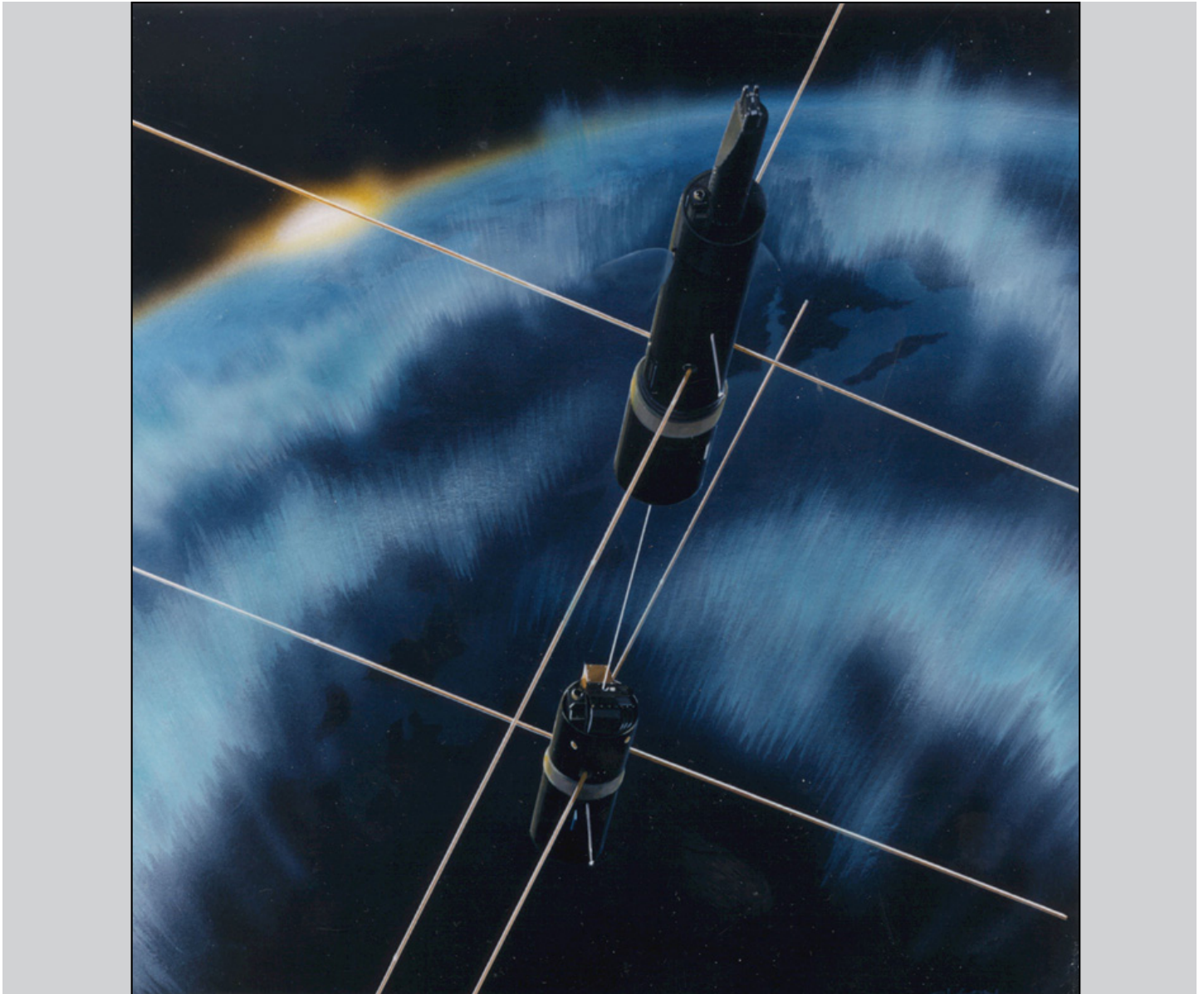
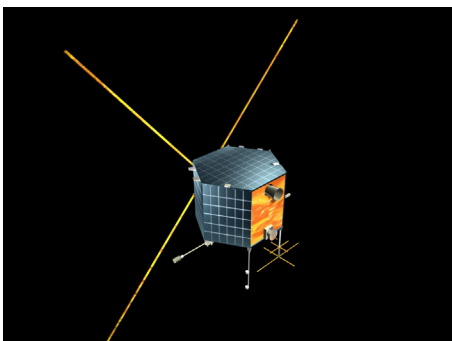


DEPLOYABLE BOOMS



FLIGHT HERITAGE • HIGH RELIABILITY • FLEXIBLE DESIGN



OVERVIEW

Magellan Aerospace, Winnipeg offers deployable booms for payloads or instruments. The boom system allows the payload or instrument to remain in a compact position during launch. After launch, the booms are deployed using a pin-puller mechanism up to a distance of approximately one meter.

