

Integrated Defense Systems  
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## Boeing SDB Focused Lethality Munition

### Description & Purpose:

The Focused Lethality Munition (FLM) weapon is an ultra low collateral damage version of the Small Diameter Bomb (SDB) weapon system. The FLM warhead is designed with a composite case to minimize case fragments. FLM uses a multiphase blast explosive fill developed by the Air Force Research Lab (AFRL) Munitions Directorate, Eglin Air Force Base, Fla. The weapon is designed to be carried on the Small Diameter Bomb BRU-61/A 4 place carriage. FLM will use all the existing SDB aircraft interfaces and can be used to complement the existing SDB Weapon system.



The SDB System, with its four-place carriage and four weapons, is designed to fit on current fighter/bomber external smart stations and in the internal bays of the F-22A, F-35, Unmanned Combat Air Vehicles, and B-1 and B-2 bombers.

### Customer(s):

The U.S. Air Force acquisition of the SDB System is managed by the Air Force Program Executive Officer for Weapons and the 918th Armament Systems Group, Eglin AFB, FL. The SDB acquisition plan included development, production, and sustainment of carriage and weapons, and also everything needed to field the system: containers, support equipment, and mission planning system.

### General Characteristics:

- GBU-39A/B Weapon: multipurpose, insensitive munition, penetrating, blast-fragmentation warhead for stationary targets; equipped with deployable wings for extended standoff range
  - Dimensions: (L x W): 70.8" x 7.5" (1.8 m x 19 cm)
  - Weapon Weight: 285 pounds (130 kg)
  - Warhead: 206 lb (93 kg) blast ultra low fragmentation
  - Fuze: electronic safe/arm fuze (ESAF) cockpit selectable functions, including air burst and delayed burst options
  - Standoff maximum range: more than 60 nautical miles

- Guidance
  - Precision inertial navigation system/global positioning system (INS/GPS)
  - Anti-jam GPS and selective-ability anti-spoofing module (SAASM)

#### **GBU-39A/B Weapon:**

The 250-lb. class weapon has an Advanced Anti-Jam Global Positioning System aided Inertial Navigation System (AJGPS/INS) to provide guidance to the coordinates of a stationary target. The payload is a very effective ultra low collateral damage multipurpose blast- warhead coupled with a cockpit selectable electronic fuze.

#### **BRU-61/A Carriage System:**

The four-place smart carriage system has its own avionics system and four pneumatic weapon ejectors. The carriage avionics provide stores management functions (including generating Launch Acceptability Region for the weapons) thus simplifying aircraft integration and provides features to facilitate in-flight planning. The pneumatic ejectors provide a long ejection stroke with lateral constraint and selectable end of stroke velocity/pitch rate that also simplifies aircraft integration. The pneumatic system eliminates the typical explosive cartridges and attendant installation/removal and cleaning required by conventional carriage racks. This design results in high performance, low maintenance, and low life-cycle cost to operate.

#### **Background:**

In April 2006 US Central Command, based on US Central Air Force's identification of an urgent operational need for a low collateral damage weapon, sponsored an out of cycle Joint Capabilities Technology Demonstration (JCTD) to determine the military utility of the FLM System. In August 2006, the 918th Armament Systems Group and Boeing entered into a contract arrangement for the integration and test of the FLM warhead into the SDB Weapon System. The first 50 FLM weapons were delivered to the Air Force in March 2008.

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