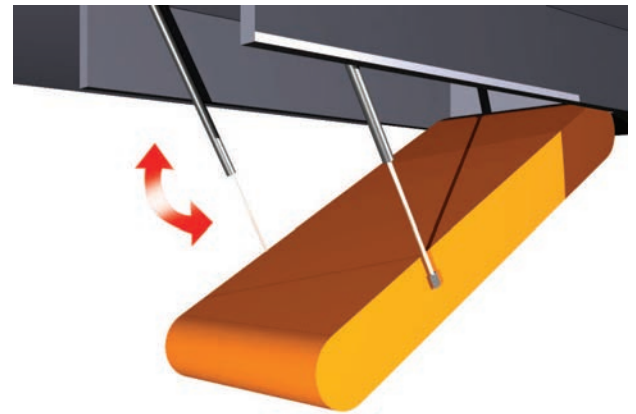
Video Monitor Deployment

- Smooth, controlled monitor descent
- Positive position soft stop at end of downward travel



Life Raft Bin Lowering Control

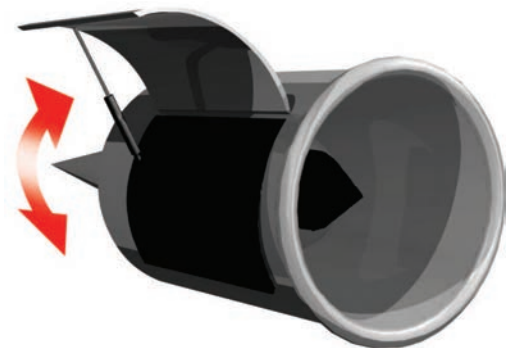
- Controlled, balanced lowering of heavy life rafts
- Zero maintenance



Doors - Fan Cowl, Passenger and Cargo

Engine Cowling Strut

- Controls cowling closing rate – resists wind gusts
- Enhances safety of engine maintenance personnel



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