

Capability Program Executive Ammunition & Energetics

2026 Product Portfolio Book

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CPE A&E

The Capability Program Executive Ammunition & Energetics (CPE A&E), formerly known as the Joint Program Executive Office Armaments & Ammunition (JPEO A&A), is committed to providing superior armaments and ammunition to the Soldier. The CPE is responsible for life-cycle acquisition management of all conventional ammunition, which includes integrating budgets, acquisition strategies, research and development (R&D) and life-cycle management across all ammunition families.

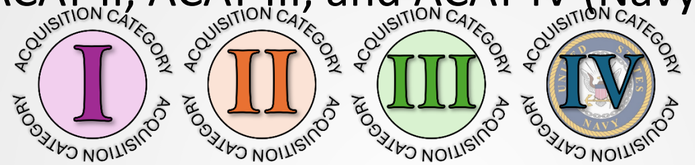
Mission: Develop, procure, and field lethal armaments and ammunition providing Joint Warfighters and Allied Partners with overmatch capability.

Vision: Innovative and empowered Teams rapidly fielding dominating capabilities.

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DoDI 5000.85: Major Capability Acquisition

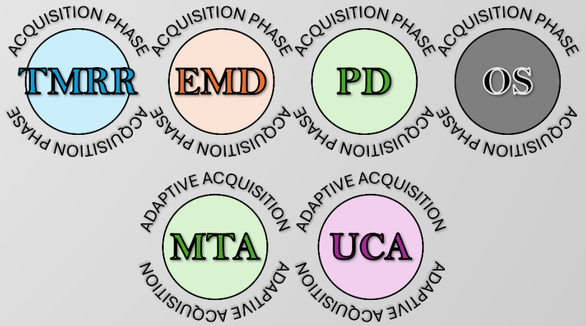
- ACQUISITION CATEGORY (ACAT)
- Categories established to facilitate decentralized decision making and execution and compliance with statutorily imposed requirements.
  - The categories determine the level of review, decision authority, and applicable procedures.
  - ACAT categories include: ACAT I, ACAT II, ACAT III, and ACAT IV (Navy and USMC only), and Abbreviated Acquisition Program (Navy and USMC only).



- ACQUISITION PHASE
  - An acquisition program is a directed, funded effort that provides a new, improved, or continuing materiel, weapon, information system, or service capability in response to an approved need.
  - The acquisition lifecycle is the relationship between acquisition phases and work efforts, and key program events such as decision points and reviews. It employs acquisition processes that match the characteristics of the capability being acquired.



- ADAPTIVE ACQUISITION FRAMEWORK, DoDD 5000.01/ DoDI 5000.02
  - DoDI 5000.81: Urgent Capability Acquisition (UCA)
  - DoDI 5000.80: Middle Tier of Acquisition (MTA)
  - DoDI 5000.85: Major Capability Acquisition (MCA)



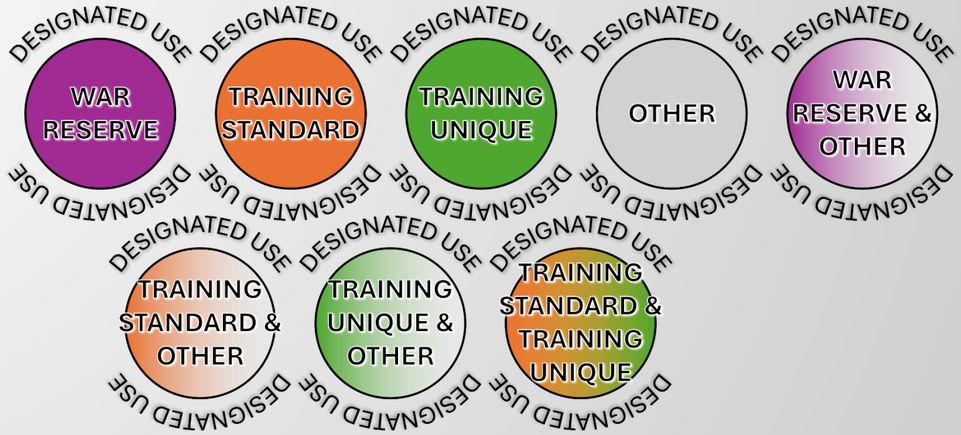
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Suitability & Interchangeability

- Conventional Ammunition Suitability/ Interchangeability List, published annually by the U.S. Army Joint Munitions Command (JMC)

- DESIGNATED USE:
  - War Reserve: Indicates that the item has a war reserve requirement
  - Training Standard: Indicates that the item is used for both war reserve and training purposes
  - Training Unique: Indicates that the item is used only for training
  - Other: Indicates that the item has some other application not directly related to war reserves and/ or training.

- SUITABLE SUBSTITUTION:
  - **P**: Preferred or Prime item
  - **S**: Suitable substitute to preferred item
  - **D**: Developmental items, not currently available for fielding



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Project Lead Joint Services enables the acquisition and manufacturing of munitions for all US military branches. PL JS integrates the Single Manager for Conventional Ammunition (SMCA) mission, providing the warfighter with conventional ammunition required to train and go to war.

PL JS is responsible for: coordinating and integrating SMCA activities, functions, processes, and operations on behalf of JPEO A&A; executing SMCA industrial base functions, including Army Ammunition Plant Modernization; and providing technology solutions to improve ammunition manufacturing safety, effectiveness, quality, and cost.

Mission: Enable the Acquisition and Manufacturing of Conventional Munitions for the Joint Services.

Vision: Acquisition and Management Excellence.

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 134-26



Project Lead Joint Services

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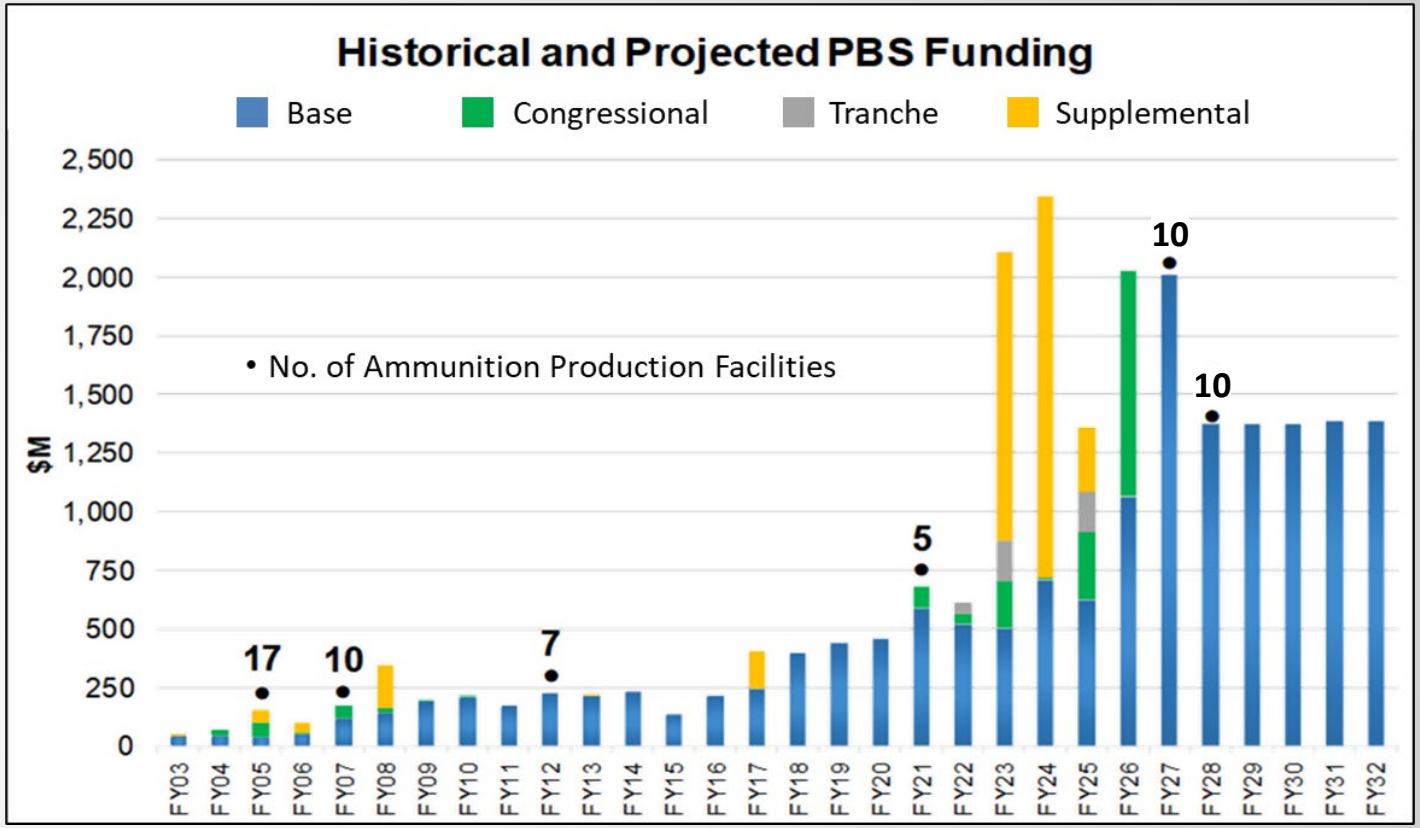
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AAP Modernization Plan

AAP Modernization Plan

- Submitted annually (31 March).
- Production Base Support (PBS) funding strategy by facility.
  - HSAAP, IAAAP, LCAAP, QCCCF, RFAAP, and SCAAP
  - BGAD, CAAA, MCAAP, and PBA
- Capitalizes on state-of-the-art manufacturing equipment, technologies and best practices while maintaining production continuity.
- Projects improve safety, resiliency, compliance, and operational effectiveness; addresses increasing automation and the application of digital manufacturing.
- End-state-driven investment strategy:



1. Increase manufacturing safety and readiness to meet current and future requirements
2. Isolate energetic mass from people
3. Ensure graceful degradation and resilient operations
4. Improve flexibility, maintainability, and sustainability
5. Reduce cost of operations
6. Secure supply chains

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ARMS Program

The Armament Retooling and Manufacturing Support (ARMS) program was Congressionally established in 1993 (ARMS Act of 1992) and Codified in 2000 (10 U.S.C. 7551-7555) to encourage use of underutilized AAP facilities by commercial firms. The program lets businesses take advantage of Government incentives to use land and diverse industrial facilities that include infrastructure, utilities, buildings and equipment at very flexible and reasonable terms.

- **Capabilities & Characteristics**
  - Sustains Army manufacturing capability for Armed Services national security requirements
  - Reduces facility ownership, operations, and maintenance costs
  - Accelerates private sector economic growth, employment, and investment

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Section 806 Policy

This initiative analyzes conventional ammunition acquisitions to ensure they align with retaining National Technology and Industrial Base (NTIB) capabilities, as mandated by 10 U.S.C. 2304(c)(3) and Section 806 of Public Law (PL) 105-261. Section 806 authorizes the SMCA to restrict procurement to NTIB sources to maintain essential capabilities.

- **Capabilities & Characteristics**
  - Determines if directed workload of specific ammunition procurements are necessary to ensure critical capabilities sustainment by maintaining facility, manufacturer, and supply chain base for the furnishment of an essential ammunition item or ammunition component for national emergency or industrial mobilization.

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Holston AAP

Mission: Manufacture RDX-, HMX-, and IMX-based explosives

Site Characteristics:

- Size: 6,024 acres, 325 buildings, 130 igloos
- Combined Facility Use and Supply Contract: 10-year with two 5-year options effective 1 January 2024

Modernization Focus Areas:

- RDX/HMX Capacity Expansion
- IMX Capacity Expansion

Core Capabilities:

- Insensitive Munition (IM) explosives production and development
- High explosive (HE) synthesis and manufacture
- Melt-cast, cast-cured, pressed, and extruded explosives formulation
- Explosives performance testing
- Full-spectrum explosives R&D capability



Plant Operating Contractor:

- BAE Ordnance Systems, Inc.

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Holston AAP



RDX-Based Products	
Composition A-3	CXM-7
Composition A-4	CXM-AF-5
Composition A-5 Class 1	CXM-AF-7
Composition B Type I Grade A	Cyclotol
Composition B4	PBXN-7 Class 2
Composition C-4	PBXN-10 Type I
Composition D-2	PBXN-10 Type II
CXM-3	RDX TYPE II Cl. 1, 3, 5 & 7



HMX-Based Products	
CXM-9	PAX-2A, Types I & II
CXM-10 Types 1, 2 & 3	PAX-3 Type III
CXM-11	PBX-9501
CXM-12	PBXN-5 Type I Class 3
HMX 80S	PBXN-5 Type 2 Class 3
HMX Gr. B Cl. 1, 2, 3 & 5	PBXN-9
LX-14-0	PBXN-11 Class I
Octol 75/25	PBXN-12 Types I & II



TATB-Based Products	
LX-17	PBX-9502



IMX Products	
IMX-104	NTO Fine
PAX-48	NTO Coarse



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Iowa AAP

Mission: Load, assemble, and pack (LAP) medium and large caliber ammunition items

Site Characteristics:

- Size: 19,011 acres, 592 buildings, 276 igloos
- Facility Use Contract through Dec 2028; One 5-year option remaining (28–33)

Modernization Focus Areas:

- Future Artillery Complex (FAC)
- Line 3A Modernization
- Direct Fire Munitions Campus

Core Capabilities:

- Load Assemble and Pack (LAP) for the following munitions:
  - Tank ammunition (105mm, 120mm)
  - HE artillery (rocket-assisted)
  - Mortars and components (60mm, 81mm)
  - Medium caliber ammunition (40mm)
- Composition C4 block/ Mine Clearing Line Charge (MICLIC)
- Pressed & Melt Pour (missile) warheads
- Detonators



Plant Operating Contractor:

- American Ordnance, LLC

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Lake City AAP

Mission: Provider of DoD small caliber ammunition

Site Characteristics:

- Size: 3,945 acres, 176 buildings, 69 structures with over 2,887,954 square feet
- Combined Facility Use/ Supply Contract through September 2029

Modernization Focus Areas:

- Next Gen Squad Weapon 6.8 mm Facility
- Contaminated Waste Plant Construction

Core Capabilities:

- 5.56 mm, 6.8 mm, 7.62 mm, .50 Caliber LAP
- Linking and links
- Small caliber tracer/ incendiary bullet manufacture

Plant Operating Contractor:

- Olin Winchester, LLC



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Quad Cities CCF

Mission: Manufacture large caliber steel and brass deep drawn cartridge cases

Site Characteristics:

- Size: 170,000 sq ft, 1 building

Modernization Focus Areas:

- Maintenance and Layaway (MIF/LIF):
  - Preserve capability and capacity
- Modernization to transition facility to "batch mode" required to sustain capability

Core Capabilities:

- Steel Deep Drawn Cartridge Cases:
  - 105mm Steel Direct Fire (M148A1B1, M150)
  - Navy 5” (MK 109)
  - 105mm Artillery (M14 Brass)
  - 76mm, 57mm, 40mm, 50mm



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Radford AAP

Mission: Nitrocellulose and large volume propellant manufacturing

Site Characteristics:

- Size: 6,901 acres, 2,540 buildings, 214 igloos, 657,003 square foot storage capacity
- Facility Use Contract and Supply Contract through December 2026

Modernization Focus Areas:

- Modernized NC Facility
- Energetic Waste Incinerator
- Chemical Grind Facility
- Solvent Propellant

Core Capabilities:

- Nitrocellulose (NC)
- Solvent Single Base (Slvt SB) Propellant
- Solvent Multi-Base (Slvt MB) Propellant
- Solventless Double Base (Slvtls DB) Propellant
- MK 90 Rocket Grain

Plant Operating Contractor:

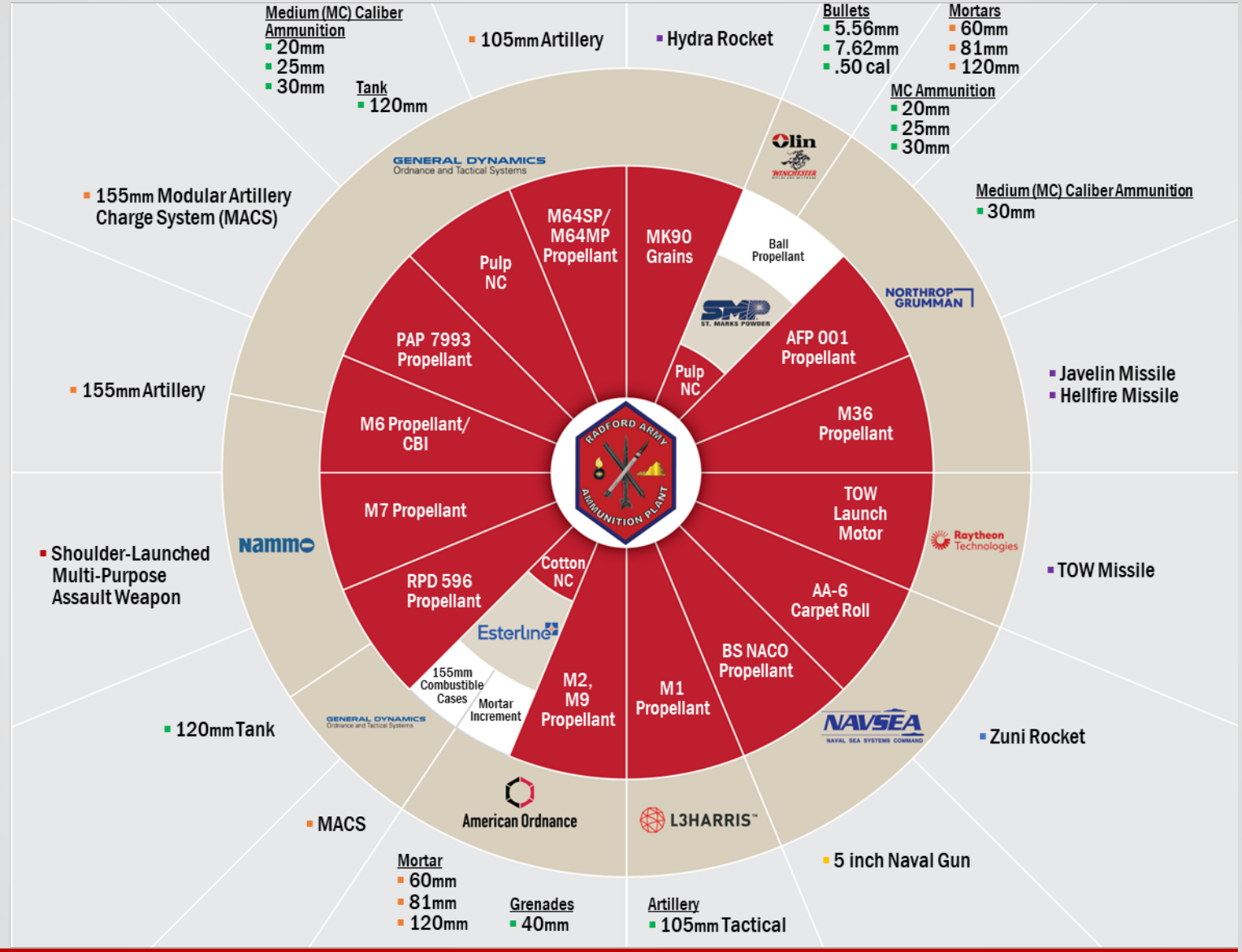
BAE Ordnance Systems, Inc.

RFAAP Competition RFP #2 Released 10 FEB2026



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Radford AAP



RFAAP is at the heart of the US ammunition supply chain. Acquisition decisions across the DoD Enterprise **directly impact** the viability of RFAAP and ultimately Future Readiness.

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Scranton AAP

Mission: 155mm artillery projectile metal parts manufacturing

Site Characteristics:

- Size: 15.3 acres, 7 buildings
- Facility Use Contract through July 2029 with one 5-year option remaining
- Supply Contract through Sep 2027

Modernization Focus Areas:

- 35K Capacity Expansion
- M1128 Production Line

Core Capabilities:

- Large caliber metal parts high volume manufacturing
- Long stroke, high tonnage forging

Plant Operating Contractor:

- GD-OTS



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Blue Grass Army Depot

Mission: Store, Issue, Receive, Inspect, Maintain and Demil Conventional Munitions

Site Characteristics:

- Size: 14,594 Acres, 21 Shipping / Receiving Pads, 17 Rail Loading Docks, 2.2M Square Feet of Storage Space, 902 Igloos, 12 Above Ground Magazines

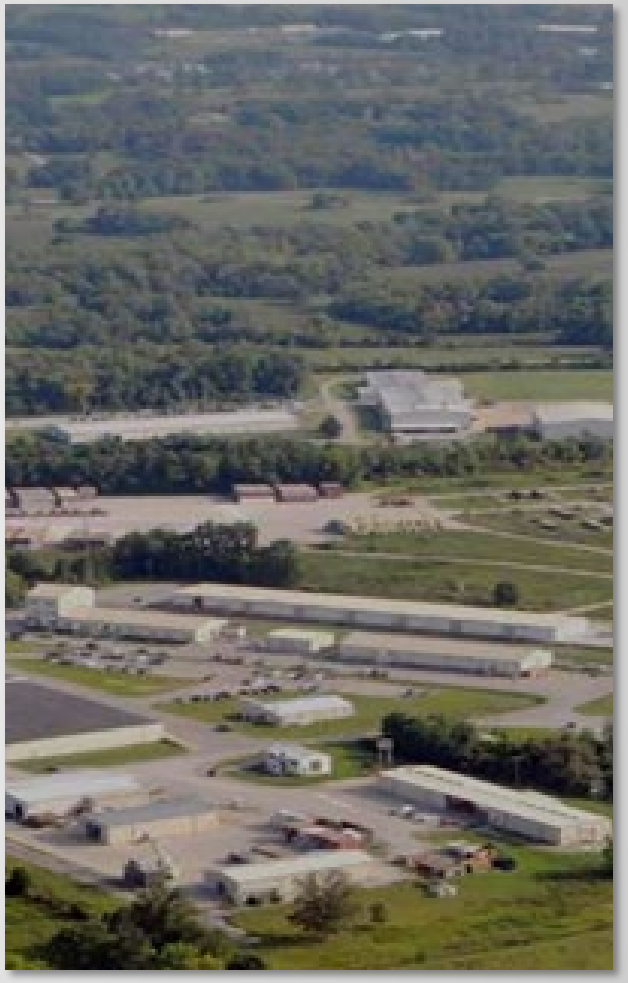
JCPE A&E Modernization Focus Areas:

- XM 1208 Extended Range Cargo Round

Core Capabilities:

- Only State-of-the-Art Consolidated Shipping Facility w/ On-Site Blocking & Bracing Facility
- Extensive knowledge and experience in the integration of automation and robotics

Government Owned Government Operated Facility



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Pine Bluff Arsenal

Mission: Support and sustain munition, chemical/biological defense and textile readiness of America's joint warfighter

Site Characteristics:

- Size: PBA is housed on approximately 13,500 acres, 660 buildings, 270 earth-covered magazines, 5,000 acres of developable land

JCPE A&E Modernization Focus Areas:

- Flexible Ammunition Manufacturing and Test Facility
- 120mm Smoke/Illum Mortar LAP Facility

Core Capabilities:

- Center of Industrial & Technical Excellence (CITE) for Chemical & Biological Defense Equipment, Smoke
- Ammunition and Textile Manufacturing
- Specializes in Pyrotechnic Mixing & Pressing
- Load, Assemble, & Pack (LAP) White & Red Smoke

Government Owned Government Operated Facility



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McAlester Army Ammunition Plant

Mission: Receive, store, ship, produce, renovate, and demilitarize conventional ammunition

Site Characteristics:

- Size: 45,000 acres, 2,600 buildings, 2,260 earth covered magazines, 163 storage warehouses

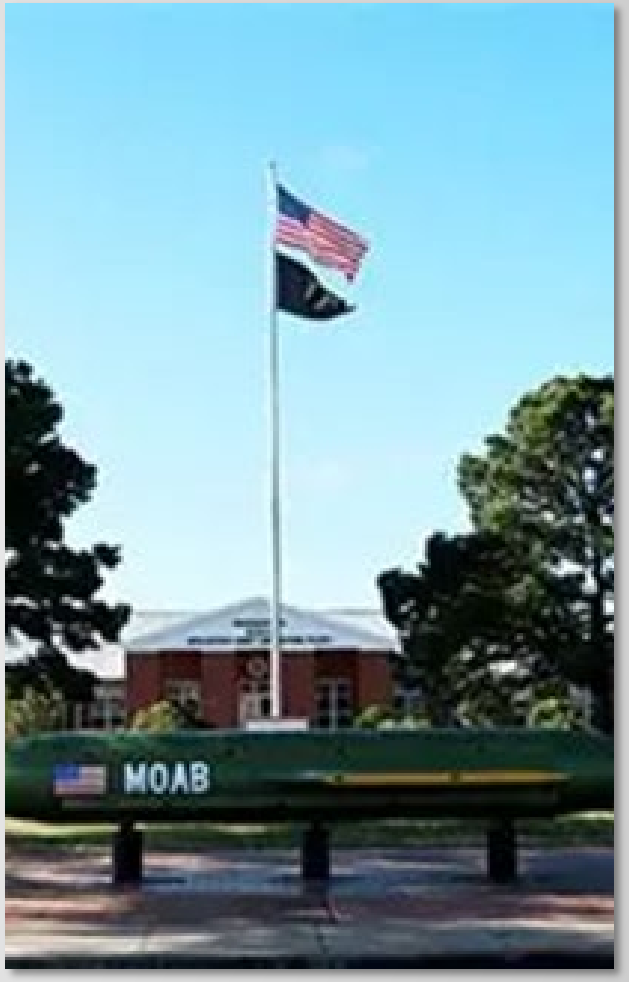
JCPE A&E Modernization Focus Areas:

- B-Line East Cast-Cure Mixer Systems
- Process Air Systems, Ammunition Production Plant

Core Capabilities:

- Load, Assemble, Pack (LAP) Bombs, Projectiles and Warheads
- Extensive Logistics Support and Massive Storage Capacity
- Demilitarization/Disposal to include Resource, Recovery, Reuse (R3) and a Deactivation Furnace

Government Owned Government Operated Facility



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Crane Army Ammunition Activity

Mission: Receive, store, ship, produce, renovate, and demilitarize conventional ammunition and missiles

Site Characteristics:

- Size: 200 Production and support buildings, 72,000 square-foot machine tooling shop, 1,800 storage buildings, totaling nearly 4.9 million sq. ft. of storage space for explosive and inert ammunition

JCPE A&E Modernization Focus Areas:

- Pyrotechnic Production Facility
- Explosives Pressing Facility Modernization - Phase I Construction
- TNT/RDX/HMX Melt/Pour Facility Restoration

Core Capabilities:

- Munitions Shipping & Logistics
- Munitions & Munitions-Related Maintenance, Renovation, & Production
- Demilitarization

Government Owned Government Operated Facility



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LCPP Project Overview

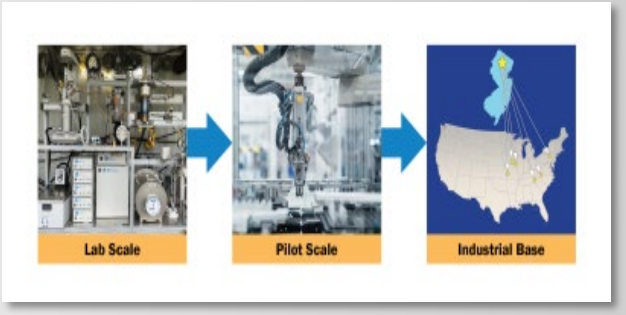
The Life Cycle Pilot Process (LCPP) project is a research, development, technology, and engineering (RDT&E) funded program focused on munitions standardization, effectiveness, and safety.

The LCPP's primary mission is to actively seek and transition technologies to improve production and safety, mitigate supply chain risk, and refine product and manufacturing costs for JCPE A&E products.

LCPP Thrust Areas:

- Life Cycle Cost Refinement (CR):
  - Assess alternative materials/ components,
  - Identify lean manufacturing methods/ technologies,

  and/or
  - Investigate Industrial Base (IB) waste mitigation and energy-resilient methods to refine end item costs
- Single Point Failure (SPF):
  - Mitigate single- or no-source of supply end item or end item components
- Manufacturing Technology for IB Transformation (MT):
  - Mature manufacturing technologies and transition to the IB



Program Partners:

- Ammunition Plants
- Industry
- Academia
- Other Government Organizations

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Project Manager Combat Ammunition Systems (PM CAS) develops, produces, and equips Soldiers and Marines with conventional and precision artillery and mortar ammunition Under the Single Manager for Conventional Ammunition (SMCA) responsibilities, PM CAS also procures ammunition for US Marine Corps, US Air Force, US Special Operations Command, and our allies.

Mission: Perform Life-Cycle Management of Tube-Launched Indirect Fire Munitions.

Vision: Deliver Conventional and Leap-Ahead Munitions Combat Power to Warfighters, Giving them the Materiel Edge over Real and Potential Adversaries.

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Project Manager Combat Ammunition Systems

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Project Manager Combat Ammunition Systems (continued)			
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75mm M337A2 Blank Cartridge

The M337A2 consists of a brass or aluminum cartridge case containing loosely packed black powder and a press-fitted percussion primer. A fiberglass wad is inserted over the black powder and a polystyrene closing cup is cemented in place with a polyester resin adhesive. When the firing pin of the weapon strikes the primer, a flash is generated which ignites the black powder charge producing flash, smoke and a loud report to simulate weapon firing.

Capabilities & Characteristics:

- Non-tactical rounds, used in ceremonies
- Weight: 3.25 pounds
- Body Type: Brass or Aluminum
- Payload: 1 pound of Black Powder explosive
- Primer: M1B1A2

System Integration:

- 75mm M1A1 Howitzer

Configurations:

- **C025**

Materiel Release: November 1984

Production Partners:

- System Integration: PM CAS



ACQUISITION CATEGORY: III
ACQUISITION PHASE: PD
PRODUCTION STATUS: 5 — Legacy Item, No active production
DESIGNATED USE: TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

105mm M915 DPICM Cartridge

The M915 Dual Purpose Improved Conventional Munition (DPICM) cartridge was designed specifically for use in the M119A1 Towed Howitzer. The M915 provides greater range and lethal area coverage versus the 105mm M444 HE cartridge and is most effective against light armor and enemy troop concentrations.

Capabilities & Characteristics:

- DPICM grenades detonate on impact, producing a hyper velocity armor piercing jet and incapacitating metal fragments
- M234 Electronic Self-Destruct Fuze (e-SDF) capability ensures grenade function or fuze sterilization
- Weight: 42.7 pounds
- Length: 36.67 inches
- Cartridge Body: High Alloy Steel
- Cartridge Color: Olive drab with yellow markings
- Grenade Explosive: PAX-2A, Type II (17.2 grams per grenade)
- Propelling Charge: M200
- Range: 14 kilometers (maximum)

System Integration:

- 105mm M119A1 Towed Howitzer

Configurations:

- **CA11**

Materiel Release: April 2019





DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

105mm M1 HE Cartridge

The M1 is a semi-fixed 105mm HE cartridge consisting of the M14B Cartridge Case, M28B2 Percussion Primer, M67 Propelling Charge, a nose plug, and a projectile containing TNT (2, 4, 6-Trinitrotoluene explosive) or Composition B explosive filler. The M1 Cartridge is compatible with the M557 Point Detonating (PD), M739 PD, M732 Variable Time (VT), M767 Electronic Time, Super Quick (ETSQ), and the M782 Multi-Option Fuze for Artillery (MOFA) fuzes.

The IM version (DODIC CA59) is loaded with IMX-101 explosive, however it is no longer in production. New M1 production will use TNT or Composition B. New production contract awarded June 2025.

Capabilities & Characteristics:

- Used for fragmentation, blast, and mining in support of ground troops and armored columns
- IM variant passes Shaped Charge Jet Sympathetic Reaction requirements
- Weight: 39.92 pounds
- Body Type: High-fragmentation forged steel
- Propelling Charge: M67
- Range: 11.5 kilometers (maximum)

System Integration:

- 105mm M102 series Howitzers
- 105mm M119 series Howitzers

Configurations:

- **CA59** – IMX-101 explosive fill
- Suitable Substitutes:
  - C445 – Composition B or TNT explosive fill

Materiel Release: April 1986

Program Partners

- Recap:
  - Blue Grass Army Depot (BGAD)
  - McAlester AAP (MCAAP)
- LAP: GDMS (Canada)
- Composition B Explosive Production: BAE-HSAAP (Kingsport, TN)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE WAR RESERVE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

105mm M760 HE Cartridge

The M760 is a semi-fixed cartridge which includes the M14B4 Cartridge Case, M28 Percussion Primer, the M200 Propelling Charge, a fuze, and an M1 projectile body. Operationally, the M760 is a single zone cartridge designed to deliver an HE warhead to maximum range.

Capabilities & Characteristics:

- Weight: 39.96 pounds (with fuze)
- Length: 31.1 inches (with fuze)
- Range: 14,000 meters (maximum); 9,600 meters (minimum)

System Integration:

- 105mm M119 series Howitzers

Configurations:

- **C473**

Materiel Release: 1989



ACQUISITION CATEGORY: III
ACQUISITION PHASE: OS
PRODUCTION STATUS: 5 — Legacy Item, No active production
DESIGNATED USE: TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

105mm M84A1 HC Smoke Cartridge

The 105mm M84A1 Hexachloroethane (HC) Smoke Projectile is comprised of a semi-fixed M14 Cartridge Case, M28 Percussion Primer, M67 Propellant Charge, time fuze and a projectile body that contains a pinned base plug, a black powder expelling charge and three HC smoke canisters. Each metal canister contains a core igniter flash tube, a first fire mix and the HC smoke composition, which when ignited, produces a caustic white smoke.

The M84A1 is loaded and fired in a conventional manner. As the round approaches the target area, the fuze functions and ignites the black powder expelling charge, which simultaneously ignites and expels the three HC canisters from the base of the carrier. The smoking canisters fall to the ground producing billowing clouds of smoke which last from 40 to 90 seconds.

Capabilities & Characteristics:

- Range: Projectile shall meet 11.4 kilometers with M67 Propelling Charge
- Smoke Signature:
  - Smoke used to provide signal, screening, or target spotting
  - White smoke signature produced by three HC smoke canisters
  - Each M1 canister, after ejection, shall ignite and emit white smoke for 40-95 seconds
- Fuze: M762 series

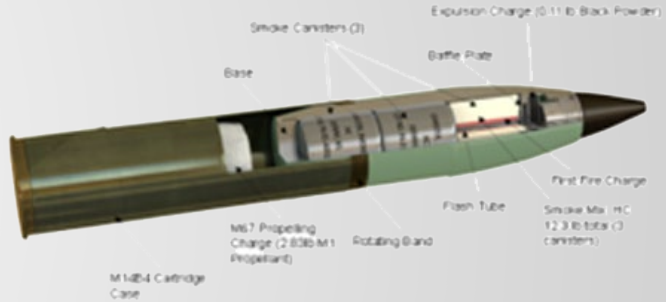
System Integration:

- 105mm M119 series Howitzers

Configurations:

- C479

Materiel Release: 1970



Production Partners:

- System Integration: PM CAS
- Projectile Metal Parts, Smoke Canister, and all other interior components: CAAA (Crane, IN)
- WP Canister Fill, LAP: PBA (Pine Bluff, AR)

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

105mm M314A3 VL Illuminating Cartridge

The M314A3 is a visible light (VL), semi-fixed illuminating cartridge intended for signaling or for illuminating the battlefield. The cartridge consists of an M14 Cartridge Case, M28 Percussion Primer, M67 Propelling Charge, and a projectile which contains a pinned base plug, a black powder expelling charge, an illuminating canister with anti-rotational vanes, and a parachute assembly that is connected to the closed end of the canister. The canister contains an illuminating filler covered by a thin layer of first fire composition.

Capabilities & Characteristics:

- Weight: 46.4 pounds
- Body Type: Forged Steel
- Payload: 1.67 pounds of illuminant
- Propelling Charge: M67
- Range: 9.1 kilometers (maximum)
- Illumination: 525,000 candlepower
- Burn Time: 55 seconds (minimum)

System Integration:

- 105mm M119 series Howitzers

Configurations:

- **C541**
- Suitable Substitutes:
  - C449: 105mm M314 Illuminating Cartridge with fuze
  - C542: 105mm M314 Illuminating Cartridge without fuze



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

105mm M913 HERA Cartridge

The M913 HE Rocket-Assisted (HERA) cartridge is a semi-fixed cartridge that includes the M14B4 Cartridge Case, M28 Percussion Primer, M229 Propelling Charge, a fuze, and a rocket-assisted projectile. Operationally, the M913 is a single zone cartridge designed to deliver an HE warhead to maximum range. The M913 can be fired rocket-on or rocket-off.

Capabilities & Characteristics:

- Weight: 38.5 pounds (with fuze)
- Length: 32.3 inches (with fuze)
- Range: 19,500 meters (maximum); 10,500 meters (minimum)

System Integration:

- 105mm M119 series Howitzers

Configurations:

- **C546**

Materiel Release: 1990



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

105mm M1130 PFF HE BB Cartridge

The M1130 Pre-formed Fragments (PFF) HE Base Bleed (BB) Cartridge is a semi-fixed cartridge composed of the M14B4 Cartridge Case, M28B2 Percussion Primer, M67 Propelling Charge, and a BB gas generator unit. The projectile warhead is composed of natural fragmenting steel with an inner liner of tungsten spheres with an insensitive explosive filler. The M1130 cartridge is compatible with the M782 MOFA and the M767 series ETSQ fuzes.

Capabilities & Characteristics:

- Increased lethality against personnel and soft targets
- Weight: 36 pounds
- Length with fuze: 21.7 inches
- Body Type: 9260 High Fragmentation Steel
- Payload: PBX-4 explosive with tungsten spheres
- Propelling Charge: M67
- Range: 13.5 kilometers (maximum)

System Integration:

- 105mm M102 series Howitzers
- 105mm M119 series Howitzers

Configurations:

- **CA52**
- Suitable Substitutes:
  - C463: 105mm M548 HERA
  - C544: 105mm M927 HERA

Materiel Release: April 2012

Production Partners:

- System Integration: PM CAS
- Assemble and Pack: GDMS (Canada)
- Metal Parts: RDM (South Africa)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

105mm M1064 IR Illuminating Cartridge

The M1064 is an infrared (IR) Illuminating Cartridge compatible with the M762 series Electronic Time (ET) fuzes and M67 Propelling Charge and is package in the PA117 Shipping Container. The M1064 consists of a 40-gram expelling charge that simultaneously ignites the illuminate while ejecting it from the projectile.

Once dispensed, fins on the canister assist in reducing the spin rate while the parachute provides a descent rate of 12 meters per second. The IR composition reduces the possibility of exposing forward friendly troop positions while also allowing covert adjustment of fire at greater observation distances through use of passive Night Vision Devices (NVD). This cartridge illuminates to the full range of the M1 HE cartridge.

Capabilities & Characteristics:

- Provides IR illumination area 2.75 times larger in diameter than the M314A3 Visible Light (VL) Illumination cartridge, improving Soldier ability to observe the enemy at night
- Range: 4 kilometers (minimum); 9.1 kilometers (maximum)
- Weight: 46.4 pounds
- Length: 32.17 inches
- Reliability: 92% at 80% confidence level
- Payload: 0.65 pounds of IR illuminating composition
- Ballistically comparable to the M314A3
- Illumination: 50 watts per steradian
- Candlepower: 500 candlepower of VL emitted (maximum)

System Integration:

- 105mm M119 series Howitzers

Configurations:

- **CA53**

Materiel Release: December 2010



ACQUISITION CATEGORY: III
ACQUISITION PHASE: PD
PRODUCTION STATUS: 4 – No Production Planned within 4 years
DESIGNATED USE: TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

105mm M927 HERA Cartridge

The M97 is a semi-fixed cartridge composed of the M14B4 Cartridge Case, M28B2 Percussion Primer, M67 Propelling Charge, a nose plug, and a rocket-assisted projectile. The projectile warhead contains an explosive filler, an aluminum liner, and a supplementary charge. The base of the warhead is threaded in tandem to a rocket motor which contains a rocket propellant grain and an ignition delay.

Projectile functioning is dependent upon the fuze used and may function on impact (instantaneous or delay), function above ground either at a predetermined height based on time of flight or function in proximity with the target area.

Capabilities & Characteristics:

- Extended range rocket-assisted projectile used for fragmentation, blast, and mining support of ground troops and armored columns
- Weight: 37.2 pounds
- Body Type: High Fragmentation Steel
- Payload: 5.8 pounds of TNT explosive
- Propelling Charge: M67
- Range: 14.3 kilometers (maximum)

System Integration:

- 105mm M102 series Howitzers
- 105mm M119 series Howitzers

Configurations:

- **C544**

Materiel Release: July 2007



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

105mm M395 Blank Cartridge

The 105mm M395 blank cartridges are assembled with a loose, 770-gram black powder charge retained by a glass fiber closing wad and polystyrene closing cup, glued in place by an epoxy resin. The base of the case is fitted with an M61 percussion element and an M1A2 or M1B1A2 primer. Detonation of the case contents creates sound, flash, and smoke.

Capabilities & Characteristics:

- Non-tactical round
- Used for ceremonies
- Weight: 6.24 pounds
- Body Type: Brass or Aluminum
- Payload: 770 grams of Black Powder
- Primer: M1B1A2

System Integration:

- 105mm M102 series Howitzers
- 105mm M119 series Howitzers

Configurations:

- **C440**

Materiel Release: November 1984

Production Partners:

- System Integration: PM CAS



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 4 No Production Planned Within 10 Years | DESIGNATED USE TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

105mm PGU Cartridges

The Projectile Gun Unit (PGU) 44/B is a fixed round with the projectile crimped to the cartridge case to mitigate safety and handling concerns. The PGU-43 and -44/B use the Army M1 warhead and CYU-1B brass cartridge case, the M28A2 primer, and the M67 propelling charge.
The PGU-43/B is the inert target practice version which utilizes the less expensive M739A2 Point Detonating/ Delay (PD/D) fuze (DODIC N340). The PGU-44/B, the tactical projectile, is filled with 4.6 pounds of Composition B explosive and uses the FMU-153A/B PD/D concrete-penetrating fuze (DODIC NA01). The PGU-45/B cartridge uses high fragmentation steel, is filled with 4.6 pounds of Composition B explosive, and uses the FMU-160A/B proximity fuze (DODIC NA18).
These 105mm PGU cartridges are purchased by the USAF

Capabilities & Characteristics:

- Used in the USAFE Special Operations Command AC-130 Gunship 105mm Cannon
- Weight: 40 pounds
- Body Type: Forged Steel
- Payload: 4.8 pounds of TNT explosive; 5.0 pounds of Composition B explosive
- Propelling Charge: M67
- Range: 11.5 kilometers (maximum)

System Integration:

- USAF AC-130 Gunship with 105mm M137 Cannon

Configurations:

- **CA34**: PGU-44/B HE
- **CA22**: PGU-43/B Practice
- **CA33**: PGU-45/B HE, Fragmenting



ACQUISITION CATEGORY: III
ACQUISITION PHASE: PD
PRODUCTION STATUS: 1 (Actively Procured & Under Contract)
DESIGNATED USE: OTHER

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm ADAM Projectiles

The 155mm Area Denial Artillery Munition (ADAM) projectiles are mine munitions containing 36 anti-personnel mines. The projectile is comparable in physical dimensions to the M483A1 projectile and is also fired with the M762 ET fuzes. Upon function, the mines are ejected over the target area and armed after ground impact. The mines will self destruct after the designated lifetime.

Capabilities & Characteristics:

- Range: 18,500 meters (maximum); 2,200 meters (minimum)
- Mines: 36 anti-personnel (AP) mines

System Integration:

- 155mm M777 Towed Howitzer
- 155mm M109 series Howitzers

Configurations:

- **D501**: M731 ADAM-S
- **D502**: M692 ADAM-L

Materiel Release: 1976





DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm RAAMS Projectiles

The M718A1 Remote Anti-Armor Mine System (RAAMS) projectiles are used to deliver anti-tank mines in front of enemy armored forces. The RAAMS projectiles are based on the M483A1 carrier and carry nine anti-tank mines that are ejected upon function of an M762 series ET fuze. The mines are armed after ground impact and are initiated by tanks or other heavy armor targets. The mines will self destruct after the designed timeline.

Capabilities & Characteristics:

- Range: 18,500 meters (maximum); 2,200 meters (minimum)
- Mines: 9 anti-tank mines

System Integration:

- 155mm M109 Towed Howitzer
- 155mm M777 Towed Howitzer

Configurations:

- **D514**: M741A1 RAAMS-S
- **D515**: M718A1 RAAMS-L



ACQUISITION CATEGORY: III
ACQUISITION PHASE: OS
PRODUCTION STATUS: 5 — Legacy Item, No active production
DESIGNATED USE: WAR RESERVE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm DPICM Projectiles

The M864 is a DPICM containing a total of 88 dual-purpose grenades, each capable of penetrating a minimum of 2.5 inches of rolled homogeneous armor and producing fragments for incapacitating personnel. The M42 grenade is embossed on the inside wall surface to provide controlled fragmentation effects. The M46 grenade has a stronger un-embossed body to withstand the greater load seen at the rear of the shell due to setback upon firing. The M577A1 Mechanical Time Fuze (MTF) or the M762A1 ET Fuze are used with the projectile.

At a pre-determined time in flight, the fuze functions, initiating an expulsion charge which ejects the entire grenade load from the rear of the projectile. The M42 and M46 grenades are ground burst submunitions that explode on impact. The M864 projectile has a BB gas generator unit that extends the maximum range to 28.8 kilometers.

Capabilities & Characteristics:

- Range:
  - D864: 28.8 kilometers (maximum) from the M198 Towed Howitzer
  - D563: 17.7 kilometers
- Lethality: 80% effectiveness of the M483 (due to the reduced number of grenades)
- Weight:
  - D864: 103 pounds
  - D563: 102.6 pounds
- Body Type: Forged Steel
- Payload: M42/ M46 grenade submunitions
- Propelling Charge: M203A1, M119A2, MACS (M231, M232, M232A1), M3A1, and/ or M4A2

System Integration:

- 155mm M109A6 Paladin
- 155mm M777 Lightweight Towed Howitzer
- 155mm M198 series Howitzers

Configurations:

- **D563**: M483A1 (64 M42 grenades, 24 M46 grenades)
- **D864**: M864 (72 M42 grenades, 15 M46 grenades)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm MK 2 Bonus Cartridge

The Bonus MK 2 is an interim solution until the Cannon-Delivered Area Effects Munition (C-DAEM) PoR addresses the full capability gap.

The Army directive is to pursue purchase of Bonus. The Bonus MK 2 projectile is an artillery launched, fire-and-forget, spin-stabilized artillery shell designed to target and destroy stationary and mobile armored vehicles out to ranges of 29 kilometers (39 caliber solution).

- **Each projectile contains two sensor-fuzed munitions (SFM) packaged within the projectile that are ejected out from the base of the projectile by a fuze-initiated expulsion charge located in the forward end of the projectile.**
- **Each submunition has a target detector with laser/ IR and a warhead consisting of a shaped charge type Explosively Formed Penetrator (EFP)**
- **Bonus MK 2 acquires its target by multi-spectral IR signature. The radar system generates a target shape, giving the submunition improved aiming capability. By combining spectral and target profiles, the Bonus MK 2 can distinguish combat worthy targets from damaged or burning targets.**
- **Ballistically comparable to the M864 DPICM 155mm projectile (NATO standard)**
- **Bonus ballistics included in NATO Ballistic Kernel (NABK)**
- **Full capability gap is DPICM replacement**

Capabilities & Characteristics:

- Tactical rounds used against heavy armor
- Weight: 98.3 pounds
- Range: 27 kilometers (39 caliber with BB)
- Body Type: Steel
- Payload: 14.33 pounds from 2 submunitions
- Fuze: M762A1

System Integration:

- 155mm Self-propelled and Towed howitzers (M109A6/ A7 and M777A2)
- MACS M232 series is the only authorized propelling charge for zones 3H-5H

Configurations:

- **DA69**

Materiel Release: Urgent Materiel Release (UMR), 2020

Production Partners:

- System Integration and LAP: BAE Bofors (Karlskoga, Sweden)
- Business Partnership (responsible to provide 50% of the subcomponents): KNDS (La Chapelle-Saint-Ursin, France)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm Excalibur Projectiles

The Excalibur M982A1 Increment Ib Excalibur Shaped Trajectory (EST) is a 155mm precision-guided, extended range (ER) artillery projectile that is designed to engage targets with minimal collateral damage. Increment Ib provides extended range, improved reliability and improved countermeasure capability at a reduced cost.

Excalibur is a fin-stabilized and canard-controlled precision-strike projectile with a unitary fragmenting warhead and an inertial navigation/ Global Positioning System (GPS) guidance system. The projectile is comprised of a base section, payload section, and a guidance navigation and control section. Fuze options are Height of Burst, Point Detonating, and Delay.

EST adds the capability for User-defined angle of fall and angle of attack. EST also adds enhanced anti-jam capability in a GPS-degraded environment.

Capabilities & Characteristics:

- Precision guided, ER, Unitary, HE, 155mm Cannon Ammunition
- All weather, Day/ Night, Fire and Forget, Urban/ Complex terrain
- Length: 39 inches

System Integration:

- 155mm M109A7 Paladin
- 155mm M777A2 Lightweight Towed Howitzer
- 155mm Archer Self-Propelled Howitzer (Sweden)

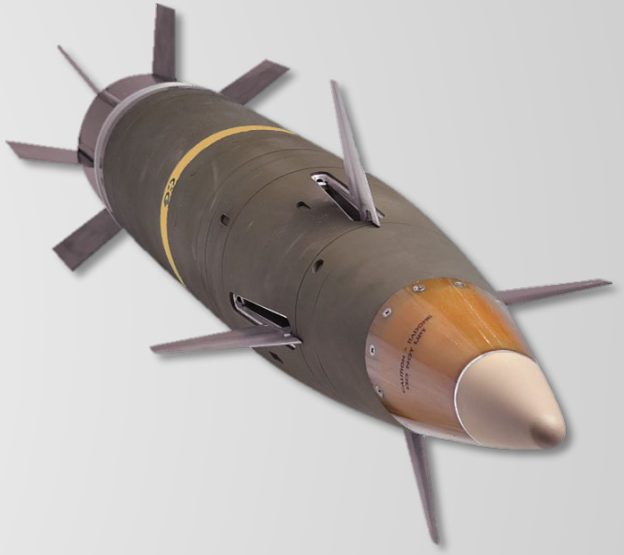
Configurations:

- DA71: M982A1 Increment Ib EST
  - Weight: 104 pounds
  - Range: 39.2 kilometers (maximum in 39 cal)
  - Precision: 10 meters circular error probable (CEP)
  - Reliability: 90%
- DA58: M982A1 Increment Ib (legacy)
  - Weight: 104 pounds
  - Range: 39.2 kilometers (maximum in 39 cal)
  - Precision: 10 meters CEP
  - Reliability: 90%

Production Partners:

- Raytheon Missile Systems (Tucson, AZ)

Materiel Release: 2018 (DA71)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm M1128 ER HE Cartridge

The M1128 Extended Range (ER) HE projectile is the replacement for the M795. HF-1 body filled with 20 pounds of IMX-104 Insensitive Explosive, and a gilded metal rotating band. BB reduces drag to improve range. Compatible with M109 series/ M777 howitzer, maximum range of 30 kilometers. Compatible with conventional fuzes and Precision Guidance Kit (PGK) M1156, M1156A1, and M1156E5. War reserve projectile.

Capabilities & Characteristics:

- Range: 30 kilometers (39 caliber weapons)
- PGK reduces range by 10%

Configurations:

- **DA70**

Production Partners:

- General Dynamics
- American Ordnance
- BAE-HSAAP
- Nammo
- IMT Defense



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 2 Transition to Production within 5 years | DESIGNATED USE WAR RESERVE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm Extended Range Artillery Projectile

The Extended Range Artillery Projectile (ERAP) is an "innovate at the round" 155mm artillery solution to eliminate moved, moving and/or imprecisely located targets. It focuses on engaging Self-Propelled Howitzers, Multiple Rocket Launchers, and Integrated Air Defense in counterbattery operations at ranges relevant to the division, from currently fielded 39 caliber systems and will be compatible with the Mobile Tactical Cannon 52+ caliber cannon.

The ERAP program is utilizing the Middle Tier of Acquisition Rapid Prototyping pathway to field a capability that can operate in Global Positioning System (GPS) degraded and denied environments. Current configurations under consideration include Radio Frequency Synthetic Aperture Radar (RF-SAR) or Electro-Optical Infrared (EO/IR) seekers integrated with subcaliber or traditional airframes and high explosive fragmenting warheads and/or penetrators.

Capabilities & Characteristics:

- 50km (39 cal) / 70km (52+ cal)
- All weather, Day/ Night, Fire and Forget, Urban/ Complex terrain
- Length: 1.0 meter

System Integration:

- 155mm M109A6/A7 Paladin
- 155mm M777A2 Lightweight Towed Howitzer
- 155mm Mobile Tactical Cannon

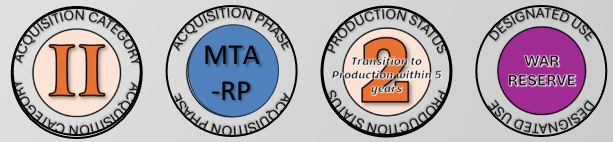
Configurations:

- **XM1230**
- Weight: **TBD** pounds
  - Range: 50/70 kilometers (39 Cal/52 Cal)
  - Precision: Target Seeking Munition
  - Reliability: TBD%
- Suitable Substitutes:
  - N/A

Production Partners:

- TBD

Materiel Release: 2031 (T)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm M1208 C-DAEM HE Advanced Submunition

The M1208, also known as the Israeli M999, is the selected replacement for DPCIM. This 155mm cargo projectile is fired from a M109A6/A7 or M777A2 Howitzer and delivers nine (9) M99 advanced submunitions. These Advanced submunitions are highly effective against area targets dispersing 1200 preformed tungsten fragments. The proximity fuze is the primary mode, with four fuze back up modes to ensure a less than 1% UXO rating meeting the DoD cluster munition policy.

The four fuze back-up modes are:

1. **PD**
2. **Pyrotechnic**
3. **Electronic-1**
4. **Electronic-2**

Capabilities & Characteristics:

- Cannon-delivered Area Effects Munition (C-DAEM), DPICM Replacement will provide U.S. ground forces with an effective capability to engage area targets well prior to direct fire engagement by the maneuver force.
- C-DAEM DPICM Replacement enables multi-domain operations (MDO) in the Penetration, Dis-integration, and Exploitation phases by providing the combatant commander an additional munition option for field artillery fires against light vehicles and personnel targets.

System Integration:

- 155mm M109A6 Paladin
- 155mm M777 Lightweight Towed Howitzer

Configurations:

- DA78

Materiel Release: Fiscal Year 2028, 2nd Quarter (projected)

Production Partners:

- Tomer – A Government-Owned Company, LLC (Israel)



ACQUISITION CATEGORY: II
ACQUISITION PHASE: TMRR
PRODUCTION STATUS: 1 – Actively Procured & Under Contract
DESIGNATED USE: WAR RESERVE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm M116A1 HC Smoke Projectile

The M116A1 is a 155mm HC Smoke projectile used for screening, spotting, and signaling. The M116A1 projectile contains three M1 canister assemblies and one M2 canister assembly. Each canister contains a core igniter flash tube, a first fire mix and HC smoke composition. Once the fuze ignites the black powder expelling charge, it also ignites and expels the four canisters from the base of the carrier. These ignited canisters fall to the ground and begin to burn HC composition producing a caustic white smoke.

Capabilities & Characteristics:

- Range: Projectile shall meet 18-kilometer range with M232A1 (Modular Artillery Charge System (MACS) 4H)
- M1 Canister: Each M1 canister, after ejection, shall ignite and emit white smoke without explosion or disintegration for no less than 57 seconds to 170 seconds
- M2 Canister: Each M2 canister, after ejection, shall ignite and emit white smoke without explosion or disintegration for no less than 27 seconds to 140 seconds

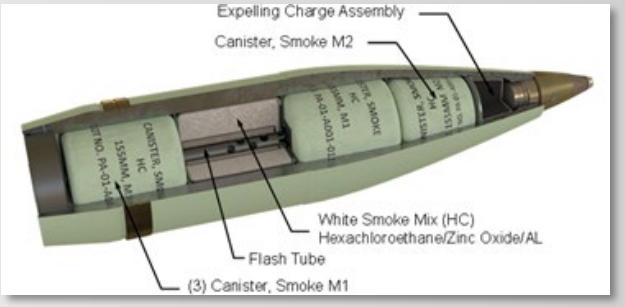
System Integration:

- 155mm M777A2 Lightweight Towed Howitzer
- 155mm M109A6 Paladin
- 155mm M109A7 Paladin
- Up to MACS Zone 5

Configurations:

- **D506**

Materiel Release: April 2021



Production Partners:

- System Integration: PM CAS
- Projectile Metal Parts, Smoke Canister, and all other interior components: CAAA (Crane, IN)
- HC Canister Fill, LAP: PBA (Pine Bluff, AR)

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm M825A1 WP Smoke Projectile

The M825A1 is a 155mm smoke screening projectile used to obscure friendly troop and vehicle movement or deliver blinding smoke to an enemy location. When projectile reaches target area, the fuze functions an expulsion charge which ejects the payload canister with 116 White Phosphorous (WP)-impregnated felt wedges. The expulsion charge initiates the fuze delay element which provides time for the canister to clear the projectile body before functioning a 'safe and arm' element which is armed by the set-back and spin of the canister. The safe and arm output ignites a burster which runs down the center of the canister and, upon detonating, shatters the canister causing the WP-soaked felt wedges to fall to the ground. Each felt wedge acts as a burning point source for smoke production and after a short period of time a significant smoke screen is built.

Capabilities & Characteristics:

- Range: 22.5 kilometers
- Weight: 102.6 pounds
- Reliability: 98.5% at 80% confidence level
- Fill: 12.75 pounds WP
- Payload: Base ejection canister carrying 116 each WP-impregnated felt wedges
- Ballistically 125- to 250-meter-wide M483A1 projectile
- Provides 10 meter high, 125-250-meter-wide smoke screen lasting 5-10 minutes, depending on weather conditions

System Integration:

- 155mm M777 series Lightweight Towed Howitzers
- 155mm M109A6 Paladin
- 155mm M198 series Howitzers

Configurations:

- **D528**

Production Partners:

- LAP: PBA (Pine Bluff, AR)
- Metal Parts: IMT (Ingersoll, ON)



ACQUISITION CATEGORY III | ACQUISITION PHASE OS | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm M549A1 HE-RAP Projectile

The M549A1 HE projectile has two distinctive pre-assembled components the warhead and the rocket motor. The warhead is fabricated from high fragmentation steel for increased effectiveness and contains TNT. The motor body has a hollow boattail base and a recessed nozzle on its central spin axis.

The rocket motor is made from a high strength steel alloy and contains 6.5 pounds of solid rocket propellant, providing extended range upon functioning. For all current 155mm artillery systems, the M549A1 can be fired either "Rocket-On" or "Rocket-Off." For the "Rocket-On" mode, a cap is removed prior to chambering the projectile. This exposes the pyrotechnic delay to propelling charge gases within the gun tube. The delay is ignited and burns for several seconds before igniting the rocket motor for its short in-flight burn of about three seconds.

Capabilities & Characteristics:

- The Rocket-assisted Projectile (RAP) was designed to extend the range and improve effectiveness of the 155mm Howitzer. It is used for fragmentation and blast effects against personnel and materiel.
- Type: HE-RAP
- Weight: 96 pounds
- Body Material: High fragmentation steel
- Payload: 15 pounds of TNT explosive
- Propelling Charge: M203A1, M119A2, MACS (M232 and M232A1), and/ or M4A2
- Range: 30 kilometers (maximum)



Configurations:

- **D579**



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm M795 HE Projectile

The M795 is an HE Projectile that is employed against personnel, trucks, electronic surveillance and target acquisition devices, supply points, command, control, and communications (C3) installations, and mechanized and armored forces. The projectile consists of a High Fragmentation steel (HF-1) body projectile filled with 23.8 pounds of TNT conventional explosive or 23.8 pounds of IMX-101 insensitive explosive, and a gilded metal rotating band for compatibility with all current and future 155mm howitzers. DODIC DA54, IMX-101 explosive fill, is no longer in production. Qualifying Composition B explosive for the M795 is underway.

Capabilities & Characteristics:

- Most capable 155mm IM HE projectile
- Passes SCJ sympathetic reaction requirements
- Weight: 103 pounds
- Length: 33.2 inches
- Projectile Body: HF-1
- Explosive: 23.8 pounds of IMX-101 or TNT explosive
- Propelling Charge: M231, M232, and M232A1 MACS
- Range: 22.5 kilometers (maximum)

System Integration:

- 155mm M109A6 Paladin
- 155mm M777 series Lightweight Towed Howitzers
- 155mm M198 series Howitzers

Configurations:

- **DA54**: IMX-101 explosive
- **D529**: TNT explosive

Materiel Release: May 1999

Production Partners:

- System Integration: PM CAS
- LAP: IAAAP (Middletown, IA)
- Metal Parts: GD-OTS SCAAP (Scranton, PA), IMT Defense (Champaign, IL)
- Composition B explosive: BAE-HSAAP (Kingsport, TN)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm M1123 ER IR Illuminating Cartridge

The M1123 ER IR Illuminating Cartridge is compatible with the M762 series fuzes and can be fired using the M119 series, M203A1, and M231, M232, and M232A1 MACS propelling charges. The IR composition reduces the possibility of exposing forward friendly troop positions while also allowing covert adjustment of fire at greater observation distances through use of passive NVDs. This projectile can provide a 2,400-meter diameter of effective IR illumination for a minimum of 120 seconds out to ranges of the current M795 HE projectile.

