

# 'On target' performance

## Boeing delivers first Small Diameter Bomb to the U.S. Air Force

By MARGUERITE OZBURN

Following one of the most successful development programs on record, hundreds of Boeing employees and suppliers participated in a May ceremony at which Boeing delivered the first production Small Diameter Bomb System to the U.S. Air Force customer.

"You've done what a lot of people in the development business thought couldn't be done," said Judy Stokley, deputy program executive officer and executive director, Air Armament Center, Eglin Air Force Base, Fla. During development, the SDB system successfully launched 39 weapons against a variety of fixed targets, hitting each target within less than 4 feet of its aim point and resulting in a better than 95 percent success rate.

"I am very proud of the Air Force-Boeing team that brought this exceptional capability from concept to production right on schedule," added Ginger Barnes, vice president, Boeing Weapons Programs, to the audience at the Boeing Weapons facility in St. Charles, Mo.

The delivery was the first of more than 24,000 GBU-39 weapons and 2,000 BRU-61 carriages Boeing will manufacture and deliver as part of the SDB system beyond 2015. The GBU-39 weapon is built at the Boeing Lean production facility in St. Charles. The carriages are built by Boeing supplier Sargent Fletcher Inc., in El Monte, Calif. The weapon system is planned for use on the F-15E, F-22 and F-35. It also is compatible with nearly all other fixed-wing platforms. The Air Force will initially field the system this fall on the F-15E.

At just 5.9 feet long and 285 pounds, the GBU-39 weapon's small size quadruples the number of weapons that can be carried on an aircraft—and therefore the number of

targets per sortie. Its size and precision accuracy also reduces collateral, or unintended, damage in the target vicinity. The all-weather weapon, equipped with deployable wings, has a maximum standoff range (or launch distance from target) of more than 60 nautical miles, improving pilots' safety by distancing them from local air defenses.

The weapon employs an Advanced Anti-Jam GPS-aided Inertial Navigation System that provides guidance to the coordinates of a stationary target.

The BRU-61 carriage is the enabler that increases an aircraft's SDB weapon load from one to four. The carriage attaches to the aircraft weapon station and has its own avionics system and four pneumatic weapon ejectors. The pneumatic system eliminates explosive cartridge ejectors used by conventional carriage racks and the attendant installation, removal and cleaning, resulting in low maintenance and low life-cycle costs.

"The superior accuracy of the SDB permits it to destroy a variety of targets with a relatively small warhead, and yet reduce the risk of collateral damage in dense urban areas," said Col. Richard Justice, commander of the 918th Armament Systems Group at Eglin Air Force Base. ■

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### SDB team on the move

The Small Diameter Bomb team currently is developing another weapon for the SDB system. While the SDB I GBU-39 weapon is effective against stationary targets in all weather from stand-off launch distances, the SDB Increment II weapon will add a robust capability against moving targets in all weather.

In April, the Air Force selected Boeing and Raytheon to compete in a 42-month Risk Reduction program for the second increment of the SDB system. The winner will be the sole source producer of the SDB II weapon. The Air Force is expected to award the contract by late 2009.

For SDB II, Boeing has teamed with Lockheed Martin. As prime contractor and system integrator, Boeing will supply the air vehicle and data-link system and is responsible for the overall weapon system. Lockheed Martin will provide the multi-mode seeker, to meet the requirement of hitting moving targets in all weather.



Attendees view a Small Diameter Bomb carriage during the SDB rollout ceremony in St. Charles, Mo., earlier this year.