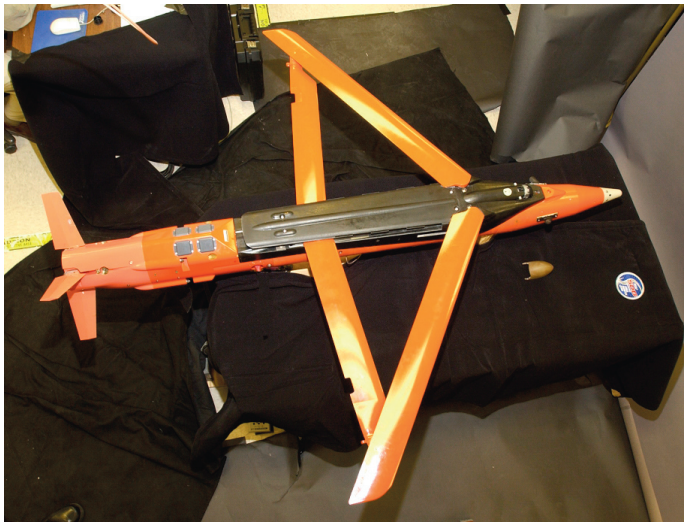
Small Diameter Bomb

Executive Summary
- The Small Diameter Bomb (SDB) completed developmental testing in August 2005, and entered initial operational testing in October 2005.
- SDB demonstrated the capability to operate in a Global Positioning System (GPS) jamming environment consistent with specifications outlined in the SDB Operational Requirements Document. Operational testing has not yet characterized the performance in operationally representative GPS jamming environments.

System
- The SDB is a 250-pound air launched weapon using deployable wings to achieve standoff range.
- An inertial navigation system provides primary guidance to the weapon. This is enhanced by signals received from a differential GPS.
- The SDB warhead is a penetrator design with an added blast and fragmentation capability. Integral fuzing is initiated by warhead impact with or without a specified function delay or by reaching a preset height above the intended target.
- SDBs are employed from a four weapon carriage mounted on F-15E aircraft.

Mission
- Combatant commanders use SDB to attack fixed or relocatable targets that remain stationary throughout weapon time of flight from release to impact.



- SDB engages both soft and hardened targets to include communications facilities, aircraft bunkers, industrial complexes, and lightly armored ground combat systems and vehicles.
- SDB increases weapons load out per aircraft for employment against offensive counter-air, strategic attack, interdiction, and close air support targets in adverse weather.
- SDB minimizes collateral damage while achieving kills across a broad range of target sets by precise accuracy, small warhead design, and focused warhead effects.

Activity
- Test and evaluation was conducted in accordance with the December 2004 DOT&E-approved Test and Evaluation Master Plan.
- Weapon releases of both live and inert weapons against both realistic and non-threat representative targets were accomplished in developmental testing. Weapon releases in a GPS jamming environment also were conducted, and developmental testing was completed in August 2005.
- DOT&E approved the Air Force Operational Test and Evaluation Center SDB IOT&E plan in October 2005.

Assessment
- Developmental testing demonstrated readiness for initial operational testing beginning in October 2005.
- Weapons releases in a GPS jamming environment demonstrated capability to achieve performance specifications outlined in the SDB Operational Requirements Document. Operational testing has not yet characterized SDB capabilities across the spectrum of representative operational GPS jamming threat arrays.

Recommendation
1. Characterize SDB capabilities against operationally representative GPS jamming threat environments likely to be encountered upon weapon fielding.