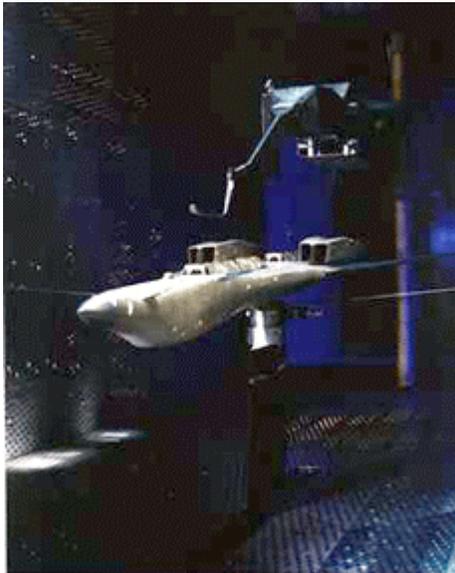


Wind tunnel testing examines new weapons compatibility for B-1B

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A 10-percent scale B-1B Lancer model is mounted from the floor upside down in Arnold Engineering Development Center's 16-foot transonic wind tunnel; and a 10-percent scale Joint Standoff Weapon is mounted on a moveable support in preparation for separation testing. (Photo by David Housch)

ARNOLD AIR FORCE BASE, Tenn (AFPN) -- A series of wind tunnel tests conducted at the Arnold Engineering Development Center here examined new weapon options for the B-1B Lancer.

"The primary objective for the test was to assess the separation characteristics of the Joint Air-to-Surface Standoff Missile from the B-1 aircraft," said Ricky Arterbury, store separation engineer for the Air Force Seek Eagle Office, Eglin Air Force Base, Fla. "A secondary objective was to do a similar test with the Joint Standoff Weapon. By doing the wind tunnel tests, we reduce the number of flight test missions we have to do from 15 or 20 down to seven or eight."

AEDC test crews performed the tests in the center's 16-foot transonic wind tunnel using 10-percent scale B-1B aircraft, JASSM and JSOW models. The aircraft model was mounted upside down in the tunnel on a support system called a strut. The strut is attached to the floor of the wind tunnel's test section.

The JASSM model, then later the JSOW model, was mounted on a special moveable support system called a sting and attached within the test section, and positioned as close to the aircraft as it would be in flight. After the desired simulated flight conditions were reached in the tunnel, the munition model was launched from the B-1B model by activating computer-controlled movement of the sting.

"Each B-1 mission costs about \$70,000 for the flight time plus the costs of weapons we release," Arterbury said. "So it's a very expensive proposition to do flight testing. The wind tunnel data helps us narrow the scope of the flight testing, to concentrate only on those conditions and aircraft configurations the AFSEO actually needs to flight test without spending precious flight test resources at conditions that wind tunnel data show to produce benign separations."

According to Arterbury, JASSM is a development weapon, which has been flight tested on both the F-16 and B-52 aircraft for the JASSM program.

"B-1 is an objective aircraft," Arterbury said, "meaning the weapon program could be successful without being certified on the B-1 aircraft. Of course certification on the B-1 aircraft would certainly provide the Air Combat Command additional employment options for the weapon."

Flight tests are scheduled to begin in October 2002."

The JASSM is an Air Force precision cruise missile designed by Lockheed-Martin for launch outside area defenses. Containing a Global Positioning System and Inertial Navigation System, JASSM is capable of aim point detection, tracking and striking.

Under development by the Raytheon Company for the Air Force and Navy, JSOW is a low-cost, 1,000-pound class launch and leave glide weapon with standoff capability. It will be used against a variety of land and sea targets and employs a Global Positioning System and Inertial Navigation System to allow day and night and adverse weather operations. These features will also permit the JSOW to operate from ranges outside enemy point defenses. (Courtesy of Air Force Materiel Command News Service)

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