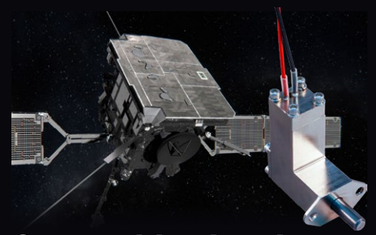
BEHIND-THE-SCENES AT GLENAIR GSS

Space-Grade Electromechanical Device Manufacturing and Test

GSS-manufactured hold-down and release mechanisms (HDRM) as well as customer-bespoke electromechanical devices are manufactured in-house in our fully-integrated precision machining and metal fabrication center. All devices are clean-room assembled and inspected in a 3D optical profilometer.

HDRM housings precision-machined in-house with tolerances to 1 micron

Glenair®
SPACE SYSTEMS



Space Mechanisms and HDRMs

GSS designs production and customer-bespoke space mechanisms: GSS is pleased to offer both our European and North American customers access to our innovative design, engineering, and machining capabilities for space-grade interconnect and electromechanical technologies including hold-down release mechanisms. Glenair Space Systems, Salem is equipped with a fully-integrated machining operation with capabilities to produce both highly miniaturized as well as larger form-factor components and structures. Our GSS-manufactured HDRMs with clean-room assembled actuators are a perfect example of this rare capability found only at Glenair.

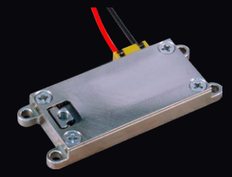
CUSTOMER-REFURBISHABLE, NON-PYROTECHNIC, SCALABLE HDRM TECHNOLOGIES

Connectorized and Mechanical-Release HDRM designs

Hold down release mechanisms are used to secure and deploy satellites and satellite appendages including solar arrays, reflector antenna, booms, and masts. Historically, release devices of this type have included explosive release nuts, bolt cutters, separation nuts, as well as wire and pyro cable cutters. Glenair non-explosive HDRMs employ a fusible wire-actuated nut technology that solves many of the problems associated with explosive hold down and release devices, including easy on-site refurbishment after test.

Certain designs are now manufactured by Glenair Space Systems in Salem, Germany. Glenair US-manufactured non-pyrotechnic and customer-refurbishable medium-duty HDRMs and pin pullers can ship to most customers worldwide without an export license, although light- and heavy-duty HDRMs do typically require one.

- Delivery options include connectorization and turnkey integration into shielded harness assemblies
- Lightweight materials, unique shapes and profiles
- Standard and non-standard mounting dimensions IAW customer requirements
- Scalable designs with as little as 5 lbs. (22 N) of release pre-load and as much as 20,000 lbs. (9000 N)
- Separation nut designs as well as pin pullers and pin pushers



Light-Duty HDRM
Side load bearing,
75 lb. release

Medium-Duty HDRM
Redundant,
1000 lb release

Heavy-Duty HDRM
Non-redundant,
20,000 lb. release

EXAMPLES OF ELECTROMECHANICAL DEVICES IN WHICH GLENAIR SPACE SYSTEMS HAS FABRICATED SOME OR ALL OF THE STRUCTURAL ELEMENTS AND INTEGRATED CABLING

Complex motorized Ka-band antenna pointing mechanism with GSS-integrated harness assembly

Complex wave guide gain horn assembly with GSS-fabricated components and bespoke shielded wired harness assemblies

Example of an intricately-milled cover for an electromechanical device housing