Capabilities & Characteristics:

- Weight: 103.3 pounds
- Length: 35.35 inches
- Propelling Charge: M119 series; M203A1; M231, M232, and M232A1 MACS
- Range: 22.5 kilometers (maximum)
- Illumination: 75 watts per steradian
- Candlepower: Emits a maximum of 650 candlepower of VL
- Burn Time: 120 seconds (minimum)

System Integration:

- 155mm M109A6 Paladin
- 155mm M777 Towed Howitzer
- 155mm M198 series Howitzers

Configurations:

- **DA56**
- Suitable Substitutes:
  - DA49: 105mm M1066 IR Illuminating

Production Partners:

- System Integration: PM CAS
- IR Candle: CAAA (Crane, IN)
- LAP: PBA (Pine Bluff, AR)

Materiel Release: June 2014



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm M1124 ER VL Illuminating Cartridge

The M1124 VL Illumination is used to illuminate the battlefield at night or during conditions of reduced visibility. The cartridge is compatible with the M762 Series fuzes and can be fired using the M119 Series, M203A1, and M231, M232 and M232A1 MACS propelling charges. This projectile can provide effective VL Illumination out to the ranges of the current M795 HE Projectile. The M1124 can be fired from the M109A6 Paladin, M777 Series Joint Lightweight Towed, and M198 Series howitzers.

Capabilities & Characteristics:

- Weight: 103.3 pounds
- Length: 35.35 inches
- Propelling Charge: M119 series; M203A1; M231, M232, and M232A1 MACS
- Range: 22.5 kilometers
- Illumination: 1,000,000 candlepower
- Burn Time: 100 seconds (minimum)

System Integration:

- 155mm M109A6 Paladin
- 155mm M777 Towed Howitzer
- 155mm M198 series Howitzers

Configurations:

- **DA57**
- Suitable Substitutes:
  - D505: 155mm M485 Illuminating

Production Partners:

- System Integration: PM CAS
- VL Candle: CAAA (Crane, IN)
- LAP: PBA (Pine Bluff, AR)

Materiel Release: June 2014



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm M1121 WP Smoke Projectile

The M1121 Smoke Projectile is used for marking purposes and can be used to provide screening of mechanized or infantry maneuver. This round is a integrate bulk-filled WP canister into demilitarize M483A1 projectile bodies to replace the M110A2 to address safety, producibility and reliability concerns. The ogive contains a booster case which when the fuze functions penetrates the canister body causing smoke to expel.

Capabilities & Characteristics:

- Range:
  - Projectile shall meet 18-kilometer range
  - Demonstrated range to exceed 18 kilometers (22.9 kilometers)
- Smoke Signature:
  - Visible smoke signature from 4,000 meters (unaided eye)
  - Signature equivalent to the M110A2
  - Demonstrated visible smoke signature throughout qualification testing. Completed qualitative assessment comparing performance of M1121 to M110A2.
- Reliability:
  - 94% Threshold; 97% Objective
  - M1121 demonstrated reliability of 97% at 80% confidence throughout qualification testing

System Integration:

- M119A1
- Up to MACS Zone 4

Configurations:

- **DA66**
- Suitable Substitutes:
  - D550: 155mm M110 WP Smoke

Materiel Release: March 2020

Production Partners:

- System Integration: PM CAS
- Projectile Metal Parts, Smoke Canister, and all other interior components: CAAA (Crane, IN)
- WP Canister Fill, LAP: PBA (Pine Bluff, AR)



ACQUISITION CATEGORY IV | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm XM1113 HE RAP Projectile

The XM1113 HE RAP supports the Next Generation Rocket-Assisted Projectile (NGRAP) development. It replaces the obsolete M549A1 in 39 caliber weapon systems.

Capabilities & Characteristics:

- 37-kilometer range with PGK (39 caliber weapon systems)
- 40-kilometer range unguided (39 caliber weapon systems)
- 52-kilometer range (52 caliber weapon systems)

System Integration:

- 155mm M777 series Howitzers
- 155mm M109 series Howitzers

Configurations:

- **DA72**
- Suitable Substitutes:
  - D579: 155mm M549 RAP

Materiel Release: Pending

Production Partners:

- General Dynamics
- American Ordnance
- Nammo



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm M107 HE Cartridge

The M107 is a hollow steel shell filled with TNT or Composition B explosive. A deep fuze cavity intrusion variant permits use of the M782 MOFA. When all other fuzes are employed with the deep cavity variant, a supplementary charge of pressed TNT is used to ensure continuation of the fuze initiation through to the explosive charge. The shallow (normal) cavity variant employs all fuzes except the deep intrusion proximity fuzes.

Capabilities & Characteristics:

- Used for blast effect, fragmentation, and mining in support of ground troops and armored columns
- Weight: 95 pounds
- Body Type: Forged Steel
- Payload: 14.6 pounds of TNT explosive; 15.4 pounds of Composition B explosive
- Propelling Charge: M119A2
- Range: 18.1 kilometers (maximum)

System Integration:

- 155mm M198 Towed Howitzer
- 155mm M777 Towed Howitzer

Configurations:

- D571: Normal fuze cavity
- D544: Deep fuze cavity



ACQUISITION CATEGORY: III
ACQUISITION PHASE: OS
PRODUCTION STATUS: 5 — Legacy Item, No active production
DESIGNATED USE: TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm M110A2 WP Smoke Cartridge

The M110A2 projectile is a steel shell filled with 15.6 pounds of WP. The round contains an M54A1 Burster extending through the center and an adapter in the nose of the projectile is threaded to receive the fuze. The M54A1 Burster is made from steel and is filled with Composition B5 explosive. The fuze functions on impact and detonates the burster. The burster ruptures the projectile case and disperses the WP fill. The WP ignites spontaneously upon contact with the air and produces a dense white smoke that is used for spotting and marking.

Capabilities & Characteristics:

- Used as an obscurant and for spotting or marking
- Weight: 98.5 pounds
- Body Type: Steel
- Payload: 15.6 pounds of WP
- Propelling Charge: M119A2
- Range: 18.1 kilometers

System Integration:

- 155mm M109A6 Paladin
- 155mm M777 Towed Howitzer

Configurations:

- D550
- Suitable Substitutes:
  - **DA66**: 155mm M1121 WP Smoke

Production Partners:

- System Integration: PM CAS
- LAP: PBA (Pine Bluff, AR)
- Metal Parts: SCAAP (Scranton, PA)
- M54 Burster:
  - EXPAL (Spain)
  - Mecar (Belgium)
  - CAAA (Crane, IN)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm M1066 IR Illuminating Cartridge

The M1066 IR Illuminating Cartridge consists of a canister, drogue parachute, and primary expelling charge. A candle assembly, main parachute, delay, and secondary expelling charge are loaded in the canister. A dual stage ejection system is used to limit forces on the Illuminating Candle.

First ejection is initiated by fuze function, which expels the canister and ignites the delay. After a delay of 7-9 seconds, secondary functioning ejects and ignites the candle. Additionally, the main parachute is deployed, providing a descent rate of 15 feet per second. With an optimal height of burst at 600 meters and use of NVDs, a 2,400-meter diameter of illumination is provided for a minimum of 120 seconds.

The IR composition reduces the possibility of exposing forward friendly troop positions while also allowing covert adjustment of fire at greater observation distances through use of passive NVDs. The M1066 illuminates to the full range of the M107.

Capabilities & Characteristics:

- Provides stealth capability during nighttime operations
- Range: 2.8 kilometers (minimum); 17.5 kilometers (maximum)
- Weight: 90 pounds
- Length: 27.55 inches
- Reliability: 94% at 80% confidence level
- Payload: 2.25 pounds of IR illumination composition
- Ballistically similar to the 155mm M485A2 VL Illuminating Cartridge

System Integration:

- 155mm M109A6 Paladin
- 155mm M777 Lightweight Towed Howitzer
- 155mm M198 Howitzer

Configurations:

- DA49
- Suitable Substitutes:
  - **DA56**: 155mm M1123 IR Illuminating

Materiel Release: October 2010

Production Partners:

- System Integration: PM CAS
- LAP: PBA (Pine Bluff, AR)
- IR Candle: CAAA (Crane, IN)



ACQUISITION CATEGORY: III
ACQUISITION PHASE: PD
PRODUCTION STATUS: 5 – Legacy Item, No active production
DESIGNATED USE: TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm Excalibur Training Projectiles

The Excalibur training aid models look and feel like tactical XM982, M982, or M982A1 (DODICs DA58 and DA71) Excalibur projectiles. Excalibur training aids are marked as inert.

The DA46 is a lightweight model, with a representative base with orifice, tactical obturator, payload inert fill with vent holes, canard covers represented to look and feel like a canard cover, moving parts comparable to the tactical projectile, tactical paint and markings, Unique Identification (UID) tagging, tactical container with markings, bar coding, tags, and labels. Excalibur training aids are shipped in ammunition containers.

The DA47 is a full weight model with the same features as the DA46.

Capabilities & Characteristics:

- Weight:
  - DA46: 85 pounds (38.5 kilograms) in metal container
  - DA47: 159 pounds (72.1 kilograms) in metal container
- Color: Olive drab with yellow markings and bronze band



Configurations:

- **DA46**: Lightweight
- **DA47**: Full weight

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm M1122 HE Training Cartridge

The M1122 Training Cartridge provides a lower cost HE training round that combines more realistic performance and survivability when compared to standard 155mm training rounds. The M1122 will replace the M804A1 Practice Projectile and be used as an alternative to the M107 HE Projectile for training.

The M1122 utilizes M483A1 demilitarization effort, is filled with high density concrete to simulate the weight of the M795 HE Projectile, and incorporates several IM technologies (IMX-101, Filler-E, or TNT explosive fill; PBXN-9 Supplementary Charge; Meltable Fuze Well Liner; and Meltable Fuze Plug) to increase survivability and safety.

Capabilities & Characteristics:

- Improved acoustic and visual signature when compared to the M804A1 Practice Projectile
- Weight: 102 pounds
- Length: 35.35 inches
- Range: 22.5 kilometers (maximum)
- Propelling Charge: M231, M232, and M232A1 Modular Artillery Charge System (MACS)

System Integration:

- 155mm M109A6 Paladin
- 155mm M777 Towed Howitzer
- 155mm M198 Howitzer

Configurations:

- DA51
- Suitable Substitutes:
  - **D529**: 155mm M795 ER
  - **DA54**: 155mm M795 ER with IMX-101

Production Partners:

- System Integration: PM CAS
- LAP:
  - MCAAP (McAlester, OK)
  - CAAA (Crane, IN)

Materiel Release: June 2012



ACQUISITION CATEGORY: III
ACQUISITION PHASE: PD
PRODUCTION STATUS: 1 – Actively Procured & Under Contract
DESIGNATED USE: TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm M712 Copperhead Projectile

Copperhead is a terminally guided system launched from conventional Howitzers into a ballistic trajectory. During flight, the target is illuminated by a forward observer with a laser designator. On board signal processing continuously refines the terminal trajectory and provides guidance to the control surfaces, causing the round to home in on the target.

Capabilities & Characteristics:

- Type: High Explosive Anti-Tank (HEAT)
- Weight: 138.4 pounds
- Body Material: Forged steel
- Color: Black with yellow markings
- Explosive: Composition B explosive, shaped charge
- Propelling Compatibility: M119A2 Zone 7 (maximum)
- Range: 16.1 kilometers (maximum)

System Integration:

- 155mm M198 Howitzer

Configurations:

- **D510**: War Reserve Projectile (Training Standard)
- **D511**: Training Projectile (Training Unique)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm M231 Propelling Charge

MACS consists of two propelling charge module types, the M231 and the M232/ M232A2, and their associated packaging. The system is compatible with all current and planned 155mm field artillery weapons. MACS uses a "build-a-charge" concept in which increments are identical to all others in the same lot designation, eliminating the need to dispose of unused increments. Unused increments are retained for future use. The M231 is fired either singly (charge 1) or in pairs (charge 2) to engage targets from 3 to 11 kilometers.

The M231 replaced the M3A1 Propelling Charge (Green Bag) and charges 3 to 6 of the M4A2 Propelling Charge (White Bag). Its use, along with use of the M232/ M232A1 to support training worldwide, resulted in approximately a $54 per round savings when compared to bag charges. The M231 contains Picatinny Arsenal™ Propellant (PAP) 7993, the Army's first environmentally "green" propellant.

Capabilities & Characteristics:
- Increased operational flexibility
- Efficient Use: No “excess” powder to dispose; unused MACS increments can be used for future missions (Remnant increments from use of legacy green/ white bag charges require disposal)
- Compatible with M82/M82A1 (U.S.) and DM191 (NATO) Primers
- Weight: 4.25 pounds
- Length: 6.05 inches
- Diameter: 6.10 inches
- Body: Molded combustible case with flat ends
- Propellant: 3.5 pounds of PAP7993
- Igniter: Bi-directional (ignites at either end)

Capabilities & Characteristics (continued):
- Range: 3-11 kilometers from fielded 155mm artillery systems
- Accuracy: 2 meters per second
- Training Device: M241 Dummy Charge
- Compliant with Joint Ballistic Memorandum of Understanding (JBMOU) between U.S., France, Germany, Italy, and the United Kingdom

System Integration:
- 155mm M109A5, M109A6, and M109A7 Self-propelled Howitzers
- 155mm M198 Towed Howitzer
- 155mm M777A2 Lightweight Towed Howitzer

Configurations:
- **DA12**
- Suitable Substitutes:
  - D540: 155mm M3 Series Propelling Charge
  - D541: 155mm M4 Series Propelling Charge

Materiel Release: April 2003

Production Partners:
- System Integration: PM CAS
- Combustible Case: Armtec Defense (Coachella, CA)
- Propellant: BAE-RFAAP (Radford, VA)
- Ball Powder: GD (St. Marks, FL)
- Black Powder: ESTES (Minden, LA)
- Metal Container: CONCO, Inc. (Louisville, KY/ Scottsburg, IN)
- LAP: GD/AO (Camden, AR/Middletown, IA)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm M232A2 Propelling Charge

MACS consists of two propelling charge module types, the M231 and the M232/ M232A1/ M232A2, and their associated packaging. The system is compatible with all current and planned 155mm field artillery weapons. MACS uses a "build-a-charge" concept in which increments are identical to all others in the same lot designation, eliminating the need to dispose of unused increments. Unused increments are retained for future use.

The M232A2, similar to the M232/ M232A1, is fired in groups of 3 or more increments from charge 3 (three M232A2s) to charge 5 (five M232A2s) to engage targets from 7 to 30 kilometers. Besides adding significant operational flexibility of only two types of charges vs. the four legacy bag charges, based on combat scenarios the use of MACS results in a savings of $45 per round when fired from self-propelled howitzers and $109 per round when fired from towed howitzers. The M232A2 was a Product Improvement/39-caliber Optimization Program. It increases cannon tube life, decrease residue/ cannon deposits, reduce flash/blast-overpressure, maintain maximum range while achieving greater accuracy, and improve the IM properties.

Capabilities & Characteristics:
- Increased operational flexibility
- Efficient Use: No "excess" powder to dispose; unused MACS increments can be used for future missions (Remnant increments from use of legacy green/ white bag charges require disposal)
- Compatible with M82/ M82A1 (U.S.) and DM191 (NATO) Primers
- Weight: 5.85 pounds
- Length: 6.14 inches
- Diameter: 6.00 inches
- Body: Molded combustible case with bumps on both ends

Capabilities & Characteristics (continued):
- Propellant: 4.9 pounds of M31A2 with de-coppering agent
- Igniter: Bi-directional (ignites at either end)
- Range: 7-30 kilometers from fielded 155mm artillery systems
- Accuracy: 2 meters per second
- Training Device: M242 Dummy Charge
- Compliant with Joint Ballistic Memorandum of Understanding (JBMOU) between U.S., France, Germany, Italy, and the United Kingdom

System Integration:
- 155mm M109A5, M109A6, and M109A7 Self-propelled Howitzers
- 155mm M198 Towed Howitzer
- 155mm M777A2 Lightweight Towed Howitzer

Configurations:
- **DA67**: M232A2
- Suitable Substitutes:
  - DA13: M232/ M232A1

Materiel Release: M232 – March 2004, M232A1 – November 2006

Production Partners:
- System Integration: PM CAS
- Combustible Case: Armtec Defense (Coachella, CA)
- Propellant: BAE-RFAAP (Radford, VA)
- Ball Powder: GD (St. Marks, FL)
- Black Powder: ESTES (Minden, LA)
- Metal Container: CONCO, Inc. (Louisville, KY/ Scottsburg, IN)
- LAP: GD/AO (Camden, AR/Middletown, IA)



ACQUISITION CATEGORY III
ACQUISITION PHASE PD
PRODUCTION STATUS 1 Actively Procured & Under Contract
DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm M119A2 Propelling Charge

The M119A2 "Red Bag" Propelling Charge, was a Legacy Zone 4 charge that was replaced by the MACS (M232/M232A1/M232A2) family. PM CAS restarted production, after over 30 years, due to the 155mm propulsion production capacity ramp up requirement.

Capabilities & Characteristics:

- Range: 10-18 kilometers
- MV: 686 meters per second
- Pressure: 26 kilopounds per square inch
- Weight: 20.9 pounds
- Specification based on firing M107 (95 pounds)
- Adjustments to MV and pressure are required in order to fire the M795 (104 pounds)

System Integration:

- 155mm M198 series Howitzers
- 155mm M777 series Howitzers
- 155mm M199 Cannons

Configurations:

- D533
- Suitable Substitutes:
  - **DA13**: M232/ A1 MACS



Production Partners:

- Fabric Bags: Yoland Corp (Paterson, NJ)
- M6 Propellant: BAE-OSI RFAAP (Radford, VA)
- Plastic Container: CBI Scepter (Ontario, Canada)
- LAP:
  - GD (Marion, IL)
  - Nammo (Perry, FL)

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm M241 Dummy Propelling Charge

The M241 is a fully inert training device designed to simulate the M231 Propelling Charge. It is packed four modules inside PA161 metal container with a gold band to signify a non-expendable training device.

Capabilities & Characteristics:

- Inert training device for simulating the M231 propelling charge for classroom familiarization training and dry fire exercises
- Each module is approximately 6.05 inches long by 6.10 inches in diameter and weighs 4.25 pounds

System Integration:

- All 155mm Howitzers

Configurations:

- **DA23**

Materiel Release: April 2003

Production Partners:

- Indiana Ordnance Works



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

155mm M242 Dummy Propelling Charge

The M242 is a fully inert training device designed to simulate the M232-series propelling charges. It is packed five modules inside PA103A2 metal container with a gold band to signify a non-expendable training device.

Capabilities & Characteristics:

- Inert training device for simulating the M232-series propelling charges for classroom familiarization training and dry fire exercises
- Each module is approximately 6.14 inches long by 6.00 inches in diameter and weighs 5.85 pounds

System Integration:

- All 155mm Howitzers

Configurations:

- **DA24**

Materiel Release: March 2003

Production Partners:

- Indiana Ordnance Works



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

MK 399 Mod 1 PD/D Fuze

The Mk399 MOD 1 Point Detonating (PD)/D Fuze is a hard penetrator to be used by artillery weapons against urban area targets. It can be set to function PD or Delay. In the Delay mode, the fuze is designed to penetrate urban structures, then function the projectile inside the structure. In the PD mode, the fuze functions as a standard PD fuze, and can be employed in that manner.

Capabilities & Characteristics:

- For use on 105mm and 155mm HE projectiles

System Integration:

- 105mm M102 series Howitzers
- 105mm M119 series Howitzers
- 155mm M109A6 Paladin
- 155mm M777 Lightweight Towed Howitzer
- 155mm M198 Series Howitzers

Configurations:

- **N659**

Materiel Release: Conditional Materiel Release – 2003; Full Materiel Release - 2012

Production Partners:

- Bulova Technologies (Lancaster, PA)



ACQUISITION CATEGORY: III
ACQUISITION PHASE: OS
PRODUCTION STATUS: 5 – Legacy Item No active production
DESIGNATED USE: WAR RESERVE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

XM1171/ XM1172 Long Range PGK

The XM1171/XM1172 Long Range Precision Guidance Kit (LR-PGK) is a course-correcting fuze with an enhanced GPS anti-jam capability for 155mm artillery projectiles. LR-PGK is being designed to operate in the next generation 155mm weapon systems with new extended range artillery projectiles now in development and in fielded 155mm cannon systems.

Capabilities & Characteristics:

- Accuracy: <30 meters CEP (threshold); <10 meters CEP (objective)
- Range: 58 kilometers with XM1113, XM1128, M795 projectiles
- GPS Capability: Peer threat environment

System Integration:

- 155mm M109A6/ A7 Paladin
- 155mm M777A2 Lightweight Towed Howitzer
- Mobile Tactical Cannon (MTC) (52 Calibur)

Configurations:

- **NZ04**

Materiel Release: Full Materiel Release in Fiscal Year 2031 (projected)

Production Partners:

- Prime:
  - GD-OTS (Bothel, WA)
- GPS Anti-Jam: L3 Harris (Anaheim, CA)





DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

M2 Flash Reducer

The M2 Flash Reducer is used with M4 series "White Bag" propelling charges, ordinarily on an optional basis, but required when firing from the 155mm M777A2 Lightweight Towed Howitzer. The primary purpose is muzzle flash reduction to make accurate weapon location more difficult for the enemy. The secondary effect is reduction in blast overpressure on the gun grew.

Capabilities & Characteristics:

- The M2 Flash Reducer consists of 1.5 ounces of black powder and potassium salt (either nitrate or sulfate) in a 4-inch square bag of red cloth
- Cloth edges are sewn together to prevent chemical mixture leakage

System Integration:

- All 155mm Howitzers

Configurations:

- **D552**

Materiel Release: 1940s

Production Partners:

- Indiana AAP



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

M739A1 PD/D Fuze

The M739A1 Artillery Point PD/D Fuze is the Army's preferred, primary fuze for 105mm and 155mm projectiles to address point detonating/delay artillery functions. The M739A1 fuze contains an Impact Delay Module (IDM) assembly. The IDM provides fuze initiation delay based upon the completion of mechanical actions caused by projectile deceleration and will function immediately after passing through the target.

Capabilities & Characteristics:

- Handset capability
- Initiates bursting fragmentation projectiles
- Fuze is compatible with all current 105mm and 155mm bursting projectiles
- Function Settings:
  - PD (Super Quick (SQ))
  - Delay

System Integration:

- 105mm M102 series Howitzers
- 105mm M119 series Howitzers
- 155mm M109A6 Paladin
- 155mm M777 Lightweight Towed Howitzer
- 155mm M198 Series Howitzers

Configurations:

- **N340**

Materiel Release: January 1985

Production Partners:

- Action Manufacturing (Bristol, PA)
- AMTEC Corporation (Janesville, WI)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

M782 MOFA

The M782 Multi-Option Fuze, Artillery (MOFA) is compatible with all current bulk filled bursting projectiles fired in the 105mm (M102 and M119 cannon systems) and 155mm cannon systems (Paladin and the M198 howitzer). The MOFA provides proximity, precision time, delay, and impact functions in a single fuze, and the inductive fuze set feature optimizes MOFA for use with automated ammunition handling equipment.

Capabilities & Characteristics:

- Fuze compatible with all current 105mm and 155mm bursting projectiles
- Fuze function settings:
  - Proximity
  - Time
  - PD
  - Delay
- Reduced logistic burden
- Rapid inductive set capability
- Improved combat effectiveness
- Setting Reliability:
  - Proximity: 95%
  - Time: 97%
  - PD: 97%
  - Delay: 93%

System Integration:

- 105mm M102 series Howitzers
- 105mm M119 series Howitzers
- 155mm M109A6 Paladin
- 155mm M777 Lightweight Towed Howitzer
- 155mm M198 series Howitzers

Configurations:

- **NA09**
- Suitable Substitutes:
  - N291: M732A2 Proximity Fuze
  - N464: M732 Proximity Fuze



Materiel Release: November 2005

Production Partners:

- Northrop Grumman (Rocket Center, WV)

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

M782A1 MOFA II

The M782A1 MOFA, Increment 2 (MOFA II) is compatible with all current bulk filled bursting projectiles fired in the 105mm and 155mm cannon systems (M119, M109, and M777). The MOFA II provides proximity with multiple heights of burst, precision time, delay and impact functions in a single fuze, and is inductively set with the portable inductive artillery fuze setter.

Capabilities & Characteristics:

- Fuze compatible with all current 105mm and 155mm bursting projectiles
- Fuze function settings:
  - Proximity with multiple heights of burst
  - Time
  - PD
  - Delay
- Reduced logistic burden
- Improved Electronic Counter Countermeasures (IECCM)
- Rapid inductive set capability
- Improved combat effectiveness
- Setting Reliability:
  - Proximity: 95%
  - Time: 97%
  - PD: 97%
  - Delay: 93%

System Integration:

- 105mm M119 series Howitzers
- 155mm M109 series Paladins
- 155mm M777 series Lightweight Towed Howitzers

Configurations:

- **NA42**
- Suitable Substitutes:
  - **NA09**: M782 MOFA

Materiel Release: March 2007

Production Partners:

- Northrop Grumman (Rocket Center, WV)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

M762A1/ M767A1 ET Fuze

The M762A1/ M767A1 is an Electronic Time (ET) fuze used with spin stabilized 105mm and 155mm artillery projectiles. The M762A1 (DODIC NA17) is used with the cargo-dispensing projectiles such as M485, M1066, M1123 and M1124 Illuminating Projectiles. The M767A1 (DODIC NA15) is similar to the M762A1; however, a booster cup is attached to its base end to provide compatibility with the bursting and fragmentation projectiles such as M795 and M549A1 HE Projectiles . Both fuzes can be set to function in the time mode or impact mode. The M762A1/M767A1 can be set manually without the need of a tool or set remotely via an inductive link with an inductive auto setter.

Capabilities & Characteristics:

- Hand and auto setting capabilities
- M762A1 initiates cargo-dispensing projectiles
- M762A2 has booster added for initiating bursting fragmentation projectiles
- Fuzes are compatible with all current 105mm and 155mm cargo and bursting projectiles
- Two function settings: Time and PD

System Integration:

- 105mm M119 series Howitzers
- 155mm M109A6 Paladin
- 155mm M777 series Towed Howitzers
- 155mm M198 series Howitzers

Configurations:

- **NA17**: M762A1 – used with cargo-dispensing projectiles
- **NA15**: M767A1 – used with bursting and fragmenting projectiles



Materiel Release: August 2003

Production Partners:

- L3 Harris (Cincinnati, OH)

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

M82/ M82A1 Percussion Primer

M82/ M82A1 Percussion Primers are breech-loaded in all 155mm artillery weapon systems and used to initiate the burning of propellant charges. The M82A1 variant is a design to eliminate unintended M777 Primer Feed Mechanism (PFM) Magazine initiations and reduce the occurrence of "stuck" fouled primers in all 155m weapon systems.

Capabilities & Characteristics:

- Initiation of 155mm weapon systems up to pressures of 55,000 pounds per square inch
- Brass cartridge
- Height: 1.944 inches
- Width: 0.500 inches (maximum)

System Integration:

- All 155mm Artillery Weapon Systems

Configurations:

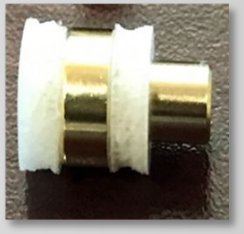
- **NA35** – M82A1

Materiel Release: 1960s

Production Partners:

- Security Signals (Cordova, TN)
- Day & Zimmermann, Inc. (Texarkana, TX)





ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

M1156E5 PGK

The Precision Guidance (PGK, M1156) includes Point Detonating and Proximity fuzing functions compatible with the XM1113, M1128, M795 and M549A1 155mm HE Artillery projectiles. PGK uses GPS technology to correct the ballistic trajectory of the projectile reducing delivery errors and thus improves projectile accuracy. The PGK also reduces the number of projectiles required to defeat the intended target, while minimizing collateral damage. The NA38/M1156E5 PGK variant includes an enhanced GPS Anti-jam capability to improve performance in GPS degraded environments.

Capabilities & Characteristics:

- Accuracy: <50 meters CEP (threshold); <30 meters CEP (objective)
- Reliability: >92% (threshold); >97% (objective)
- Integrated GPS receiver
- Deep intrusion fuze
- Reduced collateral damage and logistics burden
- GPS Capability: Peer threat environment

System Integration:

- 155mm M109A6/A7 Paladin & 155mm M777A2 Lightweight Towed Howitzer
- Next Generation Howitzer

Configurations:

- **NA38**: M1156E5 adds GPS anti-jam capability
- **NA37:** M1156A1 includes hardware and software updates for M-code GPS, XM1113 projectile compatibility, and M1128 performance optimization
- Suitable Substitutes:
  - NA36: M1156 includes a software update for Selectable 150 meter No-fire radius (on/ off)
  - NA29: M1156 adds reliability improvements and projectile compatibility with M1128 projectile
  - NA28: XM1156 PGK

Materiel Release: Fiscal Year 2028, 1st Quarter (projected)

Production Partners:

- Prime: Northrop Grumman Defense Systems (Plymouth, MN)
- GPS Supplier: L3Harris (Yorba Linda, CA)



ACQUISITION CATEGORY: II
ACQUISITION PHASE: EMD
PRODUCTION STATUS: 2 – Transition to Production within 5 years
DESIGNATED USE: TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

M1155A1 EPIAFS

The M1155A1 Enhanced Portable Inductive Artillery Fuze Setter (EPIAFS) is a portable electronic Precision Guided Munition (PGM) and fuze setting device used to transfer power and mission data from the host platform's power systems and digital fire control as required to support PGMs such as Excalibur and the Precision Guidance Kit as well as U.S. and North Atlantic Treaty Organization (NATO) fuzes requiring unique battlefield knowledge. The M1155A1 EPIAFS hardware components consist of an inductive handheld setter, Platform Integration Kit (PIK), and cable connecting PIK to handheld setter. The software currently fielded with the M1155A1 EPIAFS is v6.06. The M1155A1 relies on the host platforms onboard position navigation and timing (PNT) solution to gain global positioning system (GPS) data. The M1155A1 is compatible with the following host platforms: M109A6/ A7 Paladin self-propelled howitzers as well as allied artillery systems including the Swedish Archer.

Capabilities & Characteristics:

- Initialize and inductively set U.S. and NATO fuzes
- Initialize PGMs: M982 Excalibur, M1156 PGK, XM395 APMI
- Contains standard alkaline D-Cell or Lithium batteries
- Recommended Standard (RS) -422 Serial Interface
- Interface with external GPS receivers

System Integration:

- 155mm M109A6/ A7 Paladin
- Multiple FMS Platforms

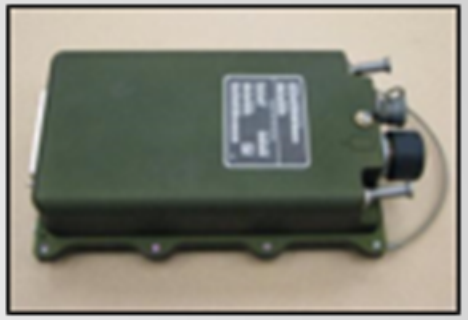
Full Software Materiel Release:

Software v6.06 – Q2FY2026 (Planned);

Currently Software v6.05

Production Partners:

- DEVCOM



M1155A1 PIK



PIK to Setter Cable



Handheld Setter









DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

M1155A2 EPIAFS

The M1155A2 Enhanced Portable Inductive Artillery Fuze Setter (EPIAFS) is a portable electronic Precision Guided Munition (PGM) and fuze setting device used to transfer power and mission data from the host platform's power systems and digital fire control as required to support PGMs such as Excalibur and the Precision Guidance Kit as well as U.S. and North Atlantic Treaty Organization (NATO) fuzes requiring unique battlefield knowledge. The M1155A2 EPIAFS hardware components consist of an inductive handheld setter, improved Platform Integration Kit (iPIK), and cable connecting iPIK to handheld setter. The software currently fielded with the M1155A2 EPIAFS is v6.07. The M1155A2's iPIK contains an integrated global positioning system (GPS) receiver but can also interface seamlessly with the host platforms onboard position navigation and timing (PNT) solution. The M1155A2 is compatible with the following host platforms: M119A3 Towed Howitzer and the M777A2 Joint Lightweight Towed Howitzer.

Capabilities & Characteristics:

- Initialize and inductively set U.S. and NATO fuzes
- Initialize PGMs: M982 Excalibur, M1156 PGK, XM395 APMI
- Contains standard alkaline D-Cell or Lithium batteries
- Recommended Standard (RS) -422 Serial Interface
- Interface with internal and external GPS receivers

System Integration:

- 105mm M119A3 Towed Howitzer
- 155mm M777A2 Lightweight Towed Howitzer

Full Materiel Release:

2QFY26 (Planned) w/ Software v6.07; currently Software v6.05

Production Partners:

- DEVCOM



M1155A2 iPIK



PIK to Setter Cable



Handheld Setter

ACQUISITION CATEGORY: IV | ACQUISITION PHASE: PD | PRODUCTION STATUS: 1 Actively Procured & Under Contract | DESIGNATED USE: OTHER

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

XM103 APGMS

The XM103 Artillery Precision Guided Munition Setter (APGMS) is the next generation portable electronic Precision Guided Munition (PGM) and fuze setting device intended to replace the M1155A1 and M1155A2 with a single solution as well as address emerging PGMs data and power requirements. XM103 APGMS will continue to support all current PGMs such as Excalibur and the Precision Guidance Kit and U.S. and North Atlantic Treaty Organization (NATO) fuzes requiring unique battlefield knowledge. This system contains next generation hardware components consisting of an inductive and direct set handheld setter, APGMS Platform Integration Kit (APGMS PIK), and robust cable connecting APGMS PIK to APGMS handheld setter. The APGMS PIK contains an integrated global positioning system (GPS) receiver but can also interface seamlessly with the host platforms onboard position navigation and timing (PNT) solution. APGMS is planned to integrated with all US inventory platforms including: M109A6/ A7 Paladin Self-propelled Howitzers (SPH), M119A3 Towed Howitzer, M777A2 Joint Lightweight Towed Howitzer, future Mobile Tactical Cannon and other foreign Platforms.

Capabilities & Characteristics:

- Initialize and inductively set U.S. and NATO fuzes
- Initialize PGMs: M982 Excalibur, M1156 PGK, XM395 APMI
- Direct set emerging PGMs via Time Mark Pulse (TMP) 485 protocol
- Capable of Recommended Standard (RS) -422 Serial Interface and high speed ethernet to host platform when available
- Capable of storing and transferring large amounts of mission data at high speed between APGMS and emerging PGMs when required via Single Pair Ethernet (SPE)
- Interface with internal and external GPS receivers

System Integration:

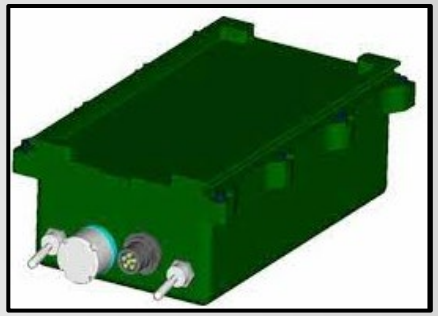
- 155mm M109A6/ A7 Paladin
- 105mm M119A3 Towed Howitzer
- 155mm M777A2 Lightweight Towed Howitzer
- Future MTC
- Multiple FMS Platforms

Full Materiel Release:

2029 (Planned)

Production Partners:

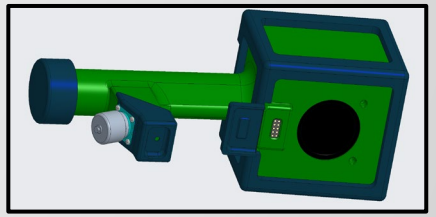
- DEVCOM



APGMS PIK



APGMS PIK to Setter Cable



APGMS Handheld Setter









DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

60mm M1061 Enhanced Lethality Cartridge

The M1061 cartridge consists of a M734A1 fuze, a fuze adapter, an enhanced fragmentation body loaded with 254 grams of PBXN-110 explosive, an aluminum case, an obturating ring, a fin adapter and fin, four propelling charge increments, and an ignition cartridge. The design of the shell body produces lethal effects against both personnel and materiel targets. The cartridge will only be used in combat.

Capabilities & Characteristics:

- Range: 61 meters (minimum); 3,657 meters (maximum)
- Rate of Fire: 30 rounds per minute (maximum); 20 rounds per minute (sustained)
- Weight: 4 pounds
- Reliability: 98% at 80% confidence level
- Probable Error: 1.5% of mean range; Deflection: 2.5 mils

System Integration:

- 60mm M224 Lightweight Company Mortar System (LWCMS)

Configurations:

- **BA42**

Materiel Release: June 2016

Production Partners:

- System Integration: PM CAS
- Warhead and LAP:
  - Day & Zimmermann, Inc. (Parsons, KS)
  - GDMS (Canada)



ACQUISITION CATEGORY: III
ACQUISITION PHASE: PD
PRODUCTION STATUS: 1 – Actively Procured & Under Contract
DESIGNATED USE: WAR RESERVE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

60mm M721 VL Illuminating Cartridge

The M721 VL Illuminating cartridge is designed for use with the M224/A1 LWCMS in all light infantry battalions. The cartridge consists of a M776 MTSQ fuze, a thin wall steel body tube and aluminum tail cone that contains the payload (parachute and canister), and a fin assembly that contains the ignition cartridge and propelling charges. The payload is base ejected and upon ignition produces visible light illumination. The visible light illumination allows for monitoring of enemy activities and adjustment of fire at greater observation distances during night operations. It also provides a means for day/night signaling. It is particularly useful in combined operations with allies who may not have NVDs. The M721 is fired from the M224 Lightweight Mortar System and is ballistically similar to the 60mm M767 IR Illum cartridge.

Capabilities & Characteristics:

- Range: 200 meters (minimum); 3,200 meters (maximum)
- Rate of Fire: 30 rounds per minute (maximum); 20 rounds per minute (sustained)
- Weight: 3.79 pounds
- Length: 16.8 inches
- Illumination: 300,000 candlepower
- Burn Time: 32 seconds
- Reliability: 95% at 90% confidence level
- Probable Error: 1.5% mean range; Deflection: 2.5 mils

System Integration:

- 60mm M224/ A1 LWCMS

Configurations:

- **B647**
- Suitable Substitutes:
  - B627: 60m M83A3 VL Illuminating Cartridge with M65A1 Time Fuze

Materiel Release: June 2001

Production Partners:

- System Integration: PM CAS
- LAP: PBA (Pine Bluff, AR)
- VL Candle: CAAA (Crane, IN)



ACQUISITION CATEGORY: III
ACQUISITION PHASE: PD
PRODUCTION STATUS: 1 (Actively Procured & Under Contract)
DESIGNATED USE: TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

60mm M767 IR Illuminating Cartridge

The M767 IR Illuminating cartridge is designed for use with the M224/A1 LWCMS in all light infantry battalions. The cartridge consists of a M776 MTSQ fuze, a thin wall steel body tube and aluminum tail cone that contains the payload (parachute and canister) and a fin assembly that contains the ignition cartridge and propelling charges. The payload is base ejected and upon ignition produces IR illumination. The advantage of the IR over conventional illumination is that there is minimal visible light. This reduces the possibility of exposing forward friendly troop positions while also allowing covert adjustment of fire at greater observation distances through use of passive NVDs.

Capabilities & Characteristics:

- Range: 300 meters (minimum); 3,175 meters (maximum)
- Rate of Fire: 30 rounds per minute (maximum); 20 rounds per minute (sustained)
- Weight: 3.75 pounds
- Length: 16.80 inches
- Illumination: 30 watts per steradian
- Maximum 450 candlepower of VL emitted
- Burn Time: 40 seconds
- Reliability: 95% at 90% confidence level
- Probable Error: 1.5% of range; Deflection: 2.5 mils

System Integration:

- 60mm M224/ A1 LWCMS

Configurations:

- **BA04**

Materiel Release: June 2002

Production Partners:

- System Integration: PM CAS
- LAP: PBA (Pine Bluff, AR)
- IR Candle: CAAA (Crane, IN)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

60mm M722A1 WP Smoke Cartridge

The M722A1 WP Smoke cartridge is designed for use with the M224/ A1 LWCMS in all light infantry battalions and serves as a spotting/marking round. The steel projectile is bulk loaded with WP. When the fuze functions, it detonates the M85 burster, which ruptures the projectile and disperses the white phosphorus. The M722A1 replaced the mechanical M745 PD fuze with the reliable, safe, and cost effective electronic M783 PD/D fuze.

Capabilities & Characteristics:

- Range: 200 meters (minimum); 3,200 meters (maximum)
- Rate of Fire: 30 rounds per minute (maximum); 20 rounds per minute (sustained)
- Weight: 3.7 pounds
- Length: 14.84 inches
- Reliability: 98% at 90% confidence level
- Probable Error: 1.5% of range; Deflection: 2.5 mils

System Integration:

- 60mm M224/ A1 LWCMS

Configurations:

- **BA14**: M783 PD/D Fuze
- Suitable Substitutes:
  - B646: M745 PD Fuze
  - B630: 60mm M302A1 WP Smoke with M936 PD Fuze

Materiel Release: November 2005

Production Partners:

- Northrop Grumman (Rocket Center, WV)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 4 No Production Planned within 4 years | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

60mm M720 Series HE Cartridges

The M720 Series HE Cartridges with Multi-Option Fuze are designed for use with the M224 LWCMS in all light infantry battalions. The complete round consists of a projectile body, a multi-option fuze, a fin assembly, four increments of propellant charge, an ignition cartridge and obturating ring. It is used against personnel and materiel providing both fragmentation and blast effects.

Capabilities & Characteristics:

- Range: 70 meters (minimum); 3,400 meters (maximum)
- Rate of Fire: 30 rounds per minute (maximum); 20 rounds per minute (sustained)
- Weight: 3.65 pounds
- Length: 14.84 inches
- Reliability: 98% at 90% confidence level
- Probable Error: 1.5% of mean range; Deflection: 2.5 mils

System Integration:

- 60mm M224 LWCMS

Configurations:

- **BA44**: IMX-101 Explosive, M734A1 Fuze
- Suitable Substitutes:
  - B642: Composition B Explosive, M734 Fuze
  - BA16: Composition B Explosive, M734A1 Fuze

Materiel Release: April 2006

Production Partners:

- System Integration: PM CAS
- Warhead and LAP:
  - Day & Zimmermann, Inc (Parsons, KS)
  - GDMS (Canada)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

60mm M768 Series HE Cartridges

The M768 Series Mortar HE Cartridges are designed for use with the M224 LWCMS in all light infantry battalions. The complete round consists of a projectile body, a point detonating/delay fuze, a fin assembly, four increments of propellant charge, an ignition cartridge and obturating ring. This round is used primarily in training because it is significantly less expensive than the M720 Series HE cartridges, the preferred warfighting round. However, the M768 cartridges are also lethal and can be used in combat.

Capabilities & Characteristics:

- Range: 70 meters (minimum); 3,400 meters (maximum)
- Rate of Fire: 30 rounds per minute (maximum); 20 rounds per minute (sustained)
- Weight: 3.65 pounds
- Length: 14.84 inches
- Reliability: 99% at 90% confidence level
- Probable Error: 1.5% of mean range; Deflection: 2.5 mils

System Integration:

- 60mm M224 LWCMS

Configurations:

- **BA45**: IMX-101 Explosive
- Suitable Substitutes:
  - BA17: Composition B Explosive
  - B643: 60mm M888 HE

Materiel Release: April 2006

Production Partners:

- System Integration: PM CAS
- LAP:
  - GDMS (Canada)
  - Day & Zimmermann, Inc. (Parsons, KS)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

60mm M888 HE Cartridge

The M888 Mortar HE cartridge is designed for use with the M224 LWCMS in all light infantry battalions. It is used against personnel and light materiel, providing both fragmentation and blast effect. The M888 has the same body and propulsion system as the M720 Series HE cartridges but uses the M935 PD Fuze. The M935 PD Fuze provides reversible selection between SQ and delay modes. The fuze functions on impact, detonating the fuze booster charge and, in turn, the Composition B HE. The M888 is purchased only by the USMC.

Capabilities & Characteristics:

- Range: 67 meters (minimum); 3,490 meters (maximum)
- Rate of Fire: 30 rounds per minute (maximum); 20 rounds per minute (sustained)
- Weight: 3.75 pounds
- Length: 14.738 inches
- Reliability: 99% at 90% confidence level
- Probable Error: 1.5% of mean range; Deflection: 2.5 mils

System Integration:

- 60mm M224 LWCMS

Configurations:

- **B643**

Materiel Release: March 1983

Specifications: USMC only



ACQUISITION CATEGORY: III

ACQUISITION PHASE: PD

PRODUCTION STATUS: 5 – Legacy Item, No active production

DESIGNATED USE: TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

60mm M769 FRPC

The M769 Full Range Practice Cartridge (FRPC) is designed for use with the M224 LWCMS in all light infantry battalions. The M769 is a low-cost, full range, practice round that will replace a percentage of the standard HE rounds used in 60mm mortar training. The complete round consists of a hollow projectile body with vent tube and four vent holes, a practice fuze, a fin assembly, four increments of propellant charge, an ignition cartridge and obturating ring and is identical in shape, size and weight to the M720/ M720A1 HE cartridges. The flash, bang and smoke signature provided by the fuze is channeled to exhaust holes in the rear of the cartridge using a center vent tube.

Capabilities & Characteristics:

- Compatible with 60mm M224 Lightweight Company Mortar System
- Range: 70 meters (minimum); 3,500 meters (maximum)
- Rate of Fire: 30 rounds per minute (maximum); 20 rounds per minute (sustained)
- Weight: 3.75 pounds
- Length: 14.88 inches
- Reliability: 98.7% at 90% confidence level
- Probable Error: 1.5% of mean range; Deflection: 2.5 mils
- Effectiveness: visual effect to allow adjustment from a range of 2,000 meters

System Integration:

- 60mm M224 LWCMS

Configurations:

- **BA15**

Materiel Release: June 2004

Production Partners:

- System Integration: PM CAS
- LAP:
  - Day & Zimmermann, Inc. (Parsons, KS)
  - Nammo-Pocal (Scranton, PA)
  - GDMS (Canada)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

81mm M816 IR Illuminating Cartridge

The M816 IR Illuminating cartridge is fired from the M252/A1 Improved Mortar System. The M816 cartridge is ballistically comparable to the M853A1 VL Illuminating Cartridge, except for the chemical composition of the illuminating material. The cartridge consists of a M772 MTSQ fuze, a thin wall aluminum body tube, aluminum tail cone that contains the parachute and canister, and a fin assembly that contains the ignition cartridge and 4 propelling charges. The payload is base ejected and upon ignition produces IR illumination. This reduces the possibility of exposing forward friendly troop positions while also allowing covert adjustment of fire at greater observation distances through use of passive NVDs.

Capabilities & Characteristics:

- Range: 1,025 meters (minimum); 4,925 meters (maximum)
- Rate of Fire: 30 rounds per minute (maximum); 15 rounds per minute (sustained)
- Weight: 9.43 pounds
- Length: 25.469 inches
- Illumination: 50 watts per steradian
- Maximum of 500 candlepower of VL emitted
- Burn Time: 60 seconds
- Reliability: 95% at 90% confidence level
- Probable Error: 1% of mean range; Deflection less than 15 meters at all ranges

System Integration:

- 81mm M252/ A1 Mortar System

Configurations:

- **C484**

Materiel Release: April 2002

Production Partners:

- System Integration: PM CAS
- LAP: PBA (Pine Bluff, AR)
- VL Candle: CAAA (Crane, IN)



ACQUISITION CATEGORY III | ACQUISITION PHASE OS | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

81mm M819 RP Smoke Cartridge

The M819 Red Phosphorous (RP) cartridge is a smoke screen round developed for use in the 81mm M252/A1 Mortar System. The complete round consists of a fuze with an expulsion charge, a thin wall steel body tube containing 28 red phosphorus smoke wedges, a propelling charge comprised of four horse-shoe type propellant increments, a fin assembly, and an ignition cartridge with an integral percussion primer. After firing and a set time delay, the RP wedges are ejected and dispersed on the target to quickly produce an obscuring smoke screen. A full screen can be developed with 3 rounds as opposed to 15 rounds with the M375 series WP cartridge. This cartridge includes GAMS (Gas Adsorbent Modules) to adsorb the phosphine gas emitted by the RP to keep the round stable.

Capabilities & Characteristics:

- Range: 300 meters (minimum); 4,900 meters (maximum)
- Rate of Fire: 30 rounds per minute (maximum); 15 rounds per minute (sustained)
- Weight: 10.8 pounds
- Length: 25.375 inches
- Burn time: 5 minutes for 3 rounds
- Reliability: 98% at 90% confidence level
- Probable Error: 1.5% of mean range; Deflection 15 meters at all ranges
- Effectiveness: Provides 5 times the obscuration effectiveness of the 81mm M375 WP Cartridge

System Integration:

- 81mm M252/ A1 Mortar System

Configurations:

- **C870**

Materiel Release: September 1991

Production Partners:

- System Integration: PM CAS
- RP Pellet Production and LAP: PBA (Pine Bluff, AR)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

81mm M853A1 VL Illuminating Cartridge

The M853A1 VL Illuminating cartridge consists of a fuze, a thin wall aluminum body tube and aluminum tail cone that contains the payload (parachute and canister), and a fin assembly that contains the ignition cartridge and propelling charges. The payload is base ejected and upon ignition produces VL illumination. This VL illumination allows for monitoring of enemy activities and adjustment of fire at greater observation distances during night operations. It also provides a means for day/night signaling. it is particularly useful in combined operations with allies who may not have NVDs. This round illuminates to the full range of the M821A1 and M889A2 HE cartridges, which allows adjustment of fire at any distance out to the maximum range.

Capabilities & Characteristics:

- Range: 300 meters (minimum); 5,050 meters (maximum)
- Rate of Fire: 30 rounds per minute (maximum); 15 rounds per minute (sustained)
- Weight: 9.25 pounds
- Length: 25.499 inches
- Illumination: 525,000 candlepower
- Burn Time: 50 seconds
- Reliability: 95% at 90% confidence level
- Probable Error: 1% of mean range; Deflection less than 15 meters at all ranges

System Integration:

- 81mm M252/ A1 Mortar System

Configurations:

- **C871**

Materiel Release: September 1991

Production Partners:

- System Integration: PM CAS
- LAP: PBA (Pine Bluff, AR)
- VL Candle: CAAA (Crane, IN)



ACQUISITION CATEGORY: III
ACQUISITION PHASE: PD
PRODUCTION STATUS: 1 (Actively Procured & Under Contract)
DESIGNATED USE: TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

81mm M821/ M829 Series HE Cartridges

The 81mm M821 Series and M889 Series cartridges are HE rounds for the 81mm M252 Mortar System, designed for use against personnel and light materiel. The 81mm M821/M889 Series cartridges consist of an HF-1 steel projectile body loaded with approximately 2 pounds of Composition B conventional explosive or IMX-104 insensitive explosive, a plastic obturating ring, a M24 fin, four M220 Propelling Charges attached to the fin shaft, and a M299 Ignition Cartridge. These cartridges are identical, except for the fuze model the M821 Series uses the M734A1 Multi-option fuze, while the M889 Series uses the M783 PD/D fuze.

Capabilities & Characteristics:

- Range: 70 meters (minimum); 5,859 meters (maximum)
- Rate of Fire: 30 rounds per minute (maximum); 15 rounds per minute (sustained)
- Weight: 9.42 pounds
- Length: 19.6 inches
- Reliability: 98% at 80% confidence level
- Probable Error: 1.5% of mean range; Deflection: 1% at all ranges

System Integration:

- 81mm M252 Mortar System

Configurations:

- **CA63**: M889A4 – IMX-104 Explosive
- **C868**: M821A1 – Composition B Explosive
- Suitable Substitutes:
  - CA61: M821A3 – IMX-104 Explosive
  - CA43: M889A2 – Composition B Explosive

Materiel Release:

- M821 series: August 1994
- M889 series: September 2009

Production Partners:

- System Integration: PM CAS
- LAP:
  - GDMS (Canada)
  - Day & Zimmermann, Inc. (Parsons, KS)



ACQUISITION CATEGORY: III
ACQUISITION PHASE: PD
PRODUCTION STATUS: 1 – Actively Procured & Under Contract
DESIGNATED USE: TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

81mm M821A4 HE EF Cartridge

The HE–Enhanced Fragmentation (HE–EF) M821A4 mortar cartridge is fired from the standard US Army 81mm M252 Mortar System and is used for fragmentation and blast effect against personnel and materiel targets. The M821A4 Mortar Cartridge is designed to satisfy modern IM requirements while enhancing lethality. The incorporation of an IMX-104 HE fill and formion melt-out fuze adapter allow for venting of the main charge, preventing high-order detonations from occurring in IM-related scenarios. The enhanced lethality is achieved by utilizing both tungsten pre-formed fragmentation and HF-1 steel. The major components of the M821A4 include the M734A1 Multi Option Fuze, M24 Fin Assembly, M299 Ignition Cartridge, M658 Propelling Charge, Obturating Ring, PBXN-12 Auxiliary Booster, a tungsten/Liquid Crystal Polymer (LCP) fragmentation matrix, and IMX-104 main HE fill.

Capabilities & Characteristics:

- Range: 5,600 meters (maximum)
- Rate of Fire: 30 rounds per minute (maximum); 15 rounds per minute (sustained)
- Weight: 9.67 pounds
- Lethality: ~66% of 120mm

System Integration:

- 81mm M252 Mortar System

Configurations:

- **CA66**

Materiel Release: November 2022

Production Partners:

- LAP:
  - GDMS (Canada)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

81mm M879 FRPC

The M879 FRPC is a US developed improved practice round for use in the M252, improved 81mm, Mortar System. The practice cartridge provides realistic training in place of the current 81mm HE Cartridges at a significant cost savings. The M751 PD Practice Fuze can be set, for training purposes, to the required fuze functioning mode for the fire mission. The M751 fuze used on this round detonates upon impact and produces a flash, bang and smoke signature which gives the forward observer the ability to adjust fire.

Capabilities & Characteristics:

- Range: 70 meters (minimum); 5,800 meters (maximum)
- Rate of Fire: 30 rounds per minute (maximum); 15 rounds per minute (sustained)
- Weight: 9.1 pounds
- Length: 19.55 inches
- Reliability: 97% at 80% confidence level
- Effectiveness: Visual effect to allow adjustment from a range of 2,500 meters

System Integration:

- 81mm M252 Mortar System

Configurations:

- **C875**

Materiel Release: October 2004

Production Partners:

- System Integration: PM CAS
- LAP:
  - Day & Zimmermann, Inc. (Parsons, KS)
  - Nammo-Pocal (Scranton, PA)
  - GDMS (Canada)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

120mm XM395 APMI

The Accelerated Precision Mortar Initiative (APMI) is a response to an Operational Need Statement (ONS) received from theater. The cartridge utilizes GPS technology to rapidly defeat personnel targets with low collateral damage. APMI completed qualification for Urgent Material Release in March 2011 and achieved Initial Operational Capability in April 2011. In 2016, it was also approved for Conditional Material Release for use by the GRF and ACF.

Capabilities & Characteristics:

- Precision capability for BCTs at Battalion level
- Ability to defeat targets with low collateral damage
- Accuracy: 10 meters (threshold); 5 meters (objective)
- Range: 1 kilometer (minimum); 6.25 kilometers (maximum)

System Integration:

- 120mm M120 Towed and Stryker Mortar Carrier Mortar Systems

Configurations:

- **CA55**

Materiel Release:

- Urgent Materiel Release: March 2011
- Conditional Material Release: Fiscal Year 2016, 1st Quarter

Production Partners:

- Alliant Tech Systems (Plymouth, MN)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

120mm M933A1 HE Cartridge

The M933A1 HE cartridge is designed for use with the 120mm M120 and M121 Battalion Mortar Systems and is used against personnel, bunker and light materiel targets. It consists of a Steel Shell Body with Composition B explosive fill, and an aluminum M31 Fin Assembly. The propulsion system utilizes the M1020 Ignition Cartridge and four horseshoe-shaped, water-resistant M234 Propelling Charges. The M933A1 is comparable to the M934A1 HE cartridge, except the M934A1 uses the M734A1 Multi-Option Fuze while the M933A1 uses the M783 PD/D Fuze.

Capabilities & Characteristics:

- For use with BCT Mortar System
- Range: 200 meters (minimum); 7,200 meters (maximum)
- Rate of Fire: 16 rounds per minute (maximum); 4 rounds per minute (sustained)
- Weight: 30.2 pounds
- Length: 27.99 inches
- Reliability: 97% at 90% confidence level
- Probable Error: 1.5% of mean range; Deflection: 1% at maximum range
- Effectiveness: 50% improvement over 4.2-inch M329A2 HE Cartridge
- Utilizes M1020/ M234 Propulsion System to reduce residue
- Uses the M783 PD/D Fuze

System Integration:

- 120mm M120 Towed Mortar System
- 120mm M121 Carrier-mounted Mortar System

Configurations:

- **CA44**
- Suitable Substitutes:
  - C623: 120mm M933 HE with M745 PD Fuze

Materiel Release:

- July 2008

Production Partners:

- System Integration: PM CAS
- LAP:
  - GDMS (Canada)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

120mm M934A1 HE Cartridge

The M934A1 HE cartridge is designed for use with the M120, 120mm Towed Mortar System and the M121, Carrier Mortar System. It is used against personnel and materiel providing both fragmentation and blast effects. It consists of a Steel Shell Body with Composition B fill, a multi-option fuze, an aluminum fin, an ignition cartridge and four propelling charges assembled around the fin shaft.

Capabilities & Characteristics:

- For use with BCT Mortar System
- Range: 200 meters (minimum); 7,200 meters (maximum)
- Rate of Fire: 15 rounds per minute (maximum); 6 rounds per minute (sustained)
- Weight: 30 pounds
- Length: 27.99 inches
- Reliability: 97% at 90% confidence level
- Probable Error: 1.5% of mean range; Deflection: 1% at maximum range
- Effectiveness: 50% improvement over 4.2-inch M329A2 HE Cartridge
- Utilizes the M1020/ M234 Propulsion System to reduce residue
- Uses the M734A1 Multi-Option fuze to improve safety with elimination of up-leg early functions

System Integration:

- 120mm M120 Towed Mortar System
- 120mm M121 Carrier-mounted Mortar System

Configurations:

- **CA04**
- Suitable Substitutes:
  - C379: 120mm M934 HE with M734 MOF

Materiel Release: September 2003

Production Partners:

- LAP:
  - GDMS (Canada)



ACQUISITION CATEGORY: III
ACQUISITION PHASE: PD
PRODUCTION STATUS: 1 – Actively Procured & Under Contract
DESIGNATED USE: TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

120mm M930 VL Illuminating Cartridge

The M930 VL cartridge is fired from the M120 Towed and M121 Carrier-Mounted mortar systems and is intended for use in illuminating a desired point or area. The cartridge consists of a M776 MTSQ fuze, a steel 2-piece shell body that contains the parachute and canister, and a fin assembly. The payload is base ejected and upon ignition produces VL illumination. This VL illumination allows for monitoring of enemy activities and adjustment of fire at greater observation instances during night operations. It also provides a means for day/night signaling. This round illuminates to the full range of the M934A1 HE round, which allows adjustment of fire at any distance out to the maximum range and provides a significant increase in illumination intensity and effectiveness over the 4.2-inch illuminating cartridge that it replaces.

Capabilities & Characteristics:

- Range: 360 meters (minimum); 6,675 meters (maximum)
- Rate of Fire: 16 rounds per minute (maximum); 4 rounds per minute (sustained)
- Weight: 31.92 pounds
- Length: 27.68 inches
- Illumination: 1,000,000 candlepower
- Burn Time: 50 seconds
- Reliability: 95% at Point Estimate

System Integration:

- 120mm M120 Towed Mortar System
- 120mm M121 Carrier-mounted Mortar System

Configurations:

- **C625**
- Suitable Substitutes:
  - CA39: 120mm M930E1 VL Illuminating with M745 PD Fuze
  - C790: 120mm M91 Illuminating with DM93 Time Fuze

Materiel Release: March 2003

Production Partners:

- System Integration: PM CAS
- LAP: PBA (Pine Bluff, AR)
- VL Candle: CAAA (Crane, IN)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

120mm M983 IR Illuminating Cartridge

The M983 IR Illuminating cartridge was developed for use in the 120mm M120 and M121 Battalion Mortar Systems. The M983 IR cartridge is ballistically comparable to the M930 VL cartridge except for the chemical composition of the illuminating material. The M983 provides a field of view equal or greater to that of the VL cartridge. The cartridge consists of a fuze, a steel 2-piece shell body, an illuminant candle and parachute assembly, a fin assembly, an ignition cartridge, and four propelling charges assembled around the fin shaft. The IR composition reduces the possibility of exposing forward friendly troop positions while also allowing covert adjustment of fire at greater observation distances through use of passive NVDs. This round illuminates to the full range of the M934A1 HE round.

Capabilities & Characteristics:

- For use with BCT Mortar System
- Range: 375 meters (minimum); 6,675 meters (maximum)
- Rate of Fire: 16 rounds per minute (maximum); 4 rounds per minute (sustained)
- Weight: 31.92 pounds
- Length: 27.68 inches
- Illumination: 75 watts per steradian
- Maximum 550 candlepower of VL emitted
- Burn Time: 50 seconds
- Reliability: 95% at 90% confidence level

System Integration:

- 120mm M120 Towed Mortar System
- 120mm M121 Carrier-mounted Mortar System

Configurations:

- **CA07**

Materiel Release: October 2003

Production Partners:

- System Integration: PM CAS
- LAP: PBA (Pine Bluff, AR)
- IR Candle: CAAA (Crane, IN)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

120mm M929 WP Smoke Cartridge

The M929 WP cartridge provides smoke obscuration for area targets. When the fuze functions, it detonates the burster, fragmenting the body and dispersing felt pads which are soaked with 5 pounds of WP. The smoke obscuration is generated by a spontaneous reaction between the WP and oxygen. Two configurations are in inventory: M929 with M734A1 Multi-Option Fuze and XM929 with M745 PD fuze.

