First Lockheed Martin F-35 Joint Strike Fighter Vehicle-Management Computer Delivered

BAE SYSTEMS Platform Solutions has delivered the first Vehicle-Management Computer (VMC) to F-35 Joint Strike Fighter team at Lockheed Martin . Also delivered was the Vehicle Management Computer Engineering Test Stand.

The powerful VMC unit, slightly smaller than a shoe box, houses hardware and software for the F-35's digital flight-control and utility systems (e.g., fuel, electrical and hydraulic system controls). It contains two Motorola Power PC microprocessors, each providing more than ten times the performance of previous-generation systems.

Incorporating commercial, off-the-shelf technology (such as Power PC processors) into an open-system architecture throughout the F-35 will enable frequent technology updates at low cost. Open-system architecture is based on the use of commercial, standard interfaces that allow the program to take advantage of commercial technologies for more supportable, lower-cost designs. Affordability is the cornerstone of the F-35 program, and has been designed into the F-35 aircraft from day one.

"Each F-35 will have three boxes, making it a triple-redundant system," said Tom Burbage, executive vice president and general manager of the Lockheed Martin JSF program. "Each box 'votes' and compares its decision with that of the others before executing a command -- a process that takes place in much less than the blink of an eye. If one or even two boxes were to be damaged or malfunction, the aircraft would continue to operate normally."

The all-digital VMCs, which save weight and space while improving precision, are at the heart of the distributed F-35 Vehicle System.

The first VMCs will be installed in the F-35 Vehicle Systems Integration Facility, a laboratory at Lockheed Martin in Fort Worth that simulates the entire airplane by integrating and testing F-35 components such as hydraulic systems, utilities and subsystems. Delivery of the VMC early in the F-35 development schedule provides maximum time for development, integration and testing of F-35 Vehicle Systems software.

Later VMCs will be installed in the actual F-35 development aircraft, the first of which is scheduled to fly in late 2005.

Lockheed Martin is developing the F-35 in conjunction with its principal industrial partners, Northrop Grumman and BAE SYSTEMS. Two separate but interchangeable engines are under development by Pratt & Whitney and General Electric. Among the aircraft F-35 will replace are the AV-8B Harrier, A-10, F-16, F/A-18 and United Kingdom's Harrier GR.7 and Sea Harrier.

Lockheed Martin Aeronautics Co., a business area of Lockheed Martin, 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-130, C-130J, P-3, S-3 and U-2.

Headquartered in Bethesda, Md., Lockheed Martin employs about 125,000 people worldwide and is principally engaged in the research, design, development, manufacture and integration of advanced technology systems, products and services. The Corporation reported 2002 sales of $26.6 billion.

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