

THE VALUE OF PERFORMANCE.

NORTHROP GRUMMAN

GEM 63 / GEM 63XL

Providing Thrust Augmentation for National Space Priorities

Northrop Grumman is developing the next generation of the GEM family of strap-on boosters to support intermediate- and large-class space launch vehicles. These boosters build on the company's extensive history of the successful GEM 40, GEM 46 and GEM 60 motors. The GEM 63 and GEM 63XL motors will be capable of supporting national security, science and commercial payloads.

The company is leveraging its industry-leading expertise in composite large solid rocket motor development and manufacturing to provide customers with a cost-effective, reliable, flexible and on-time system, starting in 2019 for United Launch Alliance's Atlas and Vulcan launch vehicles.

Northrop Grumman is partnering with United Launch Alliance to qualify these motors in 2018 to facilitate launches starting in 2019 supporting multiple customers. The next steps in Northrop Grumman's propulsion system development include testing, casting and static firing the new solid rocket motors. Full scale qualification testing is planned to begin this year.

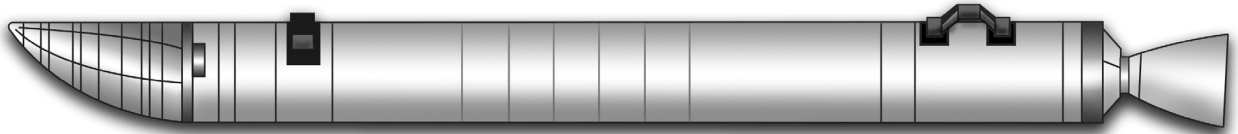
Facts At A Glance

Capable of providing up to 204,000 kg (450,000 lb) of thrust augmentation for medium- and large-class launchers

Leverages mature, flight-proven technologies used on more than 1,000 motors produced over the past two decades

Utilizes systems common with other Northrop Grumman rockets, providing cost savings to customers

63-inch-diameter motors rely on proven design attributes from motors that support Air Force, Navy and NASA missions



GEM 63



GEM 63XL

Specifications

	GEM 63	GEM 63XL
Total Mass	49,300 kg (108,600 lb)	53,400 kg (117,700 lb)
Propellant Mass	44,200 kg (97,500 lb)	48,000 kg (105,900 lb)
Total Length	2,009 cm (791 in.)	2,195 cm (864 in.)
Motor Diameter	160 cm (63 in.)	160 cm (63 in.)
Exit Plane Diameter	137 cm (54 in.)	142 cm (56 in.)

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Approved for Public Release
 OSR No. 16-S-1432
 Dated 05 April 2016

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