

Performance Flight-Testing Of Updated Radar Under Way For Lockheed Martin F-16; New Technology Expected To Significantly Increase Radar Performance

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The U.S. Air Force has begun flight-testing a new version of the radar for the Lockheed Martin F-16C/D aircraft that will significantly improve the aircraft's performance in air-to-air and air-to-ground operations.

The F-16 is built by Lockheed Martin Aeronautics Co., a business area of Lockheed Martin Corp. .

The Northrop Grumman APG-68(V)9 radar, the latest version of the F-16C/D radar, is being flight tested at Edwards Air Force Base, Calif., and thus far, is meeting or exceeding all of its performance specifications.

Changes to this new version are considered more significant than all previous upgrades combined, both in terms of magnitude and capability. There are significant improvements in detection range, resolution, growth potential, and supportability. Furthermore, application of advanced processing techniques enhances the radar's ability to operate in dense electromagnetic environments and resist jamming.

"The APG-68(V)9 radar is a defining feature of the advanced Block 50/52 F-16 version," said John L. Bean, vice president of F-16 Programs. "We are pleased with the radar's development progress to date and think the customers receiving it will thoroughly appreciate its performance and features."

The improved air-to-air capabilities and features of the V9 radar compared to the current V7/8 production versions include:

- 30 percent increase in detection range
- Improvements in false alarm rate and mutual interference
- Four versus two tracked targets in the Situation Awareness mode (a search-while-track mode)
- Larger search volume and improved track performance in Track While Scan mode
- Improved track performance in Single Target Track mode.

Air-to-ground improvements include:

- Two-foot resolution in new Synthetic Aperture Radar (SAR) mode
- Increased detection range in Sea Surveillance mode
- Improved target detection and map quality in Ground Moving Target Indication mode.

The new radar takes advantage of current commercial off-the-shelf (COTS) technology, both hardware and software, which provides a 5X increase in processing speed and 10X increase in memory compared to the current APG-68 production radar. In addition to the new and expanded radar capabilities, the capacity of the new processors provides large growth potential.

This technology is expected to provide a 50 percent increase in radar reliability to nearly 400 hours mean time between failure. Use of COTS also resolves existing issues with availability and cost of repair parts, commonly referred to as Diminishing Manufacturing Sources.

The radar features an inertial measurement unit (IMU) on the radar antenna, as required for the SAR capability. The IMU also improves dynamic tracking performance and provides an "auto-boresight" capability. The latter improves antenna pointing accuracy in general and eliminates the need for time-consuming mechanical boresighting maintenance.

"The improved capabilities of the (V)9 radar will greatly enhance the mission effectiveness of the F-16," said Major Jim Dutton, (V)9 radar project pilot with the 416th Flight Test Squadron at Edwards Air Force Base.

Northrop Grumman is under contract to Lockheed Martin Aeronautics to develop and produce the V9 radar. Development testing of the radar began in July 2001 on Northrop Grumman's flying test bed, a modified BAC1-11, at its facilities in Baltimore, Md. This testing will continue through 2003 to include some staged improvements.

F-16 APG-68(V)9 radar integration testing, being conducted at Edwards AFB by the F-16 Combined Test Force, began in December 2001 and will continue for several customers through 2003. Initial F-16 flight testing is being performed on a modified Block 50 F-16C belonging to Greece.

As of the end of May, 18 flights and 29 flight hours of radar testing have been accomplished on the F-16. SAR testing on the BAC1-11 is going well, and SAR integration and requirements verification testing will be conducted on an F-16 starting in July and completing this fall.

The first production V9 radar, delivered in April 2002, will be installed in the first Greece Block 52+ F-16, which is scheduled to deliver in October 2002.

The F-16, the world's most sought-after fighter, is the choice of 22 countries. More than 4,000 aircraft have been delivered, hundreds more are on order for the United States and six other countries, and production is expected to continue beyond 2010. Major upgrades for all F-16 versions are being incorporated to keep the fleet modern and fully supportable over the aircraft's long service life.

The F-16 is playing a major role as the durable and versatile "workhorse" in allied peacekeeping operations in the Balkans and Iraq. The F-16 is a key player in Operation Noble Eagle, homeland air defense of the United States, and is participating in Operation Enduring Freedom in the war on terrorism in Afghanistan.

Lockheed Martin Aeronautics Co., headquartered in Fort Worth, Texas, is a leader in the design, development, systems integration, production, and support of advanced military aircraft and related technologies. Its customers include the military services of the United States and allied countries throughout the world. Products include the F-16, F-22, F-35 JSF, F-117, C-5, C-27J, C-130, P-3, and U-2.

Lockheed Martin Corp., headquartered in Bethesda, Md., is a global enterprise principally engaged in the research, design, development, manufacture, and integration of advanced technology systems, products, and services. Employing about 125,000 people worldwide, Lockheed Martin had 2001 sales of \$24 billion.

Corresponding photo will be available at 2 p.m. central time today by visiting:
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