Capabilities & Characteristics:

- For use with BCT Mortar System
- Range: 200 meters (minimum); 7,200 meters (maximum)
- Rate of Fire: 16 rounds per minute (maximum); 4 rounds per minute (sustained)
- Weight: 30 pounds
- Payload: 5 pounds of WP
- Length: 27.8 inches
- Burn Time: Approximately 6.5 minutes
- Reliability: 97% at 80% confidence level
- Probable Error: 2% of mean range at maximum range; Deflection 1% at maximum range
- Ballistically comparable to the M934A1 HE, M930/ M983 Illuminating, and M931 FRPC
- Effectiveness: Provides twice the obscuration effectiveness of the 4.2-inch M328A1 WP Cartridge

System Integration:

- 120mm M120 Towed Mortar System
- 120mm M121 Carrier-mounted Mortar System

Configurations:

- **CA03**: M734A1 PD/D Fuze
- Suitable Substitutes:
  - C624: M745 PD Fuze

Materiel Release: March 1999

Production Partners:

- System Integration: PM CAS
- LAP: PBA (Pine Bluff, AR)
- M86 Burster and Burster Housing: CAAA (Crane, IN)



ACQUISITION CATEGORY: III
ACQUISITION PHASE: PD
PRODUCTION STATUS: 1 (Actively Procured & Under Contract)
DESIGNATED USE: TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #130-26

120mm M931 FRPC

This FRPC cartridge is for use in the 120mm M120 and M121 Battalion Mortar Systems, providing realistic training for 120mm Mortar crews at a reduced cost. The M931 is ballistically comparable to the M934A1/ M933A1 HE cartridges in size, shape and weight. The M931 is equipped with the M781 Point Detonating Practice Fuze which produces a flash, bang, and smoke signature upon impact, providing audio and visual feedback to the mortar crew and forward observer. The M931 cartridge is not to exceed 75% of the unit production cost of the M934A1/ M933A1 cartridges.

Capabilities & Characteristics:

- Range: 200 meters (minimum); 7,200 meters (maximum)
- Rate of Fire: 15 rounds per minute (maximum); 6 rounds per minute (sustained)
- Weight: 30 pounds
- Length: 27.99 inches
- Reliability: 97% at 80% confidence
- Effectiveness: Visual effect to allow adjustment from a range of 3,000 meters
- Utilizes M1020/ M234 Propulsion System
- Equipped with M781 PD Practice Fuze, a facsimile of the M734A1 Multi-Option Fuze

System Integration:

- 120mm M120 Towed Mortar System
- 120mm M121 Carrier-mounted Mortar System

Configurations:

- **CA09**

Materiel Release: January 1999

Production Partners:

- System Integration: PM CAS
- LAP:
  - GDMS (Canada)
- Fuze and M1020 Ignition Cartridges: Nammo Pocal Industries (Scranton, PA)
- Shell Bodies: GD-OTS NEPA
- M31 Tail Fins: Matech (Salisbury, MD)
- M234 Propelling Charges:
  - GD-OTS (Marion, IL)
  - AO-IAAAP (Middletown, IA)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING UNIQUE

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Project Manager
PM
Reliable, Precise, Lethal
MAS
Maneuver Ammunition Systems

Project Manager Maneuver Ammunition Systems (PM MAS) provides all direct fire combat and training ammunition capabilities, except non-lethal, of the highest quality and reliability to Warfighters (Army, Navy, Air Force, Marines and SOCOM) and Government Agencies to support dismounted soldiers, combat vehicles, helicopters, naval vessels, and high-performance propeller and jet aircraft as directed by CPE A&E. PM MAS routinely transitions and accepts production management of additional direct fire ammunition types from the Special Operations Command (SOCOM), Naval Sea Systems Command (NAVSEA), Naval Air Systems Command (NAVAIR), and the United States Marine Corps (USMC).

Mission: PM MAS develops, equips and sustains integrated lethal direct fire ammunition effects to enable joint and Allied warfighters overmatch in the battlefield.

Vision: Innovative and dedicated hard-working professionals ensuring our warfighters prevail in battle and return home safely.

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Project Manager Maneuver Ammunition Systems

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Small Caliber DDI Cartridges

Dummy, Drilled, and Inert (DDI) cartridges are used for weapons training and maintenance. The cartridges are nickel plated and fluted to separate appearance from live and blank ammunition.

Capabilities & Characteristics:

- 5.56, 7.62, and cal .50 have a solid aluminum design. 9mm has a brass cartridge case, copper bullet, and is nickel plated
- No energetics or stored energy
- Cases are fluted, except for 9mm, which has two holes
- Primer cavity in base, but no primer inserted

System Integration:

- Use in each caliber's compatible weapon systems

Configurations:

- .50 Cal
  - **AB48**: M2A1
  - **AB36**: M2A1, Linked
- 9mm:
  - **AB45**: M917A1
  - **AC24**: M1156 (MHS)
  - A359[1]: M917
- 5.56mm:
  - **AB46**: M199A1
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- 7.62mm
  - **AB47**: M63A1
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Materiel Release: October 2010

Production Partners:

- Olin Winchester (Independence, MO) (AB45, AC24)
- KAK Industries (Springfield, IL) with manufacturing in Industry, CA (AB46, AB47, AB48, AB36)





1. Suitable Substitutes: 2024 Suitability and Interchangeability List (U.S. Army JMC)

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

.22 Caliber Long Range Ball Cartridge

This cartridge is used by ROTC in marksmanship competition. Cartridge consists of a solid lead projectile.

Capabilities & Characteristics:

- Velocity: At 15 feet, 1,100 feet per second
- Accuracy: 1.25 inches at 100 yards (average)
- Chamber Pressure:
  - 26,000 pounds per square inch average (maximum)
  - Maximum individual shall not exceed 30,100 pounds per square inch

System Integration:

- Match grade rifles with a manually operated bolt action

Configurations:

- **A091**

Program Partners:

- Olin Winchester (Independence, MO)



ACQUISITION CATEGORY: III
ACQUISITION PHASE: PD
PRODUCTION STATUS: 1 – Actively Procured & Under Contract
DESIGNATED USE: TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

.30 Caliber M1909 Blank Cartridge

The M1909 Blank cartridge is used for simulated firing in training or for saluting purposes. The cartridge is identified by the absence of a bullet and has purple lacquer applied over the crimped cartridge case mouth to keep out moisture.

Capabilities & Characteristics:

- Height: 4.90 inches
- Weight: 218 grains

System Integration:

- M1 Garand
- M1903 Springfield
- M1917 Enfield

Configurations:

- **A222**

Production Partners:

- Olin Winchester (Independence, MO)



ACQUISITION CATEGORY: III
ACQUISITION PHASE: PD
PRODUCTION STATUS: 1 – Actively Procured & Under Contract
DESIGNATED USE: OTHER

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

.300 Caliber M1163 NM Cartridge

The M1163 Norma Magnum (NM) round is intended for use against anti-personnel at long ranges.

Capabilities & Characteristics:

- Cartridge components are COTS
- Propellant: Retumbo (87.5 grains)
- Projectile: 215 grain Berger hybrid projectile
- Primer: Federal 215M
- Case: .300 Norma

System Integration:

- Barrett MK 22 Sniper Rifle

Configurations:

- **AC33**

Materiel Release: May 2024

Production Partners:

- WOSB – Black Hills Ammunition
- F&OC – Sig Sauer



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

.300 Caliber MK 248 Mod 0 NM Cartridge

The bullet for the MK 248 Mod 0 is a 190 grain Sierra Match King Hollow Point Boat Tail (HPBT) bullet. The bullet is lead with a jacket composed of copper or copper alloy and is a reverse drawn open tip match type. This bullet is intended for use in M2010 Enhanced Sniper Rifle or MK 13 for sniper applications.

Capabilities & Characteristics:

- Effective Range: 1,100 meters
- Height: 3.5 inches
- Weight: 190 grains
- Muzzle Velocity: 3,000 feet per second
- Accuracy: Individual shot groups ≤4.71 inches at 300 yards and 9.42 inches at 600 yards
- Chamber Pressure: 78,900 pounds per square inches

System Integration:

- M2010 Enhanced Sniper Rifle
- MK 13

Configurations:

- **A191**

Materiel Release: March 2013

Production Partners:

- The Kinetic Group (Anoka, MN)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

.338 Caliber M1162 NM AP Cartridge

The M1162 NM Armor Piercing (AP) round is intended for use against personnel wearing hard body armor and for anti-materiel missions.

Capabilities & Characteristics:

- Cartridge components are COTS
- Propellant: Retumbo (91.5 grains)
- Projectile: 300 grain Match King AP projectile
- Primer: Federal 215M
- Case: .338 Norma

System Integration:

- Barrett MK 22 Sniper Rifle

Configurations:

- **AC32**

Materiel Release: May 2024

Production Partners:

- WOSB: Black Hills Ammunition
- F&OC: Sig Sauer



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

.50 Caliber M903 SLAP/ M962 SLAP-T, Linked 4/ 1

Both Saboted Light Armor Penetrator (SLAP) and SLAP – Tracer (SLAP-T) cartridges in this configuration contain a Tungsten Alloy penetrator which is sabot-launched at approximately 38% higher velocity than standard rounds. The sabot releases the projectile upon exiting muzzle. The difference between the two cartridges is the addition of a tracer in the M962 that enables the shooter to follow the projectile trajectory to make aiming corrections.

Capabilities & Characteristics:

- Length: 5.45 inches
- Weight:
  - M903: 1,466 grains
  - M962: 1,576 grains
- Muzzle Velocity: 4,000 feet per second at 78 feet
- Accuracy: Average Maximum Mean Radius ≤ 18 inches at 600 yards
- Chamber Pressure (average): 55,000 pounds per square inch (maximum)
- Action Time: 4 milliseconds (maximum)

System Integration:

- M2A1
- M3P Machine Gun

Configurations:

- **A518**
- Suitable Substitutes:
  - A576: .50 Call 4-API/ M20 Tracer w/M9

Materiel Release: November 1996

Production Partners:

- Olin Winchester (Independence, MO)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE WAR RESERVE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

.50 Caliber MK 211 API/ M20 API-T, Linked 4/ 1

Both cartridges in this configuration have Armor Piercing Incendiary (API) capability. The MK 211 API is identified by a green bullet tip with an aluminum color annulus. The M20 API-T cartridge is identified by red over gray bullet tip and is designed to perforate or penetrate hardened or bullet resistant targets. The MK 211 cartridge provides improved penetration performance against enemy personnel and light armor vehicles versus other .50 Cal API cartridges. Both cartridges are effective at starting fuel fires including heavy distillates, i.e. diesel fuel.

Capabilities & Characteristics:

- Designed to perforate or penetrate hardened or bullet resistant targets with after armor effects
- Used against armored personnel vehicles
- Weight:
  - MK 211: 1,765 grains
  - M20: 1,718 grains
- Trace: 85% minimum, visible from 100-1,600 yards
- Muzzle Velocity: 2,905 feet per second
- Accuracy: Average mean radius ≤12 inches at 600 yards
- Penetration: M20 core penetrates 0.875" armor at 100 yards
- Chamber Pressure (average):
  - MK 211: 65,000 pounds per square inch (maximum)
  - M20: 60,500 pounds per square inch (maximum)
- Action Time: 4 milliseconds (maximum)
- Uses M9 links

System Integration:

- M2A1
- M3P Machine Gun

Materiel Release: September 1987

Configurations:

- **A607**
- Suitable Substitutes:
- A506: .50 Cal 4-M8 API/ 1-M20 Tracer w/M9, Linked

Production Partners:

- Olin Winchester (Independence, MO)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE WAR RESERVE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

.50 Caliber M8 API/ MK 257 API-DT, Linked 4/ 1

Both cartridges in this configuration have API capability. NAVSPECWARCOM initiated design in 1996 to modify the fielded, M20, .50 Caliber API-T cartridge to a Dim Trace (DT) capability.

Capabilities & Characteristics:

- Length: 5.45 inches
- Weight:
  - M8: 1,784.5 grains
  - MK 257: 1,718 grains
- Muzzle Velocity: 2,905 feet per second
- Accuracy: Average mean radius ≤12 inches at 600 yards
- Penetration: Core minimum penetrates 0.875" armor at 100 yards
- Chamber Pressure (average):
  - M8: 60,500 pounds per square inch
  - MK 257: 65,000 pounds per square inch
- Action Time: 4 milliseconds (maximum)

System Integration:

- M2A1
- M3P Machine Gun

Materiel Release: April 2014

Configurations:

- **AB30**

Production Partners:

- Olin Winchester (Independence, MO)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

.50 Caliber M8 API Bulk Cartridge

The M8 API cartridge is identified by gray bullet tip. It has a manganese molybdenum steel core, a point filler of incendiary composition, and a lead-antimony base seal. The cartridge combines the functions of an armor piercing bullet and an incendiary bullet and is used against flammable targets and light-armored or unarmored targets, concrete shelters, and similar bullet-resisting targets.

Capabilities & Characteristics:

- Length: 5.45 inches
- Weight: 1,784.5 grains
- Muzzle Velocity: 2,905 feet per second
- Accuracy: Average mean radius ≤12 inches at 600 yards
- Chamber Pressure (average): 65,000 pounds per square inch (maximum)
- Action Time: 4 milliseconds (maximum)

System Integration:

- M107 Sniper Rifle
- M82A1/ A3 Barrett

Configurations:

- **A531**

Production Partners:

- Olin Winchester (Independence, MO)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

.50 Caliber M33 Ball/M17 Trace Cartridge

The .50 Caliber M33 Ball cartridge has been adopted and produced by at least 30 countries, including the U.S., Britain, Canada, France, Belgium, Israel, Netherlands, Japan, Singapore, and Taiwan. The M33 cartridge has a soft steel core bullet and can be used against personnel or unarmored targets. The M17 cartridge produces a red trace that enables the shooter to follow the projectile trajectory to make aiming correction. The cartridge has a soft steel core bullet and can be used against personnel or unarmored targets, although it is primarily used for training.

The US has NATO Qualified the Cal .50, M33 Ball Cartridge Design. Lots of M33 cartridges that have been produced by the US and contain the NATO Symbol of Interchangeability on the Outer Pack, may be considered Interchangeable with NATO Coalition forces.

Capabilities & Characteristics:

- Accuracy: Average Mean Radius ≤12 inches at 600 yards
- Muzzle Velocity: 2,905 feet per second
- Chamber Pressure: 65,000 pounds per square inch
- Length: 5.45 inches
- Weight:
  - M33: 1,782 grains
  - M17: 1,718 grains
- Uses M9 Links

System Integration:

- M2A1
- M3P Machine Gun

Configurations:

- **A552**: M2/ M33, Linked
- **A555**: M33, Linked
- **A557**: M33/ M17, Linked

Materiel Release: March 1985

Production Partners:

- Olin Winchester (Independence, MO)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

.50 Caliber M8 API/ M20 API-T, Linked 4/ 1

Both cartridges in this configuration have API capability. The M8 API is identified by gray bullet tip. The M20 API-T cartridge is identified by red over grey bullet tip. The cartridges contain a manganese molybdenum steel core, a point filler of incendiary composition, and a lead-antimony base seal.

This configuration combines the functions of an armor piercing bullet and an incendiary bullet and is used against flammable targets and light-armored or unarmored targets, concrete shelters, and similar bullet-resisting targets. The addition of a tracer in the M20 enables the shooter to follow the projectile trajectory to make aiming corrections.

Capabilities & Characteristics:

- Length: 5.45 inches
- Weight:
  - M8: 1,784.5 grains
  - M20: 1,718 grains
- Muzzle Velocity: 2,905 feet per second
- Accuracy: Average mean radius ≤12 inches at 600 yards
- Chamber Pressure (average):
  - M8: 65,000 pounds per square inch (maximum)
  - M20: 60,500 pounds per square inch (maximum)
- Action Time: 4 milliseconds (maximum)
- Uses M9 Links

System Integration:

- M2A1
- M3P Machine Gun

Configurations:

- **A576**

Production Partners:

- Olin Winchester (Independence, MO)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

.50 Caliber MK 211 Mod 0 API Cartridge

The MK 211 API is identified by a green bullet tip with an aluminum color annulus. The MK 211 cartridge provides improved penetration performance against enemy personnel and light armor vehicles versus other .50 Cal API cartridges. The MK 211 is effective at starting fuel fires including heavy distillates, i.e. diesel fuel.

Capabilities & Characteristics:

- Designed to perforate or penetrate hardened or bullet resistant targets with after armor effects
- Used against armored personnel vehicles
- Length: 5.45 inches
- Weight: 1,765 grains
- Muzzle Velocity: 2,910 feet per second
- Accuracy: Average Mean Radius ≤ 6 inches at 600 yards
- Chamber Pressure (average): 65,000 pounds per square inch (maximum)
- Action Time: 4 milliseconds

System Integration:

- M2A1
- M3P Machine Gun

Materiel Release: September 1987

Configurations:

- **A606**

Production Partners:

- Olin Winchester (Independence, MO)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

.50 Caliber M20 API-T Cartridge

The M20 API-T cartridge is identified by red over grey bullet tip. The cartridges contain a manganese molybdenum steel core, a point filler of incendiary composition, and a lead-antimony base seal. This configuration combines the functions of an armor piercing bullet and an incendiary bullet and is used against flammable targets and light-armored or unarmored targets, concrete shelters, and similar bullet-resisting targets. The addition of a tracer in the M20 enables the shooter to follow the projectile trajectory to make aiming corrections.

Capabilities & Characteristics:

- Length: 5.45 inches
- Weight: 1,718 grains
- Muzzle Velocity: 2,905 feet per second
- Accuracy: Average mean radius ≤12 inches at 600 yards
- Chamber Pressure (average): 60,500 pounds per square inch
- Action Time: 4 milliseconds (maximum)
- Uses M9 Links

System Integration:

- M2A1
- M3P Machine Gun

Configurations:

- **A541**: M20 API-T
- **A585**: M20 API-T, Linked

Production Partners:

- Olin Winchester (Independence, MO)



ACQUISITION CATEGORY III

ACQUISITION PHASE PD

PRODUCTION STATUS 1 Actively Procured & Under Contract

DESIGNATED USE TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

.50 Caliber M1A1 Blank Cartridge

The M1A1 is the .50 Caliber training round used for simulated fire. It's primary mean of identification is the absence of bullet and a 6 fluted rosette crimp at the mouth. A purple lacquer is applied to the mouth to prevent moisture from entering the body and degrading propellant.

Capabilities & Characteristics:

- Operates with M2 MG, M19 Blank Firing Attachment (BFA)
- Weight: 940 grains
- Length: 3.91 inches (99.3 millimeters)
- Cyclic Rate: 450-600 cycles per minute
- Propellant: OBP-126
- Uses M9 links

System Integration:

- M2A1
- M3P Machine Gun

Configurations:

- **A598**

Materiel Release: August 1986

Production Partners:

- Olin Winchester (Independence, MO)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

.50 Caliber 4 Ball/ 1 Tracer Plastic SRTA Cartridge

The .50 Caliber Short Range Training Ammunition (SRTA) cartridge is a useful tool in the instruction of the M2 Machine Gun in range restricted areas, as well as MOUT application. It has a maximum range of 500 meters allowing higher capacity of training on smaller ranges. While using the M2 in conjunction with the M3 Recoil Adapter, Caliber .50 SRTA has an accuracy match to the M33/ M17 at 150 meters making this cartridge ideal for training with the M2 both on a vehicular mount and off of a tripod.

Capabilities & Characteristics:

- Length: 5.2 inches
- Weight: 460 grains
- Muzzle Velocity: 2,790 feet per second at 78 feet from muzzle
- Cyclic Rate: 450-600 cycles per minute
- Accuracy: Average Maximum Mean Radius ≤ 35 centimeters at 150 meters
- Trace:
  - 90% minimum
  - Visible from 20-150 meters
- Chamber Pressure (average): 26,100 pounds per square inch (maximum)
- Action Time: 4 milliseconds (maximum)
- Uses M9 Links

System Integration:

- M2A1
- M3P Machine Gun with Recoil Amplifier

Configurations:

- **A602**

Materiel Release: December 1989

Production Partners:

- GDMS (Canada)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

.50 Caliber M1 HPT Cartridge

The High-Pressure Test (HPT) cartridge is intended for use in proof testing caliber .50 caliber weapons during manufacture, test or repair and other RDT&E efforts. This demonstrates the ability of the barrel to withstand higher than normal operational pressures to assure the weapon is safe to use.

Capabilities & Characteristics:

- Length: 5.45 inches
- Weight: 2,108 grains
- Chamber Pressure: 70,000 pounds per square inch
- Action Time: 4 milliseconds (maximum)

System Integration:

- Every new .50 caliber barrel and barrels used during RDT&E efforts

Configurations:

- **A575**

Production Partners:

- Olin Winchester (Independence, MO)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

.50 Caliber MK 263 AP Cartridge

The MK 263 AP Cartridge is identified by a black bullet tip. It has a heavy steel core. The cartridge is used against light-armored or unarmored targets, concrete shelters, and similar bullet-resistant targets.

Capabilities & Characteristics:

- Length: 5.450 inches
- Muzzle Velocity: Must meet ballistic requirements
- Accuracy: Average mean radius up to 12 inches at 600 yards
- Chamber Pressure (average): 65,000 pounds per square inch (maximum)
- Action Time: 4 milliseconds (maximum)

System Integration:

- M2A1
- M107 Sniper Rifle
- M82A1/ A3 Barrett

Production Partners:

- Olin Winchester (Independence, MO)

Configurations:

- **AA06**
- **AA50**
- **AA58**



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

.50 Caliber RRA M1181 Ball/M1199 Tracer

The maximum range of current combat ammunition exceeds limits on training installations thus restricting individual and collective live fire training. The .50 caliber RRA round will mitigate training gaps by providing ammunition with reduced maximum flight distance for use on military installations with surface danger zone (SDZ) restrictions. The round utilizes a two-piece projectile, with a steel core with fins and copper jacket that increases aerodynamic drag.

Capabilities & Characteristics:

- Length: 5.450 inches
- Muzzle Velocity: 3074 ft/s @ 78 ft
- Weight: 614 grains (Ball), 625 grains (Trace)
- Accuracy: Average mean radius up to 12 inches at 600 yards
- Action Time: 4 milliseconds (maximum)
- Max Range: 3600 meters

System Integration:

- M2A1
- M2HB
- GAU-21

Configurations:

- **AC70** – Linked Ball M1181
- **AC71** – Linked 4 Ball: 1 Trace M1181/M1199

Materiel Release: July 2027

Production Partners:

- GD-OTS



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

10 Gauge Blank Cartridge

The 10 Gauge Blank cartridge is comparable to standard shotgun cartridges, but it contains no lead shot. It has a plastic cartridge case and is marked "blank" on the shell. The cartridge is designed to produce a noise when initiated and is used as a salute item in large caliber weapons. The blank is inserted either in a prepared cartridge case or in a breech block of the weapon being used. It is commonly fired in 3-inch guns, 75mm guns, 75mm howitzers, or 105mm howitzers.

Capabilities & Characteristics:

- Length: 2.88 inches (73.2 millimeters)
- Weight: 290 grains
- Propellant: OBP-124
- Propellant Weight: 8 grams

System Integration:

- 3-inch guns
- 75mm guns
- 75mm Howitzers
- 105mm Howitzers

Configurations:

- **A010**

Production Partners:

- Olin Winchester (Oxford, MS)
- L-Tech (Eubank, KY)



ACQUISITION CATEGORY: III | ACQUISITION PHASE: PD | PRODUCTION STATUS: 1 (Actively Procured & Under Contract) | DESIGNATED USE: TRAINING UNIQUE & OTHER

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

12 Gauge #00 Buckshot Cartridge

The 12 Gauge #00 Buckshot cartridge uses a plastic case and is loaded with smokeless powder and No. 00 commercial shot. The tube coloring has been changed from standard red to olive drab to camouflage the round. This round is commonly used for force protection and combat use in military issued shotguns.

Capabilities & Characteristics:

- Shell Length: 2.75 inches
- Velocity: 1,325 feet per second
- Propellant: Smokeless
- Weight: 12.8 grains
- Accuracy: 65% shot within a 30-inch circle at 40 yards

System Integration:

- Mossberg 590
- Remington 870
- Manual and Semi-Automatic 2.75-inch chamber military issue shotguns

Configurations:

- **A011**

Production Partners:

- Olin Winchester (Oxford, MS)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

12 Gauge #7 ½ Shot Cartridge

The 12 Gauge #7 1/2 Shot Cartridge is a 2.75-inch diameter round with 1 1/8 ounces of #7 1/2 shot (approximately 551 pellets, 0.094 inches in diameter). It is packed 25 cartridges to a cardboard carton; 20 cartons to a fiberboard box. The ammunition is used for training and target competitions.

Capabilities & Characteristics:

- Shell Length: 2.75 inches
- Velocity: 1,145 feet per second
- Propellant: OBP-124 Powder
- Accuracy: 70% shot within a 30-inch circle at 40 yards

System Integration:

- Mossberg 590
- Remington 870
- Manual and Semi-Automatic 2.75-inch chamber military issue shotguns

Configurations:

- **A014**

Production Partners:

- Olin Winchester (Oxford, MS)



ACQUISITION CATEGORY: III | ACQUISITION PHASE: PD | PRODUCTION STATUS: 1 – Actively Procured & Under Contract | DESIGNATED USE: TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

12 Gauge #9 Shot Cartridge

The 12 Gauge #9 Shot Cartridge is a 2.75-inch diameter round with 1 1/8 ounces of #9 shot (approximately 923 pellets, .079 inches in diameter). It is packed 25 cartridges in a cardboard carton, 20 cartons in a fiberboard box. The ammunition is used for training and target competition.

Capabilities & Characteristics:

- Shell Length: 2.75 inches
- Velocity: 1,145 feet per second
- Propellant: OBP-124 Powder
- Accuracy: 50% shot within a 30-inch circle at 25 yards

System Integration:

- Mossberg 590
- Remington 870
- Manual and Semi-Automatic 2.75-inch chamber military issue shotguns

Configurations:

- **A017**

Production Partners:

- Olin Winchester (Oxford, MS)



ACQUISITION CATEGORY: III | ACQUISITION PHASE: PD | PRODUCTION STATUS: 1 (Actively Procured & Under Contract) | DESIGNATED USE: TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

12 Gauge M1030 Breaching Cartridge

The M1030 Cartridge Breaching Round is used to counter threats located in locked/sealed buildings using active and passive countermeasures against the Soldier. Currently, there is no 12-gauge shotgun cartridge in inventory that has the capability to open a door by the destruction of the lock or hinge with a single round. This cartridge is a low-hazard, non-shrapnel-producing device that will disintegrate on impact.

Capabilities & Characteristics:

- Defeat door lock mechanisms, hinges, and padlocks on interior wooden doors
- Weight: 617 grains
- Overall Length: 62.23mm
- Diameter: 22.35mm
- Muzzle Velocity: 1,148 feet per second at 3 feet from the muzzle

System Integration:

- Mossberg 500 Shotgun
- Mossberg 590 Shotgun
- Winchester 1200 Shotgun

Configurations:

- **AA54**

Materiel Release: October 2007

Production Partners:

- Defense Technology Co. (DTC) (Casper, WY)



ACQUISITION CATEGORY: III | ACQUISITION PHASE: PD | PRODUCTION STATUS: 1 (Actively Procured & Under Contract) | DESIGNATED USE: TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

5.56mm M855 Ball Cartridge

The M855 Ball cartridge was originally designed for use in M249 Squad Automatic Weapon (SAW). Later, the M16A2 Rifle was designed to fire the M855 to achieve commonality of ammunition at a small unit level. Chamber pressures generated by the M855 and the required barrel twist make it unsuitable for use in the M16A1 Rifle. The M855's steel insert is effective against most types of fabric body armor while its three-piece construction achieves good effects against unprotected personnel targets.

Capabilities & Characteristics:

- Projectile Design: Conical steel insert and lead antimony alloy cylindrical core in a copper alloy jacket
- Projectile Mass: 62 grains
- Dispersion: Standard Deviation ≤ 6.8 inches at 600 yards

System Integration:

- M16A2 Rifle
- M16A4 Rifle
- M4/ M4A1 Carbine
- M249 SAW

Configurations:

- **A059**: 10-round clip, military packaging
- **A062**: Linked
- **A064**: 4-M855 Ball/ 1-M856 Tracer, Linked
- Suitable Substitutes:
  - AA33: 10-round clip, commercial packaging
  - AB78: 10-round clip, bulk packaging

Materiel Release: December 1985

Production Partners:

- Olin Winchester (Independence, MO)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

5.56mm M856 Tracer Cartridge

The M855 Ball cartridge was originally designed for use in M249 SAW. Because it loses mass as it travels, the M856 necessitates a 1:7 barrel twist to keep it stable in flight. The chamber pressures generated by the M856 and the required barrel twist make it unsuitable for use in the M16A1 rifle.

Capabilities & Characteristics:

- Projectile Design: Lead alloy core in a copper alloy jacket with incendiary compound fill in a hollow base
- Projectile Mass: 62 grains
- Dispersion: Standard Deviation ≤ 10.3 inches at 600 yards
- Marking: Orange Tip

System Integration:

- M16A2 Rifle
- M16A4 Rifle
- M249 SAW

Configurations:

- **A063**: Linked
- **A064**: 4-M855 Ball/ 1-M856 Tracer, Linked

Materiel Release: March 2013

Production Partners:

- Olin Winchester (Independence, MO)



ACQUISITION CATEGORY: III
ACQUISITION PHASE: PD
PRODUCTION STATUS: 5 – Legacy Item, No active production
DESIGNATED USE: TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

5.56mm M193 Ball Cartridge

The M193 Ball Cartridge was designed during the original M16 Rifle development program and is suitable for use in M16A1 Rifle. It can be safely used in the M16A2 Rifle and newer weapons but will not perform at its optimal level due to the higher barrel twist rate. Like many other lead core rounds, the M193 is effective against unprotected personnel targets.

Capabilities & Characteristics:

- Projectile Design: Lead alloy core in a copper alloy jacket
- Projectile Mass: 55 grains
- Dispersion: Mean radius ≤ 2 inches at 200 yards (from M16A4)
- Marking: None

System Integration:

- M16A1 Rifle
- M16A2 Rifle
- M16A4 Rifle

Configurations:

- **A071**: 10-round clip
- Suitable Substitutes:
  - A066: 20-round carton

Production Partners:

- Olin Winchester (Independence, MO)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

5.56mm M855A1 EPR

The M855A1 Enhanced Performance Round (EPR) Ball was designed for use in M16A2/A4, M4, M249 SAW. The chamber pressures generated by the M855A1 and the required barrel twist make it unsuitable for use in the M16A1. The M855A1's steel penetrator is effective against light armored targets while its three-piece construction maintains operational capabilities against unprotected personnel targets. The M855A1 enhances performance on hard targets/barriers and contains an improved propellant which reduces flash.

Capabilities & Characteristics:

- Projectile Design: Copper Core Steel Penetrator encapsulated in a Reverse-gilded Metal Jacket
- Projectile Mass: 62 grains
- Dispersion: Standard Deviation ≤ 6.3 inches at 600 yards
- Marking: Bronze tip

System Integration:

- M16A2 Rifle
- M16A4 Rifle
- M4/M4A1 Carbine
- M249 SAW

Configurations:

- **AB56**: Linked
- **AB57**: 10-round clip, military pack
- **AB73**: 4-M855A1 Ball/ 1-M856A1 Tracer, Linked
- **AB77**: Clipped, bulk pack
- Suitable Substitutes:
  - AB58: 10-round clip, commercial pack

Materiel Release: June 2010 (Engineering Change Proposal fielding)

Production Partners:

- Olin Winchester (Independence, MO)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

5.56mm M856A1 Tracer Cartridge

M856A1 Tracer was designed as a complement to the M855A1 for use in the M249 SAW. Because it loses mass as it travels, the M856A1 necessitates a 1:7 barrel twist to keep it stable in flight. The chamber pressures generated by the M856A1 and the required barrel twist make it unsuitable for use in the M16A1.

Capabilities & Characteristics:

- Projectile Design: Copper core in copper alloy jacket with incendiary compound fill in hollow base
- Projectile Mass: 57 grains
- Dispersion: Standard Deviation: ≤ 10.3 inches at 600 yards
- Marking: Orange tip

System Integration:

- M16A2, M16A4 Rifle
- M4/M4A1 Rifle
- M249 SAW

Configurations:

- **AB73**: 4-m995A1 Ball/ 1-M856A1 Tracer, Linked
- **AB74**: Single round
- Suitable Substitutes:
  - AB75: 4-M995 AP/ 1-M856A1 Tracer, Linked
  - AB76: 4-M855 Ball/ 1-M856A1 Tracer, Linked

Materiel Release: April 2012 (Engineering Change Proposal fielding)

Production Partners:

- Olin Winchester (Independence, MO)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

5.56mm M200 Blank Cartridge

The M200 Blank cartridge was designed for use in all US 5.56mm weapons: M249 SAW, M16A2/A4 Rifle and M4 Carbine. It cycles the operating parts of these gas-operated weapons when used with the appropriate BFA. It also used for ceremonial purposes without a BFA by manually cycling the weapon.

Capabilities & Characteristics:

- Training use only
- Marking: Purple seal on rosette crimp

System Integration:

- M16A2, M16A4 Rifle
- M4/M4A1 Carbine
- M249 Machine Gun

Configurations:

- **A075**: Linked
- **A080**: Single round

Production Partners:

- Olin Winchester (Independence, MO)



ACQUISITION CATEGORY: III
ACQUISITION PHASE: PD
PRODUCTION STATUS: 1 – Actively Procured & Under Contract
DESIGNATED USE: TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

5.56mm M862 SRTA Cartridge

The 5.56mm SRTA provides a realistic restricted range training alternative to M193/M855 service rounds. The 5.56mm SRTA has a maximum range of 250 meters with a trajectory match and round to round dispersion comparable to the service ammunition out to 25 meters and provides a functional capability when used in the M16 Rifles and M4 Carbines with the M2 Training Bolt. Because of its design, units are now able to train at nearby locations, accruing savings in terms of fuel, troop support, and billeting while increasing the opportunity to train effectively.

Capabilities & Characteristics:

- 5.56mm cartridge with plastic projectile
- Simulates standard 5.56mm ammunition out to 25 meters
- Accuracy: Average Mean Radius ≤ 0.34 inches at 25 meters
- Muzzle Velocity: 4,525 feet per second at 15 feet from muzzle
- Length: 2.26 inches
- Weight: 108 grains

System Integration:

- M16A2, M16A4 Rifle
- M4/M4A1 Carbine with M2 Training Bolt

Configurations:

- **AA68**
- Suitable Substitutes:
  - A065: 5.56mm M862 SRTA
  - AB67: 5.56mm M1037 SRTA (single round, lead-free primer)

Production Partners:

- GDMS (Canada)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

5.56mm CCMCK Cartridges Linked and Unlinked

The Close Combat Mission Capability Kit (CCMCK) is a user-installed weapons modification system that allows the Soldier to employ weapons at a short range for force-on-force training using low velocity marking ammunition while precluding the weapon from firing standard service ammunition.

The system provides normal environmental/weapon employment cues and immediate target feedback through force-on-force, interactive, live-fire scenario task and mission execution. Fail-safe is achieved by utilizing a 3mm offset firing pin design which will only work with the rim fire primer used in the cartridge, but not with a "live" center fire cartridge. In the event a 5.56mm "live" cartridge is chambered and the trigger is pulled, the conversion kit's offset firing pin will strike outside the primer pocket of the 5.56mm "live" round, making it impossible to initiate the primer in the "live" cartridge in the converted weapon.

Capabilities & Characteristics:

- The M4 Carbine/ M16 Rifle Conversion Kit adapts the host weapon to fire unlinked 5.56mm M1042 ammunition.
- The M249 SAW Conversion Kit adapts the host weapon to fire linked 5.56mm M1071 ammunition. Incapable of firing live standard ammunition.

Capabilities & Characteristics (continued):

- Muzzle Velocity:
  - M1042: 499.5 feet per second (when fired from M16); 473.2 feet per second (when fired from M4)
  - M1071: 467.6 feet per second (when fired from M249)
- Weight:
  - M1042: 91.4 grains (cartridge)
  - M1071: 145.4 grains (cartridge)



System Integration:

- M16A2/ M16A4 Rifles
- M4/M4A1 Carbine
- M249 SAW

Configurations:

- **AC39**: M1042 Blue Clipped Marking Cartridge (Lead-free primer)
- **AC40**: M1042 Red Clipped Marking Cartridge (Lead-free primer)
- **AC42:** M1071 Blue Linked Marking Cartridge (Lead-free primer)
- **AC43:** M1071 Red Linked Marking Cartridge (Lead-free primer)
- **AB09**: M1042 blue marking, single round
- **AB10**: M1042 red marking, single round
- **AB16**: M1071 blue marking, linked
- **AB17**: M1071 red marking, linked
- Suitable Substitutes:
  - AB11: M1042 yellow marking, single round
  - AB15: M1071 yellow marking, linked



Materiel Release: June 2009

Production Partners:

- Ultimate Training Munitions



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

5.56mm M1037 SRTA Cartridge

The M1037 SRTA provides the capability to conduct training with a reduced Surface Danger Zone with the M16A1/A2 Rifle, M4 Carbine, and M249 SAW systems.

The M1037 will replace the M862 SRTA round and will not require weapon modification during training. (The existing M862 SRTA round was not designed for use with the M249 SAW; use of the round also required the user to replace the M16A2/M4 service bolt with the M2 training bolt.)

Capabilities & Characteristics:

- 5.56mm cartridge with copper nylon projectile
- Simulates standard 5.56mm ammunition out to 100 meters
- Height: 2.26 inches
- Weight: 33 grains (bullet)
- Muzzle Velocity: 3,848 feet per second
- Accuracy: Average Mean Radius ≤ 3.54 inches at 110 yards
- Penetration: None, frangible
- Chamber Pressure: 40,000 pounds per square inch
- Action Time: 1.26 milliseconds (maximum)

System Integration:

- M16A1/ M16A2 Rifle
- M4 Carbine
- M249 SAW

Configurations:

- **AB66**: Linked
- **AB67**: Single/Clipped round (Lead Free)
- **AC10**: Linked (Lead Free)



Production Partners:

- GDMS (Canada)

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

5.56mm M1037 SRTA Cartridge, Clipped

The 5.56mm M1037 SRTA Clipped, functions without the need of a special training bolt or modification to the weapon systems. The 5.56mm M1037 SRTA, Clipped, is used with the M16A4 Rifle and M4 Carbine.

Capabilities & Characteristics:

- Lead-free primer
- Height: 2.26 inches
- Weight: 33 grains (bullet)
- Muzzle Velocity: 3,848 feet per second
- Accuracy: Average Mean Radius ≤ 3.54 inches at 110 yards
- Penetration: None, frangible
- Chamber Pressure: 40,000 pounds per square inch
- Action Time: 1.26 milliseconds (maximum)

System Integration:

- M16A2/ M16A4 Rifles
- M4 Carbine

Configurations:

- **AB67**
- Suitable Substitutes:
  - AB66: 5.56mm M1037 SRTA, Linked (Lead Primer)

Production Partners:

- GDMS (Canada)



ACQUISITION CATEGORY: III
ACQUISITION PHASE: PD
PRODUCTION STATUS: 1 – Actively Procured & Under Contract
DESIGNATED USE: TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

5.56mm MK 311 Mod 3 Jacketed Frangible Cartridge

The 5.56mm Jacketed Frangible, MK 311 is required for use against soft targets, close quarter battles without collateral damage, and for training. The cartridge utilizes a frangible projectile designed to disintegrate into small fragments upon impact, minimizing over-penetration and ricochet hazards.

Capabilities & Characteristics:

- Projectile Design: Reverse drawn; copper jacket filled with a frangible copper/ polymer matrix core/ tip
- Projectile Mass: 50 grains
- Dispersion: Extreme spread ≤ 6 inches at 100 yards

System Integration:

- M4A1
- Functional across 5.56mm weapon platforms

Configurations:

- **AA40**

Materiel Release: August 2023 through USMC Materiel Release Process

Production Partners:

- The Kinetic Group (Anoka, MN)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING UNIQUE & OTHER

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

5.56mm M197A1 HPT Cartridge

The High Pressure Test (HPT) cartridge is intended for use in proof testing caliber 5.56mm weapons during manufacture, test or repair and other RDT&E efforts. This demonstrates the ability of the barrel to withstand higher than normal operational pressures to assure the weapon is safe to use.

Capabilities & Characteristics:

- Length: 2.280 inches
- Weight: 207 grains
- Chamber Pressure: 73,000 pounds per square inch
- Action Time: 4 milliseconds (maximum)

System Integration:

- Every new 5.56mm barrel used during RDT&E efforts

Configurations:

- **AC04**

Production Partners:

- Olin Winchester (Independence, MO)











DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

6.8mm M1192 Blank Cartridge

Intended for training use and weapon familiarization. Cartridge case consists of brass body and steel head with no projectile.

The M1192 cartridge requires users to change the service bolt to the training bolt and install a blank firing adapter, both of which are issued with each weapon as part of the Blank Firing Modification Kit (BFMK). The service and blank bolts will only fire their respective cartridges.

Capabilities & Characteristics:

- Height: 2.550 inches
- Weight: 204 grains

System Integration:

- M7 with BFMK (AC82)
- M250 with BFMK (AC83)

Configurations:

- **AC82**: Single round
- **AC83**: Linked

Materiel Release: Urgent Materiel Release MAR 2024. Full Materiel Release projected 2QFY26

Production Partners:

- DEVCOM-AC (Picatinny Arsenal, NJ)
- Sig Sauer
- Olin Winchester



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

6.8mm M1186 GP Ball Cartridge

The 6.8mm M1186 GP cartridge provides advanced performance against personnel and light materiel targets.

Bullet consists of gilded metal jacket with a copper core and exposed steel penetrator. Cartridge case consists of brass body and steel head.

Capabilities & Characteristics:

- Height: 2.825 inches
- Weight: 335 grains
- Velocity: 3,159 feet per second at 78 feet
- Dispersion: ≤ 2.61 inches at 200 yards

System Integration:

- M7 (AC84)
- M250 (AC85)

Configurations:

- **AC84**: GP Ball
- **AC85**: GP Linked

Materiel Release: Urgent Materiel Release MAR 2024. Full Materiel Release projected 2QFY26

Production Partners:

- DEVCOM-AC (Picatinny Arsenal, NJ)
- DEVCOM-ARL
- Project Manager Soldier Lethality (PM SL)
- U.S. Army Test and Evaluation Center (ATEC)
- Sig Sauer
- LCAAP (Independence, MO)



ACQUISITION PHASE: MSA

PRODUCTION STATUS: 2 – Transition to Production within 5 years

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

6.8mm XM1188 RRA Training Cartridge

The 6.8mm Reduced Range Ammunition (RRA) cartridge is a training cartridge for ranges with limited surface danger zone to support the NGSW System Rifle.

Bullet is solid copper. Cartridge case consists of brass body and steel head.

Capabilities & Characteristics:

- Height: 2.795 inches
- Weight: 328 grains
- Velocity: 3,135 feet per second
- Dispersion: ≤ 2.61 inches at 200 yards

System Integration:

- M250 (AC87)
- M7 (AC86)

Configurations:

- **AC87**: Linked
- **AC86**: Single round

Materiel Release: Urgent

Materiel Release MAR 2024.

Production Partners:

- DEVCOM-AC (Picatinny Arsenal, NJ)
- Sig Sauer
- LCAAP (Independence, MO)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

6.8mm CCMCK Cartridge

NGSW CCMCK is a user installed weapons modification system that allows the Soldier to employ their individual weapon (NGSW-R and NGSW-AR) at short-range using low velocity marking ammunition while precluding the weapon from firing standard service ammunition.

This round will mark with a blue color.

System Integration:

- XM7 with CCMCK

Configurations:

- **AXX5**

Materiel Release: Fiscal Year 2029, 4th Quarter Full Materiel Release (projected)

Production Partners:

- DEVCOM-AC (Picatinny Arsenal, NJ)
- Sig Sauer

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

7.62mm M993 AP Cartridge

The M993 AP cartridge was designed for use in 7.62mm weapons: M24 Rifle, M14 Rifle, M240/ 240B Machine Gun. The M993 AP cartridge, marked with a black tip, is linked with Tracer and DT cartridges for machine gun use.

The projectile consists of a tungsten carbide penetrator contained in an aluminum cup and jacketed by copper clad steel. Use of a shaped tungsten core provides enhanced armor penetration and effective means of suppression, representing a key improvement versus the current 7.62mm Ball service round. It will penetrate 7 millimeters of High Hardness Armor (HHA) at 500 meters

Capabilities & Characteristics:

- Projectile Design: Tungsten-cobalt core centered by aluminum cup
- Accuracy: Average Mean Radius ≤ 6.0 inches at 600 yards
- Muzzle Velocity: 2,986 feet per second at 78 feet
- Action Time: 4 milliseconds (maximum)
- Height: 2.8 inches
- Weight: 362.6 grains
- Projectile Mass: 128 grains
- Berndan primer and copper alloy jacket
- Penetration: 7mm HHA at 500 meters

System Integration:

- M24 Rifle
- M14 Rifle
- M240 Series Machine Guns

Configurations:

- **AA04**: 4-M993 AP/ 1-M62 Tracer, Linked
- **AA03:** M993, 20 round carton pack
- **AA34:** 9-M993 AP/ 1-M276 DT, Linked
- **AA35:** 4-M993 AP/ 1-M276 DT, Linked
- **AA36:** 9-M993 AP/ 1-M62 Tracer, Linked

Materiel Release: October 1999

Production Partners:

- Nordic Ammunition Group (Nammo) (Raufoss, Norway)





DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

7.62mm M1158 ADVAP Cartridge

The M1158 is designed with Advanced Armor Piercing (ADVAP) technology which is meant to close the emerging capability gap versus relevant threats, especially for peer/ near peer engagements.

Capabilities & Characteristics:

- Provides significant defeat capabilities versus various protected, unprotected, and barrier targets

System Integration:

- M240 Series Machine Guns
- M14 Rifle
- M110 Rifle

Configurations:

- **AC09**: 4-M1158/ 1-M62A1 Tracer, Linked
- **AC35**: M1158, 20 round carton pack

Materiel Release: December 2019

Production Partners:

- DEVCOM-AC (Picatinny Arsenal, NJ)
- Olin Winchester (Independence, MO)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE WAR RESERVE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

7.62mm M80 Ball Cartridge

M80 Cartridge is for combat and training. Both copper alloy and copper alloy clad steel jackets are permissible for the M80.

Capabilities & Characteristics:

- Accuracy: Average Mean Radius ≤ 7.5 inches at 600 yards
- Muzzle Velocity: 2,750 feet per second at 78 feet from muzzle
- Action Time: 4 milliseconds (maximum)
- Height: 2.80 inches
- Weight: 392 grains

System Integration:

- M134 Minigun
- M240 series Machine Guns
- M14 Rifles

Configurations:

- **A164**: M80, Linked
- **A122**: M80, 20 round carton pack
- **A130**: M80, 5 round clip
- **A143**: M80, Linked

Production Partners:

- Olin Winchester (Independence, MO)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

7.62mm M80 Ball/ M62 Tracer, Linked

This configuration of M80 and M62 can be used for both combat and training.

These cartridges are for use in MG Series M240. Both copper alloy and copper alloy clad steel jackets are permissible for the M80 and M62 bullets. The tracer in the M62 enables the shooter to follow the projectile trajectory to make aiming corrections.

Capabilities & Characteristics:

- Accuracy:
  - M80: Average Mean Radius ≤ 7.5 inches at 600 yards
  - M67: Average Mean Radius ≤ 15 inches at 600 yards
- Muzzle Velocity:
  - M80: 2,750 feet per second at 78 feet
  - M62: 2,670 feet per second at 78 feet
- Action Time: 4 milliseconds (maximum)
- Height: 2.80 inches
- Weight:
  - M80: 392 grains
  - M62: 383 grains

System Integration:

- M240 Series Machine Guns
- M134 Minigun

Configurations:

- **A131**: 4-M80/ 1-M62, Linked, 800 rounds per belt
- **A165**: 4-M80/ 1-M62, Linked, 750 rounds per belt
- **A168**: 9-M80/ 1-M62, Linked, 1,500 rounds per belt

Production Partners:

- Olin Winchester (Independence, MO)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

7.62mm M80 Ball/ M276 Dim Tracer, Linked

This configuration of M80 and M276 cartridges can be used for both combat and training.

The signature produced by the M276 DT cartridge is only visible with Night Vision Goggles, significantly reducing the potential for detection of US Troops by the enemy. Both copper alloy and copper alloy clad steel jackets are permissible for the M80 and M276 bullets.

Capabilities & Characteristics:

- Accuracy:
  - M80: Average Mean Radius ≤ 7.5 inches at 600 yards
  - M276: Average Mean Radius ≤ 15 inches at 600 yards
- Muzzle Velocity:
  - M80: 2,750 feet per second at 78 feet
  - M276: 2,670 feet per second at 78 feet
- Action Time: 4 milliseconds (maximum)
- Height: 2.80 inches
- Weight:
  - M80: 392 grains
  - M276: 381 grains

System Integration:

- M240 series Machine Gun
- M134 Minigun

Configurations:

- **A255**: 4-M80/ 1-M276, Linked
- **A257**: 9-M80/ 1-M276, Linked

Materiel Release: May 2012

Production Partners:

- Olin Winchester (Independence, MO)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

7.62mm M118 Special Ball Long Range Cartridge

The 7.62mm M118 Special Ball Long Range cartridge is intended and specifically prepared for use in weapons designated as competition or sniper rifles such as M24, M110, and M14. The M118 cartridge has a plain bullet tip, does not have a bullet cannelure and its case mouth is not crimped.

Capabilities & Characteristics:

- Provided improved accuracy at extended ranges
- Accuracy:
  - Average Horizontal Spread ≤ 10.3 inches at 1,000 meters
  - Average Vertical Spread ≤ 14 inches at 1,000 meters
- Muzzle Velocity: 2,575 feet per second at 78 feet
- Average Chamber Pressure: ≤ 60,000 pounds per square inch at 70°F
- Action Time: 4 milliseconds (maximum)
- Height: 2.83 inches
- Weight: 390 grains

System Integration:

- M24 Rifle
- M110 Rifle
- M14 Rifle

Configurations:

- **AA11:** M118LR, 20 round carton pack

Production Partners:

- Olin Winchester (Independence, MO)



ACQUISITION CATEGORY: III | ACQUISITION PHASE: PD | PRODUCTION STATUS: 1 (Actively Procured & Under Contract) | DESIGNATED USE: TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

7.62mm M80A1 Ball Cartridge

The M80A1 is used in both combat and training. The bullet consists of copper alloy jacket with an exposed steel penetrator to improve performance against hard and soft targets.

Capabilities & Characteristics:

- Accuracy: Average Mean Radius ≤ 7.5 inches at 600 yards
- Muzzle Velocity: 3,050 feet per second at 78 feet from muzzle
- Action Time: 4 milliseconds (maximum)
- Height: 2.80 inches
- Weight: 372 grains

System Integration:

- M240 Machine Gun
- M14 Rifle
- M134 Minigun

Configurations:

- **AB79**: M80A1, Linked
- **AB82**: M80A1, 20 round carton pack
- **AB80**: M80A1, 5 round clip
- **AB81**: M80A1, Linked

Production Partners:

- Olin Winchester (Independence, MO)



ACQUISITION CATEGORY: III | ACQUISITION PHASE: PD | PRODUCTION STATUS: 1 Actively Procured & Under Contract | DESIGNATED USE: TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

7.62mm M80A1 Ball/ M62A1 Tracer, Linked

The M80A1 Ball/ M62 Tracer configuration is used in both combat and training.

The M80A1 bullet consists of copper alloy jacket with an exposed steel penetrator to improve performance against hard and soft targets. The M62A1 bullet contains a copper alloy jacket and copper slug. The tracer in the M62A1 enables the shooter to follow the projectile trajectory to make aiming corrections.

Capabilities & Characteristics:

- Accuracy: Average Mean Radius ≤ 6.5 inches at 600 yards
- Muzzle Velocity: 2,925 feet per second at 78 feet from muzzle
- Action Time: 4 milliseconds (maximum)
- Height: 2.80 inches
- Weight: 372 grains

System Integration:

- M240 series Machine Gun
- M134 Minigun

Configurations:

- **AB86:** 4-M80A1/ 1-M62A1, Linked
- **AB88:** 4-M80A1/ 1-M62A1, Linked
- **AB89:** 9-M80A1/ 1-M62A1, Linked

Production Partners:

- Olin Winchester (Independence, MO)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

7.62mm M80A1 Ball/ M1161 Tracer, Linked

The M80A1 Ball/ M1161 Tracer configuration is used in both combat and training.

The M80A1 bullet consists of copper alloy jacket with an exposed steel penetrator to improve performance against hard and soft targets. The M1161 bullet contains a copper alloy jacket and expose penetrator to increase lethality. The tracer in the M1161 minimizes visual signature to the enemy preventing localization of the shooter. Enable the shooter to follow the projectile trajectory to make aiming corrections and is a closer match to M80A1.

Capabilities & Characteristics:

- Accuracy: Average Mean Radius ≤ 6.5 inches at 600 yards
- Muzzle Velocity: 3,149 feet per second at 78 feet from muzzle
- Action Time: 4 milliseconds (maximum)
- Height: 2.80 inches
- Weight: 372 grains

System Integration:

- M240 series Machine Gun
- M134 Minigun

Configurations:

- **AC86:** 4-M80A1/ 1-M62A1, Linked

Production Partners:

- Olin Winchester (Independence, MO)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

SMALL CALIBER AMMUNITION: 7.62mm

7.62mm M80 Ball/ M62 Tracer, Linked for Overhead Fire

This configuration of M80 and M62 cartridges is intended to be used in weapons for firing over the heads of troops being trained in field exercises. It can also be used in combat. These cartridges are used in M240 Series MGs and do not contain a base closure disk and is limited to a copper alloy jacket that is less prone to stripping to improve safety.

The bullet consists of a copper alloy jacket with a lead antimony slug. The tracer in the M62 enables the shooter to follow the projectile trajectory to make aiming corrections.

Capabilities & Characteristics:

- Accuracy:
  - M80: Average Mean Radius ≤ 7.5 inches at 600 yards
  - M62: Average Mean Radius ≤ 9 inches at 600 yards
  - The extreme spread of each target of the sample cartridges shall not be greater than 45 inches
- Action Time: 4 milliseconds (maximum)
- Height: 2.80 inches
- Weight: 392 grains

System Integration:

- M240 series Machine Guns

Configurations:

- **A151**: 4-M80/ 1-M62, Linked

Production Partners:

- Olin Winchester (Independence, MO)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

7.62mm M82 Blank Cartridge, Linked

The M82 Blank cartridge is a training unique round, not used in combat. Used in 7.62mm rifles and machine guns with a BFA, this round is used to simulate live firing in training exercises.

Capabilities & Characteristics:

- Muzzle Flash: Visible 100 yards from weapon in darkness
- Screen Perforation: 1-inch diameter at 15 feet from muzzle
- Height: 2.595 inches
- Weight: 234.5 grains
- Uses M13 links

System Integration:

- M240 series Machine Guns

Configurations:

- **A111:** M82, Linked

Production Partners:

- Olin Winchester (Independence, MO)



ACQUISITION CATEGORY: III

ACQUISITION PHASE: PD

PRODUCTION STATUS: 1 – Actively Procured & Under Contract

DESIGNATED USE: TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

7.62mm M973/ M974 SRTA Cartridges

M973 SRTA Ball and M974 SRTA-T cartridge consist of standard cartridge cases, propellant and special projectile.

Due to unique aerodynamic design, the projectile exhibits substantially reduced effective and maximum range while simulating short range trajectory characteristics of its service grade counterpart. The result is ballistic match of 7.62mm M80 Ball/ M62 Tracer out to 100 meters with a maximum range of 600 meters, providing realistic training alternative on restricted ranges.

These cartridges are intended for use in M240 machine guns with no ancillary hardware or adapters. The tracer produces a visual daylight out to 100 meters. The projectiles are also frangible, which minimizes damage to MOUT training facilities.

Capabilities & Characteristics:

- Ballistic match to tactical ammunition out to 100 meters
- Suitable for restricted ranges
- Minimizes damage to MOUT training facilities
- Accuracy: Average Maximum Mead Radius ≤ 12cm at 100 meters
- Height: 2.8 inches
- Weight: 300 grains

System Integration:

- M240 series Machine Guns

Configurations:

- **AA37** – Linked 4 Ball (M973)/1 Trace (M974) Ammunition
- **AB60** – Linked Ball Ammunition

Materiel Release: January 2011

Production Partners:

- GDMS (Canada)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

7.62mm M1164/ M1165 Reduce Range Cartridges

The maximum range of current combat ammunition exceeds limits on training installations thus restricting individual and collective live fire training. The 7.62mm RRA round will mitigate training gaps by providing ammunition with reduced maximum flight distance for use on military installations with surface danger zone restrictions. The round utilizes a two-piece projectile, with a steel core with fins and copper jacket that increases aerodynamic drag.

Capabilities & Characteristics:

- Ballistic match to tactical ammunition out to 600 meters
- Suitable for restricted ranges
- Minimizes damage to MOUT training facilities
- Accuracy: Average Mead Radius ≤ 16" at 600 yards
- Velocity: 3050 feet per second at 78 feet
- Height: 2.8 inches
- Weight: 340 grains
- Max Range: 2400 meters

System Integration:

- M240 series Machine Guns

Configurations:

- **AC81–** Linked 4 Ball: 1 Trace; (M1164)/M1165 Trace
- **AC80** – Linked Ball Ammunition

Materiel Release: July 2026

Production Partners:

- Nammo



ACQUISITION CATEGORY IV | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

7.62mm M82A1 Blank Cartridge

The M82A1 blank cartridge is a training unique round, used for ceremonial applications and sniper training. The cartridge is used in the M14 rifle without a BFA.

Capabilities & Characteristics:

- Muzzle Flash: Visible 100 yards from weapon in darkness
- Screen Perforation: 1 inch diameter at 15 feet from muzzle (maximum)
- Height: 2.595 inches (maximum)
- Weight: 234.5 grains

System Integration:

- M14 Rifle

Configurations:

- **AB72:** M82A1, 20 round carton pack

Materiel Release: December 1985

Production Partners:

- Olin Winchester (Independence, MO)



ACQUISITION CATEGORY: III

ACQUISITION PHASE: PD

PRODUCTION STATUS: 1 – Actively Procured & Under Contract

DESIGNATED USE: TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

9mm M1152 Ball Cartridge

The M1152 Ball Cartridge is used for training, force protection, and combat. The only difference between the two DODICs is the packaging.

The AC20 utilizes military-grade packaging that allows it to be transported to troops overseas. The AC22 utilizes commercial packaging and can be shipped only within CONUS.

Capabilities & Characteristics:

- Cartridge Length: 1.130 inches
- Powder: WPR-289
- Powder Weight: 6.0 grains
- Bullet Weight: 115 grains
- Bullet Length: 0.610 inches
- Bullet Velocity: 1,300 feet per second measured at 15 feet
- Accuracy: Average maximum mean radius ≤ 1.1 inches at 50 meters

System Integration:

- M17 Pistol
- M18 Pistol

Configurations:

- **AC20**: Military pack
- **AC22**: Commercial pack
- Suitable Substitutes:
  - A363: 9mm M882 Ball
  - AA49: 9mm M882 Ball (commercial pack)
  - AC22: 9mm M1152 Ball (commercial pack)

Materiel Release: June 2019

Production Partners:

- Olin Winchester (Alton, IL)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

9mm M1153 SP Cartridge

The M1153 Special Purpose (SP) Cartridge, designed for the Modular Handgun System (MHS), is required for use in situations where high lethality and limited target over-penetration are necessary to meet mission profile. Ammunition is designed to expand and incapacitate more effectively than issued ball ammunition.

Capabilities & Characteristics:

- Cartridge Overall Length: 1.130 inches
- Powder: SMP226
- Powder Weight: 5.0 grains (average)
- Bullet Weight: 147 grains
- Bullet Length: 0.659 inches
- Velocity: 990 feet per second at 16.4 yards
- Accuracy: Average maximum mean radius ≤ 1.1 inches at 50 meters

System Integration:

- M17 Pistol
- M18 Pistol
- 9mm ACP9K Submachine Gun

Configurations:

- **AC23**: Commercial pack
- **AC21**: Military pack

Materiel Release: June 2019

Production Partners:

- M1153 Manufacturer: Olin-Winchester (Oxford, MS)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

9mm M1041 CCMCK Cartridges

Close Combat Mission Capability Kit (CCMCK) is a user installed weapons modification system that allows the soldier to employ weapons at a short range for force-on-force training using low velocity marking ammunition while precluding the weapon from firing standard service ammunition. The system will provide normal environmental/weapon employment cues and immediate target feedback through force-on-force, interactive live fire scenario task, and mission execution.

The 9mm conversion kit utilizes a smaller bore diameter and chamber shape to preclude the weapon from firing a combat cartridge. Live round lockout is achieved by using a chamber design that has insufficient head space for the weapon's standard caliber "live" round to fully chamber.

