# Boeing Builds First GPS IIF Satellite

The Boeing Company [NYSE: BA] has successfully assembled and integrated all flight hardware onto the first Global Positioning System (GPS) IIF satellite. GPS IIF will bring new capabilities to the GPS constellation such as full onboard encrypted military code, a new civil signal, crosslink enhancements, signal power increases and longer design life.

"GPS IIF is on track because of the team's stellar application of back-to-basics program management," said Howard Chambers, vice president and general manager of Boeing Space and Intelligence Systems. "The performance of these subsystems is a testament to our process-based management and to our lean manufacturing commitment, and GPS IIF fully meets the specifications set forth by our U.S. Air Force customer and places us firmly on track to deliver the satellite for the first launch in 2008."

Boeing is building 12 GPS Block IIF satellites under contract from the Navstar GPS Wing at the Space and Missile Systems Center in Los Angeles.

The satellite's sophisticated L-band payload will include new hardware that serves the civil user community. Designed to enhance non-safety-critical applications, the signals will improve aviation and other precision safety signals.

Technicians are preparing GPS IIF for key dynamic environmental tests designed to confirm its structural design and mechanical integrity. They also are attaching the solar panels and configuring the satellite before it undergoes several physical tests. The tests will help ensure robust mission assurance with an emphasis on product integrity and mission success.

Each GPS IIF satellite will complete acoustic stress tests using high-powered speakers to verify that the spacecraft can tolerate the high sound pressure levels during launches; mechanical tests similar to a separation test to make sure it disconnects cleanly and correctly from the launch vehicle; tests of its deployable mechanisms such as the solar wings and the antenna to ensure that they release correctly on-orbit; and finally, GPS IIF will undergo thermal vacuum testing to confirm its ability to operate in a vacuum and under the extreme temperatures of space.

Working closely with the U.S. Air Force to deliver new, advanced GPS capabilities to the military, civil government and the general public, Boeing will continue the GPS Wing's track record of on-orbit performance and constellation sustainment to guarantee GPS availability to users worldwide.

A unit of The Boeing Company, Boeing Integrated Defense Systems is one of the world's largest space and defense businesses specializing in innovative and capabilities-driven customer solutions. Headquartered in St. Louis, Boeing Integrated Defense Systems is a $32.4 billion business with 72,000 employees worldwide.
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