



PEO AMMUNITION SYSTEMS

PORTFOLIO BOOK 2012-2013

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Program Executive Office Ammunition

"We Make the Ammo, You Make the Difference"



PEO Ammunition Vision and Mission

Vision: To be a world class organization delivering the most capable and affordable ammunition, weapons and counter IED products to the Joint Warfighter as efficiently as possible.

Mission: Develop a workforce focused on continuous improvement and efficiency that delivers innovative, affordable and quality solutions that provide combat overmatch to the Joint Warfighter.

Dear Reader:

Welcome to the latest edition of the Program Executive Office for Ammunition Portfolio Book. We hope you find it helpful and informative.

PEO Ammo is located at Picatinny Arsenal, NJ, the home of the Joint Center of Excellence for Guns and Ammo.

We manage more than 650 different products that provide America's Warfighters with highly reliable, safe and effective solutions their diverse mission needs. We also oversee a number of non-standard ammunition items used by Allied/Friendly nations.

Brief descriptions of our many products can be found in the pages that follow.

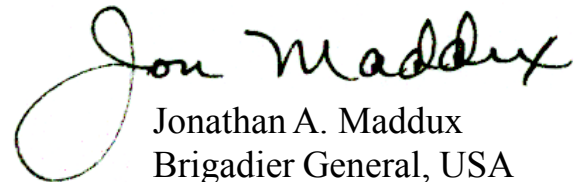
The PEO Ammo mission statement reflects our commitment to providing our customers with all of the conventional and leap-ahead munitions mortar & towed artillery systems and counter-improvised explosive (IED) products required to increase the combat power of our Army, Navy, Air Force and Marine Corps and protect them from IEDs.

This directory contains both new and revised descriptions, photos and illustrations of the exceptional products we develop, manage and support. It is a ready reference guide that serves many useful purposes.

During fiscal year 2011, we continued to enhance our portfolio by type-classifying five new items and materiel-releasing 29 others to the field. Four PEO Ammo products received the ultimate Warfighter seal of approval when they were selected as Army Greatest Invention award winners for 2010. We also were honored by DOD with a special value engineering award for saving the taxpayer \$19.9 million dollars.

We also were recently recognized by DoD with the David Packard Award, the department's top acquisition honor, for exhibiting exemplary innovation and best acquisition practices in creating, producing and fielding the 5.56mm M855A1 Enhanced Performance Round (EPR).

At PEO Ammo, the safety and protection of our Warfighters is our number one priority. That's why we say "We make the ammo...they make the difference."



Jonathan A. Maddux
Brigadier General, USA
Program Executive Officer

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PM Combat Ammunition Systems

PM

Combat Ammunition Systems (PM CAS) Equips Soldiers with all tube launched indirect fire munitions, and mortar weapons systems for the Army's Current, Stryker and Future Forces. Under the Single Manager for Conventional Ammunition (SMCA) responsibilities, PM CAS procures ammunition for other services. The PM does this through life cycle program management of artillery and mortar products.





SYSTEM DESCRIPTION:

Excalibur is a precision guided, extended range 155mm high explosive cannon Ammunition.

SYSTEM CHARACTERISTICS/ CAPABILITIES:

- Precision Guided, Extended Range, Unitary, High Explosive, 155mm Cannon Ammunition
- All Weather, Day/Night, Fire & Forget, Urban/Complex Terrain
- Compatible with M109A6 Paladin Self-propelled Howitzer, M777A2 Joint Light Weight Towed Howitzer & Archer cannon systems
- One Meter Length — 106lbs

SPECIAL FEATURES:

- Modular Payloads
- GPS Anti-Jam Technology

- Limits Collateral Damage; CEP less than 10 meters
- International Cooperative Development Program with the Kingdom of Sweden
- Minimizes collateral damage; reduces risk to friendly forces in close fight

FIELDING: UNITARY

- Fielded
- Fielding Increment Ia-2 in 1QFY12

Increment Ia /Ib PRIME

CONTRACTOR:

- Raytheon Missile Systems (Tucson, AZ)

Ia/Ib Key Subs:

- GD OTS: Unitary Payload and Projectile Body

- GD OTS: Control Actuator System (CAS)
- Goodrich (formerly AIS): Inertial Measurement Unit (IMU)
- Eagle Picher: Data Hold Battery, Electronic Battery, Actuator Battery
- L3 KDI: Height of Burst Sensor/ Projectile Fuze Safe & Arm

Ia Key Sub:

- L3 Communications: GPS / Anti-Jam

Ib Key Subs:

- Rockwell Collins: GPS/AJ
- General Dynamics: Control Actuator
- General Dynamics: Warhead

DODIC: (DA45)

155mm Excalibur, M982 Precision Guided Extended Range Projectile

ACQ Phase Ia-1: Production and Deployment

Ia-2: Production and Deployment

Ib: Engineering and Manufacturing Development





155mm M107 HE

SYSTEM DESCRIPTION:

The M107 is a hollow steel shell filled with TNT or Composition B. A deep intrusion variant contains a supplementary charge of pressed TNT. A normal variant also exists with a shortened aluminum liner and no supplementary charge.

CAPABILITIES:

- Used for blast effect, fragmentation and mining in support of ground troops and armored columns

SYSTEM CHARACTERISTICS:

- NSN: 1320-01-257-4222
- Weight: 95lbs
- Body Type: Forged Steel
- Payload: 14.6lbs TNT/15.4 lbs Comp B
- Max Propelling Chg: M119A2 (Zone 7)
- Max Range: 18.1 km

SPECIAL FEATURES:

- War Reserve and Training Round

FIELDING:

- Fielded

PRIME CONTRACTOR (Current):

- PM-CAS System Integration
 - AO, Iowa- LAP
 - GD-OTS, Scranton - PMPTS

DODIC: (D544)
155mm M107 HE

ACQ Phase: Production & Deployment



155mm M795 HE

SYSTEM DESCRIPTION:

The M795 is a 103lb 155mm high fragmentation steel (HF1) body projectile filled with 23.8 pounds of TNT or IMX-101 with a gilded metal rotating band for compatibility with all current and future 155mm howitzers. The M795 projectile is employed against personnel, trucks, electronic surveillance and target acquisition devices, supply points, command and control and communications (C3) installations, and mechanized and armored forces.

CAPABILITIES:

- Can Be Fired At Top Zone (M203A1 Prop. Charge)
- Current Registration Round For 155mm Ammo
- Most capable 155mm IM HE projectile – passes Shape Charge Jet & Sympathetic reaction

SYSTEM CHARACTERISTICS:

- NSN: 1320-01-581-6633 (M795 IM)
- Weight: 103lbs
- Length with fuze: 33.2 inches
- Projectile Body: High Fragmentation Steel

- Projectile Color: Olive Drab with Yellow Markings
- Explosive: 23.8 pounds of TNT or IMX-101
- Max. Range: 22.5 Kms

SPECIAL FEATURES:

- Increases 155mm HE Range from 17.5 to 22.5 Kms (29%)
- 100% Increase in lethality over M107 HE against personnel
- 80% Increase in lethality over M107 HE against trucks
- Increased accuracy due to aerodynamic shape
- Conventional ammo of choice for war by the US Army and Marines

FIELDING:

- Fielded

PRIME CONTRACTOR

- PM-CAS System Integration
 - AO, Iowa- LAP
 - GD-OTS, Scranton - PMPTS
 - BAE-HSAAP-IMX-101

DODIC: (DA54)
155mm M795 HE Projectile

ACQ Phase: Production & Deployment



155mm M549A1 HE

SYSTEM DESCRIPTION:

The M549A1 projectile has two distinctive pre-assembled components - the high explosive 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. The rocket motor provides extended range through functioning of the rocket motor. 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:

- The Rocket Assisted Projectile (RAP) was designed to extend the range and improve the effectiveness of the 155mm Howitzer. It is used for fragmentation and blast effects against personnel and materiel.

SPECIAL FEATURES:

- Rocket Assist provides extended range to 30 km.

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Not in production

SYSTEM CHARACTERISTICS:

- NSN: 320-01-047-6009
- Type: HE, rocket assisted
- Weight: 96 lbs.
- Body Material: High fragmentation steel
- Color: Olive drab with yellow marking
- Filler: TNT - 15 lbs.
- Maximum Propelling Charge
- Compatibility: M203A1 (Zone 8), MACS 5
- Maximum Range: 30km
- Drawing: #9235999

DODIC: (D579)

155mm M549A1 HE

ACQ Phase: Production & Deployment



155mm M483A1
HE - DPICM

SYSTEM DESCRIPTION:

The M483A1 is a Dual Purpose Improved Conventional Munition (DPICM) containing a total of 88 grenades, each capable of penetrating in excess of 2-1/2 inches of rolled homogeneous armor and fragmentation for incapacitating personnel. The M42 grenade is embossed on the inside wall surface to provide controlled fragmentation effects. The M46 grenade has a stronger unembossed body which is able to withstand the greater load seen at the rear of the shell due to setback upon firing. The M577A1 Mechanical Time Fuze or the M762A1 Electronic Time Fuze are used.

SYSTEM CHARACTERISTICS:

- NSN: 1320-01-363-1273
- Type: HE, dual purpose submunition
- Weight: 102.6 lbs.
- Body Material: Forged steel
- Color: Olive drab w/ yellow diamonds & markings
- Filler: M42/M46 submunitions
- Maximum Propelling Charge
- Compatibility: M119A2 (Zone 7), MACS 4
- Maximum Range: 17.7 km
- Drawing: #9215220

SPECIAL FEATURES:

- Dual Purpose Anti-Personnel / Anti-Materiel Capability

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Not in production

CAPABILITIES:

- This projectile is used to deliver cargo of dual purpose armor defeating and anti-personnel grenades.

DODIC: (D563)

155mm M483A1 HE - DPICM Projectile

ACQ Phase: Production & Deployment



**155mm M864 - DPICM
Recap Program**

SYSTEM DESCRIPTION:

The objective of the M864 Recapitalization (Recap) Program is to begin fielding up to 322,000 "like new" M864A1 rounds utilizing grenade pyrotechnic Self Destruct Fuzes (p-SDFs) in late 2008. The Recap process involves downloading M42/M46 DPICM grenades, removing existing M223 impact-initiating grenade fuzes, attaching a qualified p-SDF, and final Load, Assemble and Pack (LAP) of the round. The M864A1 rounds will also include the application of an Extended Range Ordnance (ERO) obturator to extend gun tube life. The M864 consists of three major components: An ogive, containing an expulsion charge at the base of the fuze well; the warhead, a payload of seventy two M42/M46 DPICM grenades; and a solid propellant baseburn unit containing a composite propellant grain and igniter.

