



News Release

Contact: Mary Blake
(310)812-6291 office
(424) 254-6170 mobile
mary.blake@ngc.com

First Flight Primary Mirror Segment of NASA's James Webb Space Telescope Passes Stringent Vibroacoustic Tests at Northrop Grumman

REDONDO BEACH, Calif. –April 15, 2011 – The first primary mirror flight segment of NASA's James Webb Space Telescope passed a vibroacoustic test March 9 that simulated the ear-ringing noise and vibration the mirror will experience at launch. Northrop Grumman Corporation (NYSE:NOC) is leading the design and development of the Webb Telescope for NASA's Goddard Space Flight Center.

“Four years ago we successfully tested a mirror engineering development unit and now we have confirmation that our flight mirror segments will withstand a launch environment,” said Scott Willoughby, Webb telescope program director for Northrop Grumman Aerospace Systems. “This gives us added confidence as we complete the manufacturing process for the remaining 17 flight mirror segments and continue to move forward with integration.”

Test engineers placed approximately 140 accelerometers on the edge and back of the mirror segment to record acoustic data. The mirror was then subjected to a series of noise blasts up to 143.3 decibels, louder than a gun blast or a jet engine at 100 feet. By responding at predicted levels, the mirror passed the all-day test as expected. It was conducted in the Northrop Grumman Aerospace Systems acoustic test facility, one of the industry's largest satellite acoustic testing chambers.

Acoustic tests are also planned for the assembled telescope optics together with the Integrated Science Instrument Module (ISIM) at NASA's Goddard Space Flight Center in Greenbelt, Md. When the entire telescope is assembled with the spacecraft and sunshield, it will undergo a final acoustics test before launch.

Although only one flight mirror segment was subject to the vibroacoustic test, all eighteen flight segments will undergo a series of intense vibration tests on a shaker table which simulates launch vibrations. Additional flight hardware components that will undergo vibroacoustic testing include the aft optics subsystem, which contains the tertiary mirror and fine steering mirror; and radiator panels and a parasitic tray that reflect heat away from the ISIM.

First Flight Primary Mirror Segment of NASA's James Webb Space Telescope
Passes Stringent Vibroacoustic Tests at Northrop Grumman

The James Webb Space Telescope is the world's next-generation space observatory and successor to the Hubble Space Telescope. The most powerful space telescope ever built, Webb will observe the most distant objects in the universe, provide images of the very first galaxies ever formed and study planets around distant stars. The Webb Telescope is a joint project of NASA, the European Space Agency and the Canadian Space Agency.

Northrop Grumman Corporation is a leading global security company whose 75,000 employees provide innovative systems, products, and solutions in aerospace, electronics, information systems and technical services to government and commercial customers worldwide. Please visit www.northropgrumman.com for more information.

#