The design has been successfully used on several successful sounding rocket flights, and is applicable for small satellite missions.

DESIGN FEATURES

The boom is secured in place for launch via a pre-load spring mechanism. This pre-load mechanism acts to:

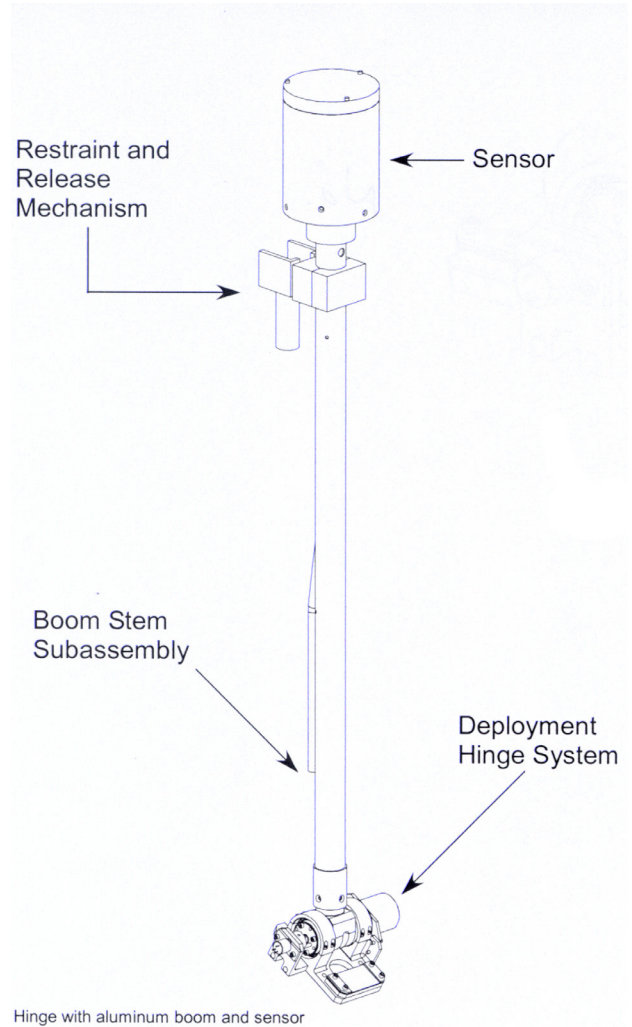
- Take up free play between pin-puller and boom.
- Damp out some of the vibration and shock during launch and spacecraft separation.
- Provide an initial “kick” to start boom deployment.

The boom design includes the following:

- Inclusion of bearings with the hinge to reduce overall friction upon deployment.
- The Viscous Damper slow boom rotation and deployment shock.
- A Stop Block absorbs deployment shock.
- A Precision Potentiometer to measure boom rotation and deployment position.
- A Torsion Spring to provide boom rotation after first motion.
- A Locking Wedge to lock the boom in its deployed state to prevent further movement of the boom.

SPECIFICATIONS

Deployment Distance	1 meter
Available Payload Mass	1.6 kg
Maximum Deployment Angle	120 deg
Operating Environment	-65 deg C to 80 deg C
Redundancy Concept	



ABOUT MAGELLAN AEROSPACE

Magellan Aerospace (TSX: MAL) is a global company that provides products and solutions to the aviation, defense and space markets, with facilities in Canada, the United States, Europe and India. The company’s Space and Rocket business has over fifty years of flight heritage on NASA and CSA missions including Black Brant sounding rockets, sub-orbital payloads, Shuttle and ISS experiments, and satellite missions. Magellan’s space solutions include the microsatellite-class MAC-100 bus and the smallsat-class MAC-200 bus, as well as command and data handling (C&DH) and power control unit (PCU) subsystems.

For more information contact:

Rushi Ghadawala, Manager, Business Development
Phone: +1 905 673 3250 x11050
Email: rushi.ghadawala@magellan.aero

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