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Glenair non-pyrotechnic space mechanism technology is based on a fusible wire-actuated separation nut design. Increasingly popular for its reliability and non-pyrotechnic action, fusible wire-actuated nut technology has the added benefit of being partially reusable and refurbishable post-deployment. Glenair HDRMs, pin pullers and pushers are immune to all forms of EMI or ESD, and capable of easily sustaining launch loads as well as defined preloads—with release deployment times comparable to conventional explosive actuators, but with low-shock and low power input.

A broad range of hold down release mechanism technologies have been historically used to hold secure and subsequently deploy satellites and other appendages (solar arrays, antenna reflectors, radiators, instruments, doors, sensors, booms, and so on) in space. Most of these technologies relied on non-reusable (explosive/pyrotechnic) designs that suffered from a broad range of deficiencies, including susceptibility to electromagnetic interference, problematic synchronization of release with mission requirements, high-shock release action, and significantly, the inability to reuse or refurbish the device during test. Historically, actuators and release devices of this type have included explosive release nuts, bolt cutters, separation nuts, and wire and pyro cable cutters

Glenair has taken a different path in the development of non-explosive HDRMs and other space mechanisms with a consumable initiator which, post-actuation, allows the device to be refurbished and reset on-site, or at the factory. Glenair fusible wire-actuated nut technology solves all of the problems associated with conventional explosive hold down and release devices.

Glenair family of pin pushers and pin pullers are low-shock mechanisms comprised of a spring-loaded pin held in place using the same fusible wire-actuated technology found in our hold down release mechanisms. Once actuated the restraining fuse wire breaks under tension causing the pin to retract under the force of the drive spring. The effects from the release of any potential energy in the loaded spring during actuation are countered by a measured delivery system to limit the effects of shock.

All three key components of Glenair space mechanisms (preloading assembly, release actuator, and load-carrying structure) may be packaged according to specific customer requirements including connectorization in place of wire leads. Packaging options include cylindrical or rectangular housings, lightweight materials, unique shapes and profiles, non-standard mounting dimensions and more. Consult the factory for complete information and TR Level qualification test reports.

### SCALABLE DESIGNS: FROM CUBESATS TO 20,000 POUND PAYLOADS

- Fuse-wire based technology
- Redundant or non-redundant actuation circuit
- Space-rated and screened materials
- Electrical initiation up to 5 amps

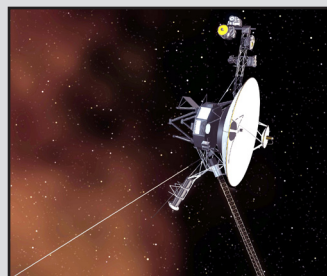


Build-to-spec solutions also available, including connectorized HDRMs, band porch shield termination feed-thrus and power draw resistors. Connectorized Solution above shown with Series 806 Mighty Mouse

### DEPLOYMENT APPLICATIONS



Solar Arrays



Booms and Masts



Antennas



Reflectors