

Lockheed Martin Develops Technique To Integrate Advanced Weapons On Current Aircraft, Sooner And At Lower Cost

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Lockheed Martin has developed a new way to adapt its advanced strike weapons to existing aircraft interfaces, saving time and money and, most importantly, getting important weapons into the hands of the warfighters sooner.

New weapons systems traditionally have required unique interfaces that in turn require special aircraft modifications in order to operate properly. The aircraft's software, mission planning interfaces, built-in test systems, aircraft-to-weapon communications and other necessary operational interfaces required updating in order to work with the advanced capabilities of new weapons. These modifications take valuable time, sometimes as much as four to six years, and may entail significant expense.

"What Lockheed Martin is doing is finding new ways to make JASSM's capability available faster and with less cost," said Col. James Geurts, JASSM program manager and commander of the Long Range Missile Systems Group at Eglin Air Force Base, FL. "We need JASSM's range, survivability, accuracy, and lethality to effectively meet our mission requirements. This method of interfacing with existing aircraft systems allows us to have JASSMs sooner."

"You have to be creative," said Randy Bigum, vice president of Strike Weapons at Lockheed Martin Missiles and Fire Control. "What we've done is to make our weapons adapt to the aircraft instead of the other way around. That's something not typically done now. We made investments that have resulted in significant schedule reductions and cost savings. We're not exactly following traditional conventions by doing this, but it works and the warfighter gets the weapons faster."

As an example, Lockheed Martin engineers modified the operational flight program software of the Joint Air-to-Surface Standoff Missile (JASSM) so it responds to the F-16 aircraft's existing Joint Standoff Weapon (JSOW) interface. Basically, the aircraft "thinks" it is carrying and launching a JSOW from its wing. JASSM then uses the existing, proven interface from captive carriage right through the weapon launch sequence. Only minor changes to the JASSM software were required to make the integration work.

Lockheed Martin demonstrated this capability using an existing JSOW aircraft interface to control and launch JASSM on European Participating Air Forces' F-16s in Dallas-Fort Worth's System Integration Laboratory.

The same existing weapon interface has been used for integrating the Wind Corrected Munitions Dispenser (WCMD) on U.S. Air Force F-16s. Lockheed Martin will use this same interface to make WCMD-ER operational on U.S. Air Force F-16s in time for the 2006 Initial Operational Capability requirement.

Headquartered in Bethesda, MD, Lockheed Martin employs about 130,000 people worldwide and is principally engaged in the research, design, development, manufacture and integration of advanced technology systems, products and services.

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