Capabilities & Characteristics:

- The Conversion Kit Pistol Adaptors are designed for firing 9mm M1041 cartridges
- Incapable of firing live standard ammunition
- Dispersion: ≤ 4 inches at 12 meters from muzzle

System Integration:

- M9 Pistol
- M11 Pistol
- M4 Pistol (AC36/AC37)
- MHS M17/M18

Configurations:

- **AC36**: M1041 blue marking (lead free primer)
- **AB37**: M1041 red marking
- **AC37**: M1041 red marking (lead free primer)
- Suitable Substitutes:
  - AB13: 9mm M1040 Marking (Blue)
  - AB14: 9mm M1040 Marking (Red)

Materiel Release: June 2009

Production Partners:

- GDMS (Canada)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

9mm M1157 Blank Cartridge

Mimics the sound of the 9mm M1153 Special Purpose to familiarize Military Working Dogs during training to the sound of gun fire. Used in soldier training.

Capabilities & Characteristics:

- Requires use of the MHS Blank Firing Kit

System Integration:

- M17 Pistol
- M18 Pistol

Configurations:

- **AC60**

Materiel Release: February 2024

Production Partners:

- UTM (Sub-vendor to Olin Winchester)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

9mm M882 Ball Cartridge

The M882 Ball Cartridge is used for training, force protection, and combat and is compatible with all NATO 9mm weapons. The only difference between the two DODICs is the packaging.

The A363 utilizes military-grade packaging that allows it to be transported to troops overseas. The AA49 utilizes commercial packaging and can be shipped only within CONUS.

Capabilities & Characteristics:

- Cartridge Length: 1.165 inches
- Powder: WPR-289
- Powder Weight: 6.0 grains
- Bullet Weight: 124 grains
- Bullet Length: 0.610 inches
- Velocity: 1,260 feet per second at 16.4 yards
- Accuracy: Average maximum mean radius ≤ 1.5 inches at 50 meters

System Integration:

- M9 Pistol
- M11 Pistol

Configurations:

- **A363**: Military pack
- **AA49**: Commercial pack
- Suitable Substitutes:
  - AC20: 9mm M1152 Ball (military pack)
  - AC22: 9mm M1152 Ball (commercial pack)

Materiel Release: January 1987

Production Partners:

- Olin Winchester (Oxford, MS)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

9mm MK 243 Mod 0 JHP Cartridge

The 9mm Jacketed Hollow Point (JHP) cartridge is required for use in situations where high lethality and limited over-penetration of target are necessary to meet mission profile. This ammunition is critical for providing enforcement agents with means to rapidly incapacitate dangerous criminals in situations warranting the use of deadly force. The ammunition is designed to expand and incapacitate more effectively than presently issued ball ammunition. It also reduces risk of injury to innocent bystanders from over penetration of target.

Capabilities & Characteristics:

- Increased lethality, reduced over penetration of personnel targets, restricted to Law Enforcement use (Hollow Point ammunition banned by International Treaties for Military Conflict)
- 147 grain JHP ammunition
- 25 percent lower velocity than M882 Ball
- All U.S. Army stocks placed in ammunition condition code B (restricting use to U.S. Army law enforcement in CONUS, Hawaii, Alaska, and the U.S. Territories)

System Integration:

- M9 Pistol
- MP5N Submachine Gun

Configurations:

- **A260**

Materiel Release: April 2006

Production Partners:

- M1153 Manufacturer: Olin-Winchester (Oxford, MS)



ACQUISITION CATEGORY: III
ACQUISITION PHASE: OS
PRODUCTION STATUS: 5 — Legacy Item, No active production
DESIGNATED USE: WAR RESERVE & OTHER

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

9mm MK 254 Mod Frangible Cartridge

MK 254 Mod Frangible Cartridge is used for pistol training. The frangible nature allows the user to train with little risk of collateral damage to surrounding structures like a shoot house.

Capabilities & Characteristics:

- Cartridge Length: 1.130 inches
- Powder: WPR-289
- Powder Weight: 6.07 grains
- Bullet Weight: 90 grains
- Bullet Length: 0.610 inches
- Bullet Velocity: 1,300 feet per second measured at 15 feet
- Bullet Accuracy: Average maximum mean radius ≤ 1.1 inches at 50 meters

System Integration:

- M9 Pistol
- M11 Pistol
- M18 Pistol
- Glock 19
- Glock 26
- APC9K
- MP5

Configurations:

- **AA16**

Materiel Release: April 2003

Production Partners:

- Olin Winchester (Oxford, MS)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD & OTHER

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

MEDIUM CALIBER AMMUNITION: 20mm

20mm M940 MPT-SD Cartridge

The M940 Multipurpose Tracer - Self Destruct (MPT-SD) cartridge has a delayed reaction after impact that results in large fragments and incendiary effects inside a threat. Enhanced projectile contains tungsten penetrators to increase lethality.

The traced projectile has a self-destruct capability that minimizes collateral surface damage from engagement of airborne threats. The M940 cartridge was originally developed for the U.S. Army's extinct Vulcan Air Defense System (VADS). The M940 was resurrected by the U.S. Army Counter-Rocket, Artillery, and Mortar (C-RAM) program. The M940 is employed against rockets, artillery shells, and mortar rounds.

Capabilities & Characteristics:

- Originally designed to defeat aircraft at ranges up to 2,000 meters
- Land-based Phalanx Weapon System (C-RAM) to employ M940 against rockets, artillery shells, and mortar rounds
- Tracer, Multi-purpose cartridge with self-destruct
- Pyrotechnic initiated explosive (PIE)
- Steel projectile body filled with HE and incendiary mix
- Overall Cartridge Length: 156.6mm
- Propellant Type: WC 866
- Primer: M52A3B1 Electric
- Effective Range: 2,000 meters
- Length: 156.6mm

System Integration:

- Land-based Phalanx Weapon System with M61A Gatling Gun

Configurations:

- **AB07**
- **AC34**: with MK 7 Link
- Suitable Substitutes:
  - AC18: 20mm M55A2 TP w/ MK 7 Link

Production Partners:

- GD-OTS (Marion, IL)
- NGDS (Plymouth, MN)



ACQUISITION CATEGORY: III | ACQUISITION PHASE: PD | PRODUCTION STATUS: 4 (No Production Planned Within 10 Years) | DESIGNATED USE: WAR RESERVE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

MEDIUM CALIBER AMMUNITION: 20mm

20mm M55A2 TP Cartridge

The M55A2 Target Practice (TP) with MK7 Link cartridge is ballistically matched to the M56 HEI cartridge. The C-RAM platform has ability to adjust ballistics to utilize the M55A2 as a training cartridge in lieu of the M940 tactical cartridge.

Capabilities & Characteristics:

- Effective Range: 2,000 meters
- Length: 168mm
- Velocity: 1,030 meters per second
- Primer: Electric
- MK 7 Link

System Integration:

- Land-based Phalanx Weapon System with M61A Gatling Gun

Configurations:

- **AC18**
- Suitable Substitutes:
  - AB07: 20mm M940/ MK 7 MP-T-SD, Linked
  - AC18: 20mm M55A2 TP w/MK 7 Link

Production Partners:

- GD-OTS (Marion, IL)
- NGDS (Plymouth, MN)



ACQUISITION PHASE: PD

PRODUCTION STATUS: 1 – Actively Procured & Under Contract

DESIGNATED USE: TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

MEDIUM CALIBER AMMUNITION: 20mm

20mm PGU-28A/B SAPHEI Cartridge

The 20mm Projectile Gun Unit (PGU)-series Semi-Armor Piercing High Explosive Incendiary (SAPHEI) munitions are an improvement over M50 series cartridges. The projectiles in this family have an optimized aeroballistics shape that reduces time of flight and increases velocity at range for increased probability of hit. The PGU-28 A/B is used in both air-to-air and air-to-ground applications due to its armor penetrating capability.

Capabilities & Characteristics:

- Effective against soft and light armored targets
- Penetration: Probable ballistic limit of 2,786 feet per second against 0.375-inch armor at 0°
- Overall Length: 168mm
- Propellant: WC 868 Ball Powder
- Primer: M52A3B1 Electric
- Incendiary:
  - Nose: RS 41
  - Body: RS 40
- Body Explosive: Composition A4
- Muzzle Velocity: 3,410 feet per second
- Case Mouth Pressure: 61,500 pounds per square inch
- Action Time: 4.0 milliseconds
- Accuracy: Average mean radius = 15 inches at 500 yards

System Integration:

- M61 series aircraft gun systems (linked and link-less)
- M197 series aircraft gun systems (linked and link-less)

Configurations:

- **AA23**: Linked
- **AA22**: Single round

Production Partners:

- GD-OTS (Marion, IL)
- NGDS (Plymouth, MN)



ACQUISITION CATEGORY III

ACQUISITION PHASE PD

PRODUCTION STATUS 1 Actively Procured & Under Contract

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

20mm PGU-27A/B Cartridge

The 20mm PGU-series munitions are an improvement over M50 series cartridges. The projectiles in this family have an optimized aeroballistics shape that reduces time of flight and increases velocity at range for increased probability of hit. PGU-27A/B TP is the cost-effective training cartridge that is ballistically matched to the PGU-28 A/B.

Capabilities & Characteristics:

- PGU-27 A/B used as training cartridge for PGU-28 A/B SAPHEI round
- Overall Length: 6.615 inches
- Propellant: WC 868 Ball Powder
- Primer: M52A3B1 Electric
- Type classified and fielded in F14, F15, F16, F/A-18, and AH-1 aircraft
- Muzzle Velocity: 3,410 feet per second
- Case Mouth Pressure: 61,500 pounds per square inch (maximum)
- Action Time: 4.0 milliseconds
- Accuracy: Average mean radius = 15 inches at 500 yards

System Integration:

- 20mm x 102mm Gun Systems

Configurations:

- **AA24**: PGU-27A/B, Single round
- **AA25**: PGU-27A/B, Linked
- **AA27**: PGU-27A/B TP/ PGU-30A/B TP-T, Linked

Production Partners:

- GD-OTS (Marion, IL)
- NGDS (Plymouth, MN)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

MEDIUM CALIBER AMMUNITION: 20mm

20mm MK 244 Mod 0 APDS-EHC Cartridge

The round was developed for the improved MK 15 Phalanx Block 1B and is designed for use only in the Optimized Gun Barrels (OGB). The MK 244 Armor Piercing Discarding Sabot-Enhanced Lethality Cartridge (APDS-EHC) uses an optimized tungsten penetrator that produces a higher kinetic energy on target, extending the effective range against high-speed anti-ship missile threats as well as surface threats. The round is currently being fielded by the U.S. Navy and is available for international Navies upgrading to the MK 15 Block 1B Phalanx.

Capabilities & Characteristics:

- The MK 44 projectile dispersion is 40% less than MK 149, producing lower CEP with increased probability of hit
- Overall Length: 6.615 inches (168mm) (maximum)
- Cartridge Weight: ~4,640 grains
- Projectile Weight: ~1,950 grains
- Propellant Weight: ~815 grains
- Propellant Type: Double Base Ball/ OBP-888
- Cartridge Case Material: Brass
- Primer: M52A3B1 Electric
- Muzzle Velocity: 3,610 feet per second at 78 feet from muzzle
- Chamber Pressure: ≤ 61,400 pounds per square inch (ambient)
- Dispersion: Average mean radius ≤ 0.75 milliradians at 78 feet
- MK 7 Link

System Integration:

- All 20mm x 102mm gun systems
- MK 15 Phalanx Block 1B (OGB)

Configurations:

- **AA61**

Production Partners:

- GD-OTS (Marion, IL)
- NGDS (Plymouth, MN)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

MEDIUM CALIBER AMMUNITION: 25mm

25mm M792 HEI-T Cartridge

The M792 High Explosive Incendiary with Tracer HEI-T cartridge was developed as part of the original Bradley Fighting Vehicle System (BFVS) to engage enemy personnel, lightly armored vehicles to include Soviet type personnel carriers, weapon emplacements, and to conduct reconnaissance by fire. It is fired from M242 auto gun mounted on US Army M2/M3 BFVS or US Marine Corps Light Armored Vehicle (LAV)-25

Capabilities & Characteristics:

- Effective against personnel
- Effective against light structures
- Effective against light vehicles
- Typical Dispersion: 0.50 mils x 0.50 mils
- Muzzle Velocity: 1,100 meters per second
- Chamber Pressure: 496 MegaPascals (maximum)
- Self-destructs at 6.2 seconds

System Integration:

- M242, KBA, M811, GAU-12A Cannons
- Mounted on U.S. Army BFV and USMC LAV-25

Configurations:

- **A975**

Materiel Release: March 1989

Production Partners:

- GD-OTS (Marion, IL)
- NGDS (Plymouth, MN)



ACQUISITION CATEGORY: III | ACQUISITION PHASE: OS | PRODUCTION STATUS: 1 (Actively Procured & Under Contract) | DESIGNATED USE: WAR RESERVE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

MEDIUM CALIBER AMMUNITION: 25mm

25mm M919 APFSDS-T Cartridge

The25mm M919 Armor Piercing, Fin Stabilized, Discarding Sabot- Training (APFSDS-T) cartridge was developed to counter the growing light armor vehicle threat. It is the primary medium caliber service round for armor piercing for the US Army and provides a significant increase in lethality compared to the 25mm M791 APDS-T cartridge.

It is used in M242 automatic cannon which is turret mounted on M2 or M3 Bradley Fighting Vehicles and the USMC LAV-25. The cartridge has a steel case crimped to a projectile assembly. The projectile assembly consists of a depleted-uranium penetrator, steel fin, nylon obturator, aluminum wind screen, aluminum sabot, plastic nose cap, and tracer pellets. The steel cartridge case contains a percussion primer, flash tube, and propellant.

Capabilities & Characteristics:

- Enhances overall performance and survivability of Bradley Fighting Vehicle System
- Provides capability against known light armor systems

System Integration:

- M242 cannon mounted on the Army Bradley Fighting Vehicle
- USMC LAV-25

Configurations:

- **A986**
- Suitable Substitutes:
  - A974: 25mm APDS-T M791, Linked

Materiel Release: June 2001

Production Partners:

- GD-OTS (Marion, IL)



ACQUISITION CATEGORY: III | ACQUISITION PHASE: OS | PRODUCTION STATUS: 1 Actively Procured & Under Contract | DESIGNATED USE: WAR RESERVE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

25mm M910 TPDS-T Cartridge

25mm M910 Target Practice Discarding Sabot with Trace (TPDS-T) was developed as a low-cost range limited target practice cartridge to simulate the M791. It also is used to simulate the M919. It is fired from M242 auto gun mounted on US Army M2/M3 BFVS or the USMC LAV-25.

Capabilities & Characteristics:

- Simulates the M791 and M919 cartridges
- Typical Dispersion: 0.40 mils x 0.40 mils
- Muzzle Velocity: 1,520 meters per second
- Trace Time: 2.0 seconds (minimum)
- Time of Flight: 1.90 seconds to 2,000-meter target

System Integration:

- M242, KBA, M811, GAU-12A Cannons
- Mounted on USAF AC-130 Gunship or USMC AV-8B Harrier

Configurations:

- **A940**
- Suitable Substitutes:
  - A974: 25mm M791 APDS-T, Linked

Materiel Release: December 1990

Production Partners:

- GD-OTS (Marion, IL)
- NGDS (Plymouth, MN)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

MEDIUM CALIBER AMMUNITION: 25mm

25mm M793 TP-T Cartridge

The 25mm M793 TP-T cartridge was developed as part of original BFVS as a low-cost target practice cartridge to simulate the M792. It is fired from M242 auto gun mounted on US Army M2/ M3 BFVS, USMC LAV-25, or the MK38 Weapon Station aboard Navy ships.

Capabilities & Characteristics:

- Simulates the ballistic trajectories of M792 and MK 210
- Typical Dispersion: .50 mils x .50 mils
- Muzzle Velocity: 1,100 meters per second
- Chamber Pressure: 496 MegaPascals (maximum)
- Trace Time: 3.5 seconds (minimum)
- Time of Flight: 3.6 seconds to 2,000-meter target
- The M793 is NATO certified per STANAG 4173 (NATO design AC/255-161A)

System Integration:

- M242, KBA, M811, GAU-12A Cannons
- Mounted on USAF AC-130 Gunship or USMC AV-8B Harrier

Configurations:

- **A976**
- Suitable Substitutes:
  - A975: 25mm M792 HEI-T, Linked

Production Partners:

- GD-OTS (Marion, IL)
- NGDS (Plymouth, MN)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 4 No Production Planned Within 10 Years | DESIGNATED USE TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

25mm M794 DDI Cartridge

25mm DDI M794 cartridge is used for training of proper handling and loading of ammunition and for non-firing system training and checkout of the 25mm Cannons

Capabilities & Characteristics:

- Inert training device
- Simulates size, shape, and mass of M792, MK 210, PGU-23, PGU-25, and PGU-32 cartridges

System Integration:

- M242, KBA, M811, GAU-12A Cannons
- Mounted on USAF AC-130 Gunship or USMC AV-8B Harrier

Configurations:

- **A967**

Materiel Release: June 2010
(Engineering Change Proposal fielding)

Production Partners:

- GD-OTS (Marion, IL)
- NGDS (Plymouth, MN)



ACQUISITION CATEGORY: III
ACQUISITION PHASE: PD
PRODUCTION STATUS: 1 – Actively Procured & Under Contract
DESIGNATED USE: TRAINING UNIQUE & OTHER

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

25mm PGU-23/U TP Cartridge

The 25mm PGU-23/U TP is a low cost, untraced target practice cartridge that is ballistically matched to the PGU-25/U High Explosive Incendiary cartridge and the PGU-32/U SAPHEI-T cartridge.

Capabilities & Characteristics:

- Target practice round used to simulate PGU-25/U and PGU-32/U
- Cartridge Weight: 499 grams
- Overall Length: 8.63 inches
- Cartridge Case: Steel
- Propellant: WC 890 Ball Powder
- Primer: M115 Percussion with IB-52 Booster Pellet
- Muzzle Velocity: 1,100 meters per second
- Dispersion: 0.77 mils x 0.77 mils

System Integration:

- M242, KBA, M811, GAU-12A Cannons
- Mounted on USAF AC-130 Gunship or USMC AV-8B Harrier

Configurations:

- **A978**

Production Partners:

- GD-OTS (Marion, IL)
- NGDS (Plymouth, MN)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 4 No Production Planned Within 10 Years

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

25mm PGU-25/U and PGU-25/A/U HEI Cartridges

The PGU-25/U and PGU-25A/U High Explosive Incendiary (HEI) cartridges were designed to provide aerial gun platforms capability with effectiveness against aircraft and light materiel targets.

Capabilities & Characteristics:

- Effective against aircraft and light materiel targets
- Cartridge Weight: 499 grams
- Overall Length: 8.63 inches
- Fuze: M505 PD
- Cartridge Case: Steel
- Propellant: WC 890 Ball Powder
- Primer: M115 Percussion with IB-52 Booster Pellet
- Muzzle Velocity: 1,100 meters per second
- Dispersion: 0.77 mils x 0.77 mils

System Integration:

- M242, KBA, M811, GAU-12A Cannons
- Mounted on USAF AC-130 Gunship or USMC AV-8B Harrier

Configurations:

- **A982**

Production Partners:

- GD-OTS (Marion, IL)
- NGDS (Plymouth, MN)



ACQUISITION CATEGORY III

ACQUISITION PHASE PD

PRODUCTION STATUS 4 No Production Planned Within 10 Years

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

MEDIUM CALIBER AMMUNITION: 25mm

25mm PGU-32/U SAPHEI Cartridge

The PGU 32/U Semi-Armor Piercing (SAP)HEI-T cartridge was designed to provide aerial and surface gun platforms with improved effectiveness against soft and light armored targets. It incorporates the basic multipurpose technology providing inherent detonation delay, improved graze sensitivity, and light armor capability.

Capabilities & Characteristics:

- Effective against light structures
- Effective against light vehicles
- Provides improved effectiveness against soft and light armored targets
- Ballistic match to PGU-20/U API, PGU-33/TPF-T, and conventional 25mm ammunition
- Muzzle Velocity: 1,100 meters per second
- Chamber Pressure: 425 MegaPascals

System Integration:

- M242, KBA, M811, GAU-12A Cannons
- Mounted on USAF AC-130 Gunship or USMC AV-8B Harrier

Configurations:

- **A990**

Production Partners:

- GD-OTS (Marion, IL)
- NGDS (Plymouth, MN)



ACQUISITION CATEGORY III

ACQUISITION PHASE PD

PRODUCTION STATUS 4 No Production Planned Within 10 Years

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

30mm MK 238 HEI-T Cartridge

The 30mm MK 238 HEI-T single cartridge was fielded in support of the Stryker Lethality ONS. The MK 238 utilizes the M758 Low Drag (LD) Point Initiating, Base Detonating (PIBD) fuze which has a self-destruct feature.

Capabilities & Characteristics:

- Effective Range: 1,800 meters
- Length: 290mm
- Weight: 670 grams
- Rate of Fire: 200 shots per minute

System Integration:

- XM914 Weapon System Platforms
  - Mobile Low, Slow Unmanned Aerial Vehicle Integrated Defense System (MLIDS) Vehicles
  - Mobile Short-Range Air Defense (M-SHORAD) Vehicles
  - USMC Marine Air Defense Integrated System (MADIS) Vehicles

Configurations:

- **AC27**
- **AB01** (USN linked configuration)
- Suitable Substitutes:
  - AC47: 30mm MK 310 PABM-T
  - AC73: 30mm XM1182 HEAB-T

Materiel Release:

- Initial Urgent Materiel Release: Fiscal Year 2021, 3rd Quarter
- Follow-on Urgent Materiel Release: April 2024

Production Partners:

- NGDS (Plymouth, MN)





DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

30mm XM1198 HEDP-SD Cartridge

The XM1198 High Explosive Dual Purpose-Self-Destruct (HEDP-SD) cartridge is being fielded as an UMR in support of a JUONS for C-UAS capabilities, as well as a direct fire munition against personnel and light armored targets. The XM1198 HEDP-SD cartridge consists of a percussion primer, aluminum cartridge case, a modified M759 fuze that has a self-destruct feature, a steel warhead encased with PBXN-5 explosive, and a shape charge liner. The XM1198 HEDP-SD cartridges are linked and used by the XM914 Weapon System.

Capabilities & Characteristics:

- Effective against personnel and light armor
- Can be employed against UAS
- Muzzle Velocity: 805 meters per second
- Utilizes modified M759 PD Fuze with a self-destruct feature and spin-compensated shape charge liner
- Primer: Percussion
- Packaging: Linked

System Integration:

- XM914 Weapon System Platforms
  - M-LIDS Vehicles
  - SGT Stout Vehicles
  - USMC MADIS Vehicles

Configurations:

- **AC55**

Materiel Release:

- Initial Urgent Materiel Release: Fiscal Year 2021, 3rd Quarter
- Follow-on Urgent Materiel Release: April 2024

Production Partners:

- NGDS (Plymouth, MN)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

30mm XM1211 HEP Cartridge

The XM1211 High Explosive Proximity (HEP) cartridge is being fielded as an UMR in support of a JUONS for C-UAS capabilities. The XM1211 HEP cartridge consists of a percussion primer, aluminum cartridge case, a M759 Safe & Arm (S&A) device combined with an electronic proximity-sensing module that includes an electronic self-destruct feature, and a steel warhead filled with PBXN-5 explosive. The XM1211 HEP cartridges are linked and used by the XM914 Weapon System.

Capabilities & Characteristics:

- Effective against personnel and UAS
- Muzzle Velocity: 840 meters per second
- Primary engagement mode uses proximity sensor that is powered upon gun-launch to detect target and initiate airburst, with a back-up electronic self-destruct
- Back-up warhead initiation uses a mechanical point-detonation to initiate on impact if electronics fail
- Primer: Percussion
- Packaging: Linked

System Integration:

- XM914 Weapon System Platforms
  - M-LIDS Vehicles
  - USMC MADIS Vehicles

Configurations:

- **AC61**

Materiel Release:

- Initial Urgent Materiel Release: Fiscal Year 2021, 3rd Quarter
- Follow-on Urgent Materiel Release: April 2024

Production Partners:

- NGDS (Plymouth, MN)



ACQUISITION CATEGORY: III | ACQUISITION PHASE: PD | PRODUCTION STATUS: 1 (Actively Procured & Under Contract) | DESIGNATED USE: WAR RESERVE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

30mm XM1182 HEAB-T Cartridge

The XM1182 High Explosive Air Burst – Trace (HEAB-T) provides increased lethality against personnel in the open, counter defilade, anti-tank guided missile teams and troops in urban structures.

Capabilities & Characteristics:

- Effective Range: 2,000 meters
- Cartridge Case: USAF Drawing 200610319
- Propellant: AFP-001
- Primer: USAF Drawing 200610332
- Packed in M529 container: 32 cartridges per container

System Integration:

- Stryker Infantry Carrier Vehicle Double V Hull (ICVVA1) equipped with 30mm XM813 Weapon System

Configurations:

- **AC73**
- Suitable Substitutes:
  - AC47:
  - AC27:

Materiel Release: Fiscal Year 2028, 1st Quarter (projected)

Production Partners:

- NGDS (Plymouth, MN)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE WAR RESERVE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

MEDIUM CALIBER AMMUNITION: 30mm

30mm XM1170 APFSDS-T Cartridge

The 30mm XM1170 APFSDS-T ammunition is a 30x173mm kinetic energy round with a live percussion primer, flashtube assembly, and high-performance propellant. The projectile consists of a depleted uranium (DU) penetrator housed in a sabot with a rotating band, a fin assembly with tracer material, and an aluminum nose tip. It provides increased lethal overmatch against near-peer light-armored vehicles.

Capabilities & Characteristics:

- Effective Range: 2,000 meters
- Cartridge Case: Steel
- Penetrator: DU
- Propellant: WC891
- Primer: FA-956
- Packed in M529 container: 32 cartridges per container

System Integration:

- ICVVA1 equipped with 30mm XM813 Weapon System

Configurations:

- **AC78**
- Suitable Substitutes:
  - AC26:

Materiel Release: Fiscal Year 2028, 4th Quarter (projected)

Production Partners:

- GD-OTS (Marion, IL)



ACQUISITION CATEGORY IV | ACQUISITION PHASE EMD | PRODUCTION STATUS 2 Transition to Production within 5 years | DESIGNATED USE WAR RESERVE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

MEDIUM CALIBER AMMUNITION: 30mm

30mm MK 258 Mod 1 APFSDS-T Cartridge

The MK258 MOD 1 APFSDS-T cartridge is a tactical, anti-materiel cartridge used to defeat armored threats. It utilizes a tungsten nickel cobalt penetrator which is held in place by aluminum sabot pedals prior to firing. The MK 258 Mod 1 APFSDS-T was fielded as an UMR to the Army 2nd Cavalry Regiment in response to an ONS for increased lethality on Stryker Brigade Combat Vehicles. The USN also uses this cartridge (AB51) on ships, but that configuration does not belong to the PM MAS portfolio.

Capabilities & Characteristics:

- Overall Length: 281mm
- Cartridge Case: Steel
- Cartridge Mass: 706 grams
- Range: 2,000 meters (maximum)
- Case Mouth Pressure: 345 MegaPascals
- Muzzle Velocity: 1,430 meters per second
- Accuracy: 0.4 mils x 0.4 mils at 1,000 meters
- Penetrator: Tungsten nickel cobalt
- Packaging: Link-less (AC26), Linked (AB51 MK 258 Mod 0)
- Platform: Army Up-gunned Strykers

System Integration:

- ICVVA1 equipped with 30mm XM813 or MK 44 Bushmaster Chain Gun

Configurations:

- **AC26**: MK 258 Mod 1, Link-less
- **AB51**: MK 258 Mod 0, Linked (USN configuration)

Materiel Release: July 2018 (Urgent Materiel Release)

Production Partners:

- GD-OTS (Marion, IL)



ACQUISITION CATEGORY: III | ACQUISITION PHASE: PD | PRODUCTION STATUS: 5 (Legacy Item, No active production) | DESIGNATED USE: WAR RESERVE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

30mm MK 310 PABM-T Cartridge

The 30mm MK 310 Mod 0 Programmable Air Burst with Trace (PABM-T) single cartridge was fielded in support of the Stryker Lethality ONS. The MK 310 Mod 0 cartridge consists of a steel projectile filled with PBXN-5 HEI mix, and a programmable, inductively set fuze.

Capabilities & Characteristics:

- Effective Range: 2,000 meters
- Length: 168mm
- Velocity: 1,030 meters per second

System Integration:

- ICVVA1 equipped with 30mm XM813 Weapon System

Configurations:

- **AC47**
- Suitable Substitutes:
  - AC73: 30mm XM1182 HEAB-T
  - AC27: 30mm MK 238 HEI-T

Production Partners:

- NGDS (Plymouth, MN)



ACQUISITION PHASE: PD

PRODUCTION STATUS: 1 – Actively Procured & Under Contract

DESIGNATED USE: TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

30mm XM1173 TP-T Cartridge

The XM1173 TP-T cartridge is a ballistically-matched cartridge for the XM1182 HEAB-T cartridge.

Capabilities & Characteristics:

- Effective Range: 2,000 meters
- Cartridge Case: USAF Drawing 200610319
- Propellant: AFP-001
- Primer: USAF Drawing 200610332
- Packed in M529 container: 32 cartridges per container

System Integration:

- ICVVA1 equipped with 30mm XM813 Weapon System

Configurations:

- **AC72**
- Suitable Substitutes:
  - AC25:

Materiel Release: Fiscal Year 2026, 4th Quarter (projected)

Production Partners:

- NGDS (Plymouth, MN)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

MEDIUM CALIBER AMMUNITION: 30mm

30mm XM1172 TPDS-T Cartridge

The XM1172 TPDS-T is a trainer cartridge and provides training capability that is ballistically matched to the tactical XM1170 APFSDS-T cartridge.

Capabilities & Characteristics:

- Ballistic match to XM1170 APFSDS-T
- Cartridge Case: Steel
- Projectile Core: Steel
- Propellant: WC891
- Primer: FA-956
- Packed in M529 container: 32 cartridges per container

System Integration:

- ICVVA1 equipped with 30mm XM813

Configurations:

- **AC79**
- Suitable Substitutes:
  - AC28:

Materiel Release: Fiscal Year 2028, 4th Quarter (projected)

Production Partners:

- GD-OTS (Marion, IL)



ACQUISITION CATEGORY IV | ACQUISITION PHASE EMD | PRODUCTION STATUS 2 Transition to Production within 5 years | DESIGNATED USE TRAINING UNIQUE

1. Suitable Substitutes: 2024 Suitability and Interchangeability List (U.S. Army JMC)

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

MEDIUM CALIBER AMMUNITION: 30mm

30mm M788 TP Cartridge

The M788 TP cartridge was developed as part of the Apache Attack Helicopter System as a low-cost target practice cartridge to simulate the M789 HEDP cartridge. It is the only training round qualified for use by the US Forces in the M230 Chain Gun.

The M230 Chain Gun is mounted on the AH-64 Apache and Army Special Operations Forces Blackhawk Helicopters. The M788 cartridge consists of a steel projectile body and an aluminum nose. The projectile is mated to the cartridge case assembly which is composed of an aluminum case, PA520 electric primer, flash tube assembly and propellant.

Capabilities & Characteristics:

- Lightweight 30mm TP
- Simulates ballistic trajectory of the M789 HEDP cartridge
- Muzzle Velocity: 805 meters per second
- Case Mouth Pressure: 430 MegaPascals (maximum) (elevated temperature mean peak pressure)

System Integration:

- M230 Chain Gun mounted on AH-64 Apache Helicopter and Blackhawk Helicopter

Configurations:

- **B118**

Materiel Release: October 1995

Production Partners:

- GD-OTS (Marion, IL)
- NGDS (Plymouth, MN)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

MEDIUM CALIBER AMMUNITION: 30mm

30mm M789 HEDP Cartridge

30mm M789 High Explosive Dual-Purpose (HEDP) was developed as part of the Apache Attack Helicopter System. The only tactical round qualified for use by US forces in the M230 Chain Gun.

The M230 Chain Gun is mounted on the AH-64 Apache Helicopter and Army Special Operations Forces Blackhawk helicopter. The M789 cartridge consists of a hollow steel projectile body containing high explosive and a spin compensated copper shaped charge liner. The projectile body is mated to a M759 point detonating fuze. The cartridge case assembly is composed of an aluminum case, PA520 electric primer, flash tube assembly and propellant. The M789 cartridge provides both armor-piercing capability and fragmentation for use against armored targets and troops, respectively.

Capabilities & Characteristics:

- Effective against personnel
- Effective against light armor
- Muzzle Velocity: 805 meters per second
- Case Mouth Pressure: 430 MegaPascals (maximum) (elevated temperature mean peak pressure)
- Utilizes M759 PD fuze and Spin-Compensated Shape Charge Liner

System Integration:

- M230 Chain Gun mounted on AH-64 Apache Helicopter and Blackhawk Helicopter

Configurations:

- **B129**

Materiel Release: October 1996

Production Partners:

- GD-OTS (Marion, IL)
- NGDS (Plymouth, MN)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

30mm XM950 P Cartridge

The XM950 Practice (P) cartridge is a low-cost training cartridge that is a ballistic match to the XM1198 HEDP-SD and XM1211 HEP cartridges. The XM950 P is being fielded as an UMR in support of a JUONS for c-UAS capabilities, as the primary training cartridge. The XM950 P cartridge consists of a percussion primer, a steel projectile, and an aluminum cartridge case. XM950 P cartridges are linked and used by the XM914 Weapon System.

Capabilities & Characteristics:

- Ballistic match to the XM1198 HEDP-SD and XM1211 HEP cartridges
- Muzzle Velocity: 805 meters per second
- Primer: Percussion
- Packaging: Linked

System Integration:

- XM914 Weapon System Platforms
  - M-LIDS Vehicles
  - SGT Stout Vehicles
  - USMC MADIS Vehicles

Configurations:

- **B139**

Materiel Release:

- Initial Urgent Materiel Release: Fiscal Year 2021, 3rd Quarter
- Follow-on Urgent Materiel Release: April 2024

Production Partners:

- NGDS (Plymouth, MN)
- GD-OTS (Marion, IL)



ACQUISITION CATEGORY: III | ACQUISITION PHASE: PD | PRODUCTION STATUS: 1 (Actively Procured & Under Contract) | DESIGNATED USE: TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

30mm MK 239 TP-T Cartridge

The 30x173mm MK 239 TP-T is a low-cost training cartridge with a steel projectile.

Capabilities & Characteristics:

- Overall Length: 290mm
- Cartridge Case: Extruded aluminum
- Propellant: Single base granular
- Primer: M36A2 Percussion
- Muzzle Velocity: 1,080 meters per second
- Projectile: Steel
- Accuracy: 1.0 mils x 1.0 mils at 1,000 meters
- Platform: Used by USN on LPD and LCS

System Integration:

- ICVVA1 equipped with 30mm XM813 or MK 44 Bushmaster Chain Gun

Configurations:

- **AC25**

Production Partners:

- NGDS (Plymouth, MN)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 5 Legacy Item No active production | DESIGNATED USE TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

30mm M848 Dummy Cartridge

The M848 cartridge is used in drills of the weapon mechanism, to test link/ de-link functions, and as an inert training device.

Capabilities & Characteristics:

- Inert training device
- Simulates M789 HEDP, XM1198 HEDP-SD, XM1211 HEP, and XM950 P in size, shape, and mass distribution

System Integration:

- M230 Chain Gun mounted on AH-64 Apache Helicopter and Blackhawk Helicopter
- XM914 Weapon System utilized by M-LIDS, SGT Stout and USMC MADIS vehicles

Configurations:

- **B133**
- **AA90** (USN configuration)

Materiel Release: October 1987

Production Partners:

- GD-OTS (Marion, IL)
- NGDS (Plymouth, MN)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

30mm PGU-15A/B TP Cartridge

The PGU-15A/B TP cartridge is a low-cost target practice round ballistically matched to the PGU-13 HEI Cartridge. It is used in the USAF's GAU-8A AGS mounted on the A-10 aircraft. It can be put into a linked configuration which is used on the AC-130 GAU-23 Weapon System to support USSOCOM operations.

Capabilities & Characteristics:

- Overall Length: 290mm
- Cartridge Case: Extruded aluminum
- Propellant: Single-base granular
- Primer: M36A2 Percussion
- Muzzle Velocity: 1,021 meters per second
- Case Mouth Pressure: 61,400 pounds per square inch
- Action Time: 5.3 milliseconds
- Accuracy: 1.0 mils x 1.0 mils at 1,000 meters

System Integration:

- GAU-8A AGS used on the A-10 Aircraft (USAF)
- GAU-23 Weapon System used on the AC-130 Aircraft (SOCOM), linked only

Configurations:

- **AA94**: Linked

Production Partners:

- GD-OTS (Marion, IL)
- NGDS (Plymouth, MN)



ACQUISITION CATEGORY III

ACQUISITION PHASE PD

PRODUCTION STATUS 1 Actively Procured & Under Contract

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

30mm PGU-14C/B API Cartridge

The PGU-14C/B API cartridge has the kinetic energy needed to defeat armor and is used in the US Air Force GAU-8A AGS.

Capabilities & Characteristics:

- Overall Length: 290mm
- Cartridge Case: Extruded aluminum
- Propellant: Single-base granular
- Primer: M36A2 Percussion
- Muzzle Velocity: 1,013 meters per second
- Case Mouth Pressure: 61,400 pounds per square inch
- Action Time: 5.3 milliseconds
- Accuracy: 1.0 mils x 1.0 mils at 1,000 meters
- Not ballistically matched to PGU-15A/B cartridge

System Integration:

- GAU-8A AGS used on the A-10 Aircraft (USAF)

Configurations:

- **B103**
- **AB20**: PGU-14C/B
- **AB20**: 5:1 ratio, PGU-14A/B API or PGU-14B/B API and PGU-13/B HEI or PGU-13A/B HEI

Production Partners:

- GD-OTS (Marion, IL)
- NGDS (Plymouth, MN)



ACQUISITION CATEGORY III

ACQUISITION PHASE OS

PRODUCTION STATUS 4 No Production Planned Within 10 Years

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

30mm MK 266 Mod 1 HEI-T Cartridge

The MK 266 Mod 1 HEI-T cartridge utilizes a non-self-destruct fuze and is effective against small watercraft and light armored naval platforms.

Capabilities & Characteristics:

- Overall Length: 290mm
- Cartridge Case: Extruded aluminum
- Propellant: Single base granular
- Primer: M36A2 Percussion
- Muzzle Velocity: 1,080 meters per second
- Fuze: PD
- Projectile Explosive: PBXN-5
- Accuracy: 0.5 mils x 0.5 mils at 1,000 meters

System Integration:

- LPD (USN)
- LCS (USN)
- MK 44 Bushmaster Chain Gun in the MK 46 Gun Weapon System (USN)

Configurations:

- **AB44**

Production Partners:

- NGDS (Plymouth, MN)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

30mm PGU-13D/B HEI and PGU-15A/B Cartridges

Also known as Urban Mix, is a mix pack-out comprised of 2-PGU-13 D/B HEI and 1- PGU-15 TP cartridge for use in urban environments. It is used in the USAF's GAU-8A AGS mounted on the A-10 Aircraft.

Capabilities & Characteristics:

- Linked configuration: 2:1
- Overall Length: 290mm
- Cartridge Case: Extruded aluminum
- Propellant: Single-base granular
- Primer: M36A2 Percussion
- Fuze: M505 PD
- Muzzle Velocity: 1,021 meters per second
- Case Mouth Pressure: 61,400 pounds per square inch
- Action Time: 5.3 milliseconds
- Accuracy: 1.0 mils x 1.0 mils at 1,000 meters

System Integration:

- GAU-8A AGS used on the A-10 Aircraft (USAF)
- GAU-23 Weapon System used on the AC-130 Aircraft (USSOCOM), linked only

Configurations:

- **AC29**

Production Partners:

- GD-OTS (Marion, IL)
- NGDS (Plymouth, MN)



ACQUISITION CATEGORY III | ACQUISITION PHASE OS | PRODUCTION STATUS 1 Actively Procured & Under Contract

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

30mm PGU-13D/B HEI Cartridge

The PGU-13 D/B HEI cartridge's primary role is to defeat light armor targets. It is used in the USAF's GAU-8A Avenger Gun System (AGS) mounted on the A-10 aircraft. It can be put into a linked configuration which is used on the AC-130 GAU-23 Weapon System to support SOCOM operations.

Capabilities & Characteristics:

- Overall Length: 290mm
- Cartridge Case: Extruded aluminum
- Propellant: Single-based granular
- Primer: M36A2 Percussion
- Fuze: M505 PD
- Muzzle Velocity: 1,021 meters per second
- Case Mouth Pressure: 61,400 pounds per square inch
- Action Time: 5.3 milliseconds
- Accuracy: 1.0 mils x 1.0 mils at 1,000 meters

System Integration:

- GAU-8A AGS used on A-10 Aircraft (USAF)
- GAU-23 Weapon System used on AC-130 Aircraft (USSOCOM), linked only

Configurations:

- **B104**
- **AB18**: Linked

Production Partners:

- GD-OTS (Marion, IL)
- NGDS (Plymouth, MN)



ACQUISITION CATEGORY III

ACQUISITION PHASE OS

PRODUCTION STATUS 1 Actively Procured & Under Contract

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

40mm M1001 HV Canister Cartridge

The 40mm M1001 High Velocity (HV) Canister Cartridge is a fixed round of ammunition consisting of a projectile assembly and a cartridge case assembly.

The projectile has an aluminum sabot body with 107 steel flechettes, an aluminum nose cap, pusher cap, valve plate, spring, bore rider retaining disk, rubber pad, obturator, and an expulsion charge. The cartridge case is aluminum with a high pressure and a low-pressure chamber and a percussion primer.

Capabilities & Characteristics:

- Used against personnel out to 100 meters from the weapon
- Fired from the MK 19 Grenade Machine Gun (GMG)
- Range: 100 meters (maximum)
- Muzzle Velocity: 790 feet per second
- Packaging: PA120 container (32 rounds, linked)

System Integration:

- MK 19 GMG

Configurations:

- **BA11**



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

40mm M661 LV Green Star Parachute Cartridge

The 40mm M661 LV Green Star Parachute cartridge is a fixed round of ammunition consisting of a projectile assembly and a cartridge case assembly. The projectile has a one-piece, hollow aluminum body with a metal rotating band. A plastic ogive, embossed with a raised letter for night identification of payload, is snapped into an O-ring in the front opening of the projectile cavity. The cavity contains a pyrotechnic flare candle assembly, and an integral ignition/ ejection charge attached to a 20-inch diameter parachute.

Once fired and upon reaching the burst altitude, the ejection charge ignites the candle and blows the candle assembly out through the top of the projectile body. The attached parachute deploys upon ejection to lower the candle at 7 feet per second, resulting in a burn time of approximately 40 seconds. The candle functions at an altitude of 500-700 feet when fired vertically and is visible to an air observer at a slant range of at least 3 miles from an altitude of 3,000 feet.

Capabilities & Characteristics:

- Illumination and signaling round designed for less weight, bulk and greater accuracy than comparable handheld signals
- Burst Height: 150-215 meters
- Muzzle Velocity: 250 feet per second
- Candlepower: 8,000 candela
- Burn Time: 30 seconds

System Integration:

- M79 Grenade Launchers
- M203 Grenade Launchers
- M320 Grenade Launchers

Configurations:

- **B504**

Materiel Release: December 1989

Production Partners:

- AMTEC, Corp. (Janesville, WI)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

40mm M662 LV Red Star Parachute Cartridge

The 40mm M662 LV Red Star Parachute Cartridge is a fixed round of ammunition consisting of a projectile assembly and a cartridge case assembly. The projectile has a one-piece, hollow aluminum body with a metal rotating band. A plastic ogive, embossed with a raised letter for night identification of payload, is snapped into an O-ring in the front opening of the projectile cavity. The cavity contains a pyrotechnic flare candle assembly, and an integral ignition/ejection charge attached to a 20-inch diameter parachute.

Once fired and upon reaching the burst altitude, the ejection charge ignites the candle and blows the candle assembly out through the top of the projectile body. The attached parachute deploys upon ejection to lower the candle at 7 feet per second, resulting in a burn time of approximately 40 seconds. The candle functions at an altitude of 500-700 feet when fired vertically and is visible to an air observer at a slant range of at least 3 miles from an altitude of 3,000 feet.

Capabilities & Characteristics:

- Illumination and signaling round designed for less weight and bulk; greater accuracy than comparable handheld signals
- Burst Height: 150-215 meters
- Muzzle Velocity: 250 feet per second
  Candlepower: 20,000 candela
- Burn Time: 30 seconds

System Integration:

- M79 Grenade Launchers
- M203 Grenade Launchers
- M320 Grenade Launchers

Configurations:

- **B505**



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

40mm LV Smoke Cartridges

The 40mm Low Velocity (LV) Smoke cartridges consist of a cartridge case, a projectile with pyrotechnic smoke payload, and a pyrotechnic impact fuze.

The cartridge case is aluminum with a high pressure and a low-pressure chamber and a percussion primer. The projectiles utilize a one-piece aluminum body/ogive and a steel base.

The payload consists of a pyrotechnic smoke mixture with a fuze that is designed to arm at a minimum of 15 meters and a maximum of 45 meters from the muzzle of the weapon.

Capabilities & Characteristics:

- Used to provide aerial identification and location of troops on the ground
- Fired from 40mm M79, M203, and M320 Grenade Launchers
- Range: 400 meters (maximum)
- Muzzle Velocity: 250 feet per second
- Packaging: 22 rounds per metal box; 2 metal boxes per wire-bound wooden box

System Integration:

- M79 Grenade Launcher
- M203 Grenade Launcher
- M320 Grenade Launcher

Materiel Release: October 2010

Configurations:

- **B506:** M713 Red Smoke
- **B508:** M715 Green Smoke
- **B509:** M716 Yellow Smoke



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

40mm M576 LV MP Cartridge

The 40mm M576 LV Multi-Purpose (MP) cartridge is a fixed round of ammunition consisting a projectile assembly with multiple metal pellets and a cartridge case assembly.

The projectile assembly includes a polyethylene sabot carrier, and a plastic pellet cup filled with 20 metal pellets secured by a snap-on cap. The projectile assembly is crimped into the cartridge case. The cartridge case is aluminum with a high- and low-pressure chamber and a percussion primer.

Capabilities & Characteristics:

- Cartridge is intended for use in counter-insurgency and conventional operations to defeat personnel targets at short distances
- Fired from 40mm M79, M203, and M320 Grenade Launchers
- Effective Range: 30 meters
- Muzzle Velocity: 885 feet per second
- Packaging: 22 rounds per metal box; 2 metal boxes per wire-bound wooden box



System Integration:

- M79 Grenade Launcher
- M203 Grenade Launcher
- M320 Grenade Launcher

Configurations:

- **B534**

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

40mm M583A1 LV White Star Parachute Cartridge

The 40mm M583A1 LV White Star Parachute cartridge is a fixed round of ammunition consisting of a projectile assembly and a cartridge case assembly.

The projectile has a one-piece, hollow aluminum body with a metal rotating band. A plastic ogive, embossed with a raised letter for night identification of payload, is snapped into an O-ring in the front opening of the projectile cavity. The cavity contains a pyrotechnic flare candle assembly, and an integral ignition/ ejection charge attached to a 20-inch diameter parachute.

Once fired and upon reaching the burst altitude, the ejection charge ignites the candle and blows the candle assembly out through the top of the projectile body. The attached parachute deploys upon ejection to lower the candle at 7 feet per second, resulting in a burn time of approximately 40 seconds. The candle functions at an altitude of 500-700 feet when fired vertically and is visible to an air observer at a slant range of at least 3 miles from an altitude of 3,000 feet.

Capabilities & Characteristics:

- Illumination and signaling round designed for less weight and bulk and greater accuracy than comparable handheld signals
- Burst Height: 183 meters
- Muzzle Velocity: 250 feet per second
- Candlepower: 90,000 candela
- Burn Time: 30 seconds

System Integration:

- M79 Grenade Launcher
- M203 Grenade Launcher
- M320 Grenade Launcher

Materiel Release: March 1988

Configurations:

- **B535**

Production Partners:

- AMTEC, Corp. (Janesville, WI)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

MEDIUM CALIBER AMMUNITION: 40mm

40mm M585 LV White Star Cluster Cartridge

The 40mm M585 LV White Star Cluster cartridge is a fixed round of ammunition consisting of a projectile assembly and a cartridge case assembly.

The projectile has a one-piece, hollow aluminum body with a rotating band. A plastic ogive, embossed with a raised "W" for night identification of payload color and five raised dots to identify a cluster round, is snapped into an O-ring in the front opening of the projectile cavity. The cavity contains an illuminant candle assembly of five white star charges and a black powder ejection charge.

The projectile assembly is fitted into the cartridge case. The case is a hollow bi-chambered cylinder that contains the propellant. Upon ignition of the propellant, the expanding gases propel the projectile through the launcher tube to a burst altitude of 550 feet (at a quadrant elevation of 85 degrees). The burning propellant also ignites the delay element in the base of the projectile. Within 4 to 5 seconds after firing, the delay element ignites the ejection charge. The ejection charge ignites the star charges and blows the candle assembly out through the top of the projectile body.

The individual stars burn for approximately 7 seconds during free fall and produce 55,000 candlepower.

Capabilities & Characteristics:

- Illumination and signaling round designed for less weight and bulk and greater accuracy than comparable handheld signals
- Burst Height: 167 meters
- Muzzle Velocity: 250 feet per second
- Candlepower: 55,000 candela
- Burn Time: 5.5 seconds per pellet (minimum)

System Integration:

- M79 Grenade Launcher
- M203 Grenade Launcher
- M320 Grenade Launcher

Configurations:

- **B536**



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

40mm M430A1 HV HEDP Cartridge

The 40mm M430A1 HV HEDP cartridge is a fixed round of ammunition with internally embossed steel projectile body containing Composition A5 HE and a copper, shaped-charge liner. A PIBD fuze is threaded into body to form the complete projectile. The cartridge case is a hollow, bi-chambered aluminum cylinder with vents between chambers. The propellant chamber is sealed at rear with a base plug and a percussion primer is crimped into center of base plug.

Upon impact with the target, detonation of the main charge provides both the armor piercing effect of the shaped charge and fragmentation of the steel body.

Capabilities & Characteristics:

- Dual-purpose impact round designed to penetrate, at least 3 inches of steel armor, and inflict personnel casualties in target area
- Range: 2,200 meters (maximum)
- Muzzle Velocity: 790 feet per second
- Packaging: 32 rounds linked in PA120 container

System Integration:

- MK 19 GMG

Configurations:

- **B542**
- Suitable Substitutes:
  - B571: 40mm M383 HE, Linked

Materiel Release: October 1996

Production Partners:

- AMTEC, Corp. (Janesville, WI)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

1. Suitable Substitutes: 2024 Suitability and Interchangeability List (U.S. Army JMC)

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

40mm M433 LV HEDP Cartridge

The 40mm M433 LV HEDP cartridge is fixed round of ammunition consisting of a projectile assembly and cartridge case assembly.

The projectile consists of a hollow steel cup and aluminum skirt with metal rotating band. A PIBD fuze assembly and copper liner are fitted to opening of projectile cavity. The cavity is filled with high explosive, shaped charge. Projectile assembly is crimped into cartridge case. The cartridge case is a hollow, bi-chambered aluminum cylinder with vents between chambers. The propellant chamber is sealed at rear with a base plug and a percussion primer is crimped into center of base plug.

Upon impact with the target, detonation of the main charge provides both the armor piercing effect of the shaped charge and fragmentation of the steel body.

Capabilities & Characteristics:

- Dual-purpose impact round designed to penetrate, at least 2.5 inches of steel armor, and inflict personnel casualties in target area
- Range: 400 meters (maximum)
- Muzzle Velocity: 250 feet per second
- Packaging: 6 rounds per bandoleer, 12 bandoleers per box, 72 cartridges per box

System Integration:

- M79 Grenade Launcher
- M203 Grenade Launcher
- M320 Grenade Launcher

Configurations:

- **B546**
- Suitable Substitutes:
  - BA51: 40mm M433A1 HEDP
  - B568: 40mm M406 HE
  - B574: 40mm M386 HE



Acquisition Category: III | Acquisition Phase: PD | Production Status: 1 (Actively Procured & Under Contract) | Designated Use: Training Standard

1. Suitable Substitutes: 2024 Suitability and Interchangeability List (U.S. Army JMC)

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

40mm M992 LV IR Illuminating Cartridge

The 40mm M992 LV IR Illuminating Cartridge is used to enhance night visibility of enemy troops while using NVDs.

The projectile has a one-piece, hollow aluminum body with a metal rotating band. A plastic ogive, embossed with a raised letter for night identification of payload, is snapped into an O-ring in the front opening of the projectile cavity. The cavity contains a pyrotechnic flare candle assembly, and an integral ignition/ejection charge attached to a 20-inch diameter parachute.

Once fired and upon reaching the burst altitude of 500-700 feet, the ejection charge ignites the candle and blows the candle assembly out through the top of the projectile body. The attached parachute deploys upon ejection to lower the candle at 7 feet per second, resulting in a burn time of approximately 40 seconds.

Capabilities & Characteristics:

- Provides minimal visual signature outside of IR bound
- Provides IR illumination to enhance nighttime operational capabilities for troops engaged using night vision equipment
- Fired from M79, M203, and M320 Grenade Launchers
- Burst Height: 150-215 meters
- Muzzle Velocity: 250 feet per second
- Burn Time: 40 seconds
- IR Illumination: 26 watts per steradian (minimum)
- Less than 300 candlepower (candela) of VL

System Integration:

- M79 Grenade Launcher
- M203 Grenade Launcher
- M320 Grenade Launcher

Materiel Release: October 2010

Configurations:

- **BA03**

Production Partners:

- AMTEC, Corp. (Janesville, WI)



ACQUISITION CATEGORY: III | ACQUISITION PHASE: PD | PRODUCTION STATUS: 5 (Legacy Item, No active production) | DESIGNATED USE: TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

40mm M433E1 HEDP Cartridge

The 40mm M433E1 LV HEDP cartridge is fixed round of ammunition consisting of a projectile assembly and cartridge case assembly.

The projectile consists of copper shaped charge in an explosive-filled steel cup covered with tungsten spherical fragments over molded with plastic aerodynamic body. A PIBD fuze assembly is attached to the warhead body and the projectile assembly is crimped into the cartridge case. The cartridge case is aluminum with a high- and low-pressure chamber and a percussion primer.

Upon impact with the target, detonation of the main charge provides both the armor piercing effect of the shaped charge and fragmentation of the steel body with tungsten fragments.

Capabilities & Characteristics:

- Upgraded version of the legacy M433 HEDP
- Cartridge designed to have dual-purpose capability for lightly armored vehicle penetration and anti-personnel capability
- Fired from 40mm M79, M203, and M320 SSGLs
- Range: 350 meters (maximum)
- Muzzle Velocity: 250 feet per second
- Packaging: 22 rounds per M2A2 ammunition can; 2 ammunition cans per wire-bound wooden box

System Integration:

- M79 Grenade Launcher
- M203 Grenade Launcher
- M320 Grenade Launcher

Configurations:

- **BA51**
- Suitable Substitutes:
  - B546: 40mm M433 HEDP

Production Partners:

- AMTEC, Corp. (Janesville, WI)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

40mm XM1176 HV HEDP-AB Cartridge

The 40mm XM1176 HV HEDP-AB cartridge is fixed round of ammunition with internally embossed steel projectile body containing Composition A5 HE and a copper, shaped-charge liner. The electronic AB fuze is threaded into the body to form the complete projectile. The cartridge case is aluminum with a high pressure and a low-pressure chamber and a percussion primer.

A weapon-mounted XM101 Fuze Programmer is mounted to the MK 19 and programs the fired projectile through IR communication to achieve AB at the desired range. Upon AB or impact with the target, detonation of the main charge provides both the armor piercing and anti-personnel effect of the shaped charge and fragmentation of the steel body.

Capabilities & Characteristics:

- Cartridge retains warhead and propulsion system from M430A1 and adds a programmable AB fuze. Fuze is programmed once the projectile exits the muzzle.
- Fired from the MK 19 GMG
- Provides MK 19 gunner with a counter defilade capability while retaining the ability to defeat personnel and lightly armored vehicles in the open with the dual-purpose warhead
- Range: 2,000 meters (maximum)
- Muzzle Velocity: 790 feet per second
- Packaging: 32 rounds linked in PA120 container

System Integration:

- MK 19 GMG

Configurations:

- **BA58**

Production Partners:

- RDZM (Middletown, IA)



ACQUISITION PHASE: PD

PRODUCTION STATUS: 1 – Actively Procured & Under Contract

DESIGNATED USE: TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

40mm XM1166 LV HEAB Cartridge

The 40mm XM1166 LV HEAB cartridge is a fixed round of ammunition with a steel and tungsten fragment projectile body containing HE.

The electronic AB fuze is threaded into the body to form the complete projectile. The cartridge case is aluminum with a high- and low-pressure chamber and a percussion primer.

A weapon-mounted XM100 Fuze Programmer is mounted to the M320 and programs the fired projectile through IR communication to achieve AB at the desired range.

Upon AB or impact with the target, detonation of the main charge provides anti-personnel effects from the fragmentation of the steel body.

Capabilities & Characteristics:

- Cartridge is used to defeat personnel in defilade
- Programmable fuze is programmed once the projectile exits the muzzle
- Fired from the M320 Grenade Launcher
- Provides the M320 grenadier with a counter-defilade capability
- Range: 400 meters (maximum)
- Muzzle Velocity: 250 feet per second
- Packaging: TBD

System Integration:

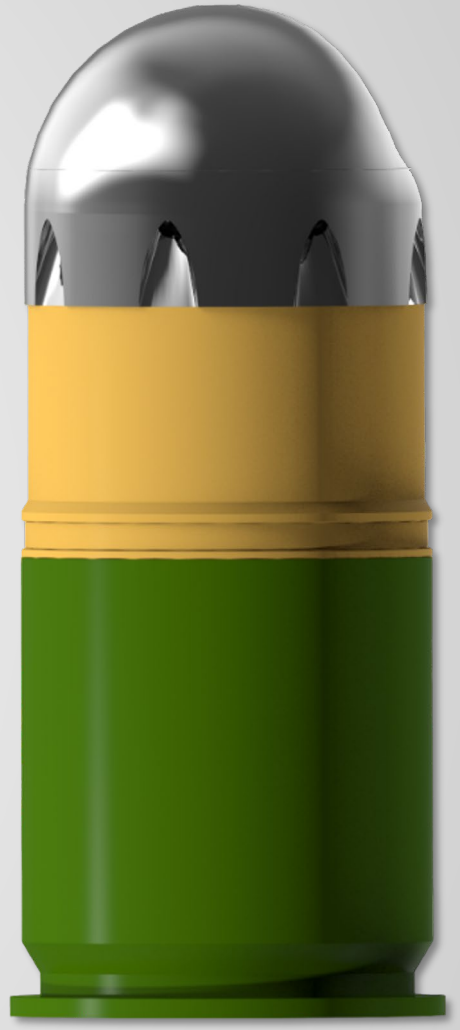
- M320 Grenade Launcher

Configurations:

- **BZ16**

Production Partners:

- Day & Zimmermann, Inc. (Philadelphia, PA)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

MEDIUM CALIBER AMMUNITION: 40mm

40mm M781 LV Practice Cartridge

The 40mm M781 LV Practice cartridge is a fixed round of ammunition consisting of a metal projectile body with a rotating band and a cartridge case assembly. A hollow plastic ogive is filled with a high visibility yellow-orange dye.

The projectile assembly is attached to a cartridge case with an attached adhesive substance. The case is a hollow bi-chambered plastic cylinder. A .38 caliber blank cartridge is press-fitted into the base of the cartridge case and provides the gas pressure needed to propel the projectile through the launcher barrel.

Upon impact with the target, the frangible ogive ruptures and releases the dye causing a puff of yellow-orange smoke which simulates explosive impact.

Capabilities & Characteristics:

- Used for gunnery training
- Target practice round designed to ballistically simulate the M433 HEDP cartridge
- Emits bright orange dye upon target impact
- Range: 400 meters (maximum)
- Muzzle Velocity: 250 feet per second
- Packaging: 40 rounds per fiberboard box

System Integration:

- M79 Grenade Launchers
- M203 Grenade Launchers
- M320 Grenade Launchers

Configurations:

- **B519**
- Suitable Substitutes:
  - BA54: 40mm M781A1 LV DNT Practice

Materiel Release: October 1983

Production Partners:

- AMTEC, Corp. (Janesville, WI)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING UNIQUE

1. Suitable Substitutes: 2024 Suitability and Interchangeability List (U.S. Army JMC)

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

40mm M385A1 HV Practice Cartridge

The 40mm M385A1 HV Practice Cartridge is a fixed round of ammunition designed only for practice or proof testing of weapons. It consists of a one-piece solid inert aluminum projectile body together with a metal rotating band which is press-fitted into an aluminum bi-chambered cartridge. The case contains the propelling charge and percussion primer.