CAPABILITIES:

- Max Range: 28.3 Km from M198 Towed Howitzer
- Lethality: 80% Effectiveness of M483
- Compatible with M203A1 (Zone 8) and MACS 5
- Planned Reliability: >99% w/ Grenade Self Destruct Fuzing

SYSTEM CHARACTERISTICS:

- NSN: 1320-01-257-4222
- Weight: 95lbs
- Body Type: Forged Steel
- Payload: 14.6lbs TNT/15.4 lbs Comp B
- Max Propelling Chg: M119A2 (Zone 7)
- Max Range: 18.1 km

SPECIAL FEATURES:

- Addresses DoD 1% UXO Policy by incorporating grenade self destruct fuzing
- Potential to maximize component reuse from unserviceable M864 & M483 rounds
- No change to the number of DPICM rounds in the inventory
- Incorporates Extended Range Ordnance (ERO) Obturator for extended gun tube life

FIELDING:

- Fielded

PRIME CONTRACTOR

- Not in production

DODIC: (D864)

155mm M864 Recap

ACQ Phase: Sustainment Phase





155mm M110A2
Smoke WP

SYSTEM DESCRIPTION:

The projectile is a steel shell filled with 15.6 lbs of white phosphorous (WP) with an M54A1 Burster extending through the center and an adapter in the nose of the projectile threaded to receive the fuze. The M54A1 Burster is made from steel and is filled with Comp B5 explosive. Testing to qualify a design using Comp B explosive has been completed and added to the TDP.

CAPABILITIES:

- Used as obscurant and for spotting/markings

SYSTEM CHARACTERISTICS:

- NSN: 1320-01-465-3955
- Weight: 98.5lbs nominal
- Body Type: Steel

- Payload: 15.6lbs WP
- Max Propelling Charge: M119A2 Zone 7R
- Maximum Range: 18.1 Km

SPECIAL FEATURES:

- Projectile provides spotting/markings smoke

FIELDING:

- Fielded

PRIME CONTRACTOR:

- LAP : PBA
- PMPTS: GDOTS, Scranton Operations
- M54 Burster: Expal, Mecar, and Crane Army Ammunition Plant

DODIC (D550)
155mm M110A2 Smoke

ACQ Phase: Production & Deployment



155mm M1122 HE

SYSTEM DESCRIPTION:

The objective of the 155mm M1122 Materiel Change Program is to provide a lower cost high explosive (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. It utilizes M483A1 metal parts from an ongoing M483A1 demil effort, is filled with high density concrete to simulate the weight of the M795 HE Projectile, and incorporates several Insensitive Munitions (IM) technologies (IMX-101 explosive fill, PBXN-9 Supplementary Charge, Melttable Fuze Well Liner and Melttable Fuze Plug) to increase survivability and safety. TC-STD was complete on Nov 2010.

CAPABILITIES:

- Improved acoustic and visual signature versus M804A1 Practice Projectile

SYSTEM CHARACTERISTICS:

- Weight: 102 lbs
- Length (w/ fuze): 35.35 in
- Projectile Color: Olive drab with yellow markings
- Max Range: 22.5 Km
- Max Propelling Charge: M232A1 MACS
- Same functional reliability as M795 HE Projectile

SPECIAL FEATURES:

- Cost avoidance of projectile metal parts by reusing M483A1 bodies and bases from M483 demil effort
- Incorporates several IM technologies to increase survivability and safety
- Designed to simulate the M795 HE Projectile (same weight and range)
- Compatible with the same howitzers, propellants and fuzes as the M795, with the exception of the M1156 Precision Guidance Kit (PGK) fuze

FIELDING:

- Fielding expected in 1QFY12

PRIME CONTRACTOR:

- FY10-11 Production by McAlester Army Ammunition Plant (GO/GO)

DODIC (DA51)
155mm M1122 HE Projectile
ACQ Phase: Materiel Change Program



155mm M485A2 Illum

SYSTEM DESCRIPTION:

The Projectile is a hollow steel shell containing a canister with primary expelling charge. A candle assembly, parachute, delay and secondary expelling charge are loaded into the canister. In functioning, a double ejection system is used. The first ejection is caused by fuze functioning, expelling the canister and igniting the delay. The second function ejects and ignites the candle from the canister. The main parachute is deployed. The drogue chute and fins on the canister reduce the spin and decelerates the canister. Illuminant canister descends at 15 fps and burns for a minimum of 100 seconds producing approx 1,000,000 candle power.

CAPABILITIES:

- Used to provide battlefield illumination at night or other conditions of reduced visibility

SYSTEM CHARACTERISTICS:

- NSN: 1320-00-935-2091
- Weight: 90lbs
- Body Type: Forged Steel
- Payload: Illum Comp 5.4 lbs.
- Max Propelling Charge: M119A2 Zone 7R
- Maximum Range: 17.5 km
- VL Illum: 1,000,000 candle power
- Burn Time: 100 sec min.

SPECIAL FEATURES:

- Candle assembly produces 1,000,000 candle power for 100 seconds

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Spin Brake Assembly awarded to Woodlawn Mfg for FY06
- Candle production — Crane AAA (CAAA)
- PMTPS — Metal Parts awarded to Red Lion

DODIC (D505)

155mm M485A2 Illum

ACQ Phase: Production & Deployment



155mm: IR Illum M1066

SYSTEM DESCRIPTION:

The M1066 is a 155mm Infrared (IR) Illuminating Projectile. The projectile consists of a canister, drogue parachute along with a 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. In addition, the main parachute is deployed at this time providing a descent rate of 15 ft/sec. With an optimal height of burst of 600 meters and the use of Night Vision Devices (NVD), a 2400 meter diameter of illumination is provided for 120 seconds minimum.

CAPABILITIES:

- Provides Battlefield Illumination

SYSTEM CHARACTERISTICS:

- Range: Minimum: 2.8 km
Maximum: 17.5 km
- Weight: 90lbs
- Length: 27.55 inches with fuze
- Reliability: 94%
- Producibility enhanced through LAP procedures
- Payload: 2.25lbs of Infrared Illuminating
- Ballistically Similar to the M485A2 and provides stealth capability to battlefield illumination

SPECIAL FEATURES:

- Provides Infrared battlefield illumination that is 2.4x larger in diameter than the M485A2 visible light projectile

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Pine Bluff Arsenal: LAP
- Crane Army Ammunition Activity: Infrared Illumination Candle

DODIC (DA49)

155mm: IR M1066

ACQ Phase: Production & Deployment



**155mm M232A1
Propelling Charge**

SYSTEM DESCRIPTION:

The Modular Artillery Charge System (MACS) consists of two propelling charge module types, the M231 and the M232/M232A1, 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 M232A1, similar to the M232, is fired in groups of 3 or more increments from Charge 3 (three M232A1s) to Charge 5 (five M232A1s) to engage targets from 7 to 30 kilometers. Besides adding significant operational flexibility of only two types of charges vs. the four current types of bag charges, using combat scenarios for the self-propelled (SP) and towed artillery weapon systems, the MACS savings per round fired is \$45 for SP and \$109 for towed howitzers. The M232A1 is a Product Improvement/39- caliber Optimization Program. It will increase cannon tube life, decrease residue, reduce flash/blast-overpressure, maintain maximum range while achieving greater accuracy, and improve the insensitive munitions properties.

CAPABILITIES:

- Increased Operational Flexibility
- Efficient Use -- No “Excess”
- Compatible with Primers & Laser Ignition

SYSTEM CHARACTERISTICS:

- NSN: 1320-01-526-6523
- Weight: 5.85lbs
- Length: 6.14 inches
- Diameter: 6.00 inches
- Body: Molded Combustible Case with Bumps on Both Ends
- Color: Light Brown (Tan) with Black Markings
- Propellant: 4.9lbs of M31A2 with Decoppering Agent
- Igniter: Bi-directional (ignites either end)
- Range: 7 to 30 Kms from Fielded 155mm Artillery
- Precision: < 2 mps (M232A1 typically < 1 mps)
- Training Device: M242 Dummy Charge
- Compliant with Joint Ballistic Memorandum of Understanding

SPECIAL FEATURES:

- 38% Reduction In Cube for charge system
- 21% Reduction In Weight for charge system
- Water-resistant coating allows limited out-of-pack exposure
- Bi-directional igniter/compatible with primers or Laser
- Environmental/Prevention — Eliminated lead foil for decoppering
- Cost savings in Training and Combat
- IM Container

FIELDING:

- Fielded

CONTRACTORS:

- Esterline Defense Products (Combustible Case)
- General Dynamics Canada Valleyfield (formerly Expro TEC) (Propellant)
- General Dynamics — St. Marks Powder (Ball Powder)
- CONCO, Inc. (Metal Container)
- American Ordnance LLC (LAP)
- General Dynamics — Armament & Technical Products (LAP)



**155mm M231
Propelling Charge**

SYSTEM DESCRIPTION:

The Modular Artillery Charge System (MACS) consists of two propelling charge module types, the M231 and the M232/ M232A1, 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 will replace 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 will result in ~\$54 per round savings. The M231 contains Picatinny Arsenal TM Propellant (PAP) 7993, the Army's first environmentally "green" propellant.

CAPABILITIES:

- Increased Operational Flexibility
- Efficient Use - No "Excess"
- Compatible with Primers & Laser Ignition

SYSTEM CHARACTERISTICS:

- NSN: 1320-01-454-4603
- Weight: 4.25lbs
- Length: 6.05 inches
- Diameter: 6.10 inches
- Body: Molded Combustible Case with Flat Ends
- Color: Green with Black Stripes and Black Markings
- Propellant: 3.5 pounds of PAP7993
- Igniter: Bi-directional (ignites either end)
- Range: 3 to 11 Kms from Fielded 155mm Artillery
- Precision: < 2 mps (M231 typically <1 mps)
- Training Device: M241 Dummy Charge
- Compliant with Joint Ballistic Memorandum of Understanding

SPECIAL FEATURES:

- 38% Reduction In Cube for charge system
- 21% Reduction In Weight for charge system
- Water-resistant coating allows limited out-of-pack exposure
- Bi-directional igniter/compatible with primers or laser
- Environmental/Prevention — Environmentally compliant propellant
- Cost savings in Training and Combat
- IM Container

FIELDING:

- Fielded

CONTRACTORS:

- Esterline Defense Products (Combustible Case)
- Alliant Ammunition and Powder Company LLC (Propellant)
- General Dynamics — St. Marks Powder (Ball Powder)
- CONCO, Inc. (Metal Container)
- General Dynamics — Armaments & Technical Products (LAP)



105mm M1 HE Recap

SYSTEM DESCRIPTION:

The M1 is a semi-fixed 105mm Cartridge consisting of the M14B4 Cartridge Case, M28B2 Percussion Primer, M67 Propelling Charge, a nose plug and a projectile containing a TNT or Comp B explosive filler. The M1 cartridge is compatible with the M557PD, M739PD, M732VT, M767ETSQ and the M782 MOFA fuzes. M1 IM is loaded with IMX-101.

