Air Force Tests Radar Precision Mapping Capability Of Lockheed Martin F-16

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The U.S. Air Force F-16 Combined Test Force at the Air Force Flight Test Center at Edwards Air Force Base, Calif., recently began flight testing the high-resolution ground- mapping capability of the APG-68(V)9 multimode radar, which is now the standard radar version on all Lockheed Martin F-16 Advanced Block 50/52 aircraft.

"This new radar significantly enhances the F-16's combat capability," said John L. Bean, vice president of F-16 programs at Lockheed Martin Aeronautics Co. "The resolution of the radar's ground-mapping mode is the highest of any production fighter in the world. F-16 pilots will be able to detect, recognize and accurately locate targets for attack using precision weapons. Combine that with GPS-guided weapons already certified on the aircraft, and the F-16's ability to autonomously strike targets in any weather condition from standoff ranges is greatly improved."

The APG-68(V)9 multimode radar is built by Northrop Grumman, and its high- resolution ground-mapping capability is provided by a Synthetic Aperture Radar (SAR) mode. Flight-testing of the radar began a year ago. Testing of the radar's SAR mode on the Northrop Grumman BAC1-11 flying test bed was conducted late last year. The current tests are to verify SAR mode integration and performance in the F-16.

"The SAR mode of the APG-68V(9) should provide a significant increase to the air-to-ground mapping capability of the F-16's radar in terms of both range and resolution," said Maj. Todd Ericson, F-16 project pilot for APG- 68V(9) radar development. "Although we're still in the early phase of testing, the SAR mode has demonstrated good potential in both areas."

Changes in the APG-68V(9) radar are considered more significant than all previous upgrades to the APG-68 combined, both in terms of magnitude and capability. Besides the high-resolution SAR capability, there are significant improvements in air-to-air detection range, track performance, system growth potential and supportability. Also, application of advanced processing techniques enhances the radar's ability to operate in dense electromagnetic environments and resist jamming.

The new radar takes advantage of current commercial off-the-shelf technology, both in hardware and software, which provides a fivefold increase in processing speed and tenfold increase in memory compared to the previous APG-68 production radar. In addition to the new and expanded radar capabilities, the capacity of the new processors provides large growth potential. The new technology is expected to provide a 50 percent increase in radar reliability.

Several countries have ordered more than 200 of the advanced F-16 Block 50/52 version, which is equipped with the APG-68(V)9 radar, and this version is currently being proposed in several international fighter competitions. The full-up operational software with SAR capability is expected to be released to the field in the later part of 2003.

The F-16, the choice of 24 countries is the world's most sought-after fighter. More than 4,000 aircraft have been delivered, hundreds more are on order for the United States and seven 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.

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/A-22, F-35 JSF, F-117, T-50, C-5, C-130J, P-3, S-3 and U-2.

Headquartered in Bethesda, Md., Lockheed Martin Corp. 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 2002 sales of $26.6 billion.

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