Capabilities & Characteristics:

- Used primarily for proof-testing weapons
- Fired from MK 19 GMG
- Range: 2,200 meters (maximum)
- Muzzle Velocity: 790 feet per second
- Packaging: 32 rounds linked in PA120 container

System Integration:

- MK 19 GMG

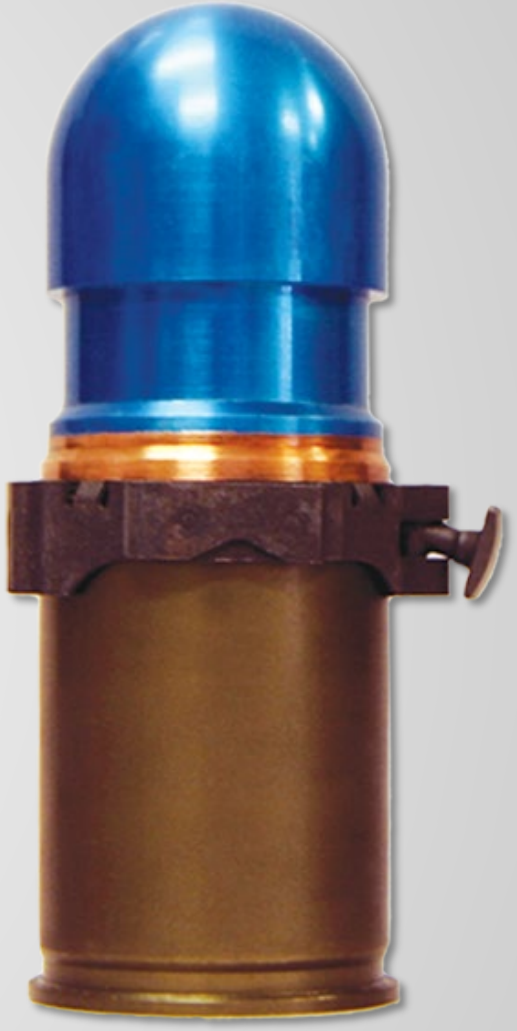
Configurations:

- **B576**

Materiel Release: October 1990

Production Partners:

- AMTEC, Corp. (Janesville, WI)



ACQUISITION CATEGORY: III
ACQUISITION PHASE: PD
PRODUCTION STATUS: 1 – Actively Procured & Under Contract
DESIGNATED USE: TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

40mm M918 HV TP Cartridge

The 40mm M918 HV TP Cartridge is a target practice round designed to simulate the M430A1 Cartridge in appearance and ballistics. The cartridge consists of a one-piece steel body with an aluminum insert fitted to cartridge case assembly. An aluminum ogive contains a firing pin, a rubber anti-creep spring, and an M550 fuze escapement assembly, threaded to projectile body. An aluminum insert contains the flash charge mixture, while the cartridge case is a bi-chambered aluminum cylinder with vents between chambers. The propellant chamber is sealed at rear with a base plug and a percussion primer is crimped into the center of base plug.

Upon impact with the target, gases generated by the burning flash powder are concentrated upon the base of the projectile body causing it to rupture and produce a flash, smoke, and a loud report.

Capabilities & Characteristics:

- Used in gunnery training
- Target practice round designed to simulate M430A1 HEDP in appearance and ballistics
- Range: 2,200 meters (maximum)
- Muzzle Velocity: 790 feet per second
- Packaging: 32 rounds linked in PA120 container

System Integration:

- MK 19 GMG

Configurations:

- **B584**

Materiel Release: October 1989

Production Partners:

- AMTEC, Corp. (Janesville, WI)



ACQUISITION CATEGORY III | ACQUISITION PHASE OS | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

MEDIUM CALIBER AMMUNITION: 40mm

40mm M918/ M385A1 HV Mixed Belt

The 40mm M918/ M385A1 HV Mixed Belt consists of a 2:1 mix of M918 and M385A1 cartridges.

The M918 cartridge is fixed round of ammunition consisting of a one-piece steel body with an aluminum insert, fitted to a cartridge case assembly. The aluminum ogive contains a firing pin, a rubber anti-creep spring, and an M550 fuze escapement assembly, threaded to projectile body. The aluminum insert contains a flash charge mixture.

The M385A1 cartridge is a fixed round of ammunition consisting of one-piece solid aluminum projectile body with copper rotating band.

Capabilities & Characteristics:

- Used in gunnery training
- M918 TP round designed to simulate the M430A1 HEDP cartridge in appearance and ballistics
- M385A1 is a TP or proof-testing round
- Range: 2,200 meters (maximum)
- Muzzle Velocity: 790 feet per second
- Packaging: 32 rounds linked in PA120 container
- Linked 22-M918/ 10-M385A1, configured in a 2:1 mix

System Integration:

- MK 19 GMG

Configurations:

- **BA30**
- Suitable Substitutes:
  - B584: 40mm M918 TP, Linked
  - BA12: 40mm MK 81 Mod 0 Practice, Linked
  - BA67: 40mm M918E2 TP-DNT

Materiel Release: October 1989

Production Partners:

- AMTEC, Corp. (Janesville, WI)



1. Suitable Substitutes: 2024 Suitability and Interchangeability List (U.S. Army JMC)

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

40mm M781E1 LV TP-DNT Cartridge

The 40mm M781E1 TP Day/ Night/ Thermal (TP-DNT) does not have a fuze or any energetics, eliminating unexploded ordnance risks. It allows the Warfighters to "train as they fight" by delivering a non-dud producing LV grenade training cartridge whose impact signature can be seen day or night by the unaided eye and through current and future thermal vision sights.

Capabilities & Characteristics:

- Used in gunnery training
- This cartridge is designed to simulate the M433 HEDP cartridge in appearance and ballistics
- Range: 400 meters (maximum)
- Muzzle Velocity: 250 feet per second
- Packaging: 100 rounds per wooden box
- Impact signature seen day or night by unaided eye and through current or future thermal and night vision sights

System Integration:

- M203 Grenade Launchers
- M320 Grenade Launchers

Configurations:

- **BA54**
- Suitable Substitutes:
  - B519: 40mm M781 Practice

Materiel Release: Fiscal Year 2028, 2nd Quarter (projected)

Production Partners:

- AMTEC, Corp. (Janesville, WI)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 2 Transition to Production within 5 years | DESIGNATED USE TRAINING UNIQUE

1. Suitable Substitutes: 2024 Suitability and Interchangeability List (U.S. Army JMC)

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

40mm M918E2 HV TP-DNT Cartridge

The 40mm M918E2 HV TP-DNT cartridge does not have a fuze or energetics. This eliminates unexploded ordnance risks and enables vehicle maneuver training, allowing Soldiers to "train as they fight" by delivering a non-dud-producing, HV grenade training cartridge whose impact signature can be seen day or night by the unaided eye and through current and future thermal vision sights.

Capabilities & Characteristics:

- Used in gunnery training
- TP round designed to simulate the M430A1 HEDP cartridge in appearance and ballistics
- Non-dud producing; eliminates unexploded ordnance (UXO) risk
- Range: 2,200 meters (maximum)
- Packaging: 32 rounds linked in PA120 container
- Impact signature seen day or night by unaided eye through current and future thermal and night vision sights

System Integration:

- MK 19 GMG

Materiel Release: Full Materiel Release (FMR) planned 2QFY27

Configurations:

- **BA67**
- Suitable Substitutes:
  - B584: 40mm M918 TP, Linked
  - BA12: 40mm MK 281 Mod 0 Practice, Linked
  - BA30: 40mm M918/ M385A1, Linked 2/ 1

Production Partners:

- Prime: AMTEC, Corp. (Janesville, WI)
- LAP: American Ordnance - IAAAP



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

1. Suitable Substitutes: 2024 Suitability and Interchangeability List (U.S. Army JMC)

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

40mm M922A1 Dummy Cartridge

The 40mm M922A1 dummy cartridge is completely inert and simulates a loaded 40mm HV HE round in size, shape, and weight.

The M992 is a fixed round consisting of a one-piece solid aluminum projectile body together with a copper rotating band and the cartridge case is crimped around the projectile body.

The M922A1 is a one-piece solid aluminum cartridge. There are four thru-holes drilled through the cartridge for positive identification. The rotating band and cartridge body are modified for repositioning of the links after cycling in an MK 19 GMG.

Capabilities & Characteristics:

- Dummy round used as a drill round to train users in handling ammunition for the MK 19 GMG
- Packaging: PA120 container (32 rounds, linked)

System Integration:

- MK 19 GMG

Configurations:

- **B472**

Production Partners:

- AMTEC, Corp. (Janesville, WI)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

105mm M456A2 HEAT-MP-T

The M456A2 is an HE Anti-Tank (HEAT) MP-T cartridge for use in the M68, 105mm cannon of the M10 Booker.

The M456A2 is designed for use against armored targets and consists of Composition B explosive and a copper Shaped Charge Liner inside a steel body. A point-initiating, PD (PIPD) fuze is initiated by an impact switch in an aluminum standoff spike.

Upon initiation, the explosive collapses the copper liner and creates a high velocity jet of metal particles that penetrates the target.

Capabilities & Characteristics:

- Improved performance on irregular surfaces and graze functioning
- Provides anti-tank capability to M10 Booker

System Integration:

- 105mm Gun on M10 Booker

Configurations:

- **C508**

Materiel Release: March 1984



ACQUISITION CATEGORY: III

ACQUISITION PHASE: OS

PRODUCTION STATUS: 5 – Legacy Item, No active production

DESIGNATED USE: WAR RESERVE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

105mm M900 APFSDS-T Cartridge

The 105mm M900 is an Armor Piercing, Fin Stabilized Discarding Sabot with Tracer (APFSDS-T) cartridge.

The projectile portion of the round consists of a sub-projectile and a sabot. The sub-projectile is made up of a monolithic depleted uranium core fitted with an aluminum windshield, a steel tip, and an aluminum fin assembly. The sabot is comprised of three 120° aluminum sections which are assembled around the sub-projectile.

Upon leaving the gun, aerodynamic forces cause the sabot to separate from the sub-projectile allowing the sub-projectile to continue a true course to target while the sabot segments fall quickly to earth. Target penetration is affected strictly by the high kinetic energy (KE) of the sub-projectile impacting the target.

Capabilities & Characteristics:

- Antitank round intended for use with the 105mm in the M10 Booker against armored targets
- DU penetrator

System Integration:

- 105mm Gun on M10 Booker

Configurations:

- **C543**
- Suitable Substitutes:
  - C521: 105mm M735 APFSDS-T

Materiel Release: June 1992



ACQUISITION CATEGORY III | ACQUISITION PHASE OS | PRODUCTION STATUS 5 Legacy Item No active production | DESIGNATED USE WAR RESERVE

1. Suitable Substitutes: 2024 Suitability and Interchangeability List (U.S. Army JMC)

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

105mm M393A3 HEP-T Cartridge

The 105mm M393A3 HE Plastic with Tracer (HEP-T) Cartridge satisfies the M10 Booker primary armament requirement to defeat standard infantry bunkers and create openings in double reinforced concrete walls through which infantry can pass through.

Capabilities & Characteristics:

- Creates 8-inch holes in double rebar concrete walls so infantry can pass through
- Utilizes dual-safe fuze
- Defeats bunkers, light armored vehicles, trucks, cards, and sniper positions

System Integration:

- 105mm Gun on M10 Booker

Configurations:

- **CA32**
- Suitable Substitutes:
  - C518: 105mm M393A2 HEP-T

Materiel Release: September 2005



ACQUISITION CATEGORY: III
ACQUISITION PHASE: OS
PRODUCTION STATUS: 5 — Legacy Item, No active production
DESIGNATED USE: WAR RESERVE

1. Suitable Substitutes: 2024 Suitability and Interchangeability List (U.S. Army JMC)

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

105mm M1040 Canister Cartridge

Satisfies the M10 Booker primary armament requirement to defeat dismounted infantry squad in the open.

The canister cartridge is used against ground troops at short range. Upon muzzle exit, the projectile breaks apart and releases over 2,000 tungsten spheres, like a shotgun shell.

The M1040's unique design provides lethality across temperature extremes.

Capabilities & Characteristics:

- Provides anti-personnel capability for the M10 Booker
- Required to provide 50% incapacitation to 5 persons out of a 10-person squad from 100-300 meters (threshold); 50-500 meters (objective)

System Integration:

- 105mm Gun on M10 Booker

Configurations:

- **CA40**
- Replaces C519

Materiel Release: February 2007



ACQUISITION CATEGORY: III

ACQUISITION PHASE: PD

PRODUCTION STATUS: 5 — Legacy Item, No active production

DESIGNATED USE: TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

105mm M490A1 TP-T Cartridge

105mm M490A1 TP-T cartridge is for use in 105mm tank cannon M68 for marksmanship training.

The cartridge is similar in external appearance and ballistically like the M456 series HEAT-T cartridge.

The projectile consists of a steel body and steel standoff spike. It also has no fin assembly and is static stabilized. The cartridge case is filled with loosely packed propellant and is fitted with an electric primer.

Capabilities & Characteristics:

- Trainer for tactical M456A2 HE cartridge
- Static stabilized

System Integration:

- 105mm Gun on M10 Booker

Configurations:

- **C511**

Materiel Release: August 1986



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

105mm M467A1 HEP-TP-T Cartridge

The 105mm M467A1 HEP-TP-T Cartridge is an inert round of ammunition fitted with a tracer for use by Army's M10 Booker in gunnery training and qualification.

Physically and ballistically, the M467A1 is matched to 105mm M393A3 HEP-T utilized with the M10 Booker.

Capabilities & Characteristics:

- Replaced M86 primer with the M125 type thick wall primer
- Training round for M393A3 HEP-T
- Dimensional, weight, and ballistic match to M393A3 HEP-T

System Integration:

- 105mm Gun on M10 Booker

Configurations:

- **CA37**
- Suitable Substitutes:
  - C503: 105mm M393A1 TP-T
  - C510: 105mm M467 TP-T

Materiel Release: September 2005



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

105mm M724A2 TPDS-T Cartridge

The 105mm M724A2 TPDS-T cartridge will support live fire training in the M10 Booker.

The cartridge will be like the 105mm, M900 tactical cartridge in weight and physical appearance.

The M724A2 will be range limited to 7,000 meters maximum when fired @ a 10º gun elevation.

Capabilities & Characteristics:

- Range: Not to exceed 7 kilometers when firing at 10º gun elevation (maximum)
- Provide crews with a training round that has the look and feel of the current M900 tactical KE cartridge

System Integration:

- 105mm Gun on M10 Booker

Materiel Release: Fiscal Year 2018, 3rd Quarter

Configurations:

- **CA58**
- Suitable Substitutes:
  - C520: 105mm M724A1 TPDS-T
  - C543: 105mm M900 APFSDS-T
  - C521: 105mm M735 APFSDS-T

Production Partners:

- GD-OTS



ACQUISITION CATEGORY: IV | ACQUISITION PHASE: PD | PRODUCTION STATUS: 1 Actively Procured & Under Contract | DESIGNATED USE: TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

105mm M724A1 TPDS-T Cartridge

The 105mm M724A1 TPDS-T discarding sabot practice cartridge is similar in external appearance and is ballistically like the M393A2 APDS-T cartridge out to 2,000 meters.

A plastic band encircles the sabot at the forward end while a fiber rotating band and rubber obturating band are mounted toward the base of the sabot. The igniter tube of the electric primer extends almost the entire length of the propellant, which is packed loosely in the cartridge case. The electrically initiated primer ignites the propelling charge and tracer.

Gases produced by the burning propellant propel the projectile from the gun. The sabot is discarded after leaving the muzzle of the weapon because of setback, centrifugal, and air pressure forces and the solid core of the projectile continues to the target. Since it is a practice round, the projectile lacks the penetrating capability of a service round.

Capabilities & Characteristics:

- Trainer for tactical M392A2 HE cartridge
- Spin-stabilized steel core

System Integration:

- 105mm Gun on M10 Booker

Configurations:

- C520



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

120mm M829A4 APFSDS-T Cartridge

The 120mm M829A4 APFSDS-T cartridge is the follow on to the M829A3 APFSDS-T cartridge.

The M829A4 is the most effective anti-armor KE cartridge fired from the M256 120mm smoothbore cannon mounted on the Abrams MBT.

The M829A4 provides the ABCT overmatch against current and anticipated enemy tanks equipped with ERA and APS.

Capabilities & Characteristics:

- Lethality: Up to 2 kilometers (threshold); 4 kilometers (objective)
- Uses an advanced DU penetrator and ACS cartridge case
- Utilizes new high energy temperature insensitive propellant

System Integration:

- 120mm cannon on M1A1/ A2 series Abrams MBTs

Configurations:

- **CA64**
- Suitable Substitutes:
  - C792: 120mm M829A2 APFSDS-T
  - CA26: 120mm M829A3 APFSDS-T

Materiel Release: May 2016

Production Partner:

- GD-OTS (St. Petersburg, FL)



[1] Suitable substitutes: 2024 Suitability and Interchangeability List (U.S. Army JMC)

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

120mm M1147 AMP HEMP-T Cartridge

The 120mm M1147 Advanced Multi Purpose (AMP), HEMP-T is a full-bore, MP HE cartridge developed for the Abrams MBT.

AMP provides new capabilities for Anti-Tank Guided Missile (ATGM) Team defeat at extended range and Double Reinforced Concrete Wall (DRCW) breach while also consolidating the capabilities of four legacy munitions including the M830A1 HEAT-MP-T, M830 HEAT-MP-T, M1028 Canister, and M908 HE-OR-T.

Capabilities & Characteristics:

- AMP is programmed for the required mode of operation (PD, PD/D, or AB) via the Abrams FCS on a platform equipped with an ADL
- AMP provides the means for defeating ATGM teams, DRCW, light armor, bunkers, massed infantry, and obstacles with a single munition using a multi-mode programmable fuze

System Integration:

- 120mm cannon on M1A1/ A2 series Abrams MBTs

Configurations:

- **CA71**
- Suitable Substitutes (for individual capabilities):
  - C791: 120mm M830A1 HEAT-MP-T
  - C787: 120mm M830 HEAT-MP-T
  - CA05: 120mm M908 HE-OR-T
  - CA38: 120mm M1028 Canister

Materiel Release: December 2024



ACQUISITION CATEGORY: III | ACQUISITION PHASE: EMD | PRODUCTION STATUS: 1 (Actively Procured & Under Contract) | DESIGNATED USE: WAR RESERVE

[1] Suitable substitutes: 2024 Suitability and Interchangeability List (U.S. Army JMC)

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

120mm M830 HEAT-MP-T Cartridge

The 120mm M830 HEAT-MP-T is a HE round having both anti-armor and anti-personnel capabilities.

The round consists of a steel body loaded with explosives surrounding a copper shaped charge liner and wave shaper. The projectile embodies a steel spike with a shoulder and nose switching mechanism for full frontal area functioning and graze impact which initiates a base detonating fuze.

The fuze is located at the rear of the projectile body. The projectile body has a copper obturator, boom and fin assembly for flight stabilization. The fin contains a tracer for projectile to target visual tracking.

Capabilities & Characteristics:

- Anti-armor and anti-personnel capabilities

System Integration:

- 120mm cannon on M1A1/ A2 series Abrams MBTs

Configurations:

- **C787**

Materiel Release: August 1986



ACQUISITION CATEGORY: III
ACQUISITION PHASE: OS
PRODUCTION STATUS: 5 — Legacy Item, No active production
DESIGNATED USE: WAR RESERVE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

120mm M830A1 HEAT-MP-T Cartridge

The M830A1 HEAT-MP-T is an HE antitank, MP, tactical service round for U.S. MBTs.

It is designed with a tracer, discarding sabot, and RF proximity sensor mounted on the nose to provide capability against helicopters, and improved capabilities against reactive applique armor.

Capabilities & Characteristics:

- Multi-purpose capability beyond that of the M830 HEAT-MP-T cartridge

System Integration:

- 120mm cannon on M1A1/ A2 series Abrams MBTs

Configurations:

- **C791**

Materiel Release: June 1994



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

120mm M908 HE-OR-T Cartridge

The 120mm M908 HE Obstacle Reduction (OR) with Tracer (HE-OR-T) is an HE cartridge for use in the 120mm M256 smooth bore cannon.

It consists of an 80mm, HE-filled, flight projectile with discarding sabot. The M908 is identical to the 120mm M830A1, except for the steel nose that is used in place of a proximity switch.

The M908 cartridge provides similar capability as the M830A1 against buildings, bunkers and light armor, as well as enhanced performance against concrete obstacles.

Capabilities & Characteristics:

- Same aeroballistics as the M830A1 HEAT-MP-T tactical cartridge
- Effective against buildings, bunkers, and light armor
- Enhanced performance against concrete obstacles

System Integration:

- 120mm cannon on M1A1/ A2 series Abrams MBTs

Configurations:

- **CA05**

Materiel Release: March 2003



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

120mm M829A3 APFSDS-T Cartridge

The 120mm M829A3 KE, AP, FS, DS-T cartridge is the most advanced anti-tank cartridge currently in production in the world today. It employs a "Super DU" Penetrator manufactured via a process that enhances the DU properties, and a revolutionary DS manufactured from a lightweight composite material.

The M829A3 employs an enhanced high density conventional propulsion system utilizing RPD-380 Propellant. It is capable of defeating tanks equipped with Explosive Reactive Armor (ERA), when fired from the existing 120mm series Abrams tank fleet.

Capabilities & Characteristics:

- 120mm KE cartridge
- Designed to defeat modern tanks with ERA
- Incorporates improved penetrator, sabot, and propulsion system

System Integration:

- 120mm cannon on M1A1/ A2 series Abrams MBTs

Configurations:

- **CA26**

Materiel Release: September 2004



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

120mm M1028 Canister Cartridge

The M1028 Canister Cartridge is used against ground troops at short range (<700 meters). It utilizes a payload of ~1100 tungsten balls that are dispersed from a projectile casing upon muzzle exit, like how a shotgun shell exits the muzzle.

Capabilities & Characteristics:

- Provides effective anti-personnel capability
- Developed to defeat 50% of advancing squads and platoons from 200-500 meters (threshold); 100-700 meters (objective)

System Integration:

- 120mm cannon on M1A1/ A2 series Abrams MBTs

Configurations:

- CA38

Materiel Release: November 2006



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

120mm M1002 TPMP-T Cartridge

The 120mm M1002 TPMP-T is a training cartridge for the M830A1 HEAT-MP-T and M908 HE-OR-T tactical cartridges.

This target practice cartridge contains a propulsion system consisting of a stub metal case with combustible sidewall, granular, double based RPD-596 propellant, and electric Hazards of Electromagnetic Radiation to Ordnance (HERO)-compliant primer, while the projectile consists of a multi-piece sub-projectile (nose, body, tail cone) and sabots.

The nose has an air/ ground mode selector switch simulator to provide for loader training familiarization with switch setting operations on the tactical cartridge. After ignition, the stub metal case and primer are ejected into the tank turret, when the projectile exits the gun, the sabot segments separate, and the sub-projectile continues to target. There is a red burning tracer in the tail cone to aid in following the sub-projectile to target.

Capabilities & Characteristics:

- Training cartridge simulates the M830A1 HEAT-MP-T and M908 HE-OR-T combat cartridges

System Integration:

- 120mm cannon on M1A1/ A2 series Abrams MBTs

Configurations:

- **CA31**
- Suitable Substitutes:
  - C784: 120mm M831A1 TP-T
  - CA68: 120mmM1002 TPMT-T Frangible

Materiel Release: May 2008

Production Partners:

- NGDS (Plymouth, MN)
- GD-OTS (St. Petersburg, FL)





DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

120mm M831A1 TP-T Cartridge

The 120mm M831A1 TP-T contains a propulsion system consisting of a stub metal case with combustible sidewall, granular single base M14 propellant, and an electric primer.

The projectile consists of a steel spike (nose), aluminum body, and ring stabilizer with slots that impart spin.

After ignition, the stub metal case and primer are ejected into the tank turret, the projectile continues to target. There is a red burning tracer in the stabilizer to aid in following the projectile to target.

Capabilities & Characteristics:

- Training cartridge simulates the M830 HEAT-T tactical cartridge

System Integration:

- 120mm cannon on M1A1/ A2 series Abrams MBTs

Configurations:

- **C784**

Materiel Release: September 1994



ACQUISITION CATEGORY: III
ACQUISITION PHASE: OS
PRODUCTION STATUS: 5 — Legacy Item, No active production
DESIGNATED USE: TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

120mm M865 TPCSDS-T Cartridge

The 120mm M865 is a TPCSDS-T cartridge.

It contains a propulsion system consisting of a stub metal case with combustible side wall, granular, single base, M14 propellant, and an electric primer.

The projectile consists of a two-piece sub-projectile (steel core with a slotted tail cone/fin) and aluminum sabots. After ignition, the stub metal case and primer are ejected into the tank turret; when the projectile exists the gun, the sabot segments separate, and the sub-projectile continues to target. There is a yellow/ orange burning tracer in the tail cone (fin) to aid in following the sub-projectile to target.

Capabilities & Characteristics:

- Training cartridge simulates the M829 series combat cartridges

System Integration:

- 120mm cannon on M1A1/ A2 series Abrams MBTs

Configurations:

- **C785**

Materiel Release: August 1986



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

120mm M865A1 TPCSDS-T Cartridge

The 120mm M865A1 is a Target Practice, Cone Stabilized, Discarding Sabot – Tracer (TPCSDS-T) cartridge. It contains a propulsion system consisting of the ACS with combustible sidewall, granular, double based RPD-596 propellant, and an electric Hazards of Electromagnetic Radiation to Ordnance (HERO)-compliant primer, while the projectile consists of a two-piece sub-projectile (steel core with a slotted tail cone/fin) and aluminum sabots.

After ignition, the stub metal case and primer are ejected from the tank breech; when the projectile exists the gun, the sabot segments separate, and the sub-projectile continues to target. There is a yellow/ orange burning tracer in the tail cone (fin) to aid in following the sub-projectile to target.

Capabilities & Characteristics:

- Training cartridge simulates the M829 series combat cartridges

System Integration:

- 120mm cannon on M1A1/ A2 series Abrams MBTs

Configurations:

- **CA69**
- Suitable Substitutes:
  - C785: 120mm M865 TPCSDS-T

Materiel Release: August 1986; Engineering Change Proposal in January 2020

Production Partners:

- NGDS (Plymouth, MN)
- GD-OTS (St. Petersburg, FL)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log #123-26

CPE A&E

Project Manager Close Combat Systems (PM CCS) provides dominant and innovative lethal and protective capabilities for the Joint Warfighter. Team CCS' contributions span multiple Services, and support the spectrum of conflict from lethal to intermediate force, and end of life-cycle demilitarization for all Department of Defense conventional munitions. The capabilities are used in multi-domain operations to enable efficient and effective Joint Warfighter success.

Mission: Provide dominant and innovative lethal and protective capabilities for the Joint Warfighter through acquisition excellence.

Vision: Skilled innovative team, empowered to deliver dominating close combat capabilities.

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Project Manager Close Combat Systems

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CADS/PADS (Cartridge Actuated Devices/Propellant Actuated Devices)

Cartridge Actuated Devices (CAD) and Propellant Actuated Devices (PAD) are items that function as a system component.

CAD/PAD items are unique since they are airframe components but are regarded as munitions devices. The design and function of these devices vary widely in complexity.

Capabilities & Characteristics:

- In operation, these items release precise explosive energy to assist in Aircrew escape, fire suppression, or emergency release systems.
- These items have a set shelf life and installed life.
- Both CADs and PADs contain energetic materiel along with a mechanical or electronic actuating component.

System Integration:

- Army combat aviation rotary aircraft

Configurations & Production Partners:

- AH-64 Apache:
  - MS81: Shielded Mild Detonating Cord (SMDC)
  - MS82: Shielded Mild Detonating Cord
  - MS83: Shielded Mild Detonating Cord
  - MS85: Shielded Mild Detonating Cord
  - MS86: Shielded Mild Detonating Cord
  - MS87: Shielded Mild Detonating Cord
  - MS91: Flexible Confined Detonating Cord
  - MS92: Flexible Confined Detonating Cord
  - MS94: Window Cutting Assembly
  - MS95: Window Cutting Assembly
  - MS96: Window Cutting Assembly
  - MS97: Shielded Mild Detonating Cord
  - MT06: JAU-59A Initiator
  - SP02: TLX Detonating Cord Assembly
  - SP03: TLX Detonating Cord Assembly
  - JM78: Cockpit Air Bag System 60L Gas Generator
  - JM79: Cockpit Air Bag System 30L Gas Generator
  - MD66/JM92: HERO Safe Stores Release Cartridge
  - WB53: Aircraft Fire Extinguisher Cartridge
- UH-60 Blackhawk:
  - M514: Impulse Cartridge
  - MD65: CCU-45/B Impulse Cartridge
  - MJ21: CCU-92/A Impulse Cartridge
  - MT20: Aircraft Fire Extinguisher Cartridge
  - DWGS: Cable Cutter Assembly
    MU02: Cable Cutter Assembly
  - MU34: Refire Kit
  - JM96: Impulse Cartridge
  - MD66/JM92: HERO Safe Stores Release Cartridge
  - WB53: Aircraft Fire Extinguisher Cartridge
- CH-47 Chinook:
  - JM96: Impulse Cartridge
  - M514: Impulse Cartridge
  - MT20: Aircraft Fire Extinguisher Cartridge
  - TY60: Aircraft Fire Extinguisher
  - WB53: Aircraft Fire Extinguisher Cartridge
- A/MH-6 Little Bird:
  - MD66/JM92: HERO Safe Stores Release Cartridge
- C-130 Hercules (USAF Leased):
  - DWEA: MK 273 Mod 0 Parachute Release Initiator Actuated Cartridge
  - M500: G-1 Cargo Parachute Reefing Line



Production Partners :

1) Ametek Ameron, Baldwin Park, CA: MT20, TY60, WB53, JM96
2) Applied Energy Technology Corp, Burton, TX: JM96, M514, MD66
3) Breeze Eastern, Whippany, NJ: MJ20
4) CAD, Inc, Fairfield NJ: M514, DWGS , MD65
5) Collins Aerospace (UTAS), Fairfield, CA: SP02/SP03, MT06, MS80s, MS91/MS92, MS94/MS95/MS96/MS97
6) Goodrich Corp, Diamond Bar, CA: DWGS
7) Kidde Aerospace, Wilson, NC: MT20, TY60
8) Pacific Scientific, Chandler, AZ: MJ21, DWEA, M514
9) Pacific Scientific, Hollister, CA: MT06, MS81/MS82/MS83/MS85/MS86/MS87, MS91/MS92, MS94/MS95/MS96/MS97
10) Pyrotechnic Specialties Inc.: Byron, GA: MD65, MD66
11) Stratus Systems, New Orleans, LA: JM96
12) Technical Ordnance (also known as AMTEC Corp), Clear Lake, SD: MD65, MD66



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M839/M1 Countermeasure Chaff

The chaff cartridge is a decoy to provide an effective survival counter-measure for Army aircraft against radar-controlled weapon systems. It works in conjunction with the already fielded RR170A/AL Chaff Cartridge.

The M839/M1 chaff is a 1x1x8 cartridge which consists of aluminum coated dipoles that provides the necessary RF coverage in specific RF bands.

Capabilities/ Characteristics:

- Improves survivability of Army rotary wing aircraft against advanced radar threats
- Ammunition cartridge consisting of a plastic outer case nominally 1-inch-wide x 1-inch-high x 8 inches long
- The cartridge item contains: a plastic end cap, plastic piston, and dipole payload
- An electrical impulse from the aircraft's dispenser system fires an impulse cartridge (such as the BBU-35/B or M796) which ejects the dipole payload from the dispenser.
- The payload then blooms into a radar reflecting cloud that breaks lock on radar-controlled weapon systems

System Integration:

- Rotary Wing Aircraft
- Fixed Wing Aircraft

Configuration:

- A965/Z133

Materiel Release: 1980

Production Partners:

- Armtec (Lillington, NC)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

RR170A/AL Countermeasure Chaff

The chaff cartridge is a decoy to provide an effective survival counter-measure for Army aircraft against radar-controlled weapon systems. It works in conjunction with the already fielded M839 /M1 Chaff Cartridge.

The RR170A/AL chaff is a 1x1x8 cartridge which consists of aluminum coated dipoles that provides the necessary RF coverage in specific RF bands.

Capabilities/ Characteristics:

- Improves survivability of Army rotary wing aircraft against advanced radar threats
- Ammunition cartridge consisting of a plastic outer case nominally 1-inch-wide x 1-inch-high x 8 inches long
- The cartridge item contains: a plastic end cap, plastic piston, and dipole payload
- An electrical impulse from the aircraft's dispenser system fires an impulse cartridge (such as the BBU-35/B or M796) which ejects the dipole payload from the dispenser.
- The payload then blooms into a radar reflecting cloud that breaks lock on radar-controlled weapon systems

System Integration:

- Rotary Wing Aircraft
- Fixed Wing Aircraft

Configuration:

- LY07

Materiel Release: 2016

Production Partners:

- Armtec (Lillington, NC)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

XM215 Aircraft Countermeasure Flare

The XM215 is a new expendable countermeasure munition that will provide Enduring and Future Vertical Lift (FVL) Army Aircraft protection against current and advanced guided missile threats that operate in specific Electro-Optical/Infrared (EO/IR) spectrums.

Program was put on hold following Milestone B in FY24

Capabilities/ Characteristics:

- Improves survivability of Army rotary wing aircraft against current and advanced Man-Portable Air Defense Systems (MANPADS)
- Ammunition cartridge consisting of a plastic outer case nominally 1-inch-wide x 1-inch-high x 8 inches long
- The cartridge item contains: a plastic end cap, plastic piston, and pyrotechnic payload
- An electrical impulse from the aircraft's dispenser system fires an impulse cartridge (such as the BBU-35/B or M796) which ignites the flare and ejects it from the dispenser
- The burning flare then provides an alternative target for Electro Optical/Infrared (EO/IR) guided threats

System Integration:

- Rotary Wing Aircraft
- Fixed Wing Aircraft

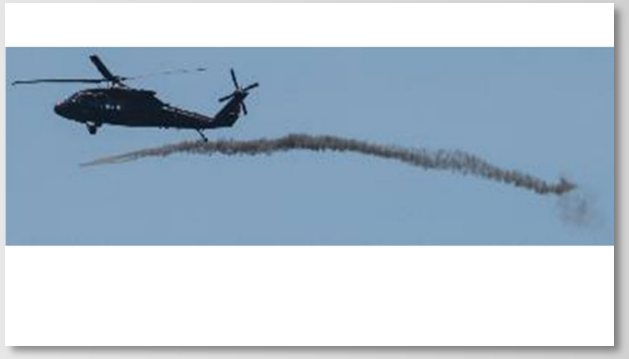
Configuration:

- LA95

Materiel Release: FY28

Production Partners:

- Kilgore Countermeasure (Toone, TN)
- Armtec (Camden, AR)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M206 Aircraft CM Flare

The M206 is an infrared (IR) countermeasure flare used to protect aircraft from heat-seeking missiles. It functions as a decoy, creating a more attractive infrared signature for a missile to follow, thus diverting it from the intended target. The flare is a pyrotechnic composition based on Magnesium, Teflon and Viton (MTV), which, when ignited, produces a significant amount of infrared radiation.

Capabilities/ Characteristics:

- Improves survivability of Army rotary wing aircraft against current and advanced Man-Portable Air Defense Systems (MANPADS)
- Ammunition cartridge consisting of a plastic outer case nominally 1-inch-wide x 1-inch-high x 8 inches long
- The cartridge item contains: a plastic end cap, plastic piston, and MTV payload
- An electrical impulse from the aircraft's dispenser system fires an impulse cartridge (such as the BBU-35/B or M796) which ignites the flare and ejects it from the dispenser
- The burning flare then provides an alternative target for infrared-guided threats

System Integration:

- Rotary Wing Aircraft
- Fixed Wing

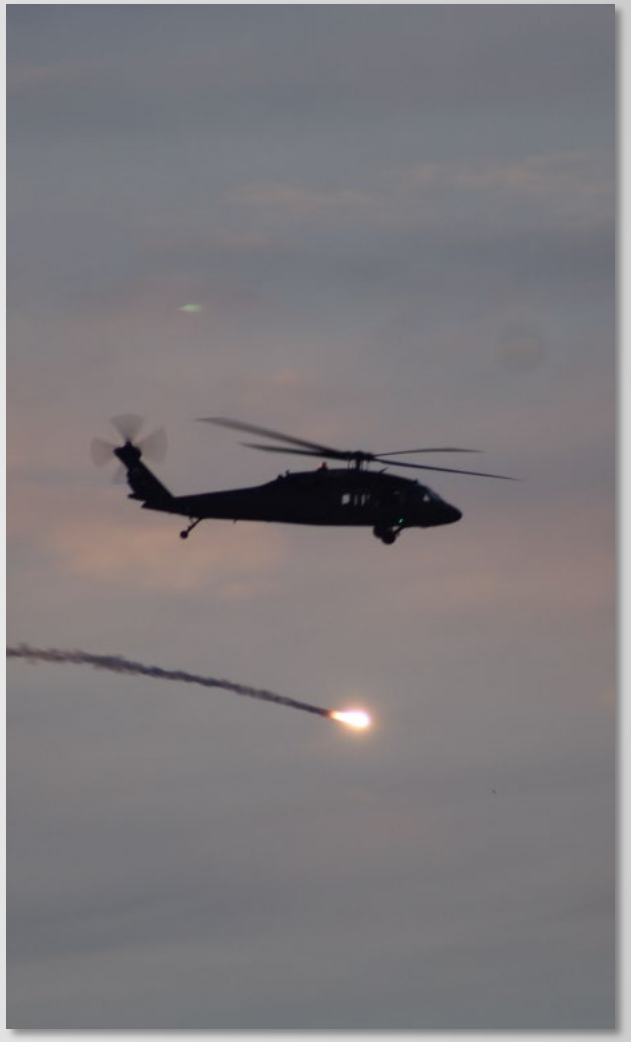
Configuration:

- L410

Materiel Release: August 1980

Production Partners:

- Kilgore (Toone, TN)
- Armtec Defense (Kilgore, TN)











DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M211 Infrared Countermeasure Flare

The M211 decoy is part of the family of advance IR CM flares/decoys designed to protect Army helicopters and fixed wing aircraft against infrared seeking missile threats.

The M211 decoy is in a 1-inch x 1-inch x 8-inch form factor in an aluminum case loaded with a special pyrophoric material payload foils

Capabilities/ Characteristics:

- Improves survivability of Army rotary wing aircraft against current and advanced Man-Portable Air Defense Systems (MANPADS)
- Ammunition cartridge consisting of a plastic outer case nominally 1-inch-wide x 1-inch-high x 8 inches long
- The cartridge item contains: a plastic end cap, plastic piston, and special material payload
- When an impulse cartridge (BBU-35/B or M796) is fired from the aircraft's dispenser, the material is expelled from the casing.
- This special material then rapidly oxidizes upon contact with the air, generating a tailored IR signature designed to decoy advanced infrared-guided missiles

System Integration:

- Rotary Wing Aircraft
- Fixed Wing Aircraft

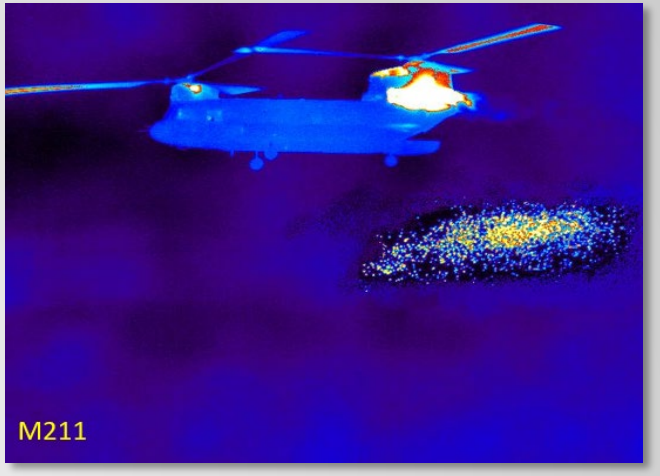
Configuration:

- LA14

Materiel Release: May 2009

Production Partners:

- TBD



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

Impulse Cartridges

- **The BBU-35/B & M796 Impulse Cartridges is an electrically initiated cartridge used to eject countermeasures, such as flares and chaff, from an aircraft's dispenser system.**

Capabilities/ Characteristics:

- Used to initiate all Army Countermeasures such as the M206, M211, RR170A/AL and M839
- When triggered by an electrical signal from the aircraft's defensive system, the BBU-35/B & M796 fires, producing hot, expanding gases. This pressure acts on a piston within the countermeasure's casing, which then forcibly expels the flare pellet or chaff bundle into the airstream
- In the case of flares like the M206, the impulse cartridge's action also ignites the flare's pyrotechnic payload

Configuration:

- MD73: Army Impulse Cartridge
- MG62: USAF version; completed materiel release for Army use

Materiel Release:

- MD73: September 1980
- MG62: June 2008

Production Partners:

- Valor
- PacSci
- TechOrd



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

BLU-110 Series GP Bomb

The Bomb Live Unit (BLU)-110 General Purpose (GP) Bomb is identical to the 1,000-pound class MK 83 GP Bomb. The BLU-110 is filled with PBXN-109 IM explosive while the MK 83 Mod 4 is filled with Tritonal explosive.

The BLU-110 Bomb is used by the USN and USAF. The USN version is thermally-protected to extend the cook-off times and has three yellow bands on the bomb. The USAF version has only one yellow band.

This bomb has a slender body made of steel with a well in the nose section for a proximity sensor, mechanical fuze and adapter booster, or a penetrating nose plug; and a well in the aft section for a tail electric fuze. It is compatible with proximity sensors, mechanical and electrical or electronic fuzes. It uses a conical or retarding fin, laser/GPS guidance airfoil kit, or a mine kit

Capabilities & Characteristics:
- Attacks soft, fragment-sensitive targets such as troops, petroleum-based liquids, radars, and aircraft in the open
- Weight: 903 pounds
- Length: 72.47 inches
- Diameter: 14.22 inches

System Integration:
- Various fixed-wing aircraft

Configurations:
- F288: BLU-110A/B, PBX Fill (USN)
- EB28: BLU-110/B, PBX Fill (USAF)
- ED42: BLU-110C/B, PBX Fill (USAF)

Production Partners:
- Empty Bomb Assembly: GD-OTS / REPKON (Garland, TX)
- LAP: MCAAP (McAlester, OK)
- Explosives: HSAAP (Kingsport, TN)



ACQUISITION PHASE: PD

PRODUCTION STATUS: 1 – Actively Procured & Under Contract

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

BDU-56 Series Practice Bomb

The BDU-56 Practice Bomb is an inert version of the MK 84 2,000-pound GP Bomb.

The bomb is manufactured as a forged steel body with concrete fill.

Capabilities & Characteristics:

- Training bomb used to simulate the 2,000-pound MK 84 GP bomb
- Weight: 2,168.42 pounds
- Length: 291.84 inches
- Diameter: 18 inches

System Integration:

- Various fixed-wing aircraft

Configurations:

- E756: BDU-56/B, Concrete fill (USAF)

Production Partners:

- Empty Bomb Assembly: GD-OTS / REPKON (Garland, TX)
- LAP: MCAAP (McAlester, OK)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

BLU-117 Series GP Bomb

The BLU-117 2,000-pound GP Bomb is used by the USAF and the USN.

It has a slender body made of steel with a well in the nose section for a proximity sensor, mechanical fuze and adapter booster, or a penetrating nose plug; and a well in the aft section for a tail electric fuze. It uses a conical fin, or laser/GPS guidance airfoil kit, or a mine kit.

The BLU-117 is identical to the 2,000-pound class MK 84 GP Bomb except for the explosive fill. Instead of the MK84's Tritonal fill, the BLU-117 uses either AFX-795 or PBXN-109 IM explosive.

Capabilities & Characteristics:

- Attacks soft and intermediately protected targets, buildings, rail yards, and lines of communication
- Weight: 1,880 pounds
- Length: 97.34 inches
- Diameter: 18.30 inches

System Integration:

- Various fixed-wing aircraft

Configurations:

- EB04: BLU-117A/B, PBX Fill (USN)
- EF92: BLU-117A/B, PBX Fill w/o Cable (USN)
- ED09: BLU-117B/B, AFX Fill (USAF)

Production Partners:

- Empty Bomb Assembly: GD-OTS / REPKON (Garland, TX)
- LAP: MCAAP (McAlester, OK)
- Explosives: HSAAP (Kingsport, TN)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

BLU-136/B High Fragmenting Bomb Assembly

The BLU-136/B is a 2,000-pound class variant Next Generation Area Attack Weapon (NGAAW).

Capabilities & Characteristics:

- The BLU-136/B can be paired with the JDAM guidance kit (KMU-557), HoB DSU-33 Sensor, and FMU-156A/B Fuze
- The AUR weapon capability provides greater effectiveness in area attack defeat compared to the MK 84

System Integration:

- Various fixed-wing aircraft

Configurations:

- EE92: BLU-136/B, PBX Fill (USAF)

Production Partners:

- Empty Bomb Assembly: TBD
- LAP: MCAAP (McAlester, OK)
- Explosives: HSAAP (Kingsport, TN)



ACQUISITION PHASE: PD

PRODUCTION STATUS: 1 – Actively Procured & Under Contract

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

BLU-109 Series Hard Target Penetrator Warhead

The BLU-109 is a 2,000-pound hard target penetrator warhead for the following guided bombs and missiles: GBU-10, -15, -24, -27, and -31(V)3/B; and AGM-130.

The BLU-109 body is approximately twice the wall thickness of the MK 84. It is typically detonated by an FMU-143 series tail fuze. The absence of a nose fuze well makes the nose stronger, and the weapon base plate is reinforced to better protect the fuze from the shock of impact.

The BLU-109A/B is fitted with a permanent external hardback and has an external thermal protective coating. The BLU-109C/B is an IM version with AFX-757 explosive and vent plate used by the USAF.

Capabilities & Characteristics:
- Penetrates bunkers, aircraft shelters, and concrete structures
- Weight: 2,168.42 pounds
- Length: 98.85 inches
- Diameter: 14.50 inches

System Integration:
- Various fixed-wing aircraft

Configurations:
- F142: BLU-109A/B, PBX Fill (USN)
- E342: BLU-109A(D-1)/B, Inert Fill (USN)
- F034: BLU-109(D-1)/B, Inert Fill (USAF)
- F140: BLU-109/B, Tritonal Fill (USAF)
- ED49: BLU-109C/B, AFX Fill (USAF)



Production Partners:
- Empty Bomb Assembly: Ellwood National Forge (Irvine, PA)
- LAP: MCAAP (McAlester, OK)
- Explosives: HSAAP (Kingsport, TN)

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

BDU-33 Practice Bomb

The BDU-33 Practice Bomb is a teardrop-shaped bomb that simulates a MK 82 low-drag configuration. It utilizes a spotting charge to display target marking.

When the bomb is released from the aircraft, it free falls until impact. Upon impact, the bomb drives a firing pin assembly against a primer, activating the signal charge. The resulting flash and puff of smoke permits visual evaluation of accuracy. The USN's MK 76 bomb configuration has similar function but has different dimensional attributes.

Capabilities & Characteristics:

- Training bomb designed to simulate the MK 82 series 500-pound GP bomb in low-drag configuration
- Used by the U.S. Army

System Integration:

- Various fixed-wing aircraft

Configurations:

- E969

Production Partners:

- Delfasco, LLC (Afton, TN)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

MK 76 Practice Bomb

The MK 76 Practice Bomb is a teardrop-shaped bomb that simulates an MK 82 low-drag configuration used by the USN. It is comparable to the USAF's BDU-33.

The MK 76 utilizes the M4 or CXU-3 signal cartridges as a spotting charge to display target marking. Upon impact, the bomb drives a firing pin assembly against a primer, activating the signal charge. The resulting flash and puff of smoke permits visual evaluation of accuracy.

Capabilities & Characteristics:

- USN training bomb designed to simulate the MK 82 series 500-pound GP bomb in low-drag configuration

System Integration:

- Various fixed-wing aircraft

Configurations:

- E973

Production Partners:

- Delfasco, LLC (Afton, TN)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

MK 82 GP Bomb

The MK 82 GP Bomb is designed for soft, fragment-sensitive targets such as troops, petroleum-based liquids, radars, and aircraft. The USAF is the primary user.

This weapon is not intended for hard targets or penetrations. The primary fill for the MK 82 MOD 1 is Tritonal (live load), but it is also loaded with an inert fill.

Capabilities & Characteristics:
- Weight: 533.10 pounds
- Length: 85.86 inches
- Diameter: 10.80 inches

System Integration:
- Various fixed-wing aircraft

Configurations:
- E485: MK 82 Mod 1, Tritonal Fill (USAF)
- F237: MK 82 Mod 1, Inert Fill (USN)
- F243: MK 82 Mod 1, Inert Fill (USAF)

Production Partners:
- Empty Bomb Assembly: GD-OTS / REPKON (Garland, TX)
- LAP: MCAAP (McAlester, OK)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

BLU-111 Series GP Bomb

The BLU-111 GP Bomb is identical to the 500-pound class MK 82 GP Bomb, except for the explosive fill.

The BLU-111 is filled with PBXN-109 IM explosive while the MK 82 Mod 6 is filled with Tritonal explosive. The BLU-111 is used by the USN and USAF.

Capabilities & Characteristics:

- Attacks soft, fragment-sensitive targets such as troops, petroleum-based liquids, radar, and aircraft in the open
- Weight: 460 pounds
- Length: 60.57 inches
- Diameter: 11.05 inches

System Integration:

- Various fixed-wing aircraft

Configurations:

- ED15: BLU-111 B/B, PBX Fill (USAF)
- ED16: BLU-111 C/B, PBX Fill (USN)

Production Partners:

- Empty Bomb Assembly: GD-OTS / REPKON (Garland, TX)
- LAP: MCAAP (McAlester, OK)
- Explosives: HSAAP (Kingsport, TN)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

BLU-129/B Low Collateral Bomb

The BLU-129/B is a low collateral damage weapon, made from a carbon-fiber composite for low fragmentation, with a Multi-Phase Blast Explosive (MBX) fill for high lethality.

Capabilities & Characteristics:

- The BLU-129/B bomb has the equivalent outer mold line and mass properties to a standard MK 82 bomb
- Compatible with inventory laser sensors, GPS/ INS guidance kits, and fuzes

System Integration:

- Various fixed-wing aircraft

Configurations:

- ED78, MBX Fill (USAF)

Production Partners:

- Empty Bomb Assembly: TBD
- LAP: MCAAP (McAlester, OK)
- Explosives: HSAAP (Kingsport, TN)



ACQUISITION PHASE: PD

PRODUCTION STATUS: 1 – Actively Procured & Under Contract

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

BDU-50 Series Practice Bomb

The BDU-50 500-pound Practice Bomb is an inert version of the MK 82 Bomb.

This inert bomb is dropped either with a parachute for "High Drag" mode or with no drag device for "Slick" mode. The bomb is manufactured as a cast ductile iron configuration.

Capabilities & Characteristics:
- Weight: 521 pounds
- Length: 89.44 inches
- Diameter: 10.80 inches

System Integration:
- Various fixed-wing aircraft

Configurations:
- ED96: BDU-50D/B
- EB71: BDU-50C/B

Production Partners:
- Tower Industries, Inc. (Allied Mechanical Wisconsin (AMW)) (Greenville, WI)



ACQUISITION PHASE: PD

PRODUCTION STATUS: 1 – Actively Procured & Under Contract

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

MK 84 Mod 0 Conical Fin Assembly

The MK 84 Fin is used on 2,000-pound GP Bombs such as the BLU-117 and on practice bombs.

Capabilities & Characteristics:

- Stabilizes the bomb for delivery from high altitudes while enhancing accuracy

System Integration:

- 2,000-pound MK 84 GP Bomb
- 2,000-pound BLU-117 GP Bomb

Configurations:

- F607

Production Partners:

- Innovative Technologies International, Inc. (NovaTech) (Lynchburg, VA)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

BSU-33 C/B Conical Fin Assembly

The BSU-33 Conical Fin is used on 500-pound GP and practice bombs. It is the smaller version of the MK 84 Conical Fin.

Capabilities & Characteristics:

- Stabilizes the bomb for delivery from high altitudes while enhancing accuracy

System Integration:

- 500-pound MK 82 GP Bomb
- 500-pound BLU-111 GP Bomb

Configurations:

- EE10

Production Partners:

- Capco, LLC (Valor) (Grand Junction, CO)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

Nose Plug and Support Cup

The combined use of the Nose Support Cup and Nose Plug is to prevent fuze well collapse on impact when nose fuzing is not utilized.

The Nose Plug is also used in cement-filled bombs to prevent cement particles from being ingested into aircraft engines.

Capabilities & Characteristics:

- Tubing Diameter: 2.87 inches
- Length: 6.4 inches
- Nose Support Cup:
  - Swedged on one end to form a beveled area with a 1.62-inch hole beveled into the end to slip over the fuze well nut
- Nose Plug:
  - Forged solid piece of metal (cone shaped) with a 3.5-inch threaded area and two cutout areas used for wrenching purposes

System Integration:

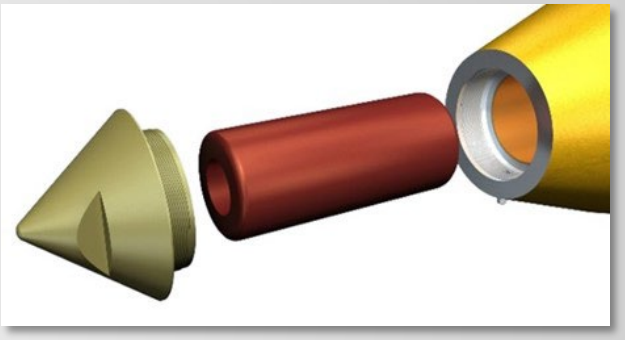
- 500-pound MK 82 GP Bomb
- 1,000-pound MK 83 GP Bomb
- 2,000-pound MK 84 GP Bomb

Configurations:

- FW26: Nose Support Cup
- G008: Nose Plug

Production Partners:

- Hy-Tek Manufacturing Co., Inc. (Sugar Grove, IL)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

MS3314 Bomb Suspension Lug

The MS3314 bomb suspension lugs are used to suspend weapons and stores on standard bomb racks.

Capabilities & Characteristics:

- Threaded metal suspension lug designed to secure munitions to aircraft bomb rack
- Length: 2.375 inches
- Diameter: 1.75 inches
- Thread Size: 1.75 inches-12 UN-3A

System Integration:

- 500-pound MK 82 GP bombs and training variants
- 1,000-pound MK 83 GP bombs and training variants

Configurations:

- G261

Production Partners:

- Premier Precision Machining, LLC (Rand Precision Machining) (Falconer, NY)



ACQUISITION PHASE: PD

PRODUCTION STATUS: 1 Actively Procured & Under Contract

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

MK 3 Mod 0 Bomb Suspension Lug

The MK 3 Mod 0 bomb suspension lugs are used to suspend weapons and stores on standard bomb racks.

Capabilities & Characteristics:

- Threaded metal suspension lug designed to secure munitions to aircraft bomb rack
- Length: 3.62 inches
- Diameter: 2.5 inches
- Thread Size: 2.5 inches-12 UN-3A

System Integration:

- 2,000-pound MK 84 GP Bombs, Penetrator Bombs, and Training Variants

Configurations:

- G261

Production Partners:

- Premier Precision Machining, LLC (Rand Precision Machining) (Falconer, NY)



ACQUISITION PHASE: PD

PRODUCTION STATUS: 1 – Actively Procured & Under Contract

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

CXU-3 (D-I) A/B Inert Signal Cartridge

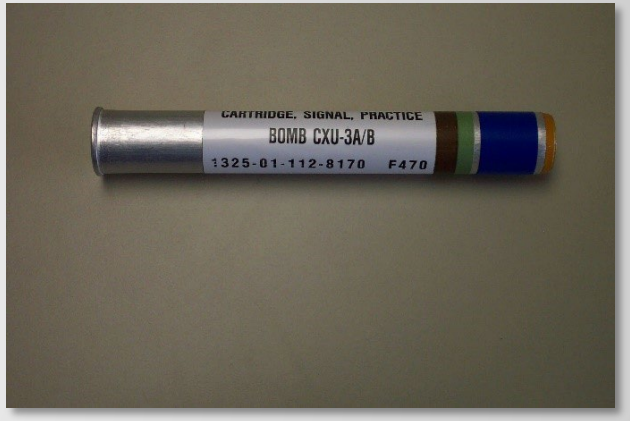
The CXU-3A/B Signal Cartridge is used with practice bombs to mark the point of impact. This fire-free spotting charge is for daytime use during good visibility.

Capabilities & Characteristics:

- Aluminum case with a primer, expelling charge, and glass ampule containing titanium tetrachloride
- Titanium tetrachloride produces large volumes of white smoke when exposed to the air to mark the location of impact for practice bombs
- Requires use of MK 89 Spotting Charge Adapter
- Weight: 0.287 pounds
- Length: 6 inches
- Diameter: 0.927 inches

System Integration:

- MK 76 Practice Bomb
- BDU-33 Training Bomb
- MK 106 Practice Bomb
- BDU-48 Training Bomb
- Laser Guided Training Round
- MK 80 Series Practice Bombs
- BDU-45 Training Bomb



Configurations:

- EB01

Production Partners:

- Spectra Technologies (Camden, AR)

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

MK 4 (D-I) Mod 3 Signal Cartridge

The MK 4 Mod 3 Signal Cartridge is used with practice bombs to mark the point of impact. It is a nighttime spotting charge that also provides excellent visual marking in daylight.

Capabilities & Characteristics:

- Aluminum case with a percussion primer, expelling charge, and RP
- RP produces smoke and a large flame to mark the location of impact for practice bombs
- Used in tail fuze well
- Requires use of MK 89 Spotting Charge Adapter
- Weight: 0.233 pounds
- Length: 5 inches
- Diameter: 0.927 inches

System Integration:

- MK 76 Practice Bomb
- BDU-33 Training Bomb
- MK 106 Practice Bomb
- BDU-48 Training Bomb
- Laser Guided Training Round
- MK 80 Series Practice Bombs
- BDU-45 Training Bomb

Configurations:

- EB03

Production Partners:

- Day & Zimmermann Lone Star (Texarkana, TX)



ACQUISITION PHASE: PD

PRODUCTION STATUS: 1 – Actively Procured & Under Contract

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

Demilitarization of Conventional Ammunition

Product Director Demilitarization performs the Demilitarization portion of acquisition life-cycle management of conventional ammunition and tactical missiles for the Military Services and other US Government agencies. Current demilitarization stockpile exceeds 297K tons.

Demilitarization is accomplished at US Government Owned Government Operated (GOGO) and Government Owned Contractor Operated (GOCO) facilities (depots and army ammunition plants (AAPs)) and US commercial facilities and facilities outside of the continental US (OCONUS). Currently the annual program budget is distributed to 57% US government facilities, 42% US commercial facilities, and 1% OCONUS. Demilitarization is currently accomplished through Closed Disposal Technologies (CDT) and Open Burning/Open Detonation (OB/OD).

Capabilities/ Characteristics:

- Open Burn / Open Detonation
- APE 1236M2 Explosive Waste Incineration
- Rockeye Download
- 30mm Super Pull Apart Machine

System Integration:

- GOGO, GOCO and COCO Facilities

Key Focus Areas:

- Conventional Ammunition Demil Contract (FY27-31)
- Alternate Technology for Demil Execution
- 30mm Depleted Uranium Penetrator Reclamation
- Donor Material Stockpile – TNT Contract (FY27-31)
- Ammonium Perchlorate Rocket Motor Destruction (ARMD) Letterkenny Munitions Center



APE 1236 Rotary Kiln Incinerator at Tooele Army Depot

Production Partners:

- Gradient Technology Inc
- General Dynamics Munitions
- Arcwood Environmental
- Enviro Safe Demil
- EXPAL USA

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

Product Director Demilitarization performs the Conventional Munitions Demilitarization Technology project develop capability and capacity as well as technology facilities to support the CONUS organic mission.

PdD DEMIL RDTE has transitioned Priority Projects:

- **G26 IR Grenade**
- **Nike Hercules Safety and Condition Assessment**
- **155mm Projectile Improved Conventional Munitions Demil D561/D562**
- **Engine Starter Cartridge Static Fire**
- **Ammonium Perchlorate Rocket Motor Destruction**
- **Rockeye Cluster Bomb Demil Process**

Requirement focused on unique class of munitions/DODICs that lack an existing Demil solution

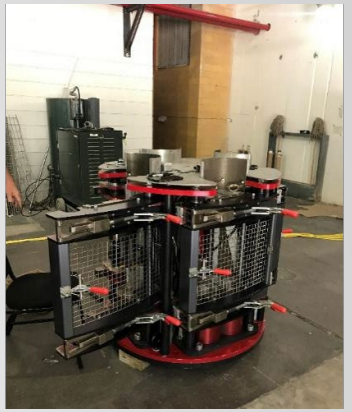
- **Closed Disposal Capabilities**
- **Smoke and Illumination Ammunition**
- **Cluster Bomb Units**
- **Asbestos Containing Munitions**
- **White Phosphorous Munitions**
- **Reactive Armor Tiles**
- **Cluster Bomb Unit Download and Demilitarization of Submunitions**

Capabilities/ Characteristics:

- Open Burn / Open Detonation
- APE 1236M2 Explosive Waste Incineration

System Integration:

- GOGO, GOCO and COCO Facilities



Technology Transition:

Demil RDTE Develops Capability

Capacity Development

Efficiency Improvements

Omnivorous Capability

FY26–30 RDTE Focus Areas

- Alternate Technologies
- Army Transformation Initiative (ATI) #3 Reducing Waste Demil as a Source of Supply (SOS)
- Transition of the Munitions Cryofracture Demilitarization Facility (MCDF)
- Ammonium Perchlorate Rocket Motor Destruction (ARMD) Multi Motor Operations
- Demil of Flechette Ammunition
- Demil of Riot Control Munitions
- Modernization of CONUS Depot Demil Capabilities



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

Ammunition Peculiar Equipment

Product Director Demilitarization performs management of the Ammunition Peculiar Equipment (APE) Program. The goal of the APE program is to provide a centralized source of standard, modern, safe, reliable and environmentally acceptable equipment for ammunition maintenance, ammunition surveillance and Demil operations to Army and non-Army Users worldwide, with a focus on preventing injury to personnel and damage to ammunition and/or related facilities.

Capabilities/Characteristics:
The APE program currently funds nearly two dozen projects, including recurring projects (maintenance and sustainment), non-recurring projects (new equipment fabrications, redesigns and gages), as well as six contracts for hardware and services, across the Enterprise.

PD Demil partners with Joint Munitions Command APE Team (Project Management) and Tooele Army Depot (Project Execution) to execute the APE mission worldwide.