CAPABILITIES:

- Used for fragmentation, blast and mining in support of ground troops and armored columns
- IM variant passes Shaped Charge Jet & Sympathetic Reaction

SYSTEM CHARACTERISTICS:

- NSN: 1315—00—028—4857
- Weight: 39.92lbs
- Body Type: Forged Steel, Hi-Frag (IM)
- Payload: 5.08lbs Comp B 4.80lbs TNT or IMX-101
- Max Propelling Charge: M67 (Zone 7)
- Maximum Range: 11.5 km

SPECIAL FEATURES:

- Upgrade of current unserviceable stocks; 100% Prop Charge and Primer replacement
- Cartridge case to be replaced as needed
- New production M1 IM packed in PA117 metal container for enhanced shelf life

FIELDING:

- Fielded

PRIME CONTRACTOR (Current):

- Recap — Blue Grass Army Depot / McAlester AAP
- AO, Iowa- LAP
- BAE-HSAAP-IMX-101

DODIC: (C445 & CA59)
105MM M1 HE

ACQ Phase: Production & Deployment & Recapitalization Program



105mm PGU-43/B TP (USAF)
105mm PGU-44/B HE (USAF)

SYSTEM DESCRIPTION:

The 105MM Projectile Gun Unit (PGU) 44/B is a fixed round with the projectile crimped to the cartridge case to allow for safety and handling concerns. The PGU-43 & 44/B program uses the army M1 warhead and CYU-1B brass ctg case, the M28A2 primer, and the M67 prop charge. The PGU-43/B is the inert target practice version which utilizes the less expensive M739A1 fuze and 4.6lbs of inert fill. The PGU-44/B uses 4.8lbs of comp B explosive fill and the FMU-153/B.

CAPABILITIES:

- Used in the AFSOC AC130 Gun Ship

SYSTEM CHARACTERISTICS:

- NSN: 1315-01-515-9269
- Weight: 40lbs
- Body Type: Forged Steel
- Payload: 4.8lbs TNT; 5.0lbs Comp B
- Max Propelling Charge: M67 Zone 7
- Maximum Range: 11.5 km

SPECIAL FEATURES:

- Crimped
- Brass cartridge case

FIELDING:

- Fielded

PRIME CONTRACTOR (Current):

- PM-CAS System Integration
- GD-OTS, Canada - LAP

DODIC CA22 for PGU 43B & DODIC CA34 for PGU 44B
105MM PGU-44/B and PGU 43/B (USAF)
ACQ Phase: Production & Deployment



105mm, M1130 Pre Formed
Fragmentation (Pff) HE Base Bleed
(BB) Cartridge

SYSTEM DESCRIPTION:

The M1130 is semi-fixed cartridge composed of the M14B4 Cartridge Case, M28B2 Percussion Primer, M67 Propelling Charge and a Base Bleed. The projectile warhead is composed of a 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 M767ETSQ series fuzes. M1130E1 uses XM350 propelling charge to achieve objective range requirement up to 17.5 km.

CAPABILITIES:

- Increased lethality against personnel and soft targets
- M1130E1 increases range up to 17.5 km

SYSTEM CHARACTERISTICS:

- Weight: 36lbs
- Length with fuze: 21.7 inches
- Body Type: 9260 High Fragmentation Steel
- Payload: HE (PBX4) w/tungsten spheres
- Propelling Charge: M67
- Max. Range: 13.5 km with M67 Prop Charge from US 105mm M119Series Towed Howitzer

SPECIAL FEATURES:

- Increased accuracy due to Aerodynamic Shape
- Provides the Warfighter with enhanced lethality

FIELDING:

- Fielding expected 2QFY12

PRIME CONTRACTOR (Current):

- PM-CAS System Integration
- GD-OTS Rheinmetall Denel

DODIC (CA52)
105mm, M1130 PFF HE BB Cartridge
ACQ Phase: Production & Deployment



105mm M927 HERA

SYSTEM DESCRIPTION:

The M927 is 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 (Elastomeric) and an ignition delay. The M927 Cartridge is compatible with the M739A1 PD, the M732A2 VT, the M767 ETSQ and the M782 MOFA fuzes.

CAPABILITIES:

- Extended range rocket assisted projectile used for fragmentation, blast and mining support of ground troops and armored columns

SYSTEM CHARACTERISTICS:

- NSN: 1315-01-320-4190
- Weight: 37.2lbs
- Body Type: High Frag Steel
- Payload: 5.8lbs TNT
- Max Propelling Charge: M67 Zone 7
- Max Range 14.3km

SPECIAL FEATURES:

- Zone 7 extended range 105mm

FIELDING:

- Fielded

PRIME CONTRACTOR (Current):

- PM-CAS System Integration
- AO Iowa AAP

DODIC (C544)
105MM M927 HERA
ACQ Phase: Production & Deployment



105mm M314A3 Illum

SYSTEM DESCRIPTION:

The M314A3 is a semi-fixed illuminating cartridge which includes an M14 Cartridge Case, M28 Percussion Primer, M67 Prop Charge, a projectile which contains a pinned base plug, a black powder expelling charge, an illuminating canister with anti-rotational vanes, and a parachute assembly which 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:

- Cartridge is intended for signaling or for illuminating the battlefield

SYSTEM CHARACTERISTICS:

- NSN: 1315-01-527-4400

- Weight: 46.4lbs
- Body Type: Forged Steel
- Payload: Illuminant 1.67 lbs
- Max Propelling Charge: M67 (Zone 7)
- Maximum Range: 9.1 km
- VL Illum: 525,000 candle power
- Burn Time: 55 sec min

SPECIAL FEATURES:

- The candle assembly produces and average luminosity

FIELDING:

- Fielded

PRIME CONTRACTOR:

- GD - Canada

DODIC (C542)
105mm M314A3 Illum
ACQ Phase: Production & Deployment



105mm IR Illum M1064

SYSTEM DESCRIPTION:

The M1064 is a 105mm Infrared (IR) Illuminating Cartridge compatible with the M762 series ET fuze, M67 propelling charge, and is packaged in the PA117 Shipping Container. The XM1064 consists of a 40 gram expelling charge, illuminant canister and parachute assembly. Upon fuze function, the expelling charge 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 m/s.

CAPABILITIES:

- Provides Infrared Illumination 2.75x larger in diameter than the M314A3 visible light illumination. Improves our ability to observe the enemy at night

SYSTEM CHARACTERISTICS:

- Range: 9.1 km max, 4 km min
- Weight: Approximately 46.4lbs
- Length with fuze 32.17 inches
- Reliability: 92%
- Fill: Infrared Illumination Candle
- Mission: Infrared Illuminating Cartridge
- Payload: .65lbs of an Infrared Illuminating Composition
- Ballistically Similar to M314A3

SPECIAL FEATURES:

- Provides front line units with temporary battlefield infrared illumination to observe the movements and maneuvers of enemy forces under the cover of darkness

PRIME CONTRACTOR:

- GD-OTS: Metal parts and LAP
- Crane Army Ammunition Agency: Infrared Illumination Candle

DODIC (CA53)
Cartridge, 105mm: IR M1064
ACQ Phase: Production & Deployment



105mm M915 DPICM

SYSTEM DESCRIPTION:

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 cartridge and is most effective against light armor and enemy troop concentrations.

CAPABILITIES:

- 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

SYSTEM CHARACTERISTICS:

- 105mm DPICM Cartridge
- Weight (w/ M762A1 fuze): 42.7lbs
- Length (w/ M762A1 fuze): 36.67 in
- Cartridge Body: High Alloy Steel
- Cartridge Color: Olive drab with yellow markings
- Grenade Explosive: PAX-2A, Type II (17.2g/grenade)
- Propelling Charge: M200, Zone 8
- Max Range: 14 Km
- Status: Production Completed

SPECIAL FEATURES:

- Increases 105mm DPICM range from 10.5 Km to 14.2 Km
- Double the lethality of 105mm M444 ICM
- Adds anti-materiel capability
- Self Destruct Fuze capability

- Meets current DoD requirement of >99% reliability
- PAX-2A Type II IM explosive fill

FIELDING:

- Fielded

PRIME CONTRACTOR:

- L-3 KDI Precision Products, Cincinnati, OH - M234 e-SDF
- Day and Zimmerman Inc, Texarkana, TX - Cartridge Load, Assemble and Pack (LAP)

DODIC (CA11)
105mm M915 DPICM Cartridge
ACQ Phase: Production & Deployment





105mm M395 Blank

SYSTEM DESCRIPTION:

The 105 mm M395 blank cartridges are assembled with a loose 770 g blackpowder charge retained by a glass-fibre closing wad and a 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:

- Non-tactical rounds
- Used in ceremonies

SYSTEM CHARACTERISTICS:

- Weight: 6.24lbs
- Body Type: Brass or Aluminum
- Payload: 770g Black Powder
- Primer: M1B1A2

SPECIAL FEATURES:

- Used for saluting purposes and to simulate battlefield noise

FIELDING:

- Fielded

PRIME CONTRACTOR

- American Ordnance Iowa AAP

DODIC (C440)
105mm M395 Blank

ACQ Phase: Production & Deployment



75mm M337A2 Blank

SYSTEM DESCRIPTION:

The M337A2 consists of a cartridge case of brass or aluminum 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:

- Non-tactical rounds, used in ceremonies

SYSTEM CHARACTERISTICS:

- NSN: 1315-01-307-3944
- Weight: 3.25lbs
- Body Type: Brass or Aluminum
- Payload: 1 lb Black Powder
- Primer: M1B1A2

SPECIAL FEATURES:

- Saluting Charge

FIELDING:

- Fielded

PRIME CONTRACTOR

- American Ordnance Iowa AAP

DODIC (C025)
75mm M337A2 Blank

ACQ Phase: Production & Deployment



Cartridge, 60mm:
High Explosive
(HE), M888

SYSTEM DESCRIPTION:

The 60mm M888 Mortar High Explosive/Point Detonating (HE/PD) cartridges are designed for use with the M224 lightweight company mortar system (LWCMS) in all light infantry battalions. The M888 has the same body and propulsion system as the M720 HE/MO but uses the M935 Point Detonating Fuze. The M935 PD Fuze provides reversible selection between superquick and delay modes. The fuze contains a safety wire. The M888 was type classified in Mar 1983. The M888 is purchased only by the USMC.

