Mission Success
Ensign-Bickford Aerospace & Defense Company (EBAD) is dedicated to supporting our customers in the aerospace and defense industry through on-time delivery of innovative products that exceed expectations and assure mission success.

Warheads Capabilities

EBAD has designed, developed and produced a wide range of explosive and pyrotechnic products used for defense applications. EBAD maintains strong technical and operational expertise to perform new development and build-to-print warhead programs. EBAD’s core competency in handling and pressing explosive powders, pressed charge manufacture, cast-cure explosives, melt-cast explosives, and extrudable plastic bonded explosive (PBX) products reduces cost and risk for warhead programs.

Applications
- Missile warhead programs
- Shoulder-fired munitions
- Mortars
- Payloads

Warheads Capabilities

Load
- Warhead body preparation, including primers, adhesives, liners, and release agents
- Explosive processing (pressing and/or mixing and casting)
- Explosive machining

Assemble
- Complete warhead integration, including boosters, safe-arm devices and fusing

Test
- Test arena (up to 6.5 lbs N.E.W.) with high speed video, pressure measurement, etc.

Explosive Fill Expertise

Cast/Cure
- 1 - 200 gallon capacity (3.5 - 750 l)
- 10 - 2,000 lbs (4.5 - 907.2 kgs) per mix
- Powder drying, handling, and weighing systems
- Liquid metering and weighing systems

Pressing
- 450 ton (400 metric ton) dual-acting Savage Press
- Smaller presses to manufacture boosters or smaller billets
- Customizable diameter and lengths
- Billets and Shaped Charges

Equipment

Machining
- Remote explosive machining
- Haas TL-2 CNC Lathe
- Supermax YCM-TC-26 CNC Lathe
- Haas VF-2 CNC Mill

Inspection and Testing
- Full analytical lab for energetics characterization and chemical analysis
- Inspection/analysis dual-head X-ray system
  - 160 & 320 kV output
  - Image intensifier with real-time digital camera system
  - Imaging plate with FujiFilm Dynamix HR-50 Industrial Computed Radiography system
  - Coordinate Measuring Machine (CMM)

Warhead Processing

Load
- Warhead body preparation, including primers, adhesives, liners, and release agents
- Explosive processing (pressing and/or mixing and casting)
- Explosive machining

Assemble
- Complete warhead integration, including boosters, safe-arm devices and fusing

Complete warhead integration, including boosters, safe-arm devices and fusing

Test
- Test arena (up to 6.5 lbs N.E.W.) with high speed video, pressure measurement, etc.

CNC Machining

Radiographic Inspection

Cleared for Open Publication by the Defense Office of Prepublication and Security Review, Department of Defense 10/31/2019