Currently executing projects and contracts worth nearly $9M total, with $16M budgeted for the APE program in FY26.



APE 1106M2 Prime/Deprime



APE 1953M2 Conductive Shoe Tester



APE1408 saa safety cert

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

Resource Recovery and Recycling

Product Director Demilitarization performs management of the Demil Resource Recovery and Recycling (R3) program, which allows the Army to sell recyclable residual materials generated from the munitions demil process, with the proceeds reinvested back into the program.

R3 funding purchases machinery, equipment, supplies and processes to help reduce the demil stockpile while reducing cost of recovery and recycling operations.

Capabilities/ Characteristics:

- Currently in operation at 6 CONUS Depots and 1 OCONUS location

The R3 program currently has $10.7M funding available for new projects. Currently, 4 projects in execution utilizing $4.4M total.



Scrap Metal

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M1A3 Bangalore Torpedo

The Bangalore Torpedo demolition kit is a man-portable device used to clear paths through barbed wire entanglements and minefields. It clears a path 3 to 4 meters wide through barbed wire entanglements; in minefield breaching, it will explode all antipersonnel mines and most of the antitank mines in a narrow foot path.

Many of the mines at the sides however maybe shocked into a sensitive state, which makes extreme care necessary in any further mine-clearing. Bangalore torpedoes have also been used successfully for clearing heavy undergrowth of bamboo and may also be used as a cratering charge, especially in connection with shaped charges against reinforced concrete targets.

Capabilities/ Characteristics:

- Used for most AP and AT mines
- When the charge is detonated, the resultant blast from the shock wave clears a narrow path through a minefield or barbed wire entanglement.
- Kit consists of eight 2.5-foot-long tubes
- Tube fill: 4.6 pounds of Composition B4 and an additional 0.5-pound Composition A3 booster at each end

System Integration:

- Hand Emplaced

Configurations:

- **MP03**
- Suitable Substitutes:
  - M026: M1A1 Bangalore Torpedo
  - M028: M1A2 Bangalore Torpedo

Materiel Release: May 2008

Production Partners:

- Accurate Energetic Systems (McEwen, TN)
- Spectra Tech (East Camden, AR)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

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Capabilities/ Characteristics:
- Used for most AP and AT mines
- When the charge is detonated, the resultant blast from the shock wave clears a narrow path through a minefield or barbed wire entanglement.
- Kit consists of eight 5-foot-long tubes
- Tube fill: 9.2 pounds of Composition B4 and an additional 1.0-pound Composition A3 booster at each end

System Integration:
- Hand Emplaced

Configurations:
- M028

Materiel Release: May 2008

Production Partners:
- Spectra Tech (East Camden, AR)



ACQUISITION CATEGORY: IV
ACQUISITION PHASE: OS
PRODUCTION STATUS: 5 — Legacy Item, No active production
DESIGNATED USE: TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M6 Electric Blasting Cap

The M6 Electric Blasting Cap is used to initiate high explosives with a blasting machine or other source of electric power. It consists of a base charge of RDX, an intermediate charge of lead azide and an ignition charge of smokeless powder, potassium chlorate and lead salt of dinitro cresol in an aluminum alloy cup. It has two 12-foot lead wires, connected by a bridge wire in the ignition charge, extend through a rubber plug assembly in the open end of the cup.

Capabilities/ Characteristics:

- Weight: 0.07 pounds
- Length: Maximum - 2.35 inches
- Diameter: Maximum - 0.247 inches
- Explosive: RDX
- Material: Aluminum
- Color: Silver

System Integration:

- Hand Emplaced

Configurations:

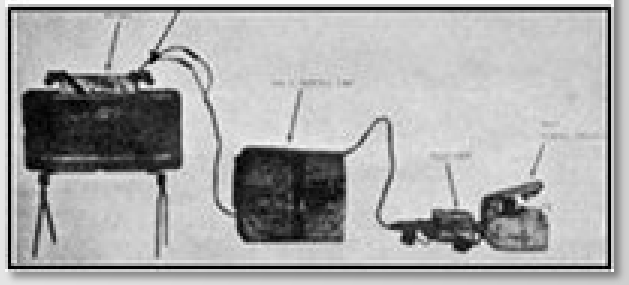
- **M130**

Materiel Release: February 1989

Production Partners:

- Stressau Labs (Spooner, WI)





ACQUISITION CATEGORY IV

ACQUISITION PHASE PD

PRODUCTION STATUS 1 Actively Procured & Under Contract

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M7 Non-electric Blasting Cap

The M7 Non-electric Blasting Cap is used with the M700 Time Blast Fuse to initiate high explosive and demolition items. It consists of an aluminum alloy cup containing an ignition charge of lead styphnate, an intermediate charge of lead azide, and a base charge of RDX. The cup is flared at the mouth to mate with the matching shape of the nipple of a firing device base coupling and the flared end facilitates insertion of time-blasting fuse or detonating cord.

Capabilities/ Characteristics:

- Weight: 0.004 kilograms
- Burst Radius: 25 meters
- Basic Load: 20 each
- Load Weight: 0.08 kilograms
- Packaging: 3,600 per case
- Package Weight: 51.5 kilograms

System Integration:

- Hand Emplaced

Configurations:

- **M131**

Materiel Release: March 1986

Production Partners:

- Stressau Labs (Spooner, WI)



ACQUISITION CATEGORY III

ACQUISITION PHASE PD

PRODUCTION STATUS 1 Actively Procured & Under Contract

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

DEMOLITIONS: Blasting Caps

MDI

Modern Demolition Initiators (MDI) are a suite of initiating components used to activate all standard military demolitions and explosives. Developed for the U.S. Army Engineer School, the suite consists of non-electric blasting cap assemblies and booster assemblies. The suite replaces all electric and non-electric firing systems for conventional forces while maintaining compatibility with existing Army systems.

Capabilities/ Characteristics:

- Initiates all standard military explosives and demolition devices
- Initiate C-4 Explosive, shaped charges, Claymore Mines and all new demolitions
- Initiation signal via shock tube or low strength detonation cord
- Prime charges under 60 feet of seawater or underground
- Easy to use; blasting cap assemblies have their activation system pre-assembled for increased reliability and reduced time-on-target

System Integration:

- Hand Emplaced

Configurations:

- **ML47**: M11 Non-electric Blasting cap; factory-crimped to a 30-foot length of shock tube
- **MN06**: M14 Non-electric Blasting Cap with a 5-minute delay
- **MN38**: M15 Inert Non-electric Blasting Cap; factory-crimped to a 70-foot length of shock tube
- **MN07**: M15 Non-electric Blasting Cap; factory-crimped to a 70-foot length of shock tube
- **MN68**: M151 Booster Charge
- **MN75**: M152 Inert Booster Charge
- **MN41**: M18 Non-electric Blasting Cap with a 20-minute delay
- **MN86**: M19 200-foot Non-electric Blasting Cap
- **MN87**: M20 200-foot Inert Non-electric Blasting Cap
- **MN88**: M21 500-foot Non-electric Blasting Cap
- **MN89**: M22 500-foot Inert Non-electric Blasting Cap
- **MN90**: M23 1,000-foot Blasting Cap
- **MN37**: M14 Inert Non-electric Blasting Cap
- **MN08**: M81 Fuse Igniter
- **ML45**: M9 Non-electric Blasting Cap holder; securely holds the shock tube branch lines

Production Partners:

- Cap Assemblies:
  - Shock Tube (Charlestown, RI)
- Booster Assemblies:
  - EBA&D (Simsbury, CT)
- Igniter:
  - MAST Tech (LCAAP, Independence, MO)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M700 Time Blasting Fuse

The M700 Time Blasting Fuse is a pyrotechnic delay element used to initiate non-electric blasting caps. It consists of a black powder core wrapped in a dark green, plastic-coated textile tube that is designed to be waterproof. The fuse has a nominal burning rate of approximately 40 seconds per foot. The M700 is marked with single yellow bands every 18 inches and double yellow bands every 90 inches.

Capabilities/ Characteristics:

- Packaged in 50-foot rolls
- Included in blasting cap assemblies
- Provides a predictable and verifiable standoff time allowing personnel to safely egress the blast area

System Integration:

- Hand Emplaced

Configurations:

- **M670**

Production Partners:

- Ensign-Bickford Aerospace & Defense (Graham, KY)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

MK 788 Main Charge Disrupter

The MK 788 Main Charge Disrupter is a field-assembled, explosively-formed penetrator for use by EOD. Its purpose is to prevent full detonation in an explosive target by rapidly disabling one or more components of an explosive train before propagation occurs.

Alone, the MK 788 contains no energetics. Before use, an EOD technician will load this item with C4 explosive and prime it with a blasting cap. Both of those energetic items are issued separately.

The MK 788 is cylindrical in shape with a concave copper insert at one end that serves as the explosively-formed projectile. Upon functioning, the copper disk will form into a projectile.

Capabilities & Characteristics:
- Dimensions: cylindrical, roughly 2 inches in diameter and 4 inches in length
- Velocity: 6,500-9,500 feet per second

System Integration:
- Hand emplaced

Configurations:
- **DWDF**

Production Partners:
- DEVCOM-AC (Picatinny Arsenal, NJ)
- USN

Materiel Release: EOD use only



ACQUISITION CATEGORY IV | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

Family of Shaped Charges

The M2A4 and M3A1 Shaped Charges are shaped for the purpose of concentrating explosive force in a particular direction. They use HE to form a metallic or glass liner into a high velocity jet of molten material with the ability to stretch several times its original length. They can obtain tip velocities that can exceed 8 kilometers per second.

The M2A4 15-pound Shaped Charge has been specially designed for use against reinforced concrete. The M3A1 40-pound Shaped Charge is useful against thick reinforced concrete pavement laid on dense high-strength base courses.

Capabilities & Characteristics:
- Blast craters in paved and unpaved roads
- Bore holes in metals, masonry, or concrete
  - M2A4: 6-inch stand-off, 11.5-pound Composition B explosive main charge, 0.11-pound Composition A3 booster
  - M3A1: 15-inch stand-off, 29.5-pound Composition B explosive main charge, 0.11-pound Composition A3 booster

System Integration:
- Hand emplaced

Configurations:
- **M420**: M2A4
- **M421**: M3A1
- Suitable Substitutes:
  - M002: M1A4/ M1A5 Priming Adapter

Production Partners:
- Day and Zimmermann, Inc (Parsons, KS)

Materiel Release: June 1985



ACQUISITION CATEGORY: III
ACQUISITION PHASE: PD
PRODUCTION STATUS: 1 – Actively Procured & Under Contract
DESIGNATED USE: OTHER

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M112 1.25-pound Demolition Block

The M112 charge consists of 1.25 pounds of Composition C4 explosive packed in an olive drab, mylar-film container with a pressure-sensitive adhesive tape on one surface.

The blocks are primarily used for cutting and breaching operations. The adhesive backing allows the block to be placed on any relatively flat, clean, dry surface, without movement.

Capabilities & Characteristics:
- Primary block demolition charge presently in use
- Can be cut to fit irregularly shaped targets

System Integration:
- Hand emplaced

Configurations:
- M023

Production Partners:
- AO-IAAAP (Middletown, IA)
- Crane Army Ammunition Authority, (Crane, IN)

Materiel Release: November 1986



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

DEMOLITIONS: Moldable Explosives

PAX-52

PAX-52 is a moldable explosive that was developed by DEVCOM Armaments Center at Picatinny Arsenal. This explosive is an ideal candidate for use in the M112 1.25-pound Demolition block for cutting and breaching operations.

The moldability of PAX-52 at low temperatures makes it well suited for use in arctic and other cold weather environments and significantly reduces the time for the soldier to form and pack explosive charges when compared to the C-4 explosive currently used in the M112.

Capabilities & Characteristics:

- Uses silicone to remain hand-moldable at extreme temperatures (-40°F to 140°F)
- Uses HMX to retain same Form/Fit/Function in M112 configuration
- Similar or better sensitivity and performance than C-4
- More environmentally friendly in manufacturing and operation; low toxicity to humans and environment
- Packing/forming operations performed 1-3x faster in cold conditions
- Extremely stable for long life
- Can be re-worked with no loss of moldability

System Integration:

- Hand emplaced

Configurations:

- To be utilized in the M112 1.25-pound Demolition Block

Production Partners:

- DEVCOM AC (Picatinny Arsenal, NJ)





DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

TNT Block Demolition Charges

The TNT charges are effective for all types of demolition work and are available in three sizes. The 0.25-pound block is issued in a cylindrical, waterproof, yellow polyethylene container with a threaded Cap well in one end. The 0.50-pound and 1-pound blocks are available in rectangular, waterproof, olive drab cardboard containers with metal ends, a threaded cap well in one end.

Capabilities & Characteristics:

- Well suited for cutting or breaching hard surfaces except special steel-cutting applications

System Integration:

- Hand emplaced

Configurations:

- **M030**: 0.25-pound block
- **M031**: 0.50-pound block
- **M032**: 1-pound block

Production Partners:

- Accurate Energetic Systems, (McEwen, TN)

Materiel Release: October 1979



ACQUISITION CATEGORY III
ACQUISITION PHASE PD
PRODUCTION STATUS 1 Actively Procured & Under Contract

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

40-pound Cratering Charge

The 40-pound Cratering Charge contains 39 pounds of Composition HE (H-6) Explosive loaded in a steel cylinder. It is approximately 7 inches in diameter and 20 inches tall and packed in an M18A2 container.

The H-6 explosive has a relatively low detonating velocity and is therefore unsuitable for cutting and breaching operations. However, the blast effect, which is related to pressure of gases produced, gives it a pushing or heaving effect which makes it suited for cratering and ditching operations. Because of the large amount of explosive in convenient form, they may also be used in destroying buildings and fortifications and overturning bridge abutments.

Capabilities & Characteristics:
- Used primarily for cratering and ditching operations
- Typically employed following 15- or 40-pound Shaped Charge use and dual primed with two M112 Demolition Blocks
- Used in destroying buildings and fortifications and for overturning bridge abutments

System Integration:
- Hand emplaced

Configurations:
- **M039**

Production Partners:
- American Ordnance-IAAAP (Middletown, IA)

Materiel Release: December 1993



ACQUISITION CATEGORY III
ACQUISITION PHASE PD
PRODUCTION STATUS 1 Actively Procured & Under Contract

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

Demolition Sheet Charges

Demolition Sheet Charges of flexible explosive come in various lengths and thicknesses. The sheets are easily cut to the desired shape and can be quickly applied to irregular and curved surfaces with adhesive.

The sheet charges are used by Army Engineers, EOD personnel and U.S. Special Operations Forces (SOF) as a cutting charge against steel, trees and targets of irregular shape.

Capabilities & Characteristics:
- Easily cut to any dimension
- Used as small breaching charges

System Integration:
- Hand emplaced

Configurations:
- **M980**: 38-foot roll
- **M981**: 25-foot roll
- **M060**: 50-foot roll
- M024: M118 Demolition Block Charge
- **M993**: 50-foot roll
- Suitable Substitutes
  - M982: 19-foot roll
  - M983: 15-foot roll
  - M984: 13-foot roll
  - M985: 11-foot roll
  - M986: 9-foot roll
  - MM30: MK 140 Mod 0 Flexible Demolition Charge
  - MW84 MK 75 Mod 0 Tubular Demolition Kit



Production Partners:
- EBA&D (Simsbury, CT)

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

60-pound Shock Test Charge

The 60-pound Shock Test Charge is used to test the ability of a component or system to withstand a nearby underwater explosion as may be encountered in a field deployment without compromising function or safety.

The item consists of 60 pounds of High Blast Explosive type 1 (HBX-1) packed in a Polypropylene charge container. A Pentolite 50/50 booster is secured to the top of the container.

Capabilities & Characteristics:

- Charge exposes a device to a controlled underwater explosion of known force and orientation, helping engineers prepare and design products able to withstand testing and gain acceptance for use in military service
- New design is lighter and easier to handle during test activities

System Integration:

- Hand emplaced

Configurations:

- XW65

Production Partners:

- Indian Head Division, Naval Surface Warfare Center (Yorktown, VA)
- CAAA (Crane, IN)



ACQUISITION CATEGORY III

ACQUISITION PHASE PD

PRODUCTION STATUS 1 Actively Procured & Under Contract

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

MK 75 Mod 0 Tubular Demolition Charge

The MK 75 is used as a cutting charge against underwater impediments such as coral and sand bars. It consists of 50 pounds of flexible explosive formed in a 25-foot (length) hollow tube. The interior of the tube contains a corrugated hose to ensure the item maintains shape; the exterior is sheathed with a plastic wrap to help protect against abrasion.

The unit comes with rubber boots which seal the ends. The hollow construction ensures proper buoyancy for ease of transport through water, with the boots removed at site to sink the charge.

Capabilities & Characteristics:
- Charge is hollow for buoyancy/ ease of transport
- Boots/ covers on end can be removed to sink at site
- MK 29 Accessory Kit has connectors to link multiple charges together
- Used as a blasting charge against coral/ sand bars and underwater impediments
- 50 pounds of flexible explosive formed in a hollow tube

System Integration:
- Hand emplaced

Configurations:
- MW84

Production Partners:
- EBA&D (Simsbury, CT)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M18A1 Claymore Mine

The M18A1 Claymore Mine is used when a directional, fixed, fragmentation mine is required for the defense of bivouac areas, outposts, and against infiltration tactics. It is also used against thin-skinned vehicles.

The main charge may be initiated by electrical or nonelectrical methods. The electrical method is by manual initiation of the electric blasting cap. The non-electric method makes use of a pull-type firing device, such as the M81 Igniter, operated by an observer or by trip wires. The firing device initiates a length of detonating cord attached to a nonelectric blasting cap.

Capabilities & Characteristics:

- To be used as a deterrent for enemy pursuit
- Used for encampment perimeter defense
- Ambush-type weapon
- Directs fragments in a 60-degree arc
- Can be used with the Spider Munitions System
- Weight:
  - Electric initiator configuration: 6.635 pounds
  - Non-electric initiator configuration: 4.153 pounds
- 700 each 0.25-inch diameter steel balls for fragmentation
- M4 Cap and M57 initiator (production prior to 2005)
- Non-electric (shock tube) initiator (production started in 2005)

System Integration:

- Hand emplaced
- In conjunction with the Spider Munitions System

Configurations:

- **J007**: Live non-electric initiation system
- **J008:** Inert non-electric initiation system

- Suitable Substitutes:
  - K143: Electric initiation system
  - K145: Electric initiation system

Production Partners:

- Accurate Energetic Systems (McEwen, TN)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M68 Inert Claymore Trainer

The M68 Inert Claymore Trainer simulates the M18 Series Claymore Mines and is used for training in the proper methods and precautions to be observed in the care and handling, booby trapping, arming, and disarming of HE service AP mines.

Capabilities & Characteristics:

- Uses non-electric, inert mini-detonation assembly

System Integration:

- Hand emplaced

Configurations:

- J008: Non-electric initiation system
- Suitable Substitutes:
  - K139: inert electric initiation system

Production Partners:

- Accurate Energetic Systems (McEwen, TN)



ACQUISITION CATEGORY: IV
ACQUISITION PHASE: PD
PRODUCTION STATUS: 1 Actively Procured & Under Contract
DESIGNATED USE: TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M3 Demolition Attack Munition

The Demolition Attack Munition (DAM) is a hand-emplaced munition which is readily portable and designed for use against lightly armored infantry vehicles, parked aircraft, wheeled or tracked support vehicles, and ammunition or Petroleum, Oil and Lubrication (POL) storage sites.

It can operate day or night, during all weather conditions, and at close range or at a standoff distance of up to 25 feet to defeat selected targets using an explosively-formed penetrator warhead.

This item was initially developed for, and fielded to SOF and was fully transitioned to Army inventory in the early 2000's.

Capabilities & Characteristics:
- Effective range: up to 25 feet
- Weight: 2.2-3 pounds
- Length: 5.2 inches
- Width: 3.5 inches
- Depth: 2.2 inches
- Operational Mode: Command Detonation – operator initiated using standard blasting caps or MDI
- M3 SOF version, only used in command-detonation mode

System Integration:
- Hand emplaced

Configurations:
- MM16

Production Partners:
- Northrup Grumman Systems Corporation (Plymouth, MN)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

Detonation Cord

The Type I, Class E Detonating Cord consists of a core of HV explosive in a seamless textile tube. The tube is covered with a thin layer of asphalt and sheathed in an outer cover of plastic-coated textile. The plastic outer cover is smooth and colored olive drab.

Type I, Class M Detonating Cord, also known as Reinforced Detonating Cord, consists of a core of HV explosive covered in synthetic textile and encased by a plastic sheath. The outer layer is synthetic textile and finished with a wax coated surface.

Capabilities & Characteristics:

- Detonation cord is used to prime and detonate the explosive charges
- Detonating velocity of 5,900 meters per second
- Available in 500-foot and 1,000-foot spools
- Waterproof version and canine scent versions exist

System Integration:

- Hand emplaced

Configurations:

- M456: Tactical (Type 1E)
- M456R: Tactical (Reinforced)
- M458: Inert (Blue outer coating)

Production Partners:

- Prime: EBAD (Simsbury, CT)
- Production: EBAD (Graham, KY)

Materiel Release: May 1987



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M152/ MK 152 Mod 0 RF-RAMS

The M152 and MK152 Mod 0 Radio Frequency-Remote Activation Munition System (RF-RAMS) is a secure, radio-controlled system designed to provide dismounted soldiers/sailors wireless initiation capability of explosives, demolition charges and munitions. The system was initially designed for and fielded to SOF personnel and subsequently to EOD and Army Engineers.

The M152/ MK 152 Mod 0 consists of one transmitter and a family of receivers which enables the user to remotely employ and detonate explosives while avoiding direct enemy contact. Prior to engagement, operators can perform a full power range data link test. All operations are verified to the user via light-emitting diode (LED).

Capabilities/ Characteristics:

- M26/ MK 26 Transmitters: transmits to one or more receivers up to 2-5 kilometers (Line-of-Sight (LoS)) and over 10 kilometers (with power pack) range
- M16/ MK 16 Receivers: Simultaneously function 4 M6 Blasting Caps in series
- M17/ M17A1 Receivers: explosive output initiates an M7 Blasting Cap
- M85/ M85A1 Functional Trainers: Inert trainer for M17/ M17A1 Receivers
- M50 Initiator: interface used to initiate MDI when attached to M16 Receiver
- Receivers programmable to any M26 Transmitter
- Temperature range: -25 degrees to +135 degrees Fahrenheit
- Reduces Soldier/ Sailors exposure to threats such as IED/ Small Arms
- Light weight and man portable

System Integration:

- Hand emplaced

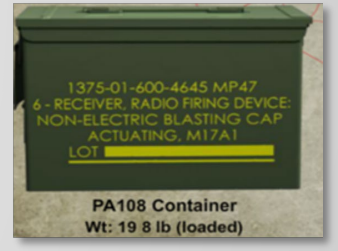
Production Partners:

- American Ordnance (Milan, TN)

Materiel Release: July 1999







DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M17A1 RF-RAMS

M17A1 Receiver has an explosive output that initiates non-electric blasting caps. There are no primary explosives in its fire train. It uses an internal LEEFI detonator to initiate attach blasting caps use to detonate demolition block charges and munitions.

The M17A1 is programmed and functioned by the MK 152/ MK 152 Mod 0 Transmitter. Prior to engagement, operators can perform a full power range data link test. All operations are verified to the user via LED.

Capabilities/ Characteristics:

- M17A1 receiver(s) are field programmable by any RF-RAMS/ MK 26 Transmitter
- The receiver provides wireless initiation of charges, explosives via MDI inline shock tube and M7 nonelectric blasting caps over ranges of 1 kilometer LOS
- The receiver is powered by a 123 battery.
- M17A1 Receiver: explosive output initiates an M7 Blasting Cap and M17A1 provides untethered initiator for robotic deployment during IED defeat and Route Clearance missions enabling Soldiers to remotely detonate explosives while avoiding direct enemy contact

System Integration:

- Hand emplaced

Configurations:

- **MP47**

Production Partners:

- Mnemonics, Inc. (Melbourne, FL)

Materiel Release: 2006



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M4A1 Selectable Lightweight Attack Munition

The Selectable Lightweight Attack Munition (SLAM) is a multipurpose munition designed to be readily portable and hand-emplaced against lightly armored infantry vehicles, parked aircraft and petroleum storage sites. It can operate day or night during all weather conditions, and at close range or at a standoff distance of up to 25 feet to defeat selected targets using an explosively-formed penetrator warhead.

SLAM has four operating modes: bottom- attack, side-attack, timed-detonation and command-detonation. SLAM will self-destruct at the end of a set time selected by the operator during its employment. Older variants for the U.S. SOF have been superseded by the regular Army versions.

Capabilities/ Characteristics:

- Effective Range: up to 25 feet
- Weight: 2.6 pounds
- Size: Length - 5.6 inches; width - 3.9 inches; depth - 2.2 inches
- Operational Modes:
- Bottom attack - magnetic signature of target vehicle triggers SLAM
- Side attack - infrared signature of target vehicle triggers SLAM
- Time detonation - detonates at user selected time
- Command detonation - operator initiated using standard blasting caps or MDI

System Integration:

- Hand emplaced



Production Partners:

- Northrop Grumman Systems Corporation (Plymouth, MN)

Configuration:

- **MP12**: M4A1 Army version; enhanced safety features
- Suitable Substitutes:
  - MN28: M4 Army version; self-destruct capability

Materiel Release:

- MN28: March 2003
- MP12: November 2014

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M2 SLAM

The SLAM is a multipurpose munition designed to be readily portable and hand-emplaced against lightly armored infantry vehicles, parked aircraft and petroleum storage sites. It can operate day or night during all weather conditions, and at close range or at a standoff distance of up to 25 feet to defeat selected targets using an Explosively Formed Penetrator warhead.

SLAM has four operating modes: bottom-attack, side-attack, timed-detonation and command-detonation. The M2 SLAM will self- neutralize at the end of a set time selected by the operator during its employment. The M2 variant was designed and produced or the US SOF.

Capabilities/ Characteristics:

- Effective Range: up to 25 feet
- Weight: 2.2 pounds
- Size: Length 5.2 inches; width 3.5 inches; depth 2.2 inches
- Operational Modes:
  - Bottom attack magnetic signature of target vehicle triggers SLAM
  - Side attack infrared signature of target vehicle triggers SLAM
  - Time detonation detonates at user selected time
  - Command detonation operator initiated using standard blasting caps or MDI

System Integration:

- Hand emplaced

Production Partners:

- Northrop Grumman Systems Corporation (Plymouth, MN)

Configuration:

- **MM15**: M2 SOF version; self-neutralizes at the end of its active period
- **MM16**: M3 SOF version; can only be used in command-detonation mode





DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

SLAM Improved Functional Training Kit

The M320A1 SLAM Trainer is a compact, lightweight trainer. It is similar in size and shape to the M4A1 SLAM but is totally inert and powered to provide feedback to the user and instructor. The controls and functions on the M320A1 SLAM Trainer are identical to the controls and functions on the M4A1 SLAM, but the warhead on the M4A1 is replaced by an interface module on the M320A1 SLAM Trainer that houses LED lights and a push button for user interaction.

Capabilities/ Characteristics:

- Effective Range: up to 25 feet
- Weight: 2.6 pounds
- Size: Length - 5.6 inches; width - 3.9 inches; depth - 2.2 inches
- Operational Modes:
  - Bottom attack - magnetic signature of target vehicle triggers SLAM visual and audible signals
  - Side attack - infrared signature of target vehicle triggers SLAM visual and audible signals
  - Time detonation - provides visual and audible signals at user selected time
  - Command detonation – allows operator to train with inserting standard inert blasting caps or inert MDI
- Trainer can be easily reset for reuse
- Kit contains spares for consumable parts

System Integration:

- Hand emplaced

Production Partners:

- Northrop Grumman Systems Corporation (Plymouth, MN)

Configuration:

- **MZ40**



ACQUISITION CATEGORY IV | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

AN/ USQ-253 ETEK

The EOD Tool and Equipment Kit (ETEK), previously known as the Render Safe Kits and Outfits (RS SKO) provides 11 lightweight counter-Explosive Hazard (EH) solutions to the Army EOD core competencies of detection, diagnostics, exploitation and render-safe of all Explosive Ordnance (EO). The components enhance the EOD team's ability to conduct remote reconnaissance, incident site control, detection, render safe, and disposal operations.

Capabilities/ Characteristics:

- Low-light visual augmentation (L3 Harris)
- Electronic Countermeasure Systems (ECM) (Parry Labs and Sierra Nevada Corp)
- Buried IED detection (CEIA)
- Dismounted X-ray Imager/Processor Smart Ray Vision / Golden Engineering)
- Trace explosive, chemical, and drug detection (908 Devices)
- Unmanned aerial reconnaissance (TBD)
- Power management (Galvion)
- Gamma and neutron search and detection (Thermo Scientific)
- Render safe initiation (Duke Pro)

System Integration:

- Hand emplaced

Materiel Release:

- Approved for EOD use (AEODU) June 2022



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

Computer System: DSS

The Decision Support System (DSS) is an Information Technology (IT) Service-Oriented Architecture (SOA), web/portal-based program that addresses Joint Service Explosive Ordnance Disposal (JSEOD) gaps in asset location, collaboration, coordination and real-time data/action sharing and reporting. It provides JSEOD Technicians with EOD-unique situation awareness, improved knowledge management, and advanced collaborative decision making.

Capabilities/ Characteristics:

- JSEOD DSS is composed of 3 core products:
  - JEODNET: provides secure tactical transport mechanism
  - JEOD Portal: provides access to critical EOD info & tools
  - Mobile Field Kit (MFK) Software: JSEOD mission-performance special warfare (SW) tool suite
- Software is updated quarterly via CDs, mailed to users
- Current laptop is Panasonic Toughbook but operates on any laptop
- DSS can access Joint EOD Portal via SIPR

System Integration:

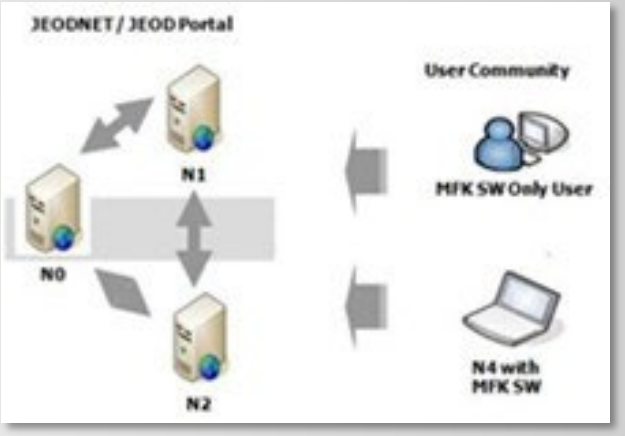
- Hand emplaced

Program Partners:

- Panasonic Headquarters (Secaucus, NJ)

Materiel Release:

- AEODU January 2011



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

ERK

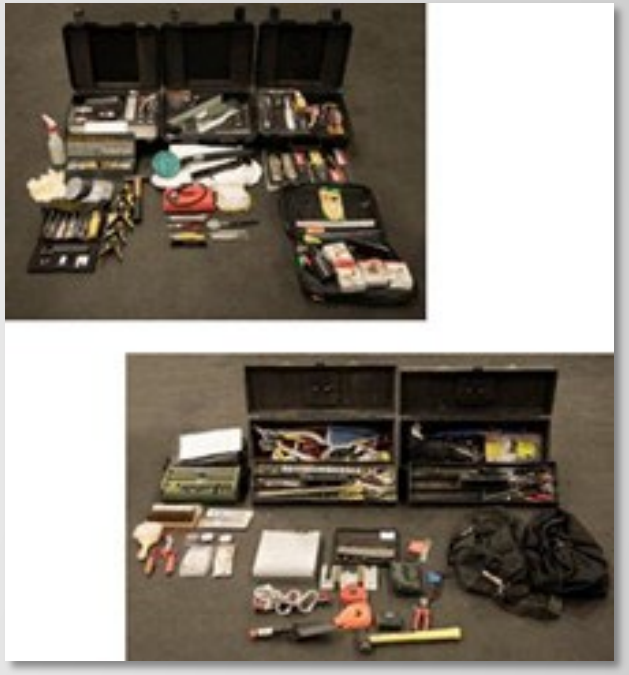
EOD Response Kit (ERK) consists of hand tools, power tools, bolt cutters, micrometers, flashlight, stethoscopes and equipment used by EOD personnel to examine, gain access, dispose and render safe unexploded ordnance and improvised explosive devices.

Capabilities/ Characteristics:

- Augments existing EOD tool sets and provides additional tools to examine, gain access, render safe, and dispose of unexploded ordnance and IED
- The kit's capabilities also include exploitation and precision aiming for IED neutralization.
- Configured into separately packaged functional mission modules:
- General demolition
- Technical Intelligence
- Reconnaissance
- IED search

Program Partners:

- Mithix Pro, LLC (Farmersville, TX)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

FMWD (Family of Military Working Dog)

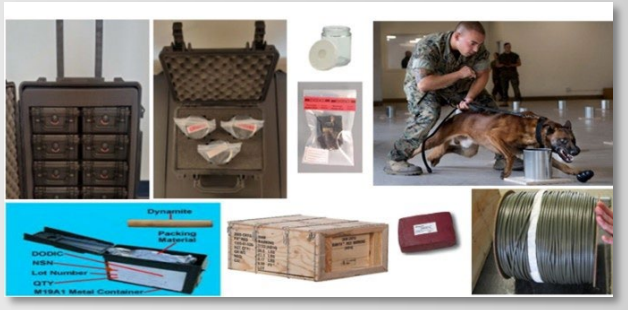
A Military Working Dog (MWD) is any dog procured, acquired, or bred by a DoD component to meet the following MWD requirements within the DoD: enforcement of laws and regulations, suppression of illegal drugs, detection of explosives and improvised explosive devices (IEDs), protection of installations and resources, force protection operations, and fulfillment of other security tasks. The Family of Military Working Dogs (FMWD) program provides the Dog Handlers/Kennel Masters with equipment to maintain the health and well being of the animals during periods of inactivity and provides the Dog Handlers with the ability to deploy the animals on a worldwide basis, maintaining both a heated and cooled environment for the animals with deployable kennels. The program also fields Canine Explosive Scent Kits (CESK) which provides the Dog Handlers the ability to maintain the animals' qualifications and certification for the detection of explosive odors.

Capabilities/ Characteristics:

- Patrol Explosive Detection Dog (PEDD) specializes in finding explosives and IEDs
- Patrol Narcotics Detection Dog (PNDD) specializes in drug enforcement programs
- Specialized Search Dog (SDD) is capable of multiple roles
- Mine Detection Dog (MDD) finds all buried mines
- New Scent Kits for SDD and Joint capability contain 12 odors vs. 9 sustained odors for PEDD
- Standard Dog Handlers Kit
- Deployable Kennel Systems
- Organizational/ Installation Kennel Systems

System Integration:

- Hand Emplaced



ACQUISITION CATEGORY III

ACQUISITION PHASE OS

PRODUCTION STATUS 5 Legacy Item No active production

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

MK 2 Mod 1 .50 Cal De-armer Tool Kit

The MK 2 Mod 1 is a .50 caliber de-armer that provides the EOD soldier the capability to render safe small firing devices and fuzes by means of a mechanical, explosively initiated system as well as cutting, penetration of, and withdrawal of fuze components.

Capabilities/ Characteristics:

- Other uses include cutting, penetration of and the withdrawal of fuze components
- Cartridge tool used principally for shearing and jamming purposes
- Consists of the cartridge tube and standard breech plug
- Standard breech plug accepts either a .50 caliber electrically initiated cartridge or specially prepared non-electric .50 caliber
- Fires either a standard, wedge, chisel or fork slug

System Integration:

- Hand Emplaced

Production Partners:

- Savit Corp (Rockaway, NJ)

Materiel Release: AEODU November 2007



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

MK 3548 EOD Hook and Line Tool Kit

The Hook and Line Set allows the EOD team to quickly construct a hook and line mechanism that enables the team to investigate and facilitate detonation and/or removal of incendiary materials in as safe a manner as possible.

Capabilities/ Characteristics:

- Provides capabilities to move, attach, anchor, reach, manipulate, handle and access various items
- Set of hooks, extension rods, 120m line, blocks, swivels, slings, pull handles, vice grips, pulleys, door wedges, carabineers and search mirror
- Wide applications in both IEDs and UXOs defeat operations
- Over 50 components of 28 different types
- All housed in a watertight, dustproof, crushproof hard case with dense foam insert for exact/easy tool stowage, retrieval and inventory

System Integration:

- Hand Emplaced

Production Partners:

- Mithix Pro (Farmersville, TX)

Materiel Release: June 2002



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

MK 36 Mod 0 EOD Influence Weapon or Non-Magnetic Tool Kit

MK 36 is a tool kit that provides the capability to gain access to buried ordnance items known or suspected to have magnetically influenced fuzing systems.

Capabilities/ Characteristics:

- Consists of an assortment of non-magnetic and non-sparking hand tools
- Provided in a hard case weighing approximately 76 pounds

System Integration:

- Hand Emplaced



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

MK 38 Mod 0 Small Caliber De-armer

The MK 38 MOD 0 Small Caliber De-armer (SCD), is used by EOD soldiers to remotely render safe unexploded ordnance by cutting, gagging, severing, or jamming small fusing components on UXO and booby traps. The SCD is used against small munitions such as landmine fuses and booby trap firing devices where current EOD tools are too large to be effectively emplaced or not precise enough to effectively render safe these targets.

Capabilities/ Characteristics:

- Cutting, gagging, severing or jamming small concealed, or otherwise screened, threat targets
- Set contains a breech assembly and three barrels for standard 9mm ball ammunition, an adjustable tripod stand, and carrying/storage case.
- Barrels lengths: 2.5 inches, 6 inches and 13.81 inches
- Single shot device initiated by MDI, also known as shock tube

System Integration:

- Hand Emplaced

Materiel Release: June 2002



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

MK 40 Mod 0 UXO Standoff Disrupter

A modular, recoilless, inert tool, the Unexploded Ordnance Stand-Off Disrupter (UXO SD) was designed to remotely disrupt IEDs and UXOs from a stand-off distance via a percussion activated projectile.

Capabilities/ Characteristics:

- Capable of firing a range of solid projectiles to defeat various threats
- Can configured as a stand-off de-armer
- Features both a laser aiming sight and an optical aiming sight
- Features a lightweight aluminum tripod with adjustable legs and spring-loaded joints for versatile positioning of the tool
- Uses a standard military M174 cartridge to propel the projectile

System Integration:

- Hand Emplaced

Program Partners:

- DTI (Arlington, VA)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

MK 42 Mod 0 MDET

Medium Directional Energy Tool (MDET) is part of a suite of large improvised explosive device (LIED) countermeasure technology and equipment that provides EOD technicians the ability to access, disrupt, and neutralize LIEDs. A LIED is most seen as a car or truck bomb and can also include boats, aircraft, large shipping containers, etc.

Capabilities/ Characteristics:

- Includes 6 to 8 EOD tools required to access, disrupt, or render safe LIEDs
- Greater than 100 pounds net TNT equivalent weight
- 2.75-inch diameter recoilless smoothbore disrupter
- Fires a 1.2-liter water charge to penetrate car door or semitrailer side to disrupt LIED inside

System Integration:

- Hand Emplaced

Program Partners:

- MDET: Packaging Strategies, Inc. (Baltimore, MD)
- Propellant Charge: R Stresau Laboratories, Inc. (Spooner, WI)



ACQUISITION CATEGORY III

ACQUISITION PHASE PD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

PSK (Platoon Supplemental Kit)

The Tool Kit, Supplemental, Explosive Ordnance Disposal (a.k.a. Platoon Supplemental Kit (PSK)) provides EOD soldiers with an extended capability to access, locate, identify, disarm, exploit, reduce, remove, and dispose of explosive and chemical hazards from UXO, IEDs, Homemade Explosives (HME), Precursors, Toxic Industrial Chemicals (TICs), and Toxic Industrial Materials (TIMs).

Capabilities/ Characteristics:

- Provides EOD Teams with scenario specific supplies and equipment to enhance the capability at the team level to attack incidents within the scope of the EOD mission that are considered unusual and highly visible
- Fiberscope Kit- inspection device used to investigate small, confined spaces to locate hazardous items and material
- X-Ray Generator- power source for use with the Dismount X-Ray Processor/ Imager
- Battery Charging Station- charges rechargeable batteries used by EOD soldiers
- Wire Attack Kit- Includes color coded wire piercing probes, multimeter, wire cutters, clamp on probe, and fuses
- Battery operated LED work lights- Tripod mounted, battery operated, LED work lights providing lighting capability in dark or dimly lighted environments
- Personal protective items (coveralls, nitrile gloves, particulate respirator), anti-static bags and colored marking flags

Program Partners:

- Mithix Pro, LLC (Farmersville, TX)

Materiel Release: AEODU May 2022



ACQUISITION CATEGORY IV

ACQUISITION PHASE OS

PRODUCTION STATUS 5 Legacy Item No active production

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

Enhanced Robotic Payloads – Render Safe (ERP-RS)

Suite of modular EOD robotic capabilities designed with common interfaces to provide an increased level of standoff, situational awareness, disruption capability and dexterity to respond to current and emergent EOD and CBRN requirements. These multiple, modular robotic mission payloads will use open architecture to integrate with the current EOD robotic platforms to form the Army's next generation platform adaptable robotics.

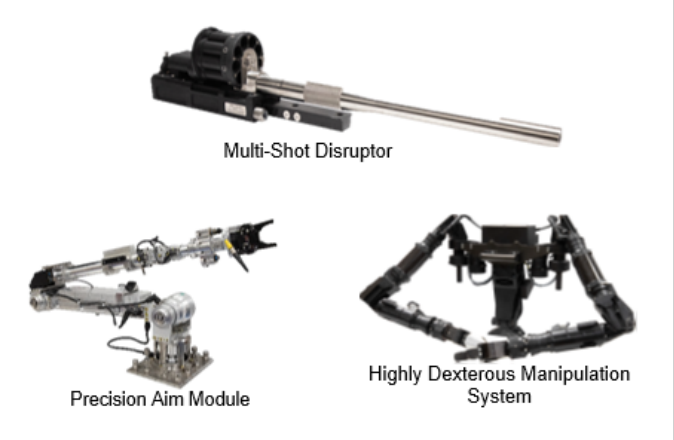
Capabilities/ Characteristics:

- **Multi-shot Disruptor (MSD)-** Standoff disruption tool compatible with Percussion Actuated Non-electric (PAN) ammunition- including water shot, to enable EOD technicians to remotely select appropriate disruption ammunition to mitigate threat of multiple explosive hazards
- **Precision Aiming Module (PAM)-** Enables fine adjustments for positioning of multi-shot disruptor into position for disruption and/or render safe of explosive hazards
- **Highly Dexterous Manipulation System (HDMS)-** Provides the ability to remotely manipulate objects with natural human motions and stability in a highly dexterous manner within a defined work area

Program Partners:

- **Savit, Techximus, and Trident**

Materiel Release: TBD



ACQUISITION CATEGORY III

ACQUISITION PHASE MSA

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

Jackal

Jackal is a vehicle mounted system that protects against passive infrared (PIR)-triggered Improvised Explosive Devices (IEDs). It can be mounted on a wide variety of host platforms, causing IEDs to detonate at standoff distances before the vehicle's arrival in the blast zone.

Unlike its predecessors, the Jackal is designed to be modular and adaptable to new and emerging IED threats. It can be integrated on a wide variety of tactical wheeled vehicle platforms.

Capabilities/ Characteristics:

- Non-standard capability (i.e., not Type-Classified; requires Materiel Release before issue to the field) and is not a Program of Record (POR)
- Pre-detonates passive infrared sensor-triggered IEDs at standoff distance
- Comprised of two major components:
  - Electronic Kit
  - Vehicle installation kits
- Modular architecture; adaptable to new and emerging IED threats
- Can be used on multiple ground vehicle platforms with or without SPARK mine rollers

System Integration:

- Multiple Vehicle Platforms

Program Partners:

- V2X, Inc.

Urgent Materiel Release (UMR):

- UMR October 2023
- Not a POR, developed and produced under an Operational Needs Statement (ONS)



ACQUISITION CATEGORY III

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

Rhino

Rhino is a vehicle mounted system that protects against PIR-triggered IEDs. It can be mounted on a wide variety of host platforms, causing IEDs to detonate before the vehicle's arrival in the blast zone. Rhino is relatively inexpensive and simple to manufacture and distribute in large quantities, allowing for equipping on large numbers of vehicles.

Capabilities/ Characteristics:

- Non-standard capability (i,e., not Type-Classified; requires Materiel Release before issue to the field) and not a Program of Record (POR)
- Vehicle mounted IED pre-detonation capability
- Works against passive infrared-triggered IEDs
- Two current versions:
  - Rhino 2.6 (NSN: 2590-01-588-3902)
  - Rhino 3.0 (MCN: 5895-01-X00-0964)
- Basic systems common to all combat and tactical vehicle platforms
- Uses vehicle-specific wiring and brackets
- Originated as a solider-designed & built solution, then refined for mass production and usability

System Integration:

- Multiple Vehicle Platforms

Materiel Release:

- August 2021 (UMR)
- Not a POR, developed and produced under an Operational Needs Statement (ONS)



ACQUISITION CATEGORY III

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

SS-ADT (Solid State - Active Denial Technology)

The Solid State - Active Denial Technology (SS-ADT) is a directed energy transmitter that immediately incapacitates targeted personnel or materiel while minimizing fatalities, permanent injury to personnel, and undesired damage to property in the target area. The system provides a nonlethal "Repel" or "Shove" effect against potentially hostile personnel for area security/force protection, including options and vehicle borne (including watercraft) applications.

SS-ADT gives the Warfighter flexible options in time and range. The SS-ADT does not replace lethal force options but rather expands force options available so Warfighters can tailor their response to mission needs.

Capabilities/ Characteristics:

- Prototype directs radio frequency energy in approximately the 90-95 GHz frequency range at designated targets, from a remote operator control station
- Solid state technology
- Provides Nonlethal vehicle and force protection
- Currently inactive development program

System Integration:

- Nonlethal, Directed Energy System



Current SS-ADT Prototype



ACQUISITION PHASE: EMD

PRODUCTION STATUS: 4 – No Production Planned within 10 years

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M330 Screening Smoke Hand Grenade

Burn time of 90 - 150 seconds
Utilizes a fill (HX fill) that has lower ecological toxicity than the AN-M8 which uses a more toxic HC fill.

Capabilities/ Characteristics:

- M330 provides Obscuration smoke for 90 - 120 seconds
- Replaces the AN-M8 which is restricted to contingency use only due to toxic fill

System Integration: Requires M201 A1 fuze with the Grenade Body

Configuration: GG46

Production Partners:

- PBA (Pine Bluff, AR)
- Fuze:
  - Day & Zimmermann, Inc. (Texarkana, TX)
  - Combined Systems Inc. (Jamestown, PA)
  - Nammo Defense Systems (Perry, FL)

Materiel Release: 2QFY27



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

L8A1/ L8A3 Screening Smoke Grenade

The L8A1/ L8A3 Screening Smoke Grenade consists of a rubber cylindrical body and a metal base. The rubber body contains 360 grams of a red phosphorous/ butyl rubber mix in a 95/ 5 proportion and a central plastic burster tube containing a burster charge of 15 grams of black powder. Shortly after launch, the burster charge ignites the red phosphorous/ butyl rubber smoke composition and ruptures the rubber grenade body.

The ignited smoke composition disperses to produce a red smoke cloud within 2 to 6 seconds after firing at approximately 98 feet (30 meters) from the launching device.

The difference between the two models is the burn time of the delay composition – the L8A1 delay burns for 3/4 second while the L8A3 delay burns for 1 second.

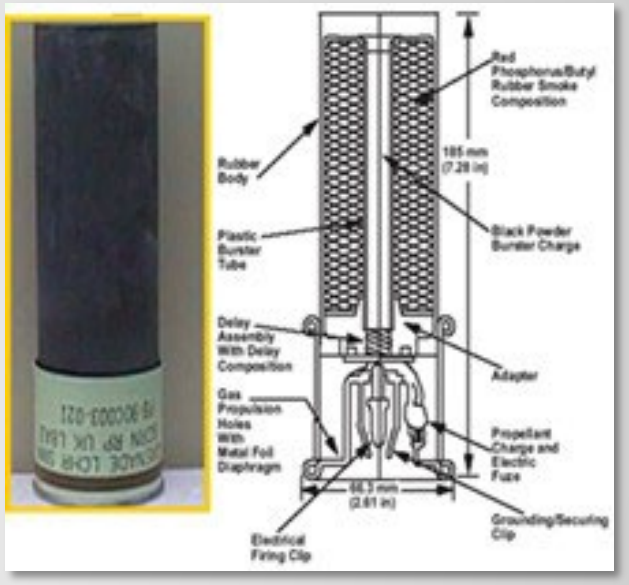
Capabilities/ Characteristics:

- Bursting Fan of 105-degrees
- Smoke Screen reaches 10 meters high and 20-50 meters forward
- 1-3 minutes of screening smoke (unaided or unenhanced vision only)
- Body: Rubber
- Weight: 1.5 pounds
- Filler: 360 grams of red phosphorous/ butyl rubber
- Length: 7.28 inches
- Diameter: 2.61 inches

System Integration:

- M250 Vehicle Launched Grenade Launcher
- M239 Vehicle Launched Grenade Launcher
- M243 Vehicle Launched Grenade Launcher

Configuration: G815



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M76 Infrared Screening Smoke Grenade

The M76 IR Screening Smoke Grenade is used to provide an IR and visual smoke screening capability for armored/tactical vehicles. The grenade consists of a plastic cylindrical main body that contains the IR composition, burster, booster lead, and safe and arm (S&A) mechanism.

Within 2 seconds after firing, the ignition of the burster charge ruptures the plastic grenade body and disperses the mixture which forms a smoke screen for 45 seconds.

The M76 IR Smoke Grenade is the first munition designed to defeat, threat weapon sensors operating in the visual through to far IR regions of the electromagnetic spectrum.

Capabilities/ Characteristics:

- Body: Plastic
- Weight: 4 pounds
- Filler: 3.1 pounds of IR composition
- Length: 9.3 inches
- Diameter: 2.59 inches

System Integration:

- M250 Vehicle Launched Grenade Launcher
- M239 Vehicle Launched Grenade Launcher
- M243 Vehicle Launched Grenade Launcher

Program Partners:

- PBA (Pine Bluff, AR)

Configuration:

- G826
- Suitable Substitutes:
  - G978: M82 Screening Smoke Grenade



ACQUISITION CATEGORY: III
ACQUISITION PHASE: OS
PRODUCTION STATUS: 5 — Legacy Item, No active production
DESIGNATED USE: TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

AN-M14 Incendiary Hand Grenade

The AN-M14 TH3 Incendiary Hand Grenade is used to destroy equipment or start fires; it can also damage, immobilize, or destroy vehicles, weapons systems, shelters and munitions. The grenade body is of thin sheet metal and is cylindrical in shape. It is filled with an incendiary mixture, Thermite-TH3, that burns from 30 to 45 seconds, generating heat to 4,000°F.

The AN-M14 utilizes the M201A1 Fuze which is a pyrotechnic-delay fuze.

Capabilities/ Characteristics:

- Incendiary mixture can burn through 1/8-inch sheet metal
- Used for intended damage, immobilization or destruction of vehicles, weapons systems, shelters, munitions or potentially start fires.
- Produces oxygen, molten iron and will burn under water
- Weighs approximately 32 ounces
- Filler: 1.65 pounds of thermite (TH3) mix
- 5.7 inches tall

System Integration: Requires M201 A1 fuze with the Grenade Body

Program Partners:

- Fill & LAP: PBA (Pine Bluff, AR)
- Body & Lid: Tool Masters, Inc.
- Fuze:
  - Day & Zimmermann, Inc. (Texarkana, TX)
  - Combined Systems Inc. (Jamestown, PA)
  - Nammo Defense Systems (Perry, FL)

Configuration: G900



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M90 LVOSS Grenade

The M90 Light Vehicle Obscurant Smoke System (LVOSS) Grenade is a soft launched, non-fragmenting, pyrotechnic smoke grenade. It is compatible with presently fielded 66mm smoke grenade launchers. A salvo of four grenades conceals the host vehicle by producing an obscurant screen between the threat weapon and the host vehicle.

Capabilities/ Characteristics:

- Fielded as part of LVOSS, a HMMWV self-protection system
- Obscures in the visual and near infrared portions of the electromagnetic spectrum
- Non-fragmenting; pyrotechnically disseminated
- Low toxicity and environmentally safe
- Designed for use with the M7 Grenade Launcher/ Dispenser

System Integration: M7 Vehicle Launched Grenade Launcher

Configuration: GG03

Materiel Release: March 2000



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M67 Fragmentation Hand Grenade

The M67 Fragmentation Hand Grenade is used to supplement small arms fire against enemies in close combat. The grenade produces casualties by high velocity projection of fragments in a uniform distribution pattern.

The grenade body is a 2.5-inch diameter steel sphere which is designed to burst into numerous fragments when detonated. The grenade body contains 5.5 ounces of Composition B high explosive. Each grenade is fitted with a fuze which is a pyrotechnic delay detonating device. The delay detonating device gives the soldier 4.0 to 5.5 seconds of separation after release of the safety lever.

The M213 fuze is equipped with a steel safety pin and pull ring. The split end of the safety pin is either spread approximately 40 degrees or diamond-shaped to prevent accidental removal and arming during shipping and handling. The pull ring is provided to facilitate easy removal of the safety pin. A second safety feature is the steel safety clip. The safety clip's purpose is to prevent the safety lever from moving in the event the safety pin is accidentally dislodged from the Fuze.

Capabilities/ Characteristics:

- Can be thrown 35 meters by an average soldier
- Lethal radius is 5 meters from point of impact
- Effective casualty-producing radius is 15 meters from point of impact
- Fragments can disperse as far away as 230 meters
- Supplements small arm fire
- Uses the M213 pyrotechnic delay-detonating fuze
- 4.0-5.5 second delay
- 5.5 oz HE Composition B

System Integration: Requires M213 fuze with the Grenade Body

Configuration: G881

Production Partners:

- Day & Zimmermann, Inc.

Materiel Release: 1968



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M18 Smoke Hand Grenades

The M18 colored-smoke hand grenades are used for ground-to-air or ground-to-ground signaling.

The grenade body is made of thin sheet metal and may be filled with one of four smoke colors: green, yellow, red or violet. Once ignited, each grenade will emit smoke for 50 to 90 seconds.

The hand grenade fuze M201A1 is a pyrotechnic delay-igniting fuze. The fuze body contains a primer, first-fire mix, pyrotechnic delay column, and ignition mixture. Assembled to the body are a striker, striker spring, safety lever and safety pin with pull ring. The split end of the safety pin has an angular speed.

Capabilities/ Characteristics:

- Emits smoke for 50-90 seconds
- Can be thrown 40 meters by an average soldier
- Used for ground to air and ground to ground signaling
- Uses the M201A1 pyrotechnic delay-igniting fuze

System Integration: Requires M201 A1 fuze with the Grenade Body

Configuration:

- **G940**: Green Smoke
- **G945**: Yellow Smoke
- **G950**: Red Smoke
- **G955**: Violet Smoke



Production Partners:

- Fill & LAP: PBA (Pine Bluff, AR)
- Body & Lid: Tool Masters, Inc.
- Fuze:
  - Day & Zimmermann, Inc. (Texarkana, TX)
  - Combined Systems Inc. (Jamestown, PA)
  - Nammo Defense Systems (Perry, FL)
- Dye Producer: Nation Ford Chemical

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M83 Smoke Grenade

The M83 TA Practice Smoke Hand Grenade, M83 is a burning type grenade used to generate white smoke for screening activities of small units. It is also used for ground-to-air or ground-to-ground signaling. The grenade body is a cylinder of thin sheet metal and filled with TA smoke mixture. Once ignited, each grenade will emit smoke for 55 to 90 seconds. The M83 utilizes the M201A1 Fuze which is a pyrotechnic-delay fuze.

Capabilities/ Characteristics:

- Emits white smoke for 50-90 seconds
- Can be thrown 40 meters by an average soldier
- Used for ground-to-air and ground-to-ground signaling
- Uses the M201A1 Fuze

System Integration: Requires M201 A1 fuze with the Grenade Body

Configuration:

- G982
- Suitable Substitutes: GG46 (M330 Screening Smoke Grenade)

Production Partners:

- Fill & LAP: PBA (Pine Bluff, AR)
- Body & Lid: Tool Masters, Inc.
- Fuze:
  - Day & Zimmermann, Inc. (Texarkana, TX)
  - Combined Systems Inc. (Jamestown, PA)
  - Nammo Defense Systems (Perry, FL)

Materiel Release: May 1997



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M106 BOHG (Bursting Obscuration Hand Grenade)

The M106 Bursting Obscuration Hand Grenade (BOHG) is used for personnel screening in the visible spectrum. The M106 produces an instant* obscurant cloud and is intended for use in restrictive terrain, i.e., inside urban structures, subterranean locations, and caves.

The M106 BOHG utilizes the M201A1 Mod 3 Fuze which is a pyrotechnic-delay fuze with a confidence clip. The confidence clip is an added security measure to prevent accidental arming of the grenade.

*The M106 BOHG is a bursting grenade providing smoke unlike the M18 and M83 smoke grenades which burn to release the smoke.

Capabilities/ Characteristics:

- Can be thrown 40 meters by the average soldier
- Provides 35 seconds of obscuration smoke
- Can be used in conjunction with the M83 Smoke Grenade to produce a smoke screen for a minimum of 90 seconds
- Training required before use

System Integration:
Requires M201 A1 Mod 3 fuze with the Grenade Body

Configuration: GG25

Production Partners:

- Fill & LAP: PBA (Pine Bluff, AR)
- Fuze:
  - Day & Zimmermann, Inc. (Texarkana, TX)
  - Combined Systems Inc. (Jamestown, PA)
  - Nammo Defense Systems (Perry, FL)

Materiel Release: September 2009



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

Bispectral Obscurant Screening System (BOSS)

The BOSS is used for personnel screening in the visible through Far InfraRed (IR) spectrum. The BOSS produces an instant* obscurant cloud and is intended for use in restrictive terrain, i.e., inside urban structures, subterranean locations, and caves.

The BOSS utilizes the M201A1 Mod 3 Fuze which is a pyrotechnic-delay fuze with a confidence clip. The confidence clip is an added security measure to prevent accidental arming of the grenade.

*The BOSS is a bursting grenade providing smoke unlike the M18 and M83 smoke grenades which burn to release the smoke.

Capabilities/ Characteristics:

- Can be thrown 40 meters by the average soldier
- Provides smoke to provide screening in the visual through far IR spectra
- Can be used in conjunction with the M83 Smoke Grenade to produce a smoke screen for a minimum of 90 seconds
- Training required before use

System Integration:
Requires M201 A1 Mod 3 fuze with the Grenade Body

Configuration: TBD

Production Partners:

- Fill & LAP: PBA (Pine Bluff, AR)
- Fuze:
  - Day & Zimmermann, Inc. (Texarkana, TX)
  - Combined Systems Inc. (Jamestown, PA)
  - Nammo Defense Systems (Perry, FL)

Materiel Release: TBD



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M111 Offensive Hand Grenade

The M111 Offensive Grenade is an offensive hand grenade that incapacitates enemy personnel within closed spaces using blast overpressure. This is the designated replacement for the MK 3A2 which is restricted for use. It produces casualties during close combat while minimizing danger to friendly personnel. The grenade is also used when lethal fragments are not desired to reduce collateral damage.

Capabilities/ Characteristics:

- Provides blast overpressure effective against enemy troops in indoor areas, bunkers, trench lines and tunnels
- 4.0 to 5.5 second delay
- Weighs 12.6 ounces
- 4.41 inches in length and 2.37 inches in diameter
- Octagonal shape

System Integration: Requires M213fuze with the Grenade Body

Configuration:

- GG37
- Suitable Substitutes: G911 (MK 3A2 HG Offensive Grenade)

Production Partners:

- Qualification quantities: Battelle
- Full Rate Production: Day & Zimmermann, Inc.

Materiel Release: October 2025



ACQUISITION CATEGORY IV | ACQUISITION PHASE PD | PRODUCTION STATUS 2 Transition to Production within 5 years | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M228 Practice Fuze

The M228 Practice Grenade Fuze is a pyrotechnic-delay igniting fuze. The body contains a primer and a pyrotechnic delay column.

Assembled to the body are a striker, striker spring, safety lever, safety pin with pull ring, safety clip, and igniter assembly. The M228 Fuze is used with the M69 and M112 grenade bodies for training Soldiers on offensive hand grenades.

Capabilities/ Characteristics:

- Used with M69 Grenade Body to replicate M67 Fragmenting Hand Grenade in training
- Used with M112 Grenade Body to replicate M111 Offensive Hand Grenade in training
- 4-5.5 second delay
- Emits audible signal and white smoke charge

System Integration: Used with M69 and M112 practice bodies

Configuration: G878

Production Partners: Day & Zimmermann, Inc. (Texarkana, TX)

Materiel Release: October 1983



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M69 Practice Hand Grenade

The M69 Practice Hand Grenade is the practice version of the M67 Fragmentation Grenade and is threaded to accept the M228 Practice Hand Grenade fuze.

Capabilities/ Characteristics:

- Used with M228 Practice Fuze to replicate M67 in a training scenario 4.0-5.5 second delay
- Can be thrown 35 meters by average soldier
- The M69 Grenade Body is designed to be reused multiple times before replacing it

System Integration: M228 Practice fuze to replicate M67 training

Configuration: G811

Production Partners: BWX Technologies

Materiel Release: October 1983



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M82 Simulant Screening Smoke Grenade

The M82 Simulant Smoke Grenade is used as a trainer for the Grenade, Launcher, Smoke: IR Screening, M76 (G826) and the M8 (G815). It is electrically initiated, propellant-launched and disseminates a screening cloud from the launch vehicle. The screening cloud filler material is an inert fine particulate of Titanium Dioxide.