CAPABILITIES:

- Compatible with 60mm M224 Light Weight Company Mortar System

SYSTEM CHARACTERISTICS:

- Range: Minimum: 67m
Maximum: 3,490m
- Rate of Fire: Max: 30
Sustained: 15

- Weight: 3.75lbs
- Length: 14.738"
- Reliability: 0.99 @ 90% C.L.
- Probable Error: Range: 75 meters max at charge 4

SPECIAL FEATURES:

- The M935 PD Fuze provides reversible selection between super quick and delay modes. The fuze contains a safety wire

FIELDING:

- Fielded

PRIME CONTRACTOR

- PM CAS System Integration
- AO, Milan , TN – LAP
- GD-OTS, Canada - LAP

DODIC (B643)

Cartridge, 60mm: High Explosive (HE), M888
ACQ Phase: Production & Deployment



Cartridge, 60mm:
High Explosive
(HE), M768

SYSTEM DESCRIPTION:

The 60mm Mortar High Explosive/Point Detonating (HE/PD) cartridges are designed for use with the M224 lightweight company mortar system (LWCMS) in all light infantry battalions including Airborne, Air Assault and Ranger. It is used the new M783 dual safety, point detonating/delay fuze, tail fin assembly, and high fragmentation steel projectile body. This round is used primarily in training because it is significantly less expensive than the M720A1, the preferred warfighting round. However, the M768 is lethal and can be used in combat.

CAPABILITIES:

- Compatible with 60mm M224 Light Weight Company Mortar System

SYSTEM CHARACTERISTICS:

- Range: Minimum: 70m
Maximum: 3,400m
- Rate of Fire: Max: 30
Sustained: 20
- Weight: 3.65lbs
- Length: 14.84"
- Reliability: 0.99 @ 90% C.L.
- Probable Error: Range: 1.5% of mean range
Deflection : 1% of mean range

SPECIAL FEATURES:

- Incorporates design changes (PAX-21 explosive, an improved M783 fuze, plastic fuze adaptor, modified PA164 Fiber or PA189 Polyfam Tube and PA124 Ammo Can) to improve Insensitive Munitions performance

FIELDING:

- Fielded

PRIME CONTRACTOR

- PM CAS System Integration
- GD-OTS, Canada – LAP

DODIC (BA17)

Cartridge, 60mm: High Explosive (HE), M768
ACQ Phase: Production & Deployment



**Cartridge, 60mm:
High Explosive
(HE), M720A1**

SYSTEM DESCRIPTION:

The M720A1 60mm High Explosive Cartridge with Multi-Option Fuze is designed for use with the M224 lightweight company mortar system in all light infantry battalions including Airborne, Air Assault and Ranger. It is used against personnel and materiel providing both fragmentation and blast effects. Enhanced Insensitive Munition Cartridge. PAX-21 is the HE replacement for Comp B. PAX-21 is less susceptible to thermal and shock than Comp B.

CAPABILITIES:

- Compatible with 60mm M224 Light
- Weight Company Mortar System

SYSTEM CHARACTERISTICS:

- Range: Minimum: 70m
Maximum: 3,400m
- Rate of Fire: Max: 30
Sustained: 20

- Weight: 3.65lbs
- Length: 14.84"
- Reliability: 98%
- Probable Error: Range: 1.5% of mean range
Deflection : 1% of mean range

SPECIAL FEATURES:

- Incorporates design changes (PAX-21 explosive, an improved M734A1 fuze, plastic fuze adaptor, modified PA164 Fiber Tube and PA124 Ammo Can) for improved IM performance

FIELDING:

- Fielded

PRIME CONTRACTOR

- PM CAS System Integration
- AO, Milan , TN – LAP
- GD-OTS, Canada - LAP

DODIC (BA16)

Cartridge, 60mm: High Explosive (HE), M720A1
ACQ Phase: Production & Deployment





Cartridge, 60mm:
Full Range Practice
(FRPC), M769

SYSTEM DESCRIPTION:

The M769 60mm FRPC is designed for use with the M224 lightweight company mortar system (LWCMS) in all light infantry battalions including Airborne, Air Assault and Ranger. 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 M769 has been designed to provide the user with realistic training at a fraction of the cost. It is identical in shape, size and weight to the M720/M720A1 HE cartridges. The flash, bang and smoke signature provided by the M775 fuze is channeled to exhaust holes in the rear of the cartridge through the use of a center vent tube.

CAPABILITIES:

- Compatible with 60mm M224 Lightweight Company Mortar System

SYSTEM CHARACTERISTICS:

- Range: Minimum: 70m
Maximum: 3,500m
- Rate of Fire: Max: 30
Sustained: 15
- Weight: 3.75lbs
- Length: 14.88"
- Reliability: 97%
- Probable Error:
Range: 1.5% of mean range
Deflection: 2.5mils
- Signature: Visible from 2000m

SPECIAL FEATURES:

- The M769 Full Range Training Cartridge is identical in shape, size, and weight as the M720/M720A1 HE rounds, and allows for realistic training at reduced cost

FIELDING:

- Fielded

PRIME CONTRACTOR

- PM CAS System Integration
- DZI, Camden , AR – LAP

DODIC (BA15)

Cartridge, 60mm: Full Range Practice Round (FRPC), M769
ACQ Phase: Production & Deployment



Cartridge, 60mm, White
Phosphorus (WP)
Smoke: M722A1

SYSTEM DESCRIPTION:

The M722A1 60mm Smoke cartridge is designed for use with the M224, 60mm Mortar System as a spotting/markings round. The steel projectile is bulk loaded with white phosphorous. When the fuze functions, it detonates the M85 burster, which ruptures the projectile and disperses the white phosphorus. The M722A1 replaced the M745 mechanical point-detonating fuze with the reliable, safe, and cost effective electronic M783 Point Detonating (PD) and Delay (DLY) fuze.

CAPABILITIES:

- Compatible with M224 60mm Lightweight Mortar System

SYSTEM CHARACTERISTICS:

- Range: Minimum: 200m
Maximum: 3,200m

- Rate of Fire: Max: 30
Sustained: 20
- Weight: 3.7lbs
- Length: 14.84"
- Reliability: 98% at 90% confidence level
- Probable Error: Range: 1.5%
Deflection: 2.5 mils

SPECIAL FEATURES:

- Body is bulk-filled with White Phosphorous, as opposed to felt wedges used on 120mm smoke mortar rounds

FIELDING:

- Fielded

PRIME CONTRACTOR:

- PM CAS System Integration
- Pine Bluff Arsenal, Arkansas for Load, Assemble and Pack

DODIC (BA14)

Cartridge, 60mm: White Phosphorous (WP), M722A1
ACQ Phase: Production & Deployment



Cartridge, 60mm:
Visible Light (VL)
Illuminating, M721

SYSTEM DESCRIPTION:

The M721 cartridge is a fin stabilized, mortar cartridge that consists of a M776 Mechanical Time Superquick (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. This 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 night vision devices (NVDs). The M721 is fired from the M224 Lightweight Mortar System and is ballistically similar to the 60mm M767 IR Illum ctg.

CAPABILITIES:

- Compatible with M224 60mm Lightweight Mortar System

SYSTEM CHARACTERISTICS:

- Range: Minimum: 200m
Maximum: 3,200m
- Rate of Fire: Max: 30
Sustained: 20
- Weight: 3.79lbs
- Length: 16.81"
- VL Illumination: 300,000 candela
- Burn Time: 32 seconds
- Reliability: 95% at 90% confidence level
- Probable Error: Range: 1.5%
Deflection: 2.5 mils

SPECIAL FEATURES:

- Provides 300,000 candelas of Visible Light

FIELDING:

- Fielded

PRIME CONTRACTOR:

- PM CAS System Integration
- Pine Bluff Arsenal, Arkansas for LAP

DODIC (B647)

Cartridge, 60mm: Visible Light Illum (VL), M721
ACQ Phase: Production & Deployment



Cartridge, 60mm:
Infrared (IR)
Illuminating, M767

SYSTEM DESCRIPTION:

The M767 cartridge is a fin stabilized, mortar cartridge that consists of a M776 Mechanical Time Superquick (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 infrared (IR) illumination. The advantage of the infrared 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 Night Vision Devices (NVD).

CAPABILITIES:

- Compatible with M224 60mm Lightweight Mortar System

SYSTEM CHARACTERISTICS:

- Range: Minimum 300m
Maximum 3,175m
- Rate of Fire: Max: 30
Sustained: 20
- Weight: 3.75lbs
- Length: 16.80"
- IR Illumination: 30 watts/steradian
- No more than 450candela VL.
- Burn Time: 40 seconds
- Reliability: 95% at 90% confidence level
- Probable Error: Range: 1.5%
Deflection: 2.5 mils

SPECIAL FEATURES:

- Provides a field of view equal or greater to that of the M721 visible light cartridge
- Compatible with all currently fielded Night Vision Devices (NVDs) and aiming/pointing devices

FIELDING:

- Fielded

PRIME CONTRACTOR:

- PM CAS System Integration
- Pine Bluff Arsenal, Arkansas for LAP

DODIC (BA04)

Cartridge, 60mm: Infrared Illuminating (IR), M767
ACQ Phase: Production & Deployment



Cartridge, 81mm:
High Explosive (HE),
M821A1/M889A1

SYSTEM DESCRIPTION:

The 81mm M821A1/M889A1 Cartridges are high explosive (HE) rounds for the 81mm M252 Mortar System. The rounds are designed for use against personnel and light materiel. The 81mm M821A1/M889A1 Cartridges consist of a fuze, a HF-1 steel projectile body loaded with approximately 2 lbs. of COMP B explosive, a plastic obturating ring, a M24 Fin, the M220 Propelling Charges, and a M299 Ignition Cartridge. These cartridges are identical, except for the fuze. The M821A1 is no longer being produced.

