

AIR FORCE MATERIEL COMMAND
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A Joint Air-to-Surface Standoff Missile is dropped from an F-16 Fighting Falcon. An Air Force Manufacturing Technology Division improvement in the missile's manufacturing process will save more than \$19 million over the production life of the joint Air Force-Navy weapon system. (Air Force photo)

JASSM composite body program saves millions

A manufacturing process improvement for the body of the Joint Air-to-Surface Standoff Missile will save more than \$19 million over production life of the missile, according to officials at the Manufacturing Technology Division of the Air Force Research Laboratory's Materials and Manufacturing Directorate at Wright-Patterson Air Force Base, Ohio.

The directorate manages the cooperative effort, officially called the JASSM composite body rapid response process improvement program, which includes representatives of Lockheed Martin Corporation and Fiber Innovations, Inc.

A joint program

JASSM is a joint Air Force-Navy program developed and produced by Lockheed-Martin Integrated Systems. It employs stealth to penetrate enemy air defenses at ranges of more than 200 miles, and can be launched off most types of aircraft in the Air Force inventory. JASSM is designed to destroy high-value, well-defended, fixed and moving targets.

Most of the surface area and load bearing structure of each JASSM is manufactured using a braided composite process to place fibers in their proper orientation and shape. The majority of these parts are then molded using the vacuum-assisted resin transfer molding, or VaRTM, process.

In the past, a costly, hands-on trimming procedure was necessary after the VaRTM process. This led to ManTech approving a plan for Lockheed-Martin to develop the JASSM composite missile body R2PI program.

By eliminating the post-VaRTM trimming steps, R2PI reduced the manufacturing risk to cost and schedule goals for JASSM by improving the manufacturing process.

It also developed net-shaped pre-forms for fuselage components, and improved the net edge molding of the upper and lower composite fuselage by refining the inner mold line dimensional control. It also optimized the resin infusion through auto-mated temperature and pressure controls.

High level approval

Making JASSM more affordable has garnered high praise from the Defense Department and Air Force leaders. JASSM is a flagship program for acquisition excellence, said Secretary of the Air Force Dr. James Roche.

"Not only do our combat forces get an unprecedented precision attack capability, but they get it at an affordable price never before achieved on a cruise missile program," he continued.

Undersecretary of Defense Pete Aldridge gave the JASSM program the go-ahead for low-rate initial production on Dec. 21, 2001. The Air Force plans to make the decision for full-rate production in late 2003.

-Mr. Gary Cunningham, AFRL Public Affairs