Capabilities/ Characteristics:

- Trainer simulates the unpacking, loading and firing of the M79 and L8 tactical grenades
- Fielded to be launched with the M250, M239 and M243 but compatible with all standard metal-based 66mm launcher
- Plastic cylindrical container 9.3 inches in length and 2.6 inches in diameter weighing approximately 3.1 pounds

System Integration:

- M250 Vehicle Launched Grenade Launchers
- M239 Vehicle Launched Grenade Launchers
- M243 Vehicle Launched Grenade Launchers

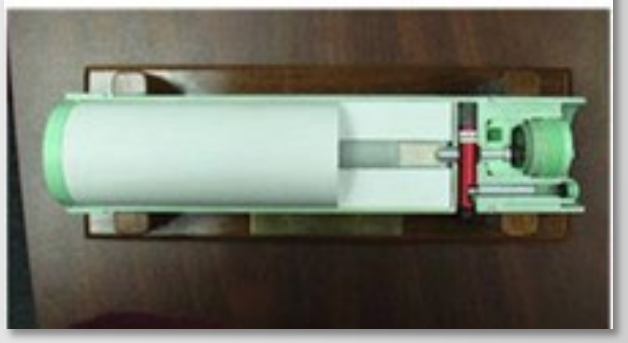
Configuration: G978

Production Partners:

- PBA (Pine Bluff, AR)

Materiel Release: September 1994





DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M112 Practice Offensive Hand Grenade

The M112 Practice Offensive Hand Grenade Body with the M228 Training Fuze serve as the training system for the M111 Offensive Hand Grenade. The system duplicates the size, shape, weight, and markings of the M111. The M112 is a reloadable body and is painted blue which denotes that it is a training item.

Capabilities/ Characteristics:

- Reusable training system for the M111
- Emits a sound and smoke output through the hole in the bottom
- Weighs 12.6 oz. w/fuze
- 4.0 to 5.5 second delay
- 4.41” in length and 2.37” in diameter
- Octagonal shape

System Integration: Used with M228 Practice fuze to replicate M67 training

Configuration: GG38

Production Partners: Day & Zimmermann, Inc. (Texarkana, TX)

Materiel Release: October 2025



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M84 Stun Hand Grenade

The M84 Stun Hand Grenade is used as a diversionary or distraction device during building and room clearing operations when the presence of noncombatants is likely or expected and the assaulting element is attempting to achieve surprise.

The handheld device is designed to be thrown into a room where it delivers a loud bang and bright flash sufficient to temporarily disorient personnel in the room.

Capabilities/ Characteristics:

- Non-lethal, non-fragment, flash/bang
- Intense flash over 1 million candle-power
- Noise level range from 170-180 dB
- Fuze delay time range 1.5 +.8/-.5 seconds
- Vendor no longer produces the M84 and program will transition to the MK13 Mod I

System Integration: Used with 2-pull ring variant of M201A1 fuze

Production Partners: RTX Technologies (No longer produces the system)

Materiel Release: September 2007



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M102 RSPHG

The M102 Reloadable Stun Practice Hand Grenade (RSPHG) is the practice version of the M84 Nonlethal Stun Hand Grenade (SHG). It is a pyrotechnic device for diversionary purposes that can be used to train antiterrorist squads, hostage rescue squads, riot control squads, etc.

The M102 is a low hazard, non-shrapnel producing explosive device which produces an intense light and sound display with a minimum amount of smoke. It functions the same as the M84 SHG except that the M240 Fuze Cartridge is a one-time use item, with the M102 Practice Grenade Body capable of being used up to 25 times before needing to be replaced.

Capabilities/ Characteristics:

- Cost effective trainer for M84
- Nonlethal, non-fragment, flash/bang
- Intense flash over 1 million candlepower
- Noise level range from 170-180 decibels
- Fuze delay: 1.5 seconds
- Reloadable body (min re-use = 10X; max re-use = 25X

System Integration: Used with M240 Fuze

Configuration:

- GG19: M240 Practice Fuze
- GG18: M102 Practice Grenade Body

Materiel Release: August 2007





DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

MK13 Mod 1 (Vanguard)

The Mk13 Mod I (Vanguard) is a stun grenade that used as a diversionary or distraction device during building and room clearing operations when the presence of noncombatants is likely or expected and the assaulting element is attempting to achieve surprise. It is the planned replacement for the M84 legacy stun grenade

The handheld device is designed to be thrown into a room where it delivers a loud bang and bright flash sufficient to temporarily disorient personnel in the room.

Capabilities/ Characteristics:

- Nonlethal, non-fragment, flash/bang
- Intense flash over 1 million candlepower
- Noise level range from 170-180 decibels

Production Partners:

- American Rheinmetall
- Rheinmetall

Materiel Release: TBD



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

Riot Control Agent CS Capsule

Ortho-Chlorobenzalmalononitrile (CS) capsule is burned to simulate CS effects during training

Capabilities/ Characteristics:

- Respiratory irritant called o-chlorobenzalmalononitrile
- CS fill S fill vaporizes and condenses in the atmosphere

System Integration: Used with M7A3 Riot Control Grenade

Configuration: K765

Production Partners:

- Defense Technologies (DefTech) (Casper, WY)





DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

12 Gauge M1013 Non-Lethal Crowd Dispersal Cartridge

The M1013, 12-gauge Non-Lethal area target cartridge round gives the Soldier a capability to stun or deter two to three people without penetrating their bodies, but it nevertheless delivers a strong blow to the body. The round is designed to be fired at the center mass of an adult person at ranges between 10 and 20 meters.

Capabilities/ Characteristics:

- Fired from standard issue 12-gauge shotgun
- Projectile: 18 rubber balls
- Fired out of Mossberg 500, Mossberg 590
- Engagement range: 10-20 meters

System Integration:

- Mossberg 500
- Mossberg 590

Configuration: AA52

Materiel Release: January 2003

Production Partners:

- Defense Technologies (DefTech) (Casper, WY)



ACQUISITION CATEGORY III
ACQUISITION PHASE OS
PRODUCTION STATUS 5 Legacy Item No active production

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

40mm M1006 Non-Lethal Cartridge (Sponge Grenade)

The M1006, 40mm Sponge Grenade delivers a strong, but non-penetrating, blow to the body that deters otherwise obstreperous people. This round is fired at the center mass of an adult at ranges between 10 and 50 meters.

Capabilities/ Characteristics:

- Provides Non-Lethal means of crowd control
- Launched from M203 40mm grenade launcher
- Effective Range: 10-50 meters

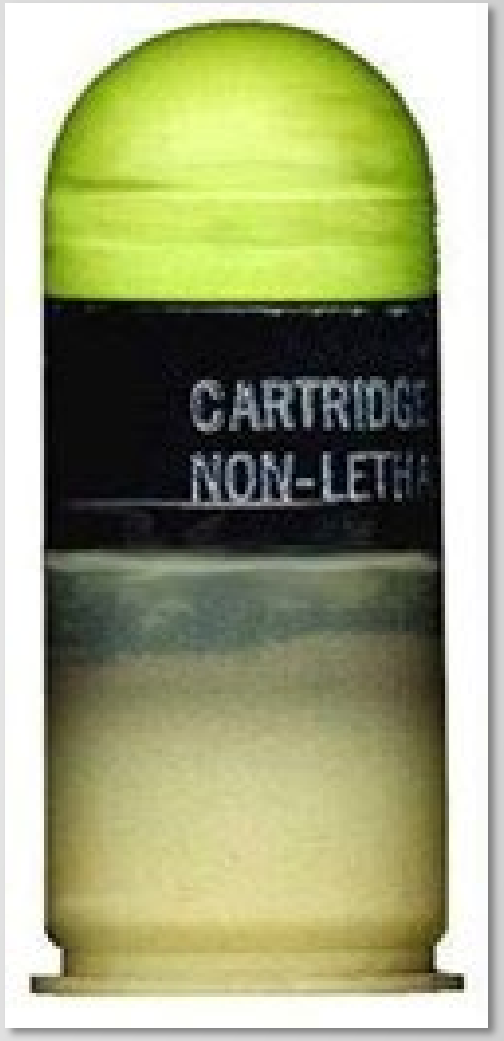
System Integration: M203 Grenade Launcher

Configuration: BA06

Materiel Release: April 2000

Production Partners:

- AMTEC Corp. (Janesville, WI)



ACQUISITION CATEGORY III
ACQUISITION PHASE OS
PRODUCTION STATUS 5 Legacy Item No active production

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

40mm M1029 Non-Lethal Crowd Dispersal Cartridge

The M1029, 40mm Crowd Dispersal Round (Area) enables the Soldier to deter two or three people without penetrating their bodies by delivering a strong blow to the body. The round is designed to be fired at the center mass of an adult at ranges between 10 and 30 meters.

Capabilities/ Characteristics:

- Provides Non-Lethal means of crowd control
- Launched from M203 40mm grenade launcher
- Effective Range: 10-30 meters

System Integration: M203 Grenade Launcher

Configuration: BA13

Materiel Release: November 2002

Production Partners:

- Defense Technologies (DefTech) (Casper, WY)



ACQUISITION CATEGORY III

ACQUISITION PHASE OS

PRODUCTION STATUS 5 Legacy Item No active production

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

X26P Taser Stun Device

The Taser is an electro-muscular incapacitation device that can deliver an electrical shock capable of arching up through two inches of clothing and can incapacitate a target without permanent injury or known side effects. The effective range is up to 25 feet. This item is also known as Launched Electrode Stun Device (LESD).

Currently fielded X26E model is obsolete and will be replaced by the X26P (direct replacement).

Capabilities/ Characteristics:

- Used to propel wired-probes or to conduct energy directly to affect sensory and motor functions, allowing control over a targeted individual
- Provides electro-muscular incapacity capability
- Effective range is up to 25 feet

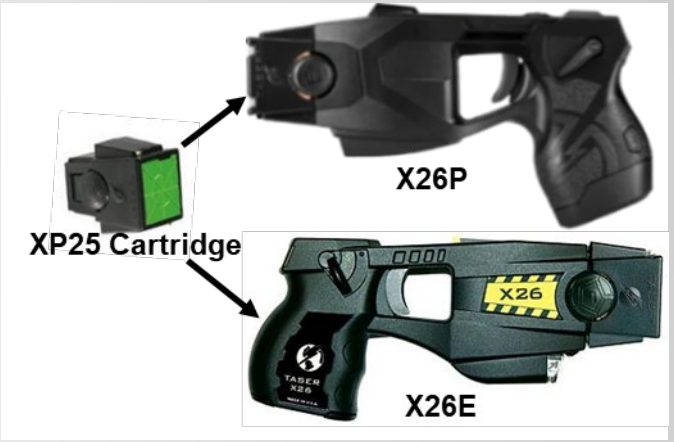
System Integration: Used with XP25 Taser Cartridge

Materiel Release:

- X26E: April 2012
- X26P: November 2025

Production Partners:

- Aardvark Tactical, Inc. (LaVerne, CA)
- Axon Enterprise (Scottsdale, AZ)



ACQUISITION CATEGORY III
ACQUISITION PHASE PD
PRODUCTION STATUS 1 Actively Procured & Under Contract

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

XP25 Taser Cartridge

The cartridge is fired from the X26E Taser also known as LESD. The cartridge has tethered probes that are effective up to 25 feet and through 2 inches of clothing. The probes provides a charge that induces Electro-muscular Incapacitation (EMI) which overrides sensory and motor systems.

Capabilities/ Characteristics:

- Tethered probes that attach to target, transmitting an electrical charge
- Charge induces EMI, overriding sensory and motor systems
- Effective up to 25 feet and through up to 2 inches of clothing

System Integration:

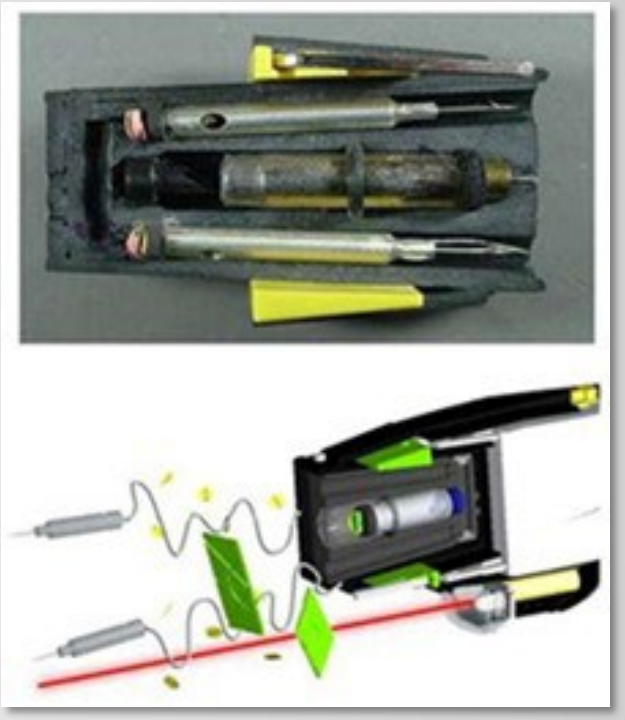
- X26E Taser
- X26P Taser

Configuration: JN17

Materiel Release: April 2012

Production Partners:

- Aardvark Tactical, Inc. (LaVerne, CA)
- Axon Enterprise (Scottsdale, AZ)



ACQUISITION CATEGORY III

ACQUISITION PHASE PD

PRODUCTION STATUS 1 Actively Procured & Under Contract

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

12 Gauge M1116 ER Non-Lethal Marking Cartridge

The M1116, 12-gauge non-lethal extended range point round gives the Soldier a blunt force trauma capability to stop, confuse, disorient, or deter, and mark for tracking, potential threats at extended ranges between 30 and 50 meters. This round is designed to be fired from standard Army 12-gauge shotguns, at the center of mass of an adult person.

Capabilities/ Characteristics:

- Fired from standard issue 12 Gauge Mossberg 500, Mossberg 590 and M26 MASS Shotguns
- Projectile: 40 grams of #9 shot in a fluorescent powder coated tear shaped bag
- Engagement range: 30-50 meters

System Integration:

- Mossberg 500
- Mossberg 590
- M26 MASS Shotguns

Configuration:

- AC02
- Suitable Substitutes: AA51 (12 Gage M1012 Non-lethal Point Round Cartridge)

Materiel Release: 3QFY26

Production Partners:

- Defense Technologies (DefTech) (Casper, WY)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

L96A1 Anti-Riot Grenade

The L96A1 Anti-Riot Grenade is an anti-riot grenade that dispenses CS, a tear gas riot control agent. It is launched from 66mm vehicle mounted dischargers in a 4-grenade salvo. Each L96A1 contains 23 individual canisters, providing several dispersants, rather than a single plume.

Capabilities/ Characteristics:

- Provides non-lethal, riot control, stand-off capability from vehicles equipped with 66mm grenade dischargers
- Deploys 23 countermeasure resistant CS canisters
- Induces intense irritation of the eyes, mucous membranes and skin
- Range: 65-85 meters

System Integration: M7 Vehicle Launched Grenade Launcher

Configuration: FZ14

Materiel Release: January 2002



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

L97A1 Anti-Riot Practice Grenade

The L97A1 is a training version of the L96A1. It uses Cinnamic Acid (CA) smoke to simulate the riot control agent.

Capabilities/ Characteristics:

- Training grenade for L96A1 Anti-Riot Grenade
- Employed from any 66mm grenade discharger
- Projectile: 23 canisters filled with CA
- Range: 65-85 meters
- Length: 185 millimeters
- Total Weight: 568 grams (1.25 pounds)

System Integration: M7 Vehicle Launched Grenade Launcher

Configuration: FZ15

Materiel Release: January 2002



ACQUISITION CATEGORY IV

ACQUISITION PHASE OS

PRODUCTION STATUS 5 Legacy Item No active production

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M98 Non-Lethal Distraction Grenade

The M98 Non-Lethal Distraction Grenade is an area target munition fired from the standard 66mm grenade launcher. These rounds deliver a flash bang diversionary warning effect upon burst. These munitions are not precision delivered and are meant to affect large numbers of people at longer standoff ranges.

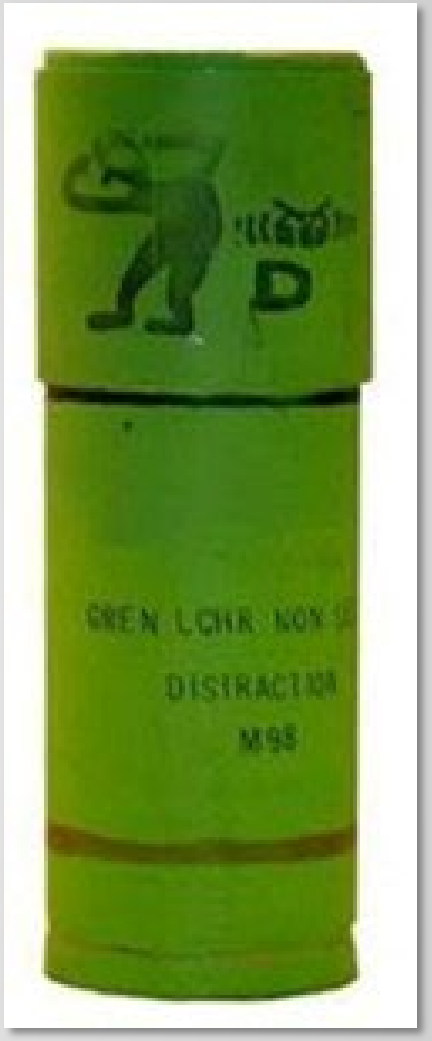
Capabilities/ Characteristics:

- Provides non-lethal, riot control, stand-off capability from vehicles equipped with 66mm grenade launchers
- Projectile: 3 ground bursting sub munitions with pyrotechnic charges for audio and visual stimuli
- Disorients individuals with intense light and sound
- Range: 50-150 meters

System Integration: M7 Vehicle Launched Grenade Launcher

Configuration: FZ16

Materiel Release: May 2011



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M99 Non-Lethal Blunt Trauma Grenade

The M99 Non-Lethal Blunt Trauma Grenade is an area target munition that can be fired from the standard 66mm grenade launcher. These rounds are designed to deliver a payload of rubber non-penetrating projectiles, upon burst, affecting many people at longer standoff ranges.

Capabilities/ Characteristics:

- Provides non-lethal, riot control, stand-off capability from vehicles equipped with 66mm grenade launchers
- Projectile: 3 ground bursting sub munitions containing 140 each, 32 caliber PVC balls
- Delivers strong non-penetrating blow to body
- Range: 50-150 meters

System Integration: M7 Vehicle Launched Grenade Launcher

Configuration: FZ17

Materiel Release: May 2012



ACQUISITION CATEGORY IV
ACQUISITION PHASE OS
PRODUCTION STATUS 5 Legacy Item No active production

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M5 MCCM (Modular Crowd Control Munition)

The Modular Crowd Control Munition (MCCM), a non-lethal variant of the Claymore munition, is the Army's first non-lethal area coverage munition. Developed for the Military Police to provide crowd control and force protection, it temporarily incapacitates a large, hostile group without causing life-threatening consequences to the targeted individuals. This gives the field commander the option to apply non-lethal force as a first line of defense against aggressive non-combatants.

Capabilities/ Characteristics:

- Similarity in appearance to the Claymore munition
- Provides deterrence
- Contains 600 each, .32 caliber rubber balls
- Effective range of 5 to 15 meters with 60-degree coverage
- Command control initiated

System Integration: Hand Emplaced

Configuration: WA97

Materiel Release: October 2001



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M5 Ground Smoke Pot

The M5 is a smoke pot that provides obscuration coverage in the visual spectrum during troop movements.

Capabilities/ Characteristics:

- Flash vented electric squibs or scratch block and match required to ignite
- Restricted to contingency use due to the Hexachloroethane fill

System Integration: Flash vented electric squibs or scratch block and match required to ignite.

Configuration: K866

Production Partners:

- PBA (Pine Bluff, AR)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M4A2 Floating Smoke Pot

Legacy Tactical Floating Smoke Pot that provides Obscuration effects in the Visual Spectrum

Capabilities/ Characteristics:

- Legacy Tactical Smoke Pot that provides a dense cloud of white smoke (visual spectrum) to conceal troop movements in tactical scenarios such as river crossings
- Restricted to contingency use due to the Hexachloroethane fill

System Integration: M207 fuze (no longer in production)

Configuration: K867

Production Partners: PBA (Pine Bluff, AR)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M8 Practice Screening Smoke Pot

The M8 Practice Screening Smoke Pot is designed to provide adequate screening properties for training requirements. The M8 generates screening smoke when a floating source of smoke is required for river crossings and beach landings. It is a training device for the M4A2 Smoke Pot. The M8 utilizes the M208 fuze which is a pyrotechnic-delay igniting fuze.

Capabilities/ Characteristics:

- Floating pot
- Smoke obscuration
- Duration of the smoke screen is 280 seconds
- 25 pounds of Terephthalic Acid mix
- Total weight of 38 pounds
- Training for M4A2 Smoke Pot

System Integration: M208 fuze

Configuration: K511

Materiel Release: March 2002

Production Partners:

- Fill & LAP: PBA (Pine Bluff, AR)
- Body & Lid: Tool Masters, Inc.
- Fuze:
  - Day & Zimmermann, Inc. (Texarkana, TX)
  - Combined Systems Inc. (Jamestown, PA)
  - Nammo Defense Systems (Perry, FL)



ACQUISITION CATEGORY: IV
ACQUISITION PHASE: PD
PRODUCTION STATUS: 1 Actively Procured & Under Contract
DESIGNATED USE: TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

XM251 Active Protection System (APS) Countermeasure Munition (CM)

The XM251 CM provides active protection countermeasures for platforms against Anti-tank guided missiles, Rocket-propelled grenades, Anti-tank rockets, Kinetic energy penetrators

Capabilities/ Characteristics:

- System composed of a sensor suite, gimbaled launchers with explosive CM, and a centralized computing unit
- Defeat mechanism is mortar type blast/shock warhead that flies out and intercepts incoming threat at a close range

System Integration:

- Iron Fist APS
- Platforms:
  - M2A4E1 Bradley Fighting Vehicle
  - M1E3 Abrams
  - Stryker
  - XM30

Configuration: XM251

Materiel Release:

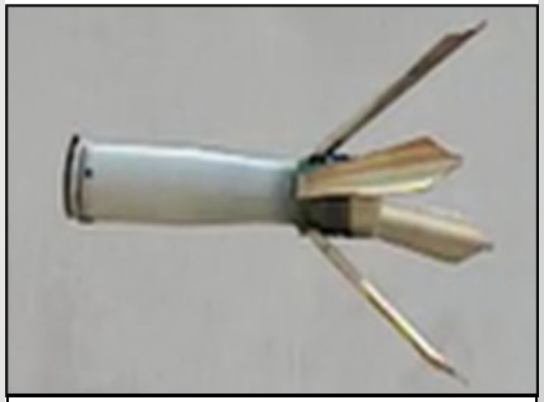
- Urgent Materiel Release (UMR) 4QFY27
- Program of Record (POR) Transition starting FY28

Production Partners:

- Elbit Systems (Israel) – Original Equipment Manufacturer
- General Dynamics Ordnance and Tactical Systems (U.S. based partner)



IF System



CM

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M79 Electric Match

The Electric Match Igniter is used to remotely initiate the M27 AT Guided Missile Signature Simulator (ATGMSS). The Electric Match Igniter sits inside the tail end of the M27 ATGMSS and is initiated by the control module for the Joanell device.

The M79 electric match igniter consists of an electric match, starter composition, and igniter composition. The igniter composition burns sufficiently to ignite the M27 ATGMSS.

The M79 is a 3-inch-long polypropylene tube and cap assembly. It is ignited by a 24 direct current power source and burns for approximately 20 seconds.

Capabilities/ Characteristics:

- Used to initiate the M27 ATGMSS
- 3-inch-long polypropylene tube; cap assembly
- Burns for approximately 20 seconds

System Integration:

- ATGMSS

Configuration: MN60

Materiel Release: December 1992

Production Partners:

- MAST Technology, Inc. (LCAAP, Independence, MO)



ACQUISITION CATEGORY: III
ACQUISITION PHASE: PD
PRODUCTION STATUS: 1 – Actively Procured & Under Contract
DESIGNATED USE: TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M125A1 Green Star Illumination Parachute HHS

The M125A1 HHS consists of a five-star green cluster illuminant assembly and a rocket motor propulsion assembly. The signal is activated by striking the base of the signal with the palm of the hand driving a percussion primer into the initiating charge.

The mission need of the M125A1 is primarily for signaling among ground troop emplacements and is occasionally used to signal aircraft. The M125A1 is used by all services for both training and tactical requirements.

Capabilities/ Characteristics:
- Primarily used for battlefield illumination and distress and troop placement
- Signal consists of a five-star green cluster illuminant propelled by a fin-stabilized rocket motor
- Length: 10.16 inches
- Weight: 1.2 pounds
- Primarily used for signaling among ground troops and aircraft
- Illumination: 9,000 candlepower for 6-10 seconds
- Altitude is 725 feet (average)

System Integration:
- Hand Emplaced

Configuration: L314

Materiel Release: December 1983

Production Partners:
- Security Signals (Cordova, TN)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M126A1 Red Star Illumination Parachute HHS

The M126A1 Handheld Signal (HHS) is a parachute suspended red star illuminant propelled by a fin stabilized rocket motor propulsion assembly. The signal is activated by striking the base of the signal with the palm of the hand driving a percussion primer into the initiating charge.

The mission need of the M126A1 is for surface-to-air distress signaling, location signaling between troop emplacements, and battlefield illumination. The M126A1 is used by all services for both training and war reserve requirements.

Capabilities/ Characteristics:
- Primarily used for battlefield illumination and distress and troop placement
- Signal is a parachute suspended red star illuminant propelled by a fin stabilized rocket motor
- Length: 10.16 inches
- Weight: 1.2 pounds
- Illumination: 10,000 candlepower for 50 seconds
- Altitude is 725 feet (average)

System Integration:
- Hand Emplaced

Configuration: LA80
- Suitable Substitutes:
  - L311: M126A1 Red Star Illumination Parachute HHS

Materiel Release: June 1985

Production Partners:
- Security Signals (Cordova, TN)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M127A1 White Star Illumination Parachute HHS

The M127A1 HHS is a parachute suspended white star illuminant propelled by a fin stabilized rocket motor propulsion assembly. The signal is activated by striking the base of the signal with the palm of the hand driving a percussion primer into the initiating charge.

The mission need of the M127A1 is for surface-to-air distress signaling, location signaling between troop emplacements, and battlefield illumination. The M127A1 is used by all services for both training and war reserve requirements. The high candlepower intensity lends the M127A1 to battlefield illumination applications.

Capabilities/ Characteristics:

- Primarily used for battlefield illumination and distress and troop placement
- Signal is a parachute suspended white star illuminant propelled by a fin-stabilized rocket motor
- Length: 10.16 inches
- Weight: 1.2 pounds
- Illumination: 90,000 candlepower for 25 seconds
- Altitude is 725 feet (average)

System Integration:

- Hand Emplaced

Configuration: L312

Materiel Release: October 1983

Production Partners:

- Security Signals (Cordova, TN)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

A/P25S-5 Personnel Distress Signal Kit

The A/P25S-5 Signal Kit is a distress signaling device used by downed airmen or others exposed to emergency escape or evasion situations.

The kit comes equipped with a hand fired projector and a bandoleer assembly which contains a plastic molded bandoleer holding seven red signals. Each signal consists of a small solid propellant rocket motor actuated by a percussion primer, a delay element, and a pyrotechnic candle, all contained in a metal case.

The surface of the case is dyed red, to match the color of the candle. The projector is made of black anodized aluminum and has a signal gripping device and a firing mechanism which consists of a free traveling firing pin with a smooth actuation knob and spring. The projector is connected to the bandoleer by a 30-inch lanyard.

Capabilities/ Characteristics:
- Used as a distress signal for exposed individuals for emergency escape and evasion
- Altitude: 600 feet
- Burn Time: 10 seconds
- Illumination: 10,000 candlepower
- Visible for 15-20 miles
- Part of survival kit vest type

System Integration:
- Hand Emplaced

Configuration: L119
- Suitable Substitutes:
  - L116
  - L117

Materiel Release: November 2005

Production Partners:
- Security Signals (Cordova, TN)
- Propellant: Talley Defense Systems (Mesa, AZ)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M195 Green Star Illumination Parachute HHS

The M195 HHS is a parachute-suspended, green star illuminant propelled by a fin-stabilized rocket motor propulsion assembly. The signal is activated by striking the base of the signal with the palm of the hand driving a percussion primer into the initiating charge.

The mission need of the M195 is for surface-to-air distress signaling, location signaling between troop emplacements, and battlefield illumination. The M195 is used by all services for both training and war reserve requirements.

Capabilities/ Characteristics:

- Primarily used for battlefield illumination and distress and troop placement
- Signal is a parachute suspended green star illuminant propelled by a fin-stabilized rocket motor
- Length: 10.16 inches
- Weight: 1.2 pounds
- Illumination: 5,000 candlepower for 50 seconds
- Altitude: 725 feet (average)

System Integration:

- Hand Emplaced

Configuration: L305

Materiel Release: July 1985

Production Partners:

- Security Signals (Cordova, TN)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M158 Red Star Illumination Cluster HHS

The M158 HHS consists of a five-star red cluster illuminant assembly and rocket motor propulsion assembly. The signal is activated by striking the base of the signal with the palm of the hand driving a percussion primer into the initiating charge. An attached fin assembly provides stability in flight.

The mission need of the M158 is to provide limited battlefield illumination in addition to functioning as a distress and troop emplacement signaling device. The M158 is used by all services for both training and tactical requirements.

Capabilities/ Characteristics:

- Primarily used for battlefield illumination and distress and troop placement
- Consists of a five-star red cluster illuminant assembly propelled by a fin-stabilized rocket motor
- Length: 10.16 inches
- Weight: 1.2 pounds
- Illumination: 30,000 candlepower for 6-10 seconds

System Integration:

- Hand Emplaced

Configuration: L306

Materiel Release: December 1983

Production Partners:

- Security Signals (Cordova, TN)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M159 White Star Illumination Cluster HHS

The M159 HHS consists of a five-star white cluster illuminant assembly and rocket motor propulsion assembly. The signal is activated by striking the base of the signal with the palm of the hand driving a percussion primer into the initiating charge. An attached fin assembly provides stability in flight.

The mission need of the M159 is to provide limited battlefield illumination in addition to functioning as a distress and troop emplacement signaling device. The M159 is used by all services for both training and tactical requirements.

Capabilities/ Characteristics:
- Primarily used for battlefield illumination and distress and troop placement
- Consists of a five-star white cluster illuminant assembly propelled by a fin-stabilized rocket motor
- Length: 10.16 inches
- Weight: 1.2 pounds
- Illumination: 30,000 candlepower for 6-10 seconds
- Altitude: 725 feet (average)

System Integration:
- Hand Emplaced

Configuration: L307

Materiel Release: April 1984

Production Partners:
- Security Signals (Cordova, TN)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

Backblast Charge Simulator for Sub-caliber Adapter

Back Blast Simulator

Capabilities/ Characteristics:

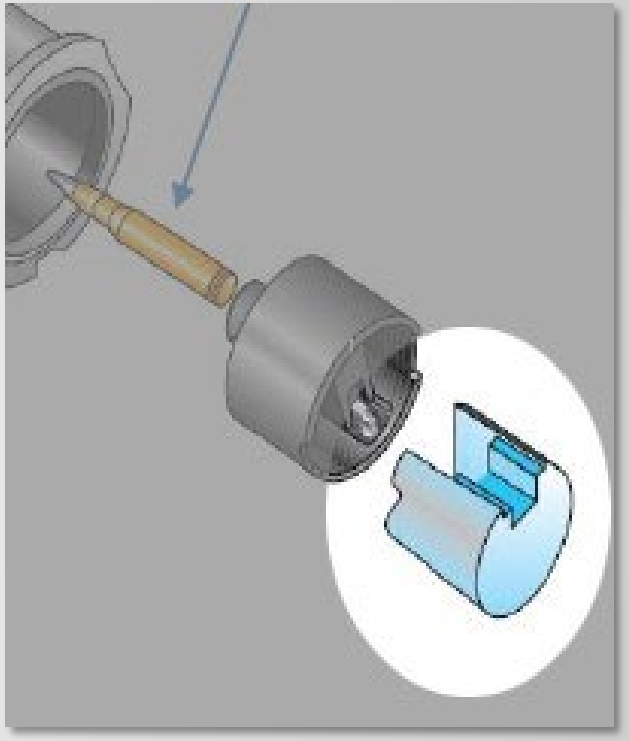
- The backblast simulator produces flash and sound that resembles firing the live round.

Configuration: L612

Materiel Release: 1990

Production Partners:

- Saab Dynamics (Karlskoga, Sweden)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

Special Use Ammunition (SUA) Phase 1

The Special Use Ammunition (SUA) suite of training simulators that provide realistic training for Soldiers. The M175 Black Smoke, M189 Yellow Smoke, M181 Projectile Airburst and M182 Anti-tank Guided Missile and Rocket will allow Soldiers access to improved training simulators and to be better prepared to respond to a wide range of battlefield scenarios. With these additional training capabilities, Soldiers will have a full suite of simulators that will improve the way they train so they are better prepared to respond to a wide range of battlefield scenarios. These simulators are initiated via the Family of Battlefield Effects Simulator Launchers.

Capabilities/ Characteristics:

- M175 - simulates a target kill in force-on-target training scenarios by emitting a black smoke plume (burning vehicles, buildings, & equipment)
- M189 - simulates a chemical, biological, radiological, or nuclear attack in training scenarios by emitting a yellow smoke plume
- M181 - simulates indirect fire by whistling while ascending before bursting
- M182 - simulates a surface to air missile or shoulder launched rocket in training by emitting a smoke trail

System Integration:

- Hand Emplaced

Configuration:

- LA71 (M175)
- LA96 (M189)
- LA45 (M182)
- LA47 (M181)

Materiel Release:

- M182 – 18 December 2023
- M181 – 28 August 2024

Production Partners:

- Ultra Defense Corporation (UDC), Marshall, TX









BES II Launcher
(PEO STRI managed)

ACQUISITION CATEGORY: IV
ACQUISITION PHASE: PD
PRODUCTION STATUS: 1 Actively Procured & Under Contract
DESIGNATED USE: TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M115A2 Projectile Ground Burst Simulator

The M115A2 Ground Burst Simulator consists of a cylindrical paper tube containing a photoflash charge and a whistle assembly. This simulator is a hand-thrown device with a pull cord-actuated igniter which ignites the safety fuse. After a 6 to 10 second delay, the safety fuse ignites the whistle composition which produces an audible whistle sound from 2 to 4 seconds. The final burning ignites the photoflash charge which produces a visible flash and a loud report.

This simulator is used to simulate battlefield noises and effect (shells in flight and ground burst explosions). The greatest usage is at the combined training centers and infiltration courses at troop training sites.

The M115A2 supports only training and has no application for war reserve requirements. Used by all services, this item is a staple for troop basic training maneuvers

Capabilities/ Characteristics:
- Produces a whistle followed by a flash and bang
- Used to simulate battle noise and battle effects (shells in fight & explosions)
- Training only

System Integration:
- Hand Emplaced

Configuration: L594

Materiel Release: May 1988

Production Partners:
- Pyrotechnics by Grucci, Inc.



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M116A1 Hand Grenade Simulator

The M116A1 Simulator consists of a cylindrical paper tube containing a photoflash charge and a whistle assembly. This simulator is a hand-thrown device which a pull-cord actuated igniter which ignites the safety fuse. After a 6 to 10 second delay, the photoflash charge will produce a visible flash and a loud report.

This simulator is used to simulate battle noises and battlefield effects. The greatest usage is at the combined training centers and infiltration courses at troop training sites.

The M116A1 supports only training and has no application for war reserve requirements. Used by all services, this item is a staple for troop basic training maneuvers.

Capabilities/ Characteristics:

- After a 6 to 10 second delay, the safety fuse ignites photoflash charge which explodes producing a flash and a loud report
- Used to simulate battle noise and battle effects
- Training only, hand thrown
- Cylindrical paper tube containing a photoflash charge
- Initiated by Omega 60 Pyro Simulator which replaced Armor Target Kill System (ATKS)

System Integration:

- Omega 60 BES

Configuration: L601

Materiel Release: January 1985

Production Partners:

- Pyrotechnics by Grucci, Inc.



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M30 Main Tank Gun Simulator

The M30 Main Tank Gun Simulator consists of a cylindrical plastic case containing a flash and bang charge, seal with a plastic cap and an electric match in the plastic case to ignite the flash and bang charge. The M30 simulator is initiated by the Main Gun Signature Simulator (MGSS) firing device when mounted on the turret of armored vehicles and interfaced to the vehicle's main gun trigger. When the M30 is ignited, a flash bang and smoke cloud occurs. The M30 flash and smoke is visible at 3,000 meters. The report (sound) does not exceed 140 decibels at a distance of 26 meters.

The M30 Tank Gun Simulator is a pyrotechnic training device component of the U.S. Army's Multiple Integrated Laser Engagement System (MILES) 2000 Tactical Engagement Simulation System. The M30 provides tank crews visual and audible effects (flash, bang, smoke) that the main tank gun has been fired.

The M30 Simulator has been fielded at Combined Arms Centers and home stations world-wide to enhance training realism and maintain a high level of readiness through effective training.

Capabilities/ Characteristics:

- Produces a flash and smoke simulating firing of a Main Gun
- Carries a simulated unit basic load
- Flash & smoke are visible at 3,000 meters

System Integration:

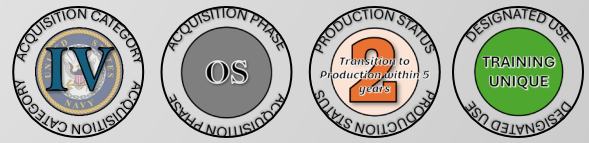
- MILES 2000 Tactical Engagement Simulation System

Configuration: LA06

- Suitable Substitutes:
  - L602: M21 Artillery Flash Simulator (WESS)

Materiel Release: June 2000





DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M31A1 Direct/ Indirect Fire Cue Simulator

The M31A1 Direct/ Indirect Fire Cue Simulator consists of a cylindrical plastic case containing an ignition, flash and bang charge and stars, a seal with plastic cap, and an electric match in the plastic case to ignite the ignition, flash and bang charge. The M31A1 Simulator is initiated by the Direct-Indirect Fire Cue (DIFCUE) Simulator firing device when mounted on armored vehicles. When the M31A1 is ignited, a flash bang and smoke cloud occurs, and the stars are ejected to a height of 45 to 60 feet. The M31A1 stars, flash and smoke are visible at 1,500 meters. The report (sound) does not exceed 140 decibels at a distance of 5 meters.

The M31A1 Simulator is a pyrotechnic training device that has been fielded for use by combat training centers and home stations as part of the fielded Multiple Integrated Laser Engagement System (MILES 2000) Tactical Engagement Simulation System.

The M31A1 produces visual and audible effects (flash, bang, smoke and stars) to cue a vehicle hit.

Capabilities/ Characteristics:
- Simulates a hit/kill by direct/indirect fire in a training environment (CTC/Home Station) with a shower of sparks
- Stars are ejected to a height of 45-60 feet
- Flash & Smoke visible at 1,500 meters

System Integration:
- MILES 2000 Tactical Engagement Simulation System

Configuration: LA07

Materiel Release: July 2002





DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M35 Target Hit Simulator Cartridge

The M35 Target Hit Simulator Cartridge main charge consists of 10-12 pellets which, when ignited, pop up 1,800 meters simulating a strike on an armored target hit (8-12 white burning stars).

The M35 Target Hit Simulator Cartridge is fired from ground mounted Omega 60 BES.

Capabilities/ Characteristics:

- Used in the Omega 60 BES
- Simulates a target hit signal
- Emits 8-12 white burning stars visible at 1,800 meters

System Integration:

- Omega 60 BES

Configuration: LA53

- Suitable Substitutes:
  - L709: M25 Target Hit Simulator

Materiel Release: May 2007

Production Partners:

- Martin Electronics Incorporated (Perry, FL)



ACQUISITION CATEGORY: IV (NAVY)
ACQUISITION PHASE: PD
PRODUCTION STATUS: 1 – Actively Procured & Under Contract
DESIGNATED USE: TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M34 Hostile Fire Simulator Cartridge

The M34 Hostile Fire Simulator Cartridge simulates the acoustic (bang) and optical (orange and white smoke) signature of tank main gun firing. The M34 is fired from the Omega 60 BES which replaces the ATKS on gunnery ranges.

Capabilities/ Characteristics:

- Used in the Omega 60 BES
- Produces a flash and bang simulating the firing of a main battle tank
- Emits an orange flash and white smoke visible at 1,800 meters
- Simulates large caliber gun fire

System Integration:

- Omega 60 BES

Configuration: LA54

Materiel Release: May 2007

Production Partners:

- Chemring Ordnance (Perry, FL)



ACQUISITION CATEGORY: IV
ACQUISITION PHASE: OS
PRODUCTION STATUS: 1 – Actively Procured & Under Contract
DESIGNATED USE: TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M176 Surface to Air Missile Simulator

The M176 Surface to Air Missile Simulator is a 72mm composite plastic cartridge that houses a self-consuming pyrotechnic pellet that is electrically initiated. The cartridge is inserted into the Weapons Effect Signature Simulator (WESS) launch tube from the bottom of the magazine which ensures the chamfered section, cartridge pins, and contact plate are in alignment.

The pyrotechnic pellet burns while it is fired up to 500 ± 50 feet into the air producing a thick smoke trail that extends from the ground to its maximum altitude

Capabilities/ Characteristics:

- Produces a thick smoke train extending from ground to its maximum attitude of 500 ± 50 feet into the air
- Simulates the smoke trail of a Man-Portable Surface-to-air Missile
- Fired from WESS launcher, part of the Man-Portable Aircraft Survivability Trainer (MAST) system
- Pellet that creates the smoke trail is self consuming

System Integration:

- MAST WESS

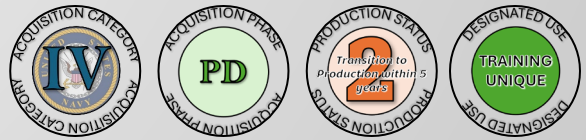
Configuration: LA70

Materiel Release: February 2015

Production Partners:

- Drew Defence (Germany)





DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M22 ATWESS (Anti-Tank Weapons Effect Signature Simulator)

The M22 Anti-Tank Weapons Effect Signature Simulator (ATWESS) is a three-piece injection molded unit consisting of cylindrical housing with a flange on one end, a snap-in primer plate, and a snap-in closure disc for the flanged end of the unit. The primer plate has a hole in its center to accept a standard MIL-Spec primer. A preformed pellet of strontium nitrate and aluminum composition is placed in a within the simulator and provides the flash and smoke upon functioning.

The bang composition is composed of loose strontium nitrate and aluminum powder. The simulator is used to simulate rocket and missile fire backblast and is used in a variety of systems.

Capabilities/ Characteristics:

- The simulator is a part of the MILES
- It is employed with the MILES TOW, DRAGON, and VIPER firing devices
- It provides a credible simulation of the weapon signature including report of minimum 138 decibels, flash plume of 6-foot by 10-foot and smoke
- The simulator is common to all three weapon simulators and is fired by a common firing device

System Integration:

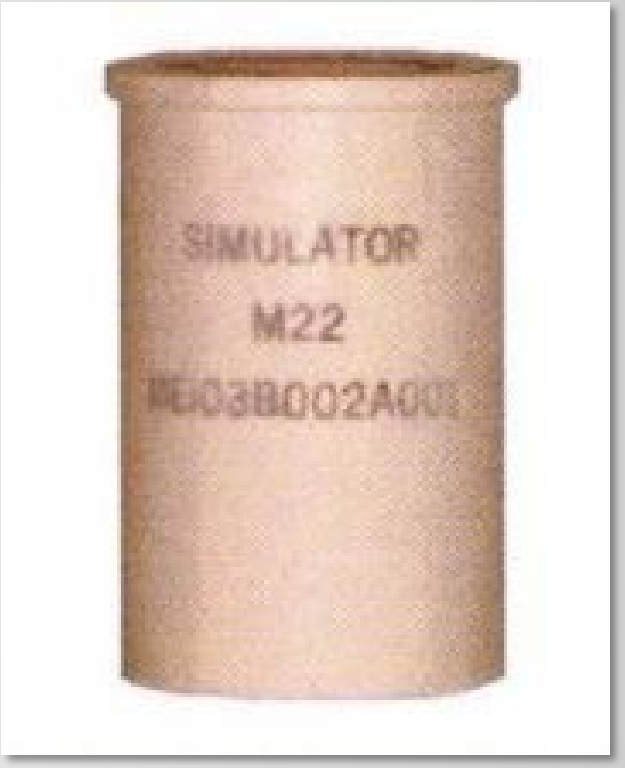
- MILES TOW
- DRAGON
- VIPER

Configuration: LA77

- Suitable Substitutes:
  - L367: M22 Antitank Launch Simulator (ATWESS)

Production Partners:

- Pyrotechnique by Grucci (Radford, VA)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M136 AT4 Anti-Armor Weapon

The AT4 consists of an anti-armor projectile encased in a fiberglass-reinforced launch tube fitted with a firing mechanism, pop-up sights, a carrying sling, protective muzzle covers, and shock absorbing bumpers.

The projectile consists of an 84mm shaped charge warhead that provides the individual dismounted Soldier with the operational capability to engage and defeat armored/lightly armored vehicles. Detonation of the Octol explosive charge is achieved with a piezoelectric impact fuse sensitive to impact angles as low as 10 degrees.

The AT4 is no longer in production for the Army and has been replaced by the M136A1 AT4 Confined Space Reduced Sensitivity (CS RS)

Capabilities/ Characteristics:
- Effective range: 300 meters
- Penetrates: 450 millimeters Reactive Hull Armor
- Weight: 6.72 kilograms
- Length: 1.0 meter

Configuration: C995
- Suitable Substitutes: CA30 (M136 AT-4 CS RS)

Materiel Release: June 2005

Production Partners: Saab Bofors Dynamics (Karlskoga, Sweden)





DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

Shoulder Launched, Detection & Deterrence: AT4 *M136A1 AT4 CS RS (Confined Space Reduced Sensitivity)*

The AT4 CS RS consists of an anti-armor projectile encased in a fiberglass-reinforced launch tube fitted with a firing mechanism, pop-up sights, a carrying sling, protective muzzle covers and shock absorbing bumpers. The projectile consists of an 84mm shaped charge warhead that provides the individual dismounted Soldier with the operational capability to engage and defeat armored/lightly armored vehicles from a confined or enclosed space.

Each launcher has an integral night vision device mount that accepts any sight or laser aiming light with rail-grabber attachment.

The AT4CS can be safely fired from an enclosure thereby significantly increasing the Soldiers' survivability in an urban environment. The AT4CS replaces the Army's combat proven AT4 M136.

Capabilities/ Characteristics:
- Weight: 7.5 kilograms
- Length: 1.04 meters
- Effective range: 15-300 meters
- Penetration capabilities up to 500mm of armor
- Fire from enclosure, air droppable, no maintenance

Configuration: CA30
- Suitable Substitutes:
  - C995: M136 AT-4

Materiel Release: September 2009

Production Partners:
- Saab Bofors Dynamics (Karlskoga, Sweden)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

84mm M136 AT4 CS Cartridge and Launcher

Consists of the AT4 Launcher tube and the launcher insert.

Capabilities/ Characteristics:

- Launcher that when combined with the training cartridge enables Soldiers to train for the AT4 Shoulder Launched Munitions (M136 and M136A1)

Configuration: HA35

- Suitable Substitutes: CA30 (M136 AT-4 CS RS)

Materiel Release: 1990s

Production Partners: Saab Bofors Dynamics (Karlskoga, Sweden)





DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

84mm M136 AT4 CS Cartridge and Launcher

The M939 is used in place of the AT4 in training sight picture. There are two trace cartridge models. The original cartridge had a red tip and a white band on the projectile, with a half-black head; the current configuration uses a red tip with a blue stripe as tip identification. It is used in AT4 Launcher only with the M287 9mm Tracer Bullet Training Device. Both models have the head-stamp of manufacturer and year.

Capabilities/ Characteristics:

- M939 is used in place of the AT4 in training sight picture
- Fired from the TACOM-managed M287 trainer, the velocity and trajectory match that of the AT4
- The M287 launcher produces less noise and no back blast
- Length: 29.7mm
- Weight: 150 grams
- Projectile range: 1,800 meters
- Tracer range: 450 meters

System Integration: M287 (AT4 Trainer)

Configuration: A358

Materiel Release: March 2006

Production Partners:

- Saab Bofors Dynamics (Karlskoga, Sweden)





DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

21mm Sub-Caliber Practice Rocket

Trainer rocket for Bunker Defeat Munition (BDM) and M72 Light Anti-Tank Weapon (LAW) series

Capabilities/ Characteristics:

- Trainer rocket that replicates ballistic trajectories for the BDM and LAW

System Integration:

- BDM
- LAW

Configuration: HA21

Materiel Release: 1999

Production Partners:

- Nammo Defense Systems (Mesa, AZ)



ACQUISITION CATEGORY: III

ACQUISITION PHASE: PD

PRODUCTION STATUS: 1 – Actively Procured & Under Contract

DESIGNATED USE: TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M141 BDM (Bunker Defeat Munition)

The Bunker Defeat Munition (BDM) is a single shot, man-portable, disposable system able to defeat against earth and timber bunkers and masonry walls at ranges of 15-250 meters.

The round within the system shares a similar design to the shoulder-launched multipurpose assault weapon (SMAW) family of rounds and the TDP is owned by the USMC.

The BDM requirement fills the lightweight "Bunker Buster" void for U.S. Army.

Capabilities/ Characteristics:

- Provides the individual dismounted Soldier a hand-held, single-shot, disposable, stand-off munition that provides the operational capability to incapacitate personnel located within structures such as buildings, fixed facilities, earth and timber fortifications (bunkers), caves and behind masonry walls under all-weather/ visibility conditions
- Carry length: 31.9 inches
- Firing length: 54 inches
- Effective Range: 15-250 meters
- Carry weight: 15.9 pounds

System Integration:

- Shoulder Launched Munition

Configuration: HA08

Materiel Release: December 1999

Production Partners: Nammo Defense Systems (Mesa, AZ)





DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

84mm TPT 141 Carl Gustaf/ MAAWS Cartridge

The TPT 141 Multi-Role Anit-Armor Anti-Personnel Weapons System (MAAWS) is intended to be used in training with the M3 recoilless rifle.

The TPT 141 Cartridge was fielded to USSOCOM in 2003.

Capabilities/ Characteristics:

- The TPT 141 projectile does not contain any fuze or explosives
- Stabilized in flight and fitted with a tracer that is visible throughout the flight up to 400 meters
- The tracer's burn time is approximately 2 seconds

System Integration: MAAWS Carl Gustaf Rifle

Configuration: CA10

Materiel Release: 2003

Production Partners: Saab Dynamics (Karlskoga, Sweden)





DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

84mm 502 HEDP Carl Gustaf/ MAAWS Cartridge

The 84mm HE Dual Purpose (HEDP) 502 RS Cartridge is assembled with a free-flight, fin-stabilized projectile is fired from the Carl-Gustaf weapon.

The HEDP-502 RS cartridge was fielded to USSOCOM on 2 September 2003.

Capabilities/ Characteristics:

- Contains a shaped-charge warhead with the capability for instantaneous or delayed function

System Integration: MAAWS Carl Gustaf Rifle

Configuration: CA21

Materiel Release: 2003

Production Partners: Saab Dynamics (Karlskoga, Sweden)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

84mm 441D HE Carl Gustaf/ MAAWS Cartridge

441D is an HE AP round that can be used in impact and airburst modes.

This is used with the MAAWS M3 Carl Gusta Rifle.

Capabilities/ Characteristics:

- Contains a shaped-charge warhead with the capability for instantaneous or delayed function

System Integration: MAAWS Carl Gustaf Rifle

Configuration: CA27

Materiel Release: 2004

Production Partners: Saab Dynamics (Karlskoga, Sweden)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

Percussion Cap with Holder for 553B Sub-Caliber Adapter

The percussion primer cap ignites both the back blast simulator and 7.62mm tracer.

It was fielded to U.S. 75th Ranger Regiment in August 1990 and subsequently to all USSOCOM users in 1993.

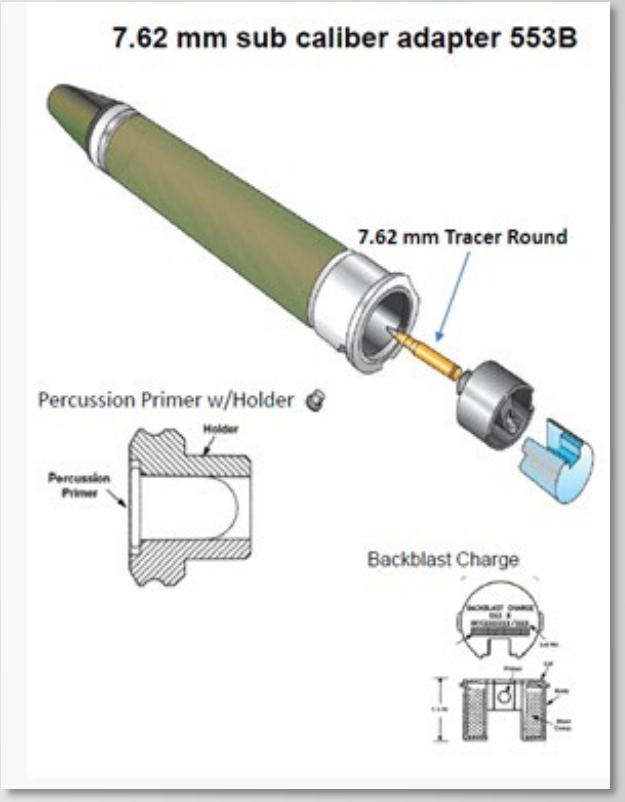
Capabilities/ Characteristics:

- The percussion primer cap ignites both the back blast simulator and 7.62mm tracer and provides training to simulate the MAAWS ammunition fired from the Carl Gustaf Recoilless Rifle

Configuration: L498

Materiel Release: 1990

Production Partners: Saab Dynamics (Karlskoga, Sweden)



ACQUISITION CATEGORY III | ACQUISITION PHASE PD | PRODUCTION STATUS 1 Actively Procured & Under Contract | DESIGNATED USE TRAINING STANDARD

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

7.62mm 553B Tracer Cartridge for Sub-Caliber Adapter

This is the tracer bullet for the 553 Subcaliber Adapter used with the MAAWS M3A1.

Capabilities/ Characteristics:

- Tracer round

Configuration: A254

Materiel Release: 1990

Production Partners:

- Saab Dynamics (Karlskoga, Sweden)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

20mm CCTS Practice Cartridge

The 20mm tracer cartridge fired from the Cannon Caliber Training System (CCTS), which is a 20mm sub-caliber adapter that is loaded into the MAAWS. The velocity and trajectory of the 20mm tracer cartridge matches that of HEDP 502 round.

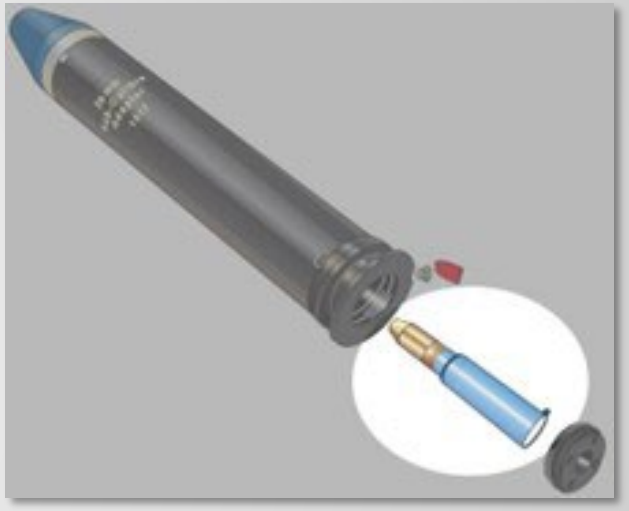
Capabilities/ Characteristics:

- Ballistic match to the HEDP 502
- Length: 150 mm (5.9 inches)
- Weight: 150 grams (0.33 pounds)
- Range: Up to 300 meters
- Used only by USMC and USSOCOM

System Integration: CCTS

Configuration: AC05

Production Partners: Saab Dynamics (Karlskoga, Sweden)



ACQUISITION CATEGORY IV

ACQUISITION PHASE OS

DESIGNATED USE TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

Small Uncrewed Aircraft System (sUAS) Munitions

Lethal & Protective Payloads

Provides modular mission payloads for sUAS delivered lethal & protective effects at echelon with U.S. Army family of sUAS platforms.

L&PP establishes Picatinny Common Lethality Integration Kit (CLIK) Ecosystem of existing and purpose-built munitions, Weapons Release Systems (WRS), Fire Control modules, fuze conversion kits, and Electronic Safe and Arm Devices (ESAD) for One-Way Attack and Drop Munition capability.

Leverages iterative design and Soldier experimentation practices to meet threshold and objective requirements at accelerated rate compared to traditional acquisition projects.

Capabilities/ Characteristics:

- Enables warfighter transformation in contact through “mix-and-match” capability of munition to sUAS for each mission
- Rapid integration of payloads to compliant platforms
- Point, command, or proximity munition detonation
- Reduces logistical and financial burden of employing multiple munition payloads with multiple sUAS

Target Sets:

- Personnel
- Materiel (Structure & Vehicle)
- Armor
- Obscuration
- Air Materiel (counter UAS)
- Deception
- Deter

System Integration:

- Long Range Recon (LRR) sUAS
- Medium Range Recon (MRR) sUAS
- Short Range Recon (SRR) sUAS
- Purpose-Built Attritable System (PBAS)

Configurations:

- One-Way Attack (PBAS)
- sUAS Drop Munitions

Materiel Release:

- TBD

Production Partners:

- TBD







DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

AN/PSS-14 Mine Detecting Set

AN/PSS-14 employs a state-of-the-art metal detector and ground penetrating radar, coupled with an advanced microprocessor array and software, to achieve a high probability of detection.

This man-portable system provides dismounted Soldiers with a more comprehensive mine detection capability and lower alarm rate. AN/PSS-14 is an ACAT III program that entered Full Rate Production in August 2006.

Capabilities/ Characteristics:
- Single Soldier-operable, HSTAMIDS
- Combines technologies of GPR and metal detection
- Locates both metallic and low-metallic, AP and AT landmines
- Operable in highly mineralized soils and water to depths of 4 feet
- Provides operator audio alerts to landmine detections
- Utilizes advanced algorithms to process sensor data
- Extremely low false alarm rate

Materiel Release: July 2006

Production Partners:
- Extant Aerospace (Melbourne, FL)



ACQUISITION CATEGORY III
ACQUISITION PHASE PD
PRODUCTION STATUS 1 Actively Procured & Under Contract

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

Handheld Detection Systems

Handheld Detection Systems are COTS products designed for detecting mines and IEDs. They operate well in mineralized soils.

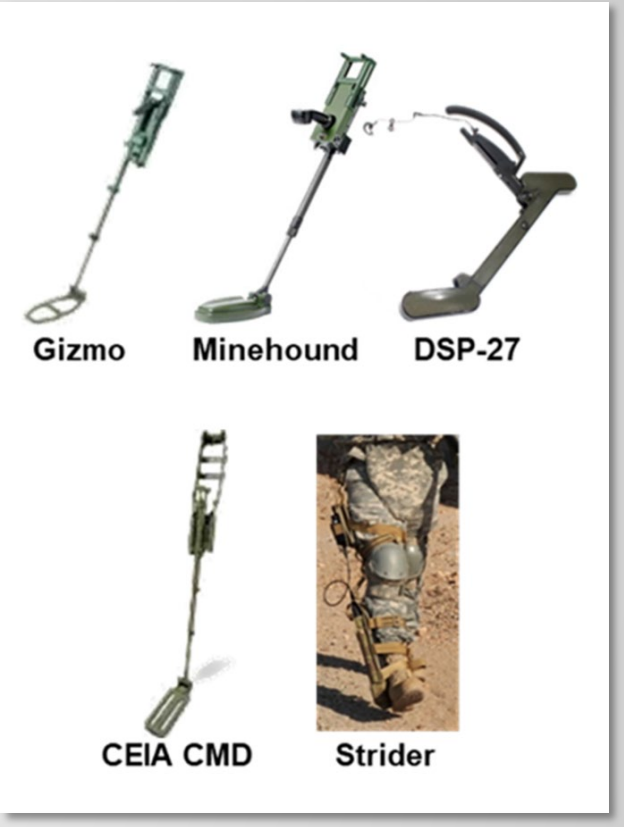
Capabilities/ Characteristics:

- Minehound:
  - Handheld mine and IED detection system
  - Locates both metallic and non-metallic explosive hazards
- CEIA CMD & Gizmo:
  - Handheld system detects metal and minimum-metal content targets
- DSP-27:
  - A passive handheld detector that provides audible indication of target detected, and audio and visual indication of operational status
- Strider:
  - Wearable hands-free IED component (wiring) detection system designed for the dismounted Soldier

Materiel Release: July 2006

Production Partners:

- CEIA CMD
- CEIA USA Ltd.
- DSP-27 and Strider:
  - Gill Research & Development Limited (United Kingdom)
- Gizmo and Minehound:
  - Vallon GMBH (Germany)



PRODUCTION STATUS 5 Legacy Item No active production

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

AN/TIC 44(V)1 Acoustic Hailing Device (AHD)

The Acoustic Hailing Device (AHD) is a tactical communication device that provides force protection and messaging capability by transmitting directed acoustic waves. It enables forces to audibly communicate clearly and effectively at significant standoff distance, with combatant and non-combatant personnel in operations.