CAPABILITIES:

- Compatible with the 81mm M252 Mortar System

SYSTEM CHARACTERISTICS:

- M821A1 uses M734 fuze
- M889A1 uses M935 fuze
- Range: Minimum: 70m Maximum: 5,900m
- Rate of Fire: Max: 30 Sustained: 15
- Weight: 9.42lbs
- Length: 19.6"
- Reliability: 98 percent

SPECIAL FEATURES:

- Increased lethality and effectiveness (over the 81mm M821/M889 HE ammunition designed and produced by the UK)

FIELDING:

- Fielded

PRIME CONTRACTOR

- PM CAS System Integration
- GD-OTS, Canada - LAP

DODIC (C869)

Cartridge, 81mm: High Explosive (HE), M821A1/M889A1
ACQ Phase: Operational & Support



Cartridge, 81mm: High
Explosive (HE),
M821A2/M889A2

SYSTEM DESCRIPTION:

The 81mm M821A2/M889A2 Cartridges are HE rounds for the 81mm M252 Mortar System. The rounds are designed for use against personnel and light materiel. The 81mm M821A2/M889A2 Cartridges consist of a fuze, a HF-1 steel projectile body loaded with approximately 2 lbs. of COMP B explosive, a plastic obturating ring, a M24 Fin, the M220 Propelling Charges, and a M299 Ignition Cartridge. These cartridges are identical, except for the fuze model.

CAPABILITIES:

- Compatible with the 81mm M252 Mortar System

SYSTEM CHARACTERISTICS:

- M821A2 uses the M734A1 fuze
- M889A2 uses the M783 fuze
- Range: Minimum: 70m Maximum: 5,859 m
- Rate of Fire: Max: 30 Sustained: 15
- Weight: 9.42lbs
- Length: 19.6"
- Reliability: 98%

SPECIAL FEATURES:

- M734A1 Fuze is hardened against electronic counter-measures and incorporates an apex sensor (to eliminate early fuze function), plus latest technology in electronic components/circuitry design
- M783 Fuze provides dual-safe arming and increased reliability (over the 81mm M889A1 HE Ctg./M935 Fuze)
- IM enhanced booster in the M734A1 & M783 Fuzes

FIELDING:

- Fielded

PRIME CONTRACTOR

- PM CAS System Integration
- GD-OTS, Canada - LAP

DODIC (C868)

Cartridge, 81mm: High Explosive (HE), M821A2/M889A2
ACQ Phase: Production & Deployment



**Cartridge, 81mm:
Full Range Practice Cartridge
(FRPC), M879**

SYSTEM DESCRIPTION:

The M879 Full Range Practice Cartridge (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 M821 A1/M889 A1 High Explosive (HE) Cartridges at a significant cost savings. The M751 Point Detonating Practice Fuze simulates the M734 fuze and 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:

- Compatible with M252, 81mm Mortar System & 120mm insert

SYSTEM CHARACTERISTICS:

- Range: Minimum: 70m
Maximum: 5,800m
- Rate of Fire: Max: 30
Sustained: 15
- Weight: 9.1lbs
- Length: 19.55"
- Reliability: 97% at 80% confidence Level
- Effectiveness: Visual effect to allow adjustment from a range of 2500m

SPECIAL FEATURES:

- Provides the U.S. Army realistic training in place of the M821/M889 HE Ctg.
- Provides realistic ammunition handling and weapon system functional experience to the soldier at a reduced cost

FIELDING:

- Fielded

PRIME CONTRACTOR

- PM CAS System Integration
- DZI-Camden, AR - LAP

DODIC (C875)

Cartridge, 81mm: Full Range Practice Cartridge (FRPC), M879
ACQ Phase: Production & Deployment



Cartridge, 81mm:
Red Phosphorous
(RP), M819

SYSTEM DESCRIPTION:

The M819 Cartridge is a fin stabilized thin wall steel body tube containing 28 palletized red phosphorous (RP) wedges; it uses the MTSQ M772 fuze. After 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 GIAMS to absorb the phosphine gas emitted by the RP to keep the round stable.

CAPABILITIES:

- Compatible with M252 81mm Mortar System

SYSTEM CHARACTERISTICS:

- Range: Minimum: 300m
Maximum: 4,900m
- Rate of Fire: Max: 30
Sustained: 15
- Weight: 10.8lbs
- Length: 25.375"
- Burn Time: 5 minutes for 3 rounds
- Reliability: 98% at 90% confidence level
- Probable Error: Range: 1.5%
Deflection: 15 meters at all ranges
- Effectiveness: Provides 5 times the obscuration effectiveness of the 81mm M375 WP cartridge

SPECIAL FEATURES:

- Used to create smoke screens to cover movement of troops and/or disrupt visibility of enemy forces

FIELDING:

- Fielded

PRIME CONTRACTOR:

- PM CAS System Integration
- Pine Bluff Arsenal, AK for Pellet Production and LAP

DODIC (C870)

Cartridge, 81mm: Red Phosphorous (RP), M819

ACQ Phase: Production & Deployment



Cartridge, 81mm:
Visible Light (VL)
Illuminating, M853A1

SYSTEM DESCRIPTION:

The M853A1 cartridge is a fin stabilized, mortar cartridge that consists of a M772 Mechanical Time Superquick (MTSQ) 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 visible light illumination. This 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 night vision devices (NVDs). This round illuminates to the full range of the HE round, which allows adjustment of fire at any distance out to the maximum range. The M853A1 is fired from the M252 Lightweight Mortar System and is ballistically similar to the 81mm M816 IR Illum ctg.

CAPABILITIES:

- Compatible with M252 81mm Mortar

SYSTEM CHARACTERISTICS:

- Range: Minimum: 300m
Maximum: 5,050m
- Rate of Fire: Max: 30
Sustained: 15
- Weight: 9.25lbs — Length: 25.5"
- VL Illumination: 525,000 candela
- Burn Time: 50 seconds
- Reliability: 95% at 90% confidence level
- Probable Error: Range: 1%
Deflection: Less than 15 meters at all ranges

SPECIAL FEATURES:

- Provides Visible Light

FIELDING:

- Fielded

PRIME CONTRACTOR:

- PM CAS System Integration
- Pine Bluff Arsenal, Arkansas, for LAP

DODIC (C871)

Cartridge, 81mm: Visible Light (VL) Illuminating, M853A1

ACQ Phase: Production & Deployment



**Cartridge, 81mm:
Infrared (IR)
Illuminating, M816**

SYSTEM DESCRIPTION:

The M816 is fired from the M252 Improved Mortar System. The M816 cartridge is ballistically similar to the M853A1 visible light illuminating cartridge, except for the chemical composition of the illuminating material. The M816 cartridge is a fin stabilized, mortar cartridge that consists of a M772 Mechanical Time Superquick (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 infrared (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 night vision devices (NVD).

CAPABILITIES:

- Compatible with M252 81mm Mortar

SYSTEM CHARACTERISTICS:

- Range: Minimum: 1025m
Maximum: 4,925m
- Rate of Fire: Max: 30 Sustained: 15
- Weight: 9.25lbs
- Length: 25.49"
- IR Illumination: 50 watts/steradian. No more than 500candela VL
- Burn Time: 60 seconds
- Reliability: 95% at 90% confidence level
- Probable Error: Range: 1%
Deflection: Less than 15 meters at all ranges

SPECIAL FEATURES:

- Provides a field of view equal or greater to that of the M853A1 visible light cartridge
- Compatible with all currently fielded Night Vision Devices (NVDs) and aiming/ pointing devices

FIELDING:

- Fielded

PRIME CONTRACTOR:

- PM CAS System Integration
- Pine Bluff Arsenal, Arkansas for LAP

DODIC (C484)

Cartridge, 81mm: Infrared (IR) Illuminating, M816
ACQ Phase: Production & Deployment





**Cartridge, 120mm:
High Explosive
(HE), M934A1**

SYSTEM DESCRIPTION:

The M934A1 120mm HE cartridge with the M734A1 Multi-Option Fuze 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, and an aluminum M31 Fin Assembly. The propulsion system utilizes the M1020 Ignition Cartridge and 4 M234 Propelling Charges.

CAPABILITIES:

- For use with 120mm Battalion Mortar System (M121 Carrier and M120 Towed Systems)
- For use with Brigade Combat Team Mortar System

SYSTEM CHARACTERISTICS

- Range: Minimum: 200m
Maximum: 7,200m
- Rate of Fire: Max: 15
Sustained: 6
- Weight: 30lb
- Length: 27.99"
- Reliability: 97% at 90% confidence
- Probable Error: Range: 1.5%
Deflection: 1.0%
- Effectiveness: 50% improvement over 4.2" M329A2 HE
- Utilizes M1020/M234 Propulsion System to reduce residue
- Uses the M734A1 Multi-Option Fuze to improve safety with elimination of up-leg early functions

SPECIAL FEATURES:

- 50% increase in lethality over 4.2" M329A2 cartridge
- Multi-Option Fuze increases operational flexibility

FIELDING:

- Fielded

PRIME CONTRACTOR

- PM CAS System Integration
- GD-OTS, Canada - LAP

DODIC (CA04)

Cartridge, 120mm: HE, M934A1
ACQ Phase: Production & Deployment





Cartridge, 120mm:
HE, M933A1

SYSTEM DESCRIPTION:

The M933A1 120mm High Explosive (HE) cartridge with the M783 Point Detonating/ Delay (PD/DLY) Fuze is designed for use with the M120, 120mm Towed Mortar System and the M121, Carrier Mortar System. It is used against personnel, bunker and light materiel targets. It consists of a Steel Shell Body with Composition B 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 similar to the M934A1 HE cartridge, except the M934A1 uses the M734A1 Multi-Option Fuze for Mortars .

CAPABILITIES:

- For use with 120mm Battalion Mortar System (M121 Carrier and M120 Towed Systems)
- For use with Brigade Combat Team Mortar System

SYSTEM CHARACTERISTICS:

- Range: Minimum: 200m
Maximum: 7,200m
- Rate of Fire: Max: 16 rounds per minute Sustained: 4 rounds per minute
- Weight: 30.2lbs
- Length: 27.99 inches
- Reliability: 97% at 90% confidence
- Effectiveness: 50% improvement over 4.2" M329A2 HE
- Utilizes M1020/M234 Propulsion System to reduce residue
- Uses the M783 Point Detonating/Delay (PD/DLY) Fuze

SPECIAL FEATURES:

- 50% increase in lethality over 4.2" M329A2 cartridge
- This is a tactical, lower cost, cartridge that can be used for live training

FIELDING:

- Fielded

PRIME CONTRACTOR

- PM CAS System Integration
- GD-OTS, Canada - LAP

DODIC (CZ20)

Cartridge, 120mm: High Explosive (HE), M933A1
ACQ Phase: Production & Deployment



Cartridge, 120mm:
White Phosphorous
(WP) Smoke, M929

SYSTEM DESCRIPTION:

The M929 provides smoke obscuration for area targets. The cartridge is filled with 5 lbs of WP. When the fuze functions, it detonates the burster, which disperses the felt pads which are soaked with 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 (MO) Fuze XM929 with M745 point detonating fuze

CAPABILITIES:

- For use with 120mm Battalion Mortar System (M121 Carrier and M120 Towed Systems)
- For use with Brigade Combat Team, Mortar System

SYSTEM CHARACTERISTICS:

- Range: Minimum: 200m
Maximum: 7,200m
- Rate of Fire: Max: 16
Sustained: 4
- Weight: 30 lbs (includes 5 lbs WP)
- Length 27.9"
- Burn Time: Approximately 6.5 Minutes
- Reliability: 97% at 80% confidence level
- Probable Error in Range (PEr) at max range:
2 .0 % Required
PEd 1.0% Required
- Ballistically similar to the M934A1 HE, M930/M983 Illums and M931 FRP
- Effectiveness: Provides twice the obscuration effectiveness of the 4.2" M328A1 WP cartridge

SPECIAL FEATURES:

- The M929 provides twice the obscuration effectiveness of the 4.2 inch M328A1 WP smoke cartridge

FIELDING:

- Fielded

PRIME CONTRACTOR:

- PM CAS System Integration
- Pine Bluff Arsenal, Arkansas for LAP

DODIC (C624)

Cartridge, 120mm: White Phosphorous (WP) Smoke, M929
ACQ Phase: Production & Deployment



Cartridge,120mm:
Visible Light (VL)
Illuminating, M930

SYSTEM DESCRIPTION:

The M930 is fired from the M120 Towed and M121 Carrier-Mounted mortar systems. The M930 cartridge is a fin stabilized mortar cartridge that consists of a M776 Mechanical Time Superquick (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 high explosive 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 cartridge that it replaces.

CAPABILITIES:

- For use with 120mm Battalion Mortar System (M121 Carrier and M120 Towed Systems)
- For use with Brigade Combat Team-Mortar System

SYSTEM CHARACTERISTICS:

- Range: Minimum: 400m
Maximum: 6,900m
- Rate of Fire: Max: 16 Sustained: 4
- Weight: 31.4lbs
- Length: 27.67"
- VL Illumination: 1.0M candela
- Burn Time: 50 seconds
- Reliability: 95% at point estimate

SPECIAL FEATURES:

- The M930 provides 1.0M candela of visible light for a minimum time of 50 seconds

FIELDING:

- Fielded

PRIME CONTRACTOR:

- PM CAS System Integration
- Pine Bluff Arsenal, Arkansas for LAP

DODIC (C625)

Cartridge,120mm: Visible Light (VL) Illuminating, M930
ACQ Phase: Production & Deployment



Cartridge, 120mm:
Infrared Illuminating, M983

SYSTEM DESCRIPTION:

The M983 is fired from the M120 Towed and M121 Carrier-Mounted mortar systems. The M983 cartridge is ballistically similar to the M930 VL except for the chemical composition of the illuminating material, and provides a field of view equal or greater to that of the M930 VL cartridge. The M983 cartridge is a fin stabilized, mortar cartridge that consists of a M776 Mechanical Time Superquick (MTSQ) fuze, a steel 2-piece shell body, and a fin assembly. The payload is base ejected. The advantage 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 Night Vision Devices (NVDs). This round illuminates to the full range of the M934A1 HE round.

CAPABILITIES:

- For use with 120mm Battalion Mortar System (M121 Carrier and M120 Towed Systems)
- For use with Brigade Combat Team Mortar System

SYSTEM CHARACTERISTICS:

- Range: Minimum: 375m
Maximum: 6,675m
- Rate of Fire: Max: 16
Sustained: 4
- Weight: 30.6lbs — Length: 27.677"
- IR Illumination: 75 watts/steradian
- No more than 550 candela VL
- Burn Time: 50 seconds
- Reliability: 95% at 90% confidence Level
- Effectiveness: Provides a significant increase in illumination intensity and effectiveness over the 4.2-inch cartridge that it replaces

SPECIAL FEATURES:

- Provides a field of view equal or greater to that of the M930 visible light cartridge
- Compatible with all currently fielded Night Vision Devices (NVDs) and aiming/ pointing devices

FIELDING:

- Fielded

PRIME CONTRACTOR:

- PM CAS System Integration
- Pine Bluff Arsenal, Arkansas for LAP

DODIC (CA07)

Cartridge, 120mm: Infrared Illu, M983
ACQ Phase: Production & Deployment



Cartridge,120mm:
Full Range Practice Cartridge
(FRPC), M931

SYSTEM DESCRIPTION:

This Cartridge is a Full-Range Practice Cartridge for use in the 120mm, M120, M121 Battalion Mortar Systems. It provides realistic training for 120mm Mortar crews at reduced costs. The M931 is ballistically similar to the M934A1/ M933A1 cartridge. It will match the M934A1/M933A1 in size, shape and weight. The M931 is equipped with M781 PD Practice Fuze. The M781 PD Practice Fuze produces a flash, bang, and smoke signature that provides audio/visual feedback to the mortar crew and forward observer. The M931 Cartridge will not exceed 75% of the unit production cost of the M934A1/M933A1 Cartridge.

CAPABILITIES:

- For use with 120mm Battalion Mortar System (M121 Carrier and M120 Towed Systems)

SYSTEM CHARACTERISTICS:

- Range: Minimum: 200m
Maximum: 7,200m
- Rate of Fire: Max: 15
Sustained: 6
- Weight: 30lbs — Length: 27.99"
- Reliability: 97% at 80% confidence
- Effectiveness: 50% improvement over 4.2" M329A2 HE
- Utilizes M1020/M234 Propulsion System
- Equipped with M781 PD Practice Fuze, a facsimile of M734A1 Multi Option Fuze

SPECIAL FEATURES:

- Provides realistic training for 120mm Mortar crews at a reduced cost
- Equipped with M781 PD Practice Fuze, a facsimile of the M734A1 Multi-Option Fuze

- Produces a flash, bang and smoke signature that provides audio/visual feedback to the mortar crew and forward observer

FIELDING:

- Fielded

PRIME CONTRACTOR:

- GD-OTS Canada for LAP
- Pocal Industries, Scranton, PA for Fuze
- GT-OTS Scranton, PA for Shell Bodies, M1020 Ignition Cartridges
- MSI, Hebron, MD for Fuze Adapters
- Matech, Salisbury, MD for M31 Tail Fins
- AO-Milan, Milan, TN for M234 Prop Charges

DODIC (CA09)

Cartridge,120mm: Full Range Practice Cartridge (FRPC), M931
ACQ Phase: Production & Deployment



XM395 Accelerated
Precision Mortar
Initiative (APMI)

SYSTEM DESCRIPTION:

The Accelerated Precision Mortar Initiative (APMI) is a response to an Operational Need Statement (ONS) received from theater. They require a GPS guided 120mm mortar cartridge to rapidly defeat personnel targets with low collateral damage. APMI completed qualification for Urgent Material Release in Mar 2011 and achieved Initial Operational Capability in Apr 2011. It is being fielded to all BCTs in Afghanistan.

CAPABILITIES:

- Precision capability for BCTs at Battalion Level, ability to defeat targets with low collateral damage

SYSTEM CHARACTERISTICS:

- Accuracy: 10m CEP (T); 5m (O)
- Min/Max range: 1km/6.24km
- Capability: US 120mm weapons and fire control systems

SPECIAL FEATURES:

- Multi-option fuzing (proximity, point detonation, delay)
- Programmable by M95 Mortar Fire Control System or M150 MFCS-D or M32 Lightweight Handheld Mortar Ballistic Computer (LHMBC)

FIELDING:

- Fielded (Quick Reaction Capability)

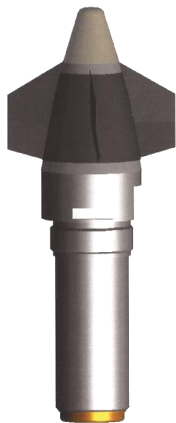
PRIME CONTRACTOR

- Alliant Tech Systems (Plymouth, MN)

DODIC (1315-CA55)

XM395 APMI

ACQ Phase: Quick Reaction Capability Program



XM1156 Precision Guidance Kit (PGK)

SYSTEM DESCRIPTION:

The PGK is a GPS guidance kit with fuzing functions for the M795 and M549A1 155mm High Explosive (HE) Artillery Projectiles. The PGK corrects the ballistic trajectory of the projectile to reduce delivery errors and thus improves projectile accuracy. The PGK will effectively reduce target delivery error of conventional artillery munitions and reduce the number of projectiles required to execute a fire mission.

CAPABILITIES:

- Accuracy: $\leq 50\text{m}$ CEP (Threshold); $\leq 30\text{m}$ (Objective)
- Reliability: $>92\%$ (Threshold); $> 97\%$ (Objective)

SYSTEM CHARACTERISTICS:

- Integrated GPS Receiver
- Standard Intrusion Fuze
- Reduced collateral damage and logistics burden

SPECIAL FEATURES:

- Compatible with 155mm HE Projectiles (M795 and M549A1) on Paladin/ M777A2 Platforms
- Inductively set with the Enhanced Portable Inductive Artillery Fuze Setter

FIELDING:

- IOC in 2QFY14

PRIME CONTRACTOR:

- TD: BAE & ATK
- EMD: ATK, Plymouth, MN

DODIC (NA28)

XM1156 Precision Guidance Kit (PGK)

ACQ Phase: Engineering & Manufacturing Development



M1155A1 Enhanced Portable Inductive Artillery Fuze Setter (EPIAFS)

SYSTEM DESCRIPTION:

The Fuze Setter: Enhanced Portable Inductive Artillery Fuze Setter (EPIAFS), M1155A1 is an electronic system consisting of three components: Setter, Platform Integration Kit (PIK), and Cable. Other cabling and interfaces are required to interface with the fire control system on the host platform. EPIAFS is currently integrated with the M109A6 Paladin Self-propelled Howitzer and the M777A2 Joint Light Weight Towed Howitzer.