It is fielded to Military Police, Transportation and Psychological Operation units. The AHD allows escalation of force capability as it gives the operator the ability to determine intent of approaching personnel.

Capabilities/ Characteristics:

- Projects clearly-intelligible/ discernable voice and warning tones to 300 meters and beyond over land and water
- Emits a narrow sound beam confined to a width of +/- 77.5 meters (+/-15°at 300 meters)
- Accepts audio inputs from microphone, MP3 player and other standard audio devices

Materiel Release: March 2021

Production Partners:

- Prime: Atlantic Diving Supply, Inc.
- OEM: Genasys



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

XM919 IAM (Individual Assault Munition) Rocket

The XM919 Individual Assault Munition (IAM) is a lightweight fire from enclosure, recoilless, disposable, single shot, multi-target munition capable of defeating earth and timber bunkers, masonry structures and light armored vehicles at ranges of 30-200 meters with increased behind the wall lethality.

The IAM family of systems will include the XM922 Sub-Caliber Trainer (SCT), sub-caliber tracer ammunition, Field Handling Trainer (FHT), Synthetic Training Environment Live Training System (STE LTS) and Soldier Virtual Trainers (SVT). The XM919 IAM will combine the capabilities of the M136A1 AT4CS RS and the M141 Bunker Defeat Munition and replace them in the Army arsenal.

The XM919 IAM enables the Army's Soldier Lethality Modernization Line of Effort (LOE) by reducing Soldier load, while providing tactical innovation capable of extending overmatch against peer/ near-peer adversaries in a joint, multi-domain, high-intensity conflict.

Capabilities/ Characteristics:

- XM919 IAM will provide Anti-armor, Anti-structure, Behind the Wall Lethality Effects, Fire From Enclosure (FFE) capabilities and replaces two legacy munitions with a single system
- Effective against:
  - Brick Walls
  - Reinforced Concrete
  - Earth And Timber Bunker
  - Light Armor
- Fire From Enclosure capability
- Reduced weight < 20 pounds
- Length < 40 inches
- Range of 30-200 meters

Configuration: CX35

Materiel Release: 2QFY27

Production Partners: Saab, Inc. (East Syracuse, NY)



ACQUISITION CATEGORY: III

ACQUISITION PHASE: PD

PRODUCTION STATUS: 2 – Transition to Production within 5 years

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M72 Light Anti-Tank Weapon (LAW)

The M72 Light Anti-Tank Weapon (LAW) is a 66mm man-portable, lightweight, single shot, direct fire weapon.

The M72 LAW consists of several variants for both the rocket and Fire From Enclosure (FFE) propulsion variants.

Capabilities/ Characteristics:

- Provides the individual, dismounted Soldier with an ultra- lightweight alternative to existing shoulder launched munitions for conditions where mobility is crucial
- Used to engage threat personnel in the open or behind protective barriers such as hasty fighting positions, light clad masonry walls and light vehicles
- Carry length: 30.5-32.0 inches
- Firing length: 38.5 inches
- Effective range: 25 meters - 350 meters
  - M72A7: Effective against 150mm Rolled Homogeneous Armor (RHA)
  - M72A8: FFE-capable version of M72A7
  - M72A9: Effective against Urban Structures and Light Vehicles
  - M72A10: FFE-capable version of M72A9
- Carry weight: 8-13 pounds

System Integration:

- Shoulder Launched Munitions

Configuration: Multiple

Production Partners:

- Nammo Defense Systems (Mesa, AZ)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M72AS Trainer Launcher

Training version of the M72 LAW that fires a 21mm sub-caliber tracer rocket (DODIC: HA21) in place of the tactical 66mm HEAT round.

Capabilities/ Characteristics:

- Simulation of tactical weapon effect
- Caliber – 21mm
- Type – Rocket
- Reloadable
- Used by USMC and USSOCOM

System Integration: Paired with 21mm trainer rocket (HA21)

Production Partners: Nammo Defense Systems (Mesa, AZ)



ACQUISITION CATEGORY: III
ACQUISITION PHASE: PD
PRODUCTION STATUS: 1 – Actively Procured & Under Contract
DESIGNATED USE: TRAINING UNIQUE

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

XM204 Top Attack Dispenser Launcher Module

The XM204 Top Attack (TA) Dispenser Launcher Module (DLM) is a hand emplaced, U.S. Landmine Policy-compliant interim anti-vehicular capability to address the Army's directed close tactical obstacle capability gap.

The XM204 TA provides a top attack capability to serve as a point obstacle or to create complex area denial obstacles with the SAVO.

The XM204 autonomously detects, tracks and engages target vehicles using seismic & acoustic sensors and radar within the DLM, and multi-array thermal & laser detection sensors.

Capabilities/ Characteristics:

- Capable of initiating XM343 to form a complex obstacle
- Detect, track & engage threat Vehicles
- Four Top Attack submunitions per DLM
- Top Attack sub-munition launched by a rocket motor
- Affordable, easily trained and employed
- Ground-based, lethal AV obstacle with tamper and breach resistance measures
- Durable and versatile maneuver support & maneuver Missions
- Dimensions: 16.1 inches wide x 19.6 inches long x 9.6 inches high
- Weight: 84 pounds for two-Soldier carry

System Integration:

- Hand emplaced
- SAVO
- Counter Anti-Vehicular Munition (CAVM) System

Configuration: TS10

Materiel Release: UMR 1QFY26 (completed)



Production Partners:

- Textron Corporation (Wilmington, MA)

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

Terrain Shaping Next Generation

Provide Maneuver Commander with a U.S. Anti-Personnel Landmine Policy-compliant system to defeat vehicles and address the Army's close directed tactical obstacle capability gap. Next Generation Terrain Shaping supersedes the canceled XM250 program.

Program is seeking an autonomous materiel solution that integrates advanced technologies to deliver, deploy, and manage obstacles while ensuring Soldier safety and operational superiority.

Goal is to identify, develop, and demonstrate a minimum viable autonomous capability within one year that includes:

- Autonomous emplacement
- Safe passage for friendly forces
- Autonomous delivery and recovery
- Advanced networked kinetic effects
- Integrated obstacle planning
- Non-kinetic field effects

Capabilities/ Characteristics:

- Abbreviated – Capability Development Document Update (A-CDD-U) approved 1QFY26

System Integration:

- TBD

Materiel Release:

- TBD

Production Partners:

- TBD

- **No picture at this time**

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

XM343 Standoff Activated Volcano Obstacle (SAVO)

The XM343 Standoff Activated Volcano Obstacle (SAVO) is a hand emplaced, U.S. Landmine policy-compliant interim anti-vehicular munition capability to address the Army's directed close tactical obstacle capability gap.

Provides maneuver commanders in European theater with an interim directed, tactical AV obstacle capability which denies enemy freedom of maneuver on the battlefield.

The SAVO provides a Bottom Attack (BA) capability to serve as a point obstacle or to create complex area denial obstacles with the XM204.

Initiated by fielded wired and wireless initiation systems or XM204. SAVO initiates the currently fielded Volcano canisters to block, turn, fix and disrupt enemy formations in accordance with the commander's ground tactical plan. User recoverable for re-deployment if Volcano canisters are not deployed.

Capabilities/ Characteristics:
- Creates a self destruct AV landmine
- Base Plate is Hand emplaced, one-man portable
- Remotely initiated via fielded wired or wireless initiation systems
- Utilizes current inventory Volcano mine canisters
- Recoverable and reusable pre-launch
- Rapid emplacement
- Employed life of up to six months

System Integration:
- Hand emplaced

Materiel Release: UMR 4QFY26 (projected)

Production Partners:
- Northrop Grumman (Plymouth, MN)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

MK 7 AP Obstacle Breaching System (APOBS)

The AP Obstacle Breaching System (APOBS) is an explosive line charge system that allows Soldiers to conduct safe breaching through enemy antipersonnel minefields and multi-strand wire obstacles.

It is light enough to be carried by two Soldiers with backpacks and can be deployed within 30 to 120 seconds. Once set in place, the APOBS rocket is fired from a 35-meter standoff position, sending the line charge with fragmentation grenades over the minefield and/or wire obstacle. The grenades neutralize or expose any hazards and sever wire, effectively clearing a footpath for troops up to 45 meters in length.

Capabilities/ Characteristics:

- 2 man-portable rocket propelled line charge 45 meters in length
- Clears a footpath through Wire Obstacles and AP Landmines
- Incorporates 108 unique fragmentation munitions along the line Charge
- Two Actuation Methods: delay and command modes
- Employed from a 35-meter Standoff from Obstacle
- Certified as an Insensitive munition

System Integration:

- Hand Emplaced

Configurations:

- MN79: MK 7 Tactical
- MN84: MK 7 Inert Trainers

Materiel Release: January 2006

Production Partners:

- Chemring Ordnance (Perry, FL)



ACQUISITION CATEGORY III

ACQUISITION PHASE PD

PRODUCTION STATUS 1 Actively Procured & Under Contract

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

XM123 Autonomous Breaching System (ABS)

The Next Generation Breaching Technology, XM123 Autonomous Breaching System (ABS), directly supports the Army of 2030 Mobility by performing a critical reduction of explosive, and non-explosive obstacles in the execution of penetration, disintegration, and exploitation in the close and deep maneuver areas.

The XM123 ABS will be effective against enduring landmines and single impulse mines, as well as modern explosive hazards equipped with updated fuze and sensor technologies.

In the current TMRR Phase, PM CCS is evaluating various potential system architectures that may include multiple assortment of sensors for detection, and UGV or UAS-delivered munitions for explosive hazard neutralization.

Capabilities/ Characteristics:

- Modular Mission Payload (MMP) on current and future vehicle platforms, to include manned and unmanned vehicles (i.e. RCV, ABV, OMFV)
- Reliable, scalable, and capable of breaching complex obstacles that are a mix of man-made non-explosive and explosive obstacles
- Provide near real time Common Operating Picture updates
- Provides system standoff, effectively removing Soldiers from the breach

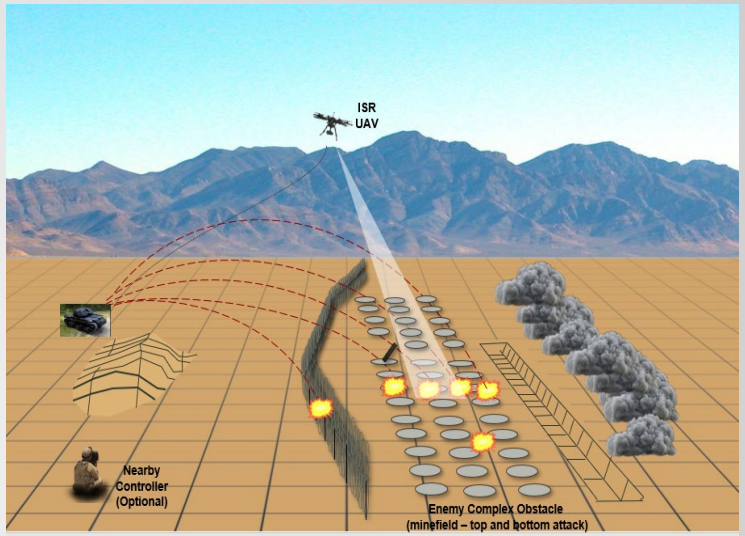
System Integration:

- TBD

Prototype Configurations:

- UAS based Automated Target Recognition detection
- UAS based neutralizer

Materiel Release: TBD



Prototype Partners:

- General Dynamics Mission Systems
- L3Harris
- Integrated Solutions for Systems
- C-2Innovations
- Applied Research Associates

ACQUISITION PHASE: TMRR

PRODUCTION STATUS: 2 – Transition to Production within 5 years

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M58 Mine Clearing Line Charge (MICLIC)

The M58 Mine Clearing Line Charge (MICLIC) is a rocket-propelled explosive line charge mounted on a standard military trailer. The line charge is propelled over the minefield by the rocket and detonated, clearing a one-vehicle-wide lane 100 meters long, 8 meters wide.

The MICLIC is effective against single pulse, pressure fuzed mines. The demolition charge is 350 feet long, consisting of three 100-foot and one 50-foot sections joined together with a 3/4-inch nylon rope. The charges (5-1/2 x 1-1/2 x 3-1/2 inches) are covered with nylon sleeves and tied to the rope, provide a long flexible line charge.

A rocket harness cable is attached to the front of the assembled linear charge, and a fuse holder is secured to the trail end. A 205-foot nylon arresting cable is at the bottom of the coiled simulated charge.

The MICLIC can be ground launched (wherein it is used as part of the M125 demolition kit), launched from a landing craft, or launched from a vehicle-towed trailer.

Capabilities & Characteristics:

- Defeats minefield threats during tactical breaching operations
- The M58 MICLIC is used to clear paths for tanks, vehicles, and personnel through minefields or other obstacles
- Loaded with explosive charges to form a line charge
- Launched with a live rocket motor

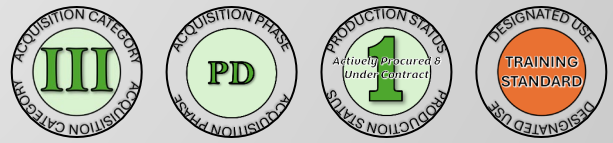
Configurations: M913

Production Partners:

- AO-IAAAP (Middletown, IA)

Materiel Release: November 1986





DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M68A2 Inert Mine Clearing Line Charge (MICLIC)

The M68 is an inert, reusable, training version of the MICLIC The simulated demolition charge is 350 feet long, consisting of three 100-foot and one 50-foot section joined together with a 3/4-inch nylon rope.

The simulated pellets (5-1/2 x 1-1/2 x 3-1/2 inches), covered with nylon sleeves and tied to the rope provides a long flexible sausage effort simulated linear charge. A rocket harness cable is attached to the front of the assembled simulated charge, and an inert fuse holder is secured to the rear end.

A 205-foot nylon arresting cable is at the bottom of the coiled simulated charge.

The MICLIC can be ground launched (wherein it is used as part of the M125 Demolition Kit), launched from a landing craft, or launched from a vehicle-towed trailer.

Capabilities & Characteristics:
- Training
- M68 MICLIC, is used to clear paths for tanks, vehicles, and personnel through minefield or other obstacles
- Loaded with rubber rather than explosive pellets
- Equipped with an inert fuze (Model M1147)
- Launched with a live rocket motor in the same manner as the M58

Configurations: M914

Production Partners:
- American Ordnance (Middletown, IA)

Materiel Release: November 1986





DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

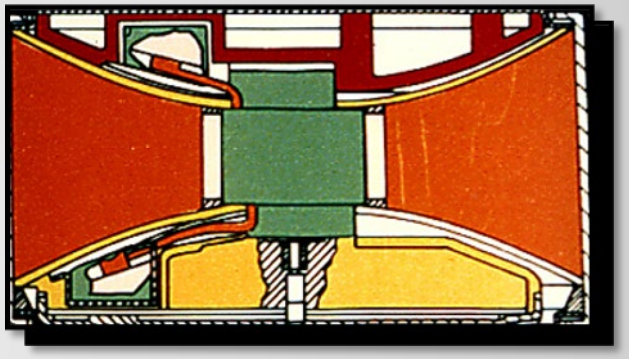
Mine AT M75

AT mines (M75)
Self-destruct at 4 or 48 hours
Self-deactivation backup

Configuration: K184

Capabilities/ Characteristics:

- Activated by magnetic sensor



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

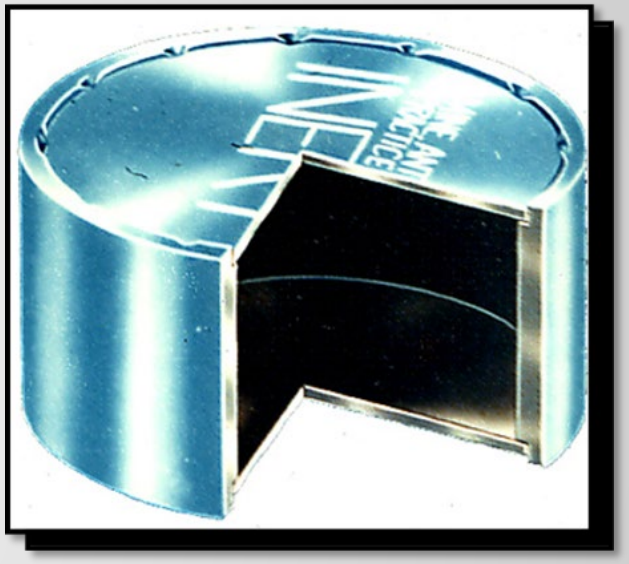
M79 Practice Mine

M483 projectile
36 dummy mines

Configuration: K234

Capabilities/ Characteristics:

- Uses modified M483 projectile
- 36 dummy mines

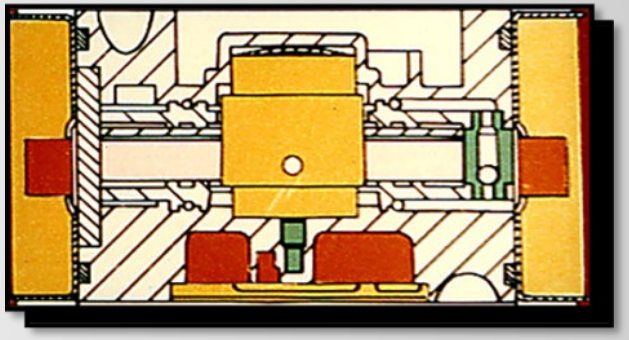


DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M74 AP Mine

Individual Mine, within the ADAM (Area Denial Artillery Munition)
155 mm Howitzer-launched
Uses modified M483 projectile
36 Anti-personnel mines (M74/79)
Mine activated by 7 trip lines, each 20 feet long
Self-destruct at 4 or 48 hours
Self-deactivation backup

Configuration: K151



Capabilities/ Characteristics:

- Activated by four trip lines

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M86 AP Mine

Hand emplaced ADAM AP mine
All functions same as ADAM mine
Self-destructs at 4 hours
Self-deactivation backup

Configuration: K152





DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M131 MOPMS (Modular Pack Mine System)

The M131 Modular Pack Mine System (MOPMS) is a man-portable, AT/ AP mine system with command detonation capability. It weighs 165 pounds and contains a mix of 17 magnetically-fuzed AT Mines and four AP Mines. It's 4-hour self-destruct command can be recycled three times or command-detonated by remote control. The M71 Remote Control Unit can control up to 15 MOPMS dispensers from 300-1,000 meters. The munition is well suited as a protective obstacle for light forces but can be used for tactical purposes as well.

Capabilities/ Characteristics:

- Mobility: Deployable by all modes and uniquely tailored for light forces
- Flexibility: Command detonation, self-destruct recycling, man-portable
- M131 Mine Dispenser: 17 AT Mines and 4 AP Mines
- M71 Remote Control Unit
- M136 Training Dispenser

System Integration:

- M131 Mine Dispenser

Configuration: K022

Materiel Release: September 1992





DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M7 Spider Networked Munition

The M7 Spider Networked Munition is a hand emplaced, remotely controlled, human-in-the-loop (HITL), AP munition system. Spider provides equivalent munition field effectiveness when compared to capabilities provided by current landmines but does so without the residual life-threatening risks after hostilities end or when warring factions depart. The fielding of this system, with its sensors, communications, and munitions changed the way soldiers operate in an otherwise unpredictable battlefield. The system's design allows for safe and rapid deployment, reinforcement, and recovery as well as safe passage of friendly forces.

Capabilities/ Characteristics:

- Provides improved munition field effectiveness equivalent to current AP landmines
- Hand-emplaced modular system capable of intrusion detection and controlling lethal and non-lethal munitions
- Repeater provides extended range capability for munition control in difficult terrain
- Interoperability with the tactical internet via Mission Command communication platform
- Self-destruct/ self-deactivate
- Reusable
- Remotely controlled command fire
- Prevents fratricide

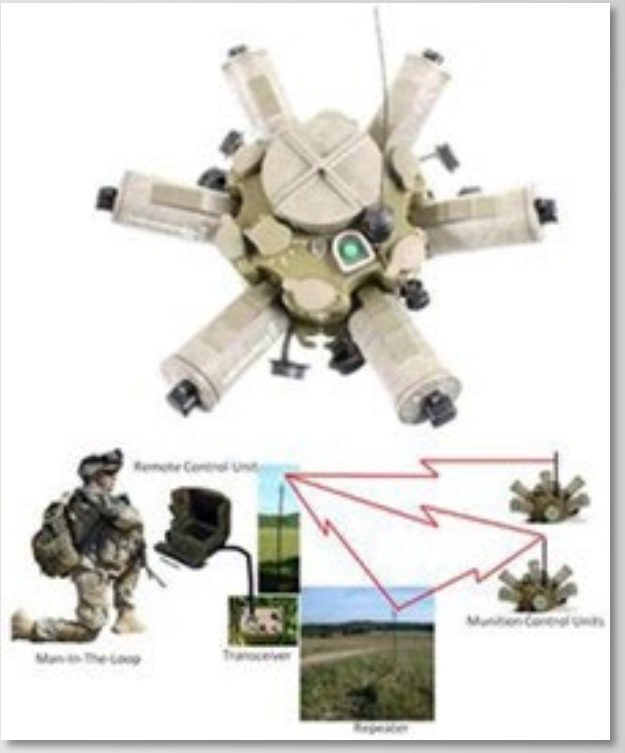
System Integration:

- Hand Emplaced

Configuration:

- **TS01**: M8 Mini-Grenade Launcher
- **TS02**: M9 Extended Range Tripwire Launcher
- **TS09**: M332 MCU

Materiel Release: September 2013



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

Munition Control Unit (MCU) for Spider and Scorpion

The M10 Munition Control Unit (MCU) for the Spider System contains no explosive. The MCU Kit contains 2 MCUs, 2 antennas, 6 sandbags, 6 tripwire spools, and 6 anchor stakes. Its replacement NSN is 1346-01-606-5980.

Capabilities/ Characteristics:

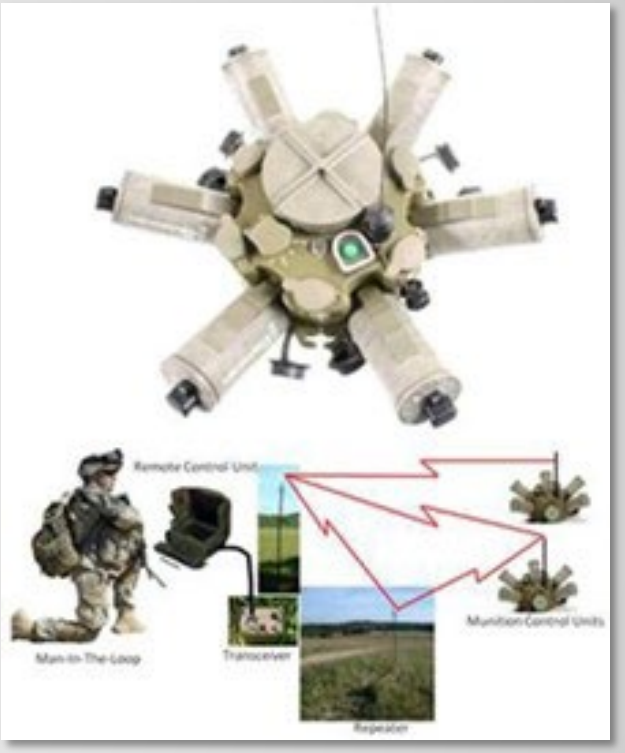
- Hand emplaced, remotely controlled munitions
- Detects intrusions, controls lethal and nonlethal munitions
- Contains all ancillary items for emplacement as a kit

System Integration:

- Integrates with Class VII M7 Spider

Configuration: TS04

Materiel Release: September 2013



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M139 Volcano Multiple Delivery Mine System

The Volcano Mine Dispenser is a scatterable mine delivery system. It can be employed defensively to delay enemy movement, isolate the battlefield and reinforce friendly fire. The Volcano enables tactical commanders to emplace antitank/antipersonnel or pure antitank minefields with minimal personnel. Each launcher rack can hold 40 mine canisters with a 5 to 1 mix of antitank and antipersonnel mines or six antitank mines to meet commanders' situational employment requirements.

Capabilities/ Characteristics:

- Versatility: deployable from ground or air systems
- Reduces user burden to emplace minefields
- Common dispenser and ammunition
- Unique mounting kits for host platform: M985/M1120 Series Heavy Expanded Mobility Tactical Truck; 5-ton truck; Helicopter; M548 Track Vehicle
- Using a ground vehicle, a 1,000-meter minefield can be laid in 4 to 12 minutes based on terrain and vehicle speed. A helicopter can complete the mission in 20 seconds

System Integration:

- M139 Mine Dispenser

Materiel Release: June 1992

Production Partners:

- TBAD (Tobyhanna, PA)



DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited. PAO Log # 143-26

M87A1 Volcano HE Canister Mine

Capabilities/ Characteristics:

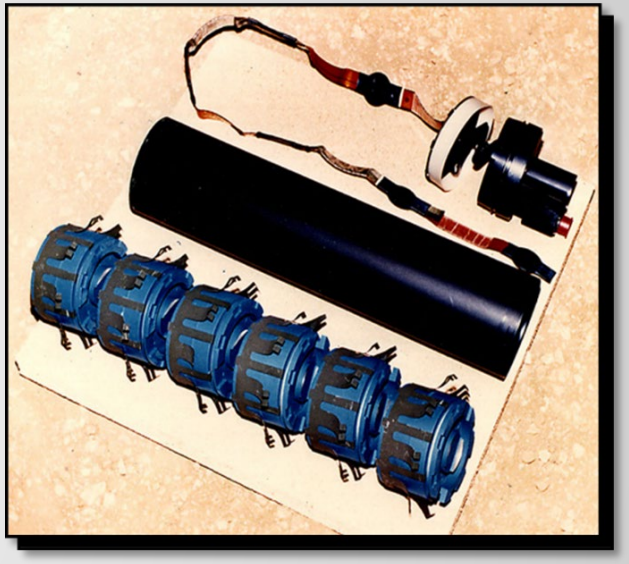
- 6 AT mines per canister
- Improved countermeasure capability
- Self-destructs at 4 hours, 48 hours or 15 days
- Self-deactivation backup

Configuration: J003

- Suitable Substitutes:
  - K045: M87 Volcano HE Canister Mine

Production Partners:

- Northrop Grumman (Plymouth, MN)



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M87 Volcano HE Canister Mine

Capabilities/ Characteristics:

- 5 AT and 1 AP mine per canister
- Improved countermeasure capability
- Self-destructs at 4 hours, 48 hours or 15 days
- Self-deactivation backup

Configuration: K045

- Suitable Substitutes:
  - J003: M87A1 Volcano HE Canister Mine

Production Partners:

- Northrop Grumman (Plymouth, MN)



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M136 Air Volcano Mine Dispenser

The Air Volcano is the fastest method for emplacing large tactical minefields. Although mine placement is not as precise as it is with ground systems, Air Volcano minefields can be placed accurately enough to avoid the danger inherent in minefields delivered by artillery or jet aircraft. Air Volcano is the best form of an obstacle reserve because a minefield can be emplaced in minutes.

Air Volcano minefield should not be planned or dispensed in areas under enemy observation and fire as the dispensing helicopter is extremely vulnerable to anti-aircraft fire while flying at a steady altitude, speed and flight path required to successfully emplace the minefield. Close coordination between aviation and ground units is required to ensure that Volcano-dispensed mines are emplaced accurately and quickly.

Capabilities/ Characteristics:

- When fitted to an aircraft, mines are dispensed 35 to 70 meters (115 to 230 feet) from the aircraft's flight path
- The aircraft flies at a minimum altitude of 5 feet (1.5 meters) at speeds ranging from 20 to 120 knots (37 to 222 kilometers per hour)
- One aircraft can dispense up to 960 mines per sortie

Configuration: K015

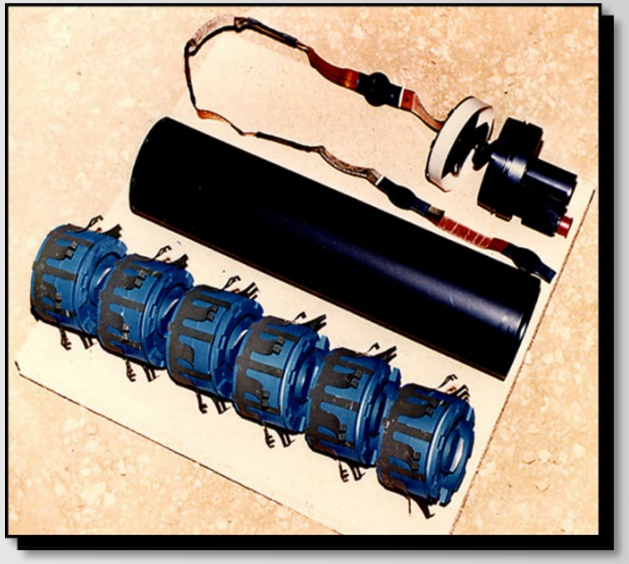


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M89 Volcano Practice Canister Mine

For Use with the M139 and M136 Volcano Launcher Racks.

Configuration: HZ02

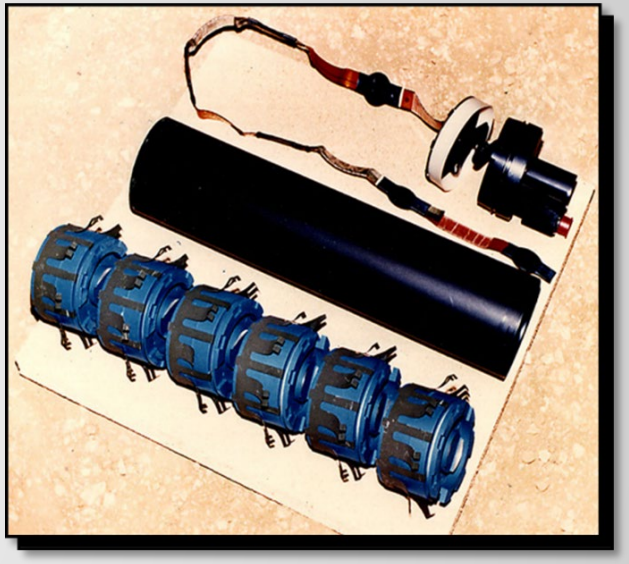


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M88 Volcano Practice Canister Mine

Replicates wartime canisters for training use.

Configuration: K042



ACQUISITION PHASE: OS

PRODUCTION STATUS: 4 – No Production Planned within 10 years

DESIGNATED USE: TRAINING UNIQUE

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Wide Area Munition (WAM)

Wide Area Munition (WAM) AV Mine

Capabilities/ Characteristics:

- 100M/360° Effective radius
- Acoustic and seismic sensors
- Autonomous arm to kill sequence
- Target prioritization, heavy and light track
- Remote control - M71
- 30 Day operational life
- Self-destructs & self-deactivates

System Integration:

- M139 Mine Dispenser

Configuration: SQ20



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Directorate of Integration is responsible for influencing and guiding actions at the System-of-Systems (SoS) level to facilitate the rapid delivery of emergent and disruptive capabilities across the Joint Capability Portfolio Executive (JCPE) Ammunition & Energetics (A&E) portfolio by synchronizing program efforts, facilitating the definition of architectures and standards, and identifying and cultivating technology investments.

Mission: Provide the cross-cutting SoS integrating view and "muscle" for JCPE A&E's portfolio, including shared equities with other Army and Joint Program Acquisition Executives (PAEs).

Vision: Recognized Key Enabler for JCPE A&E to Lead and Deliver decisive combat capabilities.

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Directorate of Integration

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Champion, support, conduct, and accelerate Munitions Assured Positioning, Navigation, and Timing (APNT) and Navigation Warfare (NAVWAR) technology maturation and developmental testing to inform Concept of Operations, requirements, and capabilities, including the development, prototyping, integration, and evaluation of M-Code Military GPS User Equipment Increment 2 technology deliverables across all Army weapons and munitions.

Identify, prototype, integrate, demonstrate, evaluate, and transition complementary PNT and NAVWAR related solutions when M-code GPS is not solely sufficient to enable combat overmatch.

Prototype, mature, access, and transition munition resilient support and survivability technologies needed for enhanced lethality and continued precision operations in complex contested environments.



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Network Assisted APNT for NAVWAR

Prototype munition resilient support and survivability APNT and NAVWAR SoS solutions to facilitate automation of Next Generation APNT and Next Generation NAVWAR technologies which enable combat lethality overmatch in complex threat environments.

Leverage SoS capabilities for weapons and munitions, such as distribution of "Hot Start" data needed for:

- Multi-source PNT used by Precision Guided Munitions (PGMs)
- Efficiency maximization and overkill prevention of collaborative and swarming munitions in contested environments
- Automating the translation of NAVWAR Situational Awareness into the planning, selection, and deployment of PGM in PNT-contested environments

Capabilities demonstrated, verified, and validated via multiple virtual and live-fire demonstrations.





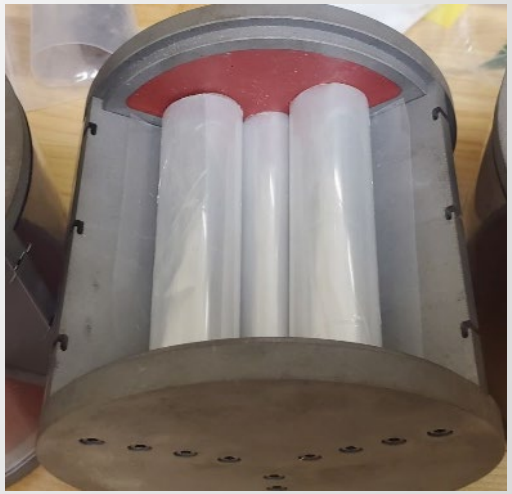
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Common NAVWAR/EW Cargo Payloads

Develop, demonstrate, and proliferate prototype active and passive common NAVWAR and Electronic Warfare (EW) technologies, components, payload solutions, and decision aids for cargo munitions and other delivery mechanisms.

These common NAVWAR/EW cargo payloads will enhance combat performance, spectrum dominance, battlespace shaping, and layered effects in an anti-access/area-denial threat environment.

Effects have been demonstrated via multiple delivery methods. The overall super-system capability will integrate both hardware and software technology solutions across multiple Programs of Record for combined increased effect.



Cannon Cargo dispense successfully demonstrated

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Tactical Ammo Management MicroServices (TAMMS)

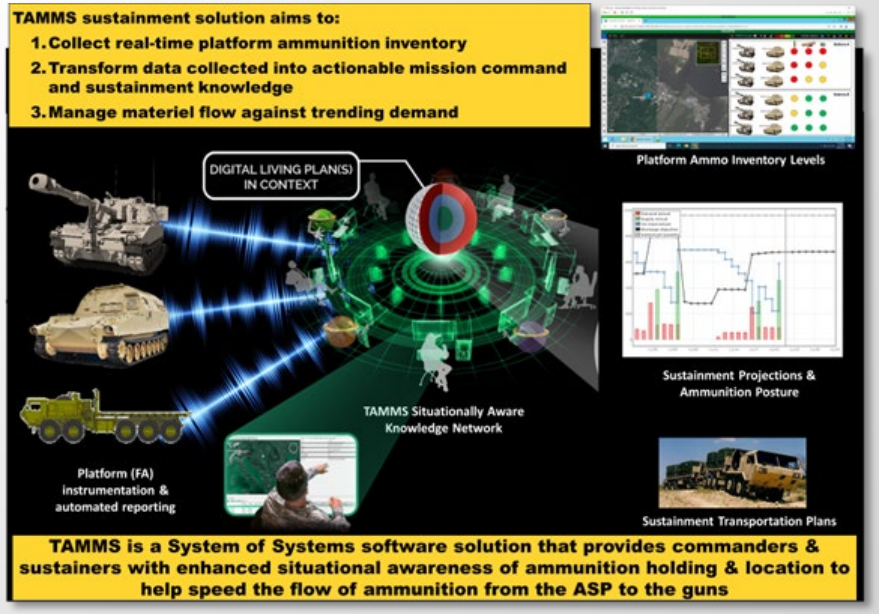
The purpose of TAMMS is to develop a suite of AI-enabled "micro services" that collect integrated ammunition demand signal data, enable visibility of ammunition within the tactical unit, and provide sustainment decision support reasoning to inform recommended resupply requests.

TAMMS will digitally track Class-V assets in real-time.

TAMMS will provide tactical units visibility into their ammo for operational and sustainment forecasting.

At end-state, TAMMS development will enable:

- Digitization of ammunition process within the tactical formation
- Data backbone to track, transmit, and make visible real-time ammunition demand
- Sustainment decision support for unit ammunition



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Small Unit Resupply (SUR)

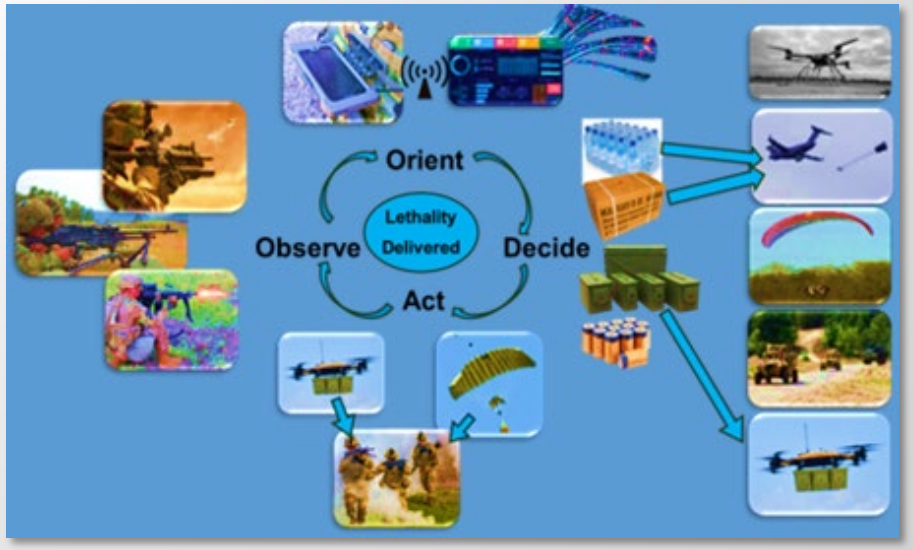
The purpose of SUR is to develop a tactical resupply system where unit supply needs are automatically sensed from the weapon system and directly linked to resupply posture and tactical delivery options for optimized maneuver execution.

SUR will provide a shortened and responsive resupply loop via weapon sensors.

SUR enables automated ammunition logistics status reporting and sustainment response needed in continuous lethality operations.

At end-state, SUR development will enable:

- Sensor-driven collection of digital expenditure data from dismounted soldier weapons
- Connection of unit demand to organic and higher echelon sustainment
- Platform to plan, execute, and track resupply down to the consuming unit
- Visibility through TAMMS of unit ammunition status rolled up through the force structure



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Expeditionary Ammo Site Planning Software (EASP-S)

The purpose of EASP-S is to digitize and automate the process of planning ammunition storage locations by generating explosive site layouts and identifying safety violations.

EASP-S will reduce the ammo site planning process from days to minutes.

EASP-S will allow the movement and storage of ammunition much more frequently in Large-Scale Combat Operations (LSCO) than ammunition officers are currently staffed to support.

At end-state, EASP-S development will enable:

- Digitization of the ammunition site planning process
- Calculation of explosive limits for the enterprise ammunition accountability system of record
- Generation of explosive safety arcs, risk assessments, and get-well plans for ammunition storage
- Ammo storage site planning possible within minutes which, in turn, enables transient and on-the-move storage concepts



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Configured Load Planning Engine (CLPE)

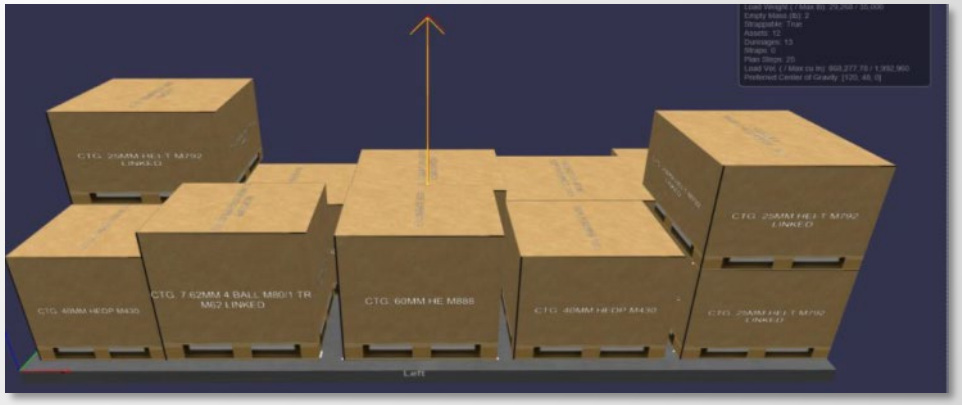
The purpose of CLPE is to provide a safer, uniform method of planning ammunition loads that are mission configured and validated against all regulations for the transportation of hazardous goods.

CLPE will reduce the ammunition transportation load planning timeframe from hours to minutes.

CLPE will allow ammunition loads to be correctly reconfigured more often for unit customers in a LSCO environment.

At end-state, CLPE development will enable:

- Automated ammunition transportation load planning
- Adherence to ammunition compatibility rules for safety compliance
- Ammunition load build plans accessible for future automation enablers such as robotic material handling equipment



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Lightweight Steel Container

The purpose of Lightweight Steel Container is to develop a lighter weight, logistically efficient, steel container for small caliber configurations which meets the current container specifications for ammunition packaging.

This Lightweight Steel Container packaging effort will result in a new standard lighter ammunition packaging solution than the current heavier M2A2 container, as well as reducing the logistics burden of battlefield ammunition.

At end-state, Lightweight Steel Container development will enable:

- Reduction in M2A2 ammunition container weight by up to 14%
- Reduced lifecycle cost of $2.5M over 5 years
- Reduced transportation and soldier lift burden







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Enhanced Mold Prevention

The purpose of Enhanced Mold Prevention is to provide enhanced, long term, moldicide protection of wood-based ammunition packaging.

This effort will also reduce pesticidal concentrations and alleviate known quality issues with current preservative systems of wood packaging.

This Enhanced Mold Prevention for ammunition packaging will result in modernized wood preservative treatments with improved resistance to mold and biodeterioration that, in turn, will enhance readiness and reduce risk to the ammunition stockpile in long term storage.

At end-state, Enhanced Mold Prevention development will enable:

- A modern wood preservative treatment that can be recommended for all wood packaging of newly purchased ammunition
- Retreatment and remediation procedures for legacy stock within Army munition storage facilities



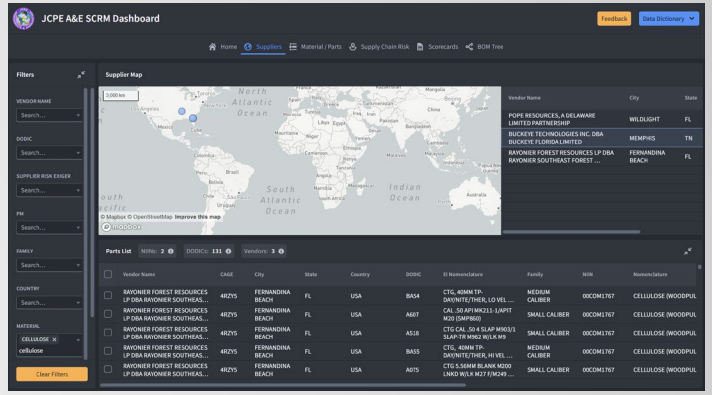
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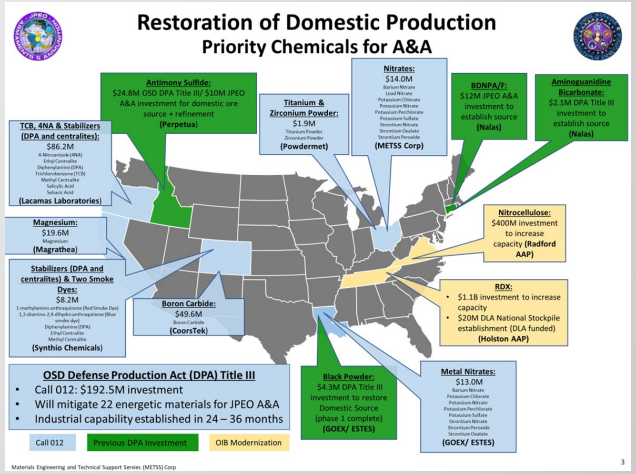
The purpose of Assured Munitions is to

- Secure Our Commercial and Organic Domestic Munitions Supply Chains to ensure continuous availability of end items and constituent components in peace and war
- Develop International Partnerships and Strategic International Second Sourcing to ensure an elastic supply chain is present which can respond at any time and under any conditions
- Develop Alternative Chemistry Paths with specification function, performance, and no reliance on foreign sources
- Mitigate foreign dependencies and address single points of failure for critical materials.

At end-state, Assured Munitions will:

- Establish Data Management Environment to ingest and integrate data from multiple internal/external sources and define risk factors for critical components.
- Assess and address priority munition supply chain risks as well as provide strategic risk assessments for the entire munitions and energetics portfolio.





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The ESOH program works proactively with JCPE A&E Project Management Offices to identify, assess, prioritize, and mitigate ESOH risks across the acquisition lifecycle.

Capabilities and Characteristics

- JCPE A&E Emerging Chemicals Program
- Critical Chemicals (Regulatory Impact Assessments)
  - Domestic
  - International
- ESOH Research, Development, Test and Evaluation
- Blast Overpressure risk management

Identify

Recognize, Anticipate Evolving Risks:
- 450+ Emerging Chemicals – regulations impacting availability across supply chains
- Chemical Production Maps – "Ground to Round"
- Blast Overpressure (BOP) Exposures
- RDT&E for lifecycle ESOH data gaps across lifecycle (BA 6.2-6.6)

Advocate

Advocate JCPE Positions:
- Toxic Substances Control Act (TSCA) [United States]
- American Innovation and Manufacturing (AIM) Act [United States]
- Registration Authorization and Restriction of Chemicals (REACH) [European Union]
- Prioritize DOW, Army RDT&E for Lifecycle ESOH Data Gaps (BA 6.2-6.6)
- Policy and Guidance

Mitigate

Implement Technologies, Processes Reducing ESOH Lifecycle Impacts:
- Demonstrate, Validate, Transition
- DOW Acquisition Transformation Strategy Alignment
- Enhanced Soldier Occupational Health – New Materials
- Chemical Supply Chain Illuminations
- BOP Exposures

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Digital Engineering (DE) Strategy

The DE Strategy for JCPE A&E provides near, mid, and far term general DE Implementation Strategies including migration of data and conversion of US Government-owned analog-based Technical Data Packages to 3Di/Digital formats.

JCPE A&E is aligning itself to DE "Best Practices" in collaboration with the Industrial Committee of Ammunition Producers DE Working Group.

At end state, JCPE A&E's DE Strategy will:

- Converge to a single, secure, Army-enabled DE platform for collaborative Life Cycle design, engineering, acquisition, manufacturing and logistical support activities
- Exploit technology to integrate Life Cycle tools and digital data to enable the digital thread
- Demonstrate Life Cycle cost reduction through the development of digital twins for select A&E products and Organic Industrial Base manufacturing processes

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Acronyms & Abbreviations

A
AAP - Army Ammunition Plant
AB - Air Burst
ABV - Assault Breaching Vehicle
ACAT - Acquisition Category
ACF - Active Contingency Force
ACS - Automated Cartridge System
ADAM - Area Denial Artillery Munition
ADL - Ammunition Data Link
ADVAP - Advanced Armor Piercing
AEODU - Approved for EOD Use
AFATDS - Advanced Field Artillery Tactical Data System
AGS - Avenger Gun System
AHD - Acoustic Hailing Device
AMP - Advanced Multipurpose
AO - American Ordnance
AP - Anti-personnel
AP - Armor Piercing
APDS - Armor Piercing, Discarding Sabot
APFSDS - Armor Piercing, Fin Stabilized, Discarding Sabot
API - Armor Piercing Incendiary
APMI - Accelerated Precision Munition Initiative
APOBS - Anti-Personnel Obstacle Breaching System
ARMS - Armament Retooling and Manufacturing Support
ASM - Advanced Submunition
AT - Anti-Tank
ATEC - U.S. Army Test and Evaluation Center
ATGM - Anti-Tank Guided Missile
ATGMSS - AT Guided Missile Signature Simulator
ATKS - Armor Target Kill System
ATWESS – Anti-Tank Weapons Effect Signature Simulator
AV - Anti-Vehicular

B
BA - Bottom Attack
BAE - British Aerospace Engineering
BB - Base Bleed
BCTs - Brigade Combat Teams
BDM - Bunker Defeat Munition
BES - Battlefield Effects Simulator
BFA - Blank Firing Attachment
BFMK - Blank Firing Modification Kit
BFVS - Bradley Fighting Vehicle System
BLU – Bomb Live Unit
BOHG - Bursting Obscuration Hand Grenade

C
C3 - Command, Control, and Communications
CA - Cinnamic Acid
CAAA - Crane Army Ammunition Activity
CAD - Cartridge Actuated Device
CAVM - Counter Anti-Vehicular Munition
CCMCK - Close Combat Mission Capability Kit
CCTS - Cannon Caliber Training System
CD - Compact Disc
C-DAEM - Cannon-Delivered Area Effects Munition
CEP - Circular Error Probable
CESK - Canine Explosive Scent Kit
CFT - Cross-Functional Team
CM - Countermeasure
CMWS - Common Missile Warning System
CONUS - Continental United States
COTS - Commercial-off-the-Shelf
CPE A&E – Capability Program Executive Ammunition & Energetics
C-RAM - Counter-Rocket, Artillery, and Mortar
CS - Cone Stabilized
CS - Ortho-Chlorobenzalmalononitrile
CS RS - Confined Space, Reduced Sensitivity
CTC - Combined Training Center

D
DAM - Demolition Attack Munition
DDI - Dummy, Drill, and Inert
DEVCOM-AC - U.S. Army Development Command - Armaments Center
DEVCOM-ARL - U.S. Army Development Command - Army Research Laboratory
DFCS - Digital Fire Control System
DIFCUE - Direct-Indirect Fire Cue
DNT - Day, Night, Thermal
DoD - Department of Defense
DoDD - DoD Directive
DoDI - DoD Instruction
DODIC - DoD Identification Code
DP - Dual Purpose
DPICM - Dual Purpose Improved Conventional Munition
DRCW - Double Reinforced Concrete Wall
DSS - Decision Support System
DT - Dim Trace
DU - Depleted Uranium

E
EF - Enhanced Fragmentation
EFP - Explosively Formed Penetrator
EH - Explosive Hazard
EHC - Enhanced Lethality Cartridge
EMD - Engineering & Manufacturing Development
EMI - Electro-muscular Incapacitation
EO - Explosive Ordnance
EOD - Explosive Ordnance Disposal
EPIAFS - Enhanced Portable Inductive Artillery Fuze Setter
EPR - Enhanced Performance Round
ER - Extended Range
ERA - Explosive Reactive Armor
ERK - EOD Response Kit
e-SDF - Electronic Self Destruct Fuze
EST - Excalibur Shaped Trajectory
ET - Electronic Time
ETEK - EOD Tool and Equipment Kit
ETSQ - Electronic Time Super Quick

F
FCC - Fire Control Computer
FDC - Fire Direction Center
FFE - Fire From Enclosure
FHT - Field Handling Trainer
FMR - Full Materiel Release
FMWD - Family of Military Working Dogs
FOS - Forward Observer System
FRPC - Full Range Practice Cartridge
FVL - Future Vertical Lift

G
GAMS - Gas Adsorbent Modules
GDMS - General Dynamics Mission Systems
GD-OTS - General Dynamics - Ordnance and Tactical Systems
GEMSS – Ground Emplaced Mine Scattering System
GMG - Grenade Machine Gun
GOBLN - Ground Obstacle Breaching Lane Neutralizer
GOTS - Government-off-the-Shelf
GP - General Purpose
GPR - Ground Penetrating Radar
GPS - Global Positioning System
GRF - Global Reaction Force

H
HBX-1 - High Blast Explosive Type 1
HC - Hexachloroethane
HE - High Explosive
HEAT - High Explosive, Anti-Tank
HEDP - HE Dual Purpose
HEI - High Explosive, Incendiary
HEP - High Explosive Plastic
HERA - High Explosive, Rocket-Assisted
HERO - Hazards of Electromagnetic Radiation to Ordnance
HF-1 - High Fragmentation Steel
HHA - High Hardness Armor
HHS - Handheld Signal
HITL - Human-in-the-Loop
HME - Homemade Explosive
HMMWV - High Mobility Multipurpose Wheeled Vehicle
HoB - Height of Burst
HPBT - Hollow Point Boat Tail
HPT - High-Pressure Test
HSAAP - Holston Army Ammunition Plant
HSTAMIDS - Handheld Standoff Mine Detection System
HTK - Hit-to-Kill
HV - High Velocity

I
IAAAP - Iowa Army Ammunition Plant
IAM - Individual Assault Munition
IB - Industrial Base
IBSP - Industrial Base Strategic Plan
ICVVA1 - Stryker Infantry Carrier Vehicle Double V Hull
IDM - Impact Delay Module
IECCM - Improved Electronic Counter Countermeasures
IED - Improvised Explosive Device
IM - Insensitive Munition
IMU - Inertial Measurement Unit
IPADS - Improved Positioning Azimuth Determining System
IPADS-G - IPADS-GPS
IPT - Integrated Product Team
IR - Infrared
IT - Information Technology

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Acronyms & Abbreviations

J
JBMOU - Joint Ballistic Memorandum of Understanding
JHP - Jacketed Hollow Point
JIEDDO - Joint Improvised Explosive Device Defeat Organization
JMC - U.S. Army Joint Munitions Command
JSEOD - Joint Service EOD
JUONS - Joint Urgent Operational Need Statement

K
KE - Kinetic Energy

L
LADS - Lightweight Area Determination System
LAP - Load, Assemble, and Pack
LAV - Light Armored Vehicle
LAW - Light Anti-Tank Weapon
LCAAP - Lake City Army Ammunition Plant
LCP - Liquid Crystal Polymer
LCPP - Life Cycle Pilot Process
LCS - Littoral Combat Ship
LD - Low Drag
LED - Light-emitting Diode
LEEFI - Low Energy Exploding Foil Initiator
LESD - Launched Electrode Stun Device
LHMBC - Lightweight Handheld Ballistic Computer
LIED - Large IED
LIN - Line-Item Number
LOE - Line of Effort
LoS - Line of Sight
LPD - Landing Platform, Dock
LRPF - Long-Range Precision Fires
LR-PGK - Long Range-PGK
LTS - Live Training System
LV - Low Velocity
LVOSS - Light Vehicle Obscurant Smoke System
LWCMS - Lightweight Company Mortar System

M
MAAWS – Multi-role, Anti-Armor, Anti-personnel Weapons System
MACS - Modular Artillery Charge System
MADIS - USMC Marine Air Defense Integrated System
MAST - Man-Portable Aircraft Survivability Trainer
MBT - Main Battle Tank
MCA - Major Capability Acquisition
MCCM - Modular Crowd Control Munition
MCS - Mission Command System
MCU - Munition Control Unit
MDD - Mine Detection Dog
MDET - Medium Directional Energy Tool
MDI - Modern Demolition Initiators
MDO - Multi-Domain Operations
MFCS - Mortar Fire Control System
MFCS-D - MFCS-Dismounted
MFCS-M - MFCS-Mounted
MFK - Mobile Field Kit
MG - Machine Gun
MGSS - Main Gun Signature Simulator
MHS - Modular Handgun System
MICLIC - Mine Clearing Line Charge
MILES - Multiple Integrated Laser Engagement System
MLIDS - Mobile Low, Slow Unmanned Aerial Vehicle Integrated Defense System
MMP - Modular Mission Payload
MOFA - Multi-Option Fuze, Artillery
MOPMS - Modular Pack Mine System
MOS - Military Occupation Specialty
MOUT - Military Operation in Urban Terrain
MP - Multipurpose
MPT - Multipurpose Tracer
MSA - Materiel Solution Analysis
M-SHORAD - Mobile Short-Range Air Defense
MSK - Mortar Stowage Kit
MTA - Middle Tier Acquisition
MTBF - Mean Time Between Failures
MTF - Mechanical Time Fuze
MTRS - Man Transportable Robotic System
MVS - Muzzle Velocity Sensor
MWD - Military Working Dog

N
NABK - NATO Ballistic Kernel
NATO - North Atlantic Treaty Organization
NAVSPECWARCOM - U.S. Naval Special Warfare Command
NC - Nitrocellulose
NGAAW - Next Generation Area Attack Weapon
NGRAP - Next Generation Rocket-Assisted Projectile
NGSW-AR - Next Generation Squad Weapon-Automatic Rifle
NGSW-R - Next Generation Squad Weapon-Rifle
NM - Norma Magnum
NSN - National Stock Number
NTIB - National Technology & Industrial Base
NVD - Night Vision Device

O
OATK - Orbital ATK
OCONUS - Outside the Continental United States
OGB - Optimized Gun Barrels
OMFV - Optionally Manned Fighting Vehicle
ONS - Operational Need Statement
OR - Obstacle Reduction
OS - Operations & Sustainment

P
PABM - Programmable Air Burst
PAD - Propellant Actuated Device
PADS - Positioning Azimuth Determining System
PAP - Picatinny Arsenal™ Propellant
PBA - Pine Bluff Arsenal
PD - Point Detonating
PD - Production & Deployment
PD/D - Point Detonating/ Delay
PE - Program Element
PEDD - Patrol Explosive Detection Dog
PEO Ammo - Program Executive Office Ammunition
PFF - Pre-formed Fragments
PFM - Primer Feed Mechanism
PGK - Precision Guidance Kit
PGU - Projectile Gun Unit
PIBD - Point Initiating, Base Detonating
PIE - Pyrotechnic Initiated Explosive
PIK - Platform Integration Kit
PIPD - Point Initiating, Point Detonating
PIR - Passive IR
PL - Public Law
PL JS - Project Lead Joint Services
PM CAS - Project Manager Combat Ammunition Systems
PM CCS - Project Manager Close Combat Systems
PM LS - Project Manager Soldier Lethality
PNDD - Patrol Narcotics Detection Dog
POL - Petroleum, Oil, and Lubrication
PoR - Program of Record
PSK - Platoon Supplemental Kit

R
R&D - Research & Development
RAAMS - Remote Anti-Armor Mine System
RAP - Rocket-Assisted Projectile
RCU - Remote Control Unit
RCV - Riot Control Vehicle
RDM - Rheinmetall Denel Munition (Pty), Ltd.
RDT&E - Research, Development, Technology & Engineering
RFAAP - Radford Army Ammunition Plant
RF-RAMS - Radio Frequency-Remote Activation Munition System
RHA - Rolled Homogeneous Armor
ROTC - Reserve Officer Training Corps
RP - Red Phosphorous
R-PDA - Rugged-Portable Digital Assistant
RRA - Reduced Range Ammunition
RS SKO - Render Safe Kits and Outfits
RSPHG - Reloadable Stun Practice Hand Grenade

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Acronyms & Abbreviations

S

SAPHEI - Semi-Armor Piercing, High Explosive, Incendiary
SAR - Sympathetic Aperture Radar
SAVO - Standoff Activated Volcano Obstacle
SAW - Squad Automatic Rifle
SCAAP - Scranton Army Ammunition Plant
SCD - Small Caliber De-armer
SCJ - Shaped Charge Jet
SCT - Sub-Caliber Trainer
SD - Self Destruct
SDD - Specialized Search Dog
SFM - Sensor-Fuzed Munitions
SHG - Stun Hand Grenade
SI1 - Spider Increment 1
SI1A - Spider Increment 1A
SLAM - Selectable Lightweight Attack Munition
SLAP - Sabot Light Armor Penetrator
Slvt MB - Solvent Multi-Base
Slvt SB - Solvent Single Base
Slvtls DB - Solventless Double Base
SMAW - Shoulder-Launched Multipurpose Assault Weapon
SMCA - Single Manager for Conventional Ammunition
SOA - Service-Oriented Architecture
SOF - US Special Operations Forces
SP - Special Purpose
SPARK - Self Protective Adaptive Roller Kit
SPF - Single Point Failure
SPH - Self-Propelled Howitzer
SQ - Super Quick
SREHD - Stand-off Robotic Explosive Hazard Detection
SRTA - Short Range Training Ammunition
SS-ADT - Solid State-Active Denial Technology
SSGL - Single Shot Grenade Launcher
STANAG - NATO Standardization Agreement
STE - Synthetic Training Environment
sUAS - Small Uncrewed Aircraft Systems
SVT - Soldier Virtual Trainer
SW - Special Warfare
SYSCOM - USMC Systems Command

T

-T - Tracer or with Tracer
TA - Top Attack
TA DLM - TA Dispenser Launcher Module
TACOM - U.S. Army Tank-Automotive Command
TBAD - Tobyhanna Army Depot
TDP - Technical Data Package
TH3 - Thermite
TIC - Toxic Industrial Chemical
TIM - Toxic Industrial Material
TMRR - Technology Maturation & Risk Reduction
TNT - 2, 4, 6-Trinitrotoluene
TP - Target Practice
TPDS - Target Practice, Discarding Sabot

U

U.S.C. - United States Code
UCA - Urgent Capability Acquisition
UID - Unique Identification
UMR - Urgent Materiel Release
USAF - U.S. Air Force
USMC - United States Marine Corps
USN - U.S. Navy
USSOCOM - U.S. Special Operations Command
UXO - Unexploded Ordnance
UXO SD - UXO Stand-off Disrupter
VADS - Vulcan Air Defense System

V

VL - Visible Light
VT - Variable Time

W

WAM - Wide Area Munition
WESS - Weapons Effect Signature Simulator
WP - White Phosphorous

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