CAPABILITIES:

- Used to initialize all US & NATO Fuzes
- Used to initialize the M982 Excalibur

SYSTEM CHARACTERISTICS:

- Uses Standard alkaline D-Cell or Lithium Batteries
- Compatible with NATO Standards
- RS-422 Serial Interface

SPECIAL FEATURES:

- Inductive Auto set - NATO STANAG 4369 and AOP-22
- Lighted Display (LCD)
- Confirms Fuze ID and Settings (Talk-Back)
- Compatible With All US & NATO Fuzes
- Can Be Manually Set or receive input from Fire Control
- Currently supports M762/M767 series, M782 Fuze and XM982 Excalibur

FIELDING:

- EPIAFS Fielding conducted with M777A2 Fielding and with M109A6 scheduled Retrofits
- USMC
- Canadian Forces
- Australian Forces

PRIME CONTRACTOR:

- ATK, Rocket Center, WV
- MISA (Cable Contractor), Salisbury, MD

NO DODIC

M1155A1 Enhanced Portable Inductive Artillery Fuze Setter (EPIAFS)

ACQ Phase: Production & Deployment



**M782 Multi Option Fuze
Artillery (MOFA)**

SYSTEM DESCRIPTION:

The M782 MOFA fuze 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). 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:

- Can be set to proximity, time, delay after impact, and point detonating mode

SYSTEM CHARACTERISTICS:

- Fuze Compatible with all current 105mm, and 155mm Bursting Projectiles
- Four Function Setting: Prox, Time, PD & Delay
- Reduce Logistic Burden (HOB) accuracy
- Improved Electronic Counter Measure (EMC) capability
- Rapid Inductive Set Capability
- Improve Combat Effectiveness
- Reliability: Time - 98.3%, PD - 98.2%, Prox - 98.3%, Delay - 93.7%

SPECIAL FEATURES:

- Reduced Logistics Burden
- Improved Combat Effectiveness
- Improved Height of Burst (HOB) Accuracy
- Improved Electronic Counter Measure (ECM) Resistance
- Rapid Inductive Set Capability

FIELDING:

- Fielded

PRIME CONTRACTOR:

- L3-KDI
- ATK, ABL, WV

DODIC (NA09)

M782 Multi Option Fuze Artillery (MOFA)

ACQ Phase: Production and Deployment





M739A1 PD/DLY
Fuze Artillery

SYSTEM DESCRIPTION:

The M739A1 PD/DLY 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:

- Hand set capability
- Initiates bursting fragmentation projectiles

SYSTEM CHARACTERISTICS:

- Fuze Compatible with all current 105mm, and 155mm
- Bursting Projectiles
- Two Function Setting: Point Detonation & Delay

ENHANCES:

- Extremely accurate
- 99% Reliability

SPECIAL FEATURES:

- Low Cost Fuze Solution for 105MM and 155MM Weapon Systems
- Provides exceptionally reliable impact detonation and delay capabilities
- Ready-to-go fuze for use with all modern artillery systems

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Action Manufacturing

DODIC (N340)

M739A1 Point Detonating/Delay Fuze Artillery
ACQ Phase: Production & Deployment



M762A1/M767A1
Electronic Time Fuze Artillery

SYSTEM DESCRIPTION:

The M762A1/M767A1 is an electronic fuze used with spin stabilized 105mm and 155mm artillery projectiles. The M762A1 is used with the cargo carrying projectiles. The M767A1 is similar to the M762A; however, a booster cup is attached to its base end to provide compatibility with the bursting and fragmentation 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 autoserter.

CAPABILITIES:

- Hand and Auto setting capability
- M762A1 Initiates Cargo Dispensing Projectiles
- M767A1 has booster added for initiating bursting fragmentation projectiles

SYSTEM CHARACTERISTICS:

- Fuze Compatible with all current 105mm, and 155mm
- Cargo and Bursting Projectiles
- Two Function Setting: Time, & Point Detonation

ENHANCES:

- Automated Handling
- Increase rate of fire
- Extremely accurate
- 99% Reliability

SPECIAL FEATURES:

- Low Cost Fuze Solution for 105MM and 155MM Weapon Systems
- Provides exceptionally reliable precision timed airburst (within 0.006 seconds) and impact detonation capabilities
- Auto setting capability

- Supports increase in rate of fire
- Reduces potential for setting mistakes due to human error
- Ready-to-go fuze for use with all modern artillery systems

FIELDING:

- Fielded

PRIME CONTRACTOR:

- L3-BTFF, Lancaster, PA

DODIC (NA17)

M762A1/M767A1 Electronic Time Fuze Artillery
ACQ Phase: Production & Deployment



M95/M96 Mortar Fire Control System – Mounted (MFCS-M)

SYSTEM DESCRIPTION:

Mortar Fire Control System-Mounted (MFCS-M) is a highly responsive and accurate fire control system for 120mm mortars. The system allows mortar crews to send & receive digital call for fire messages, determine the pointing and position of the weapon, and calculate ballistic solutions, providing significant enhancements in survivability, accuracy, and responsiveness. Accuracy of the mortar is also increased by a factor of 3.

CAPABILITIES:

- MFCS allows mortars to stop, fire, and move in less than one minute (no crew dismount)
- A mortar section can utilize split operations, with the crew dismount not needed, allowing for dispersed operations

SYSTEM CHARACTERISTICS:

- MFCS-M is an on-board system that integrates a fire control computer with an inertial navigation and Pointing System

SPECIAL FEATURES:

- Commander's Interface (CI): Computes ballistic solution and safety checks
- Pointing Device: Provides reference data to CI for tube orientation
- Gunner's Display: Provides fire mission information to gunner
- Driver's Display: Used to "rough lay" vehicle (+ or – 20 mils)
- Global Positioning System (GPS) Provides Vehicle location to CI
- Power Distribution Assembly: Regulates system power

FIELDING:

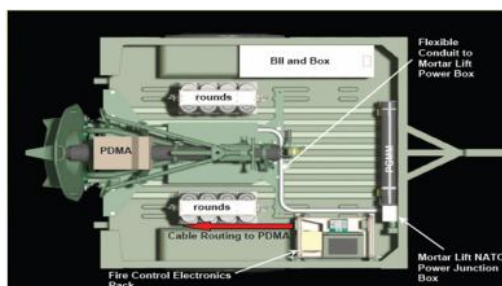
- FY09-FY12: Field : Active — 2 Bdes, 1 APS; Reserve – 2 Bdes
Reset: Active — 19 Bdes, 1 APS
Stryker Reset: Active — 6 Bdes

PRIME CONTRACTOR:

- Elbit Systems of America (Integration and Fielding)
- Honeywell Aerospace (Pointing Device)
- KVH (Drivers Display & Gunner's Display)
- Miltope (Commander's Interface)
- Milpower (Power Distribution Assembly)
- Cubic Applications (New Equipment Training)
- RDECOM-ARDEC (System Engineering and Software)

NO DODIC

M95/M96 Mortar Fire Control System - Mounted (MFCS-M)
ACQ Phase: Production & Deployment



M150/M151 Mortar Fire Control System - Dismounted (MFCS-D)

SYSTEM DESCRIPTION:

The M150/M151 MFCS-Dismounted (MFCS-D) allows mortar crews to send and receive digital call for fire messages, determine the pointing and position of the weapon, and calculate ballistic solutions. A gun can operate as the Fire Direction Center (FDC), which allows the Mortar Section to execute dispersed operations. Accuracy of the mortar is increased by a factor of 3.

CAPABILITIES:

- Increased responsiveness
- Improved accuracy/effectiveness
- Increased survivability
- Interoperability with Forward Observer System (FOS), and Advanced Field Artillery Tactical Data System (AFATDS)

SYSTEM CHARACTERISTICS:

- MFCS-D is an on-board system that integrates a fire control computer with an inertial navigation and pointing system

SPECIAL FEATURES:

- Integrates into High Mobility Multipurpose Wheeled Vehicle (HMMWV) M1101 trailer with M326 Mortar Stowage Kit (MSK).
- Allows easy setup, operation, and teardown of dismounted fire control components
- Digital connectivity with the fire support network
- Performs accurate ballistic calculations for up to 18 weapons

FIELDING:

- M150/M151 MFCS-D FY09-FY12: Active — 13 Bdes; Reserve – 20 Bdes. M326 MSK FY09-FY12: Active — 13 Bdes; Reserve – 20 Bdes

PRIME CONTRACTOR:

- Elbit Systems of America (Integration and Fielding)
- Honeywell Aerospace (Pointing Device)
- KVH (Gunner's Display)
- DRS (Fire Control Computer)
- Milpower (Enhanced Power Distribution Assembly)
- Cubic Applications (New Equipment Training)
- RDECOM-ARDEC (System Engineering and Software)

NO DODIC

M150/M151 Mortar Fire Control System - Dismounted (MFCS-D)
ACQ Phase: Production & Deployment



M32 Lightweight Handheld Mortar Ballistic Computer (LHMBC)

SYSTEM DESCRIPTION:

The M32 Lightweight Handheld Mortar Ballistic Computer (LHMBC) is a revolutionary improvement in mortar fire control capability, linking mortar fires with the digital battlefield. The LHMBC consists of modified Mortar Fire Control System software hosted on the Army Common Hardware Rugged Portable Digital Assistant (R-PDA). The R-PDA includes a tactical modem and embedded Global Positioning System (GPS). The LHMBC can be fielded to 60mm, 81mm and 120mm dismounted units as an M23 replacement.

CAPABILITIES:

- Calculates the ballistic solution for the entire family of Mortar Systems and Ammunition

- Provides ammo inventory management
- Functions as a Fire Direction Center

SYSTEM CHARACTERISTICS:

- Supports all doctrinal Mortar Missions calculating the ballistic solution for all US 60mm, 81mm and 120mm Mortar Systems and Ammunition
- Incremental Software development approach
- Provides automatic gun position via embedded GPS
- System weight < 4 lbs
- Joint development program with USMC

SPECIAL FEATURES:

- Rugged R-PDA with embedded GPS and tactical modem

- Modified Mortar Fire Control System software
- V4.0.1 Software supports Accelerated Precision Mortar Initiative (APMI)

FIELDING: FY09-FY12:

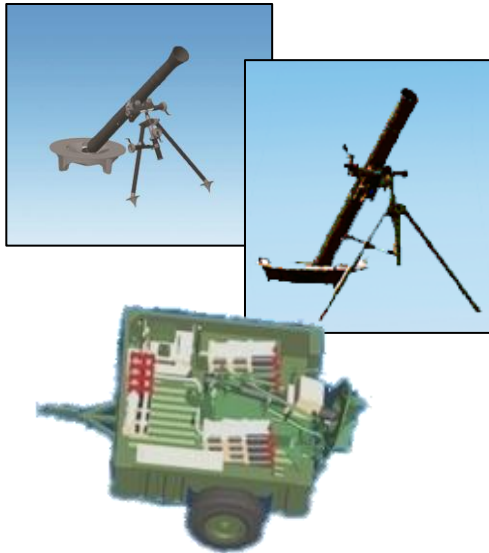
- Field : Active — 10 Bdes, Reserve — 21 Bdes Reset: Active — 25 Bdes, 1 APS Stryker Reset: Active — 5 Bdes, Reserve — 1 Bde

PRIME CONTRACTOR:

- Talla-Tech via PM CHS, CECOM (R-PDA hardware)
- Elbit Systems of America (M32 Accessory Kits)
- Cubic Applications (New Equipment Training)
- RDECOM-ARDEC (System Engineering and software)

NO DODIC

M32 Lightweight Handheld Mortar Ballistic Computer (LHMBC)
ACQ Phase: Production & Deployment



Mortar Modularity

SYSTEM DESCRIPTION:

Army Modularity has created the need for additional M120/M121 120mm, M252 81mm, and M224 60mm Mortar Systems. All are smooth bore, muzzle loaded, crew served high angle fire systems, with removable firing pins.

CAPABILITIES:

- Fielding of 120mm Mortars and Mortar Stowage Kits to Infantry Brigade Combat Teams (IBCTs) enhances Light forces lethality and range
- Arms Room concept allows Flexible, organic fire support tailored to mission profile

- Rate of fire (60mm): 30 rounds per minute max, 20 rounds sustained
- Range: 60mm: Max Range: 3.5km
- M326 Mortar Stowage Kit integrates a hydraulic lift into M1101 trailer for rapid emplacement and displacement of the M120 Mortar System

SPECIAL FEATURES:

- 60mm and 81mm Lightweight cannons, bipods and base plates reduce system weight by 20% over legacy systems

FIELDING: FY09-FY12:

- 60mm: Active — 10 Bdes; Reserve — 21 Bdes, 3 Army Reg Tng Centers; Reset Active - 21 Bdes, Reserve — 1 Bde, 1 APS, 3 Stryker
- 81mm: Active — 9 Bdes; Reserve — 13 Bdes, 2 Army Reg Tng Centers; Reset — Active- 22 Bdes, Reserve -1 Bde, 4 Stryker, 1 APS

SYSTEM CHARACTERISTICS:

- Rate of fire (120mm): 16 rounds per minute max, 4 rounds sustained
- Range: 120mm: Max Range: 7.2km
- Rate of fire (81mm): 30 rounds per minute max, 15 rounds sustained
- Range: 81mm: Max Range: 5.7km

- 120mm: Active — 9 Bdes, 2 APS Reserve — 20 Bdes; 1 Army Reg Tng Center Reset — Active -39 Bdes, 4 Stryker, 1 APS

PRIME CONTRACTOR:

- AMT (Lightweight 60mm and 81mm base plates)
- MaTech (lightweight 60mm and 81mm Bipods)
- Connectec (Basic Issue Items)
- Savit Corp. (Basic Issue Items)
- Watervliet Arsenal (Cannons, Baseplates)
- BAE (M326 Mortar Stowage Kit)
- Cubic Applications (New Equipment Training)
- RDECOM-ARDEC (System Engineering)

NO DODIC

ACQ Phase: Production & Deployment



M326 Mortar Stowage Kit (MSK)

SYSTEM DESCRIPTION:

The M326 Mortar Stowage Kit (MSK) is easily integrated into the M1101 trailer. The system allows the mortar and ammunition to be carried as a single unit

CAPABILITIES:

- Increased responsiveness (1 minute emplacement)
- Shoot & Scoot capability (2 minute displacement)
- Serves as a platform to integrate Dismounted MFCS
- Reduced crew fatigue

SYSTEM CHARACTERISTICS:

- MSK is a hydraulic powered lift system that is mounted on an M1101 trailer. It allows the crew to emplace and displace the M120 mortar system quickly and efficiently.

SPECIAL FEATURES:

- Integrates into High Mobility Multipurpose Wheeled Vehicle (HMMWV) M1101 trailer and the M150/M151 MFCS – Dismounted.
- Allows easy setup, operation, and teardown of the mortar system

FIELDING: FY09-FY12:

- Active — 13 Bdes; Reserve – 20 Bdes.

PRIME CONTRACTOR:

- BAE Systems (Integration and Fielding)
- Cubic Applications (New Equipment Training)
- RDECOM-ARDEC (System Engineering)

NO DODIC
M326 Mortar Stowage Kit (MSK)
ACQ Phase: Production & Deployment



PM

Close Combat Systems

PM

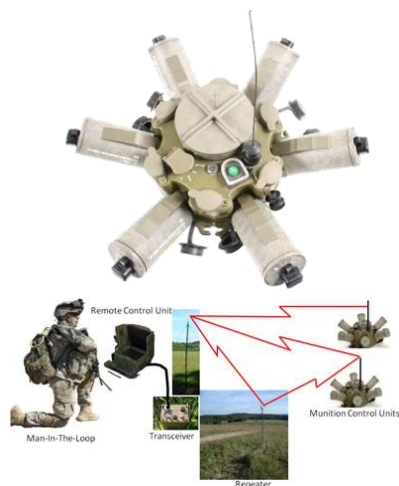
Close Combat Systems (PM CCS)

Close Combat Systems (PM CCS) provides the Warfighter world-class close combat, force protection and assured mobility capabilities across full spectrum operations through professional, integrated Joint life-cycle management. The PM is committed to helping our Soldiers maintain freedom to move on the battlefield by developing and supporting technologically advanced Networked munitions, Counter Minded, EOD Equipment, IED Defeat, Demolitions, Non-Lethal Systems and Munitions, Special Projects, Grenades, Pyrotechnics and Shoulder Launched Munitions.





Networked Munitions



**XM7 Spider
Networked Munition**

SYSTEM DESCRIPTION:

Spider is a hand emplaced, remotely controlled, Man-In-The-Loop (MITL) anti-personnel 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 changes 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:

- Provides improved munition field effectiveness equivalent to current anti-personnel landmines (APLs)

- 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 and non-line of sight
- Interoperability with the tactical internet via FBCB2

SYSTEM CHARACTERISTICS:

- Self Destruct/self deactivate
- Reuse
- Command fire (MITL)
- Prevents fratricide

SPECIAL FEATURES:

- Hasty-protective and long term barrier
- System has a ON-OFF-ON capability for safe passage and recovery/reuse

- Encryption of Spider control signals

FIELDING:

- Fielded
- Conditional MR planned for USAREUR in 1Q – 2QFY12
- TC and MR planned for 2QFY12

PRIME CONTRACTOR:

- (Joint Venture)
- Alliant Tech Systems, Plymouth, MN
- Textron Defense Systems, Wilmington, MA
- Allegany Ballistics Laboratory, Rocket City, WV

LIN: M92387

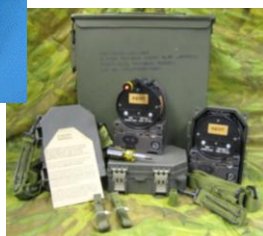
DODIC: (TS01) Miniature Grenade Launcher (MGL) XM8,
(TS02) Extended Range Tripline Sensor (ERTS) XM9,
(TS04) Munition Control Unit (MCU) XM10

ACQ Phase: Production & Deployment

M4A1 SLAM



M320A1 SIFT



Selectable Lightweight Attack Munition (SLAM) & SLAM Training KIT

SYSTEM DESCRIPTION:

SLAM's multiple operational modes increase its effectiveness against armored vehicles and various other targets. Operational modes are:

- Bottom attack - magnetic signature of target vehicle triggers SLAM
- Side attack- infrared signature of target vehicle triggers SLAM
- Time demolition - detonates at user selected time
- Command detonation - Operator initiated using standard blasting caps or modernized demolition initiators (MDI).

Because SLAM is lightweight, lethal, easily emplaced and can be carried in quantity, it is used to neutralize a broad range of battlefield targets. Its explosively formed penetrator

warhead gives SLAM the capability to engage targets at close range or at a standoff distance of up to 25 feet. A pre-planned product improvement program for the M4 began in FY03 to enhance the operations safety and productivity.

CAPABILITY/IMPROVEMENTS:

- Explosively formed penetrator perforates RHA target at range of 25 feet
- M320E1 is the functional trainer kit for M4E1

SYSTEM CHARACTERISTICS:

- Weight: 2.2 – 3 lb
- Size: Length — 5.2 in; width - 3.5 in; depth - 2.2 in

SPECIAL FEATURES:

- M2 (SOF) self neutralization
- M3 (SOF) command detonation only
- M4/M4E1 (Army) self destruction

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Alliant Tech Systems, Plymouth, MN

DODIC: MN15 (M2), MN16 (M3), MN28 (M4), MP12 (M4A1), MZ40 (M320A1)

ACQ Phase: Production & Deployment



Legacy Mines

M18A1 (J007)



M68 (J008)

**M18A1 Claymore &
M68 Inert Trainer**

SYSTEM DESCRIPTION:

The M18A1 claymore is a directional fragmentation, shotgun-like 60 degree arc blast centered around aim point. Deployed on the ground and is retrievable.

CAPABILITIES:

- To be used as a deterrent for enemy pursuit
- Used for encampment perimeter defense
- Ambush type weapon
- Can be used with the Spider Munitions System

SYSTEM CHARACTERISTICS:

- Weight: 6.635lbs (with Electric initiator configuration)
- Weight: 4.153lbs (with non electric initiator configuration). (2.482lbs reduction from electric initiator configuration)

- More than 700 ea. 1/4 in. dia. Steel balls for fragmentation
- Two fuze wells
- Built in aiming sight
- Adjustable folding scissor legs
- M4 cap and M57 initiator (Production Prior to 2005)
- Non-electric (shock tube) initiator (Production starting in 2005)

SPECIAL FEATURES:

- New production successfully change from electric to non- electric initiation

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Spectra Technologies, LLC Camden, AR

DODIC: (K143/K145/J007) M18A1 (Tactical); (K139/J008) M68 (Inert)
ACQ Phase: Production & Deployment/Operations & Support





M139 Volcano Multiple Delivery Mine System

SYSTEM DESCRIPTION:

The Volcano is a scatter-able 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 anti-tank/antipersonnel or pure anti-tank minefields with minimal personnel. Each launcher rack can hold 40 mine canisters with a 5 to 1 mix of anti-tank and antipersonnel mines or 6 anti-tank mines.

CAPABILITIES:

- Versatility: deployable from ground or air systems
- Logistics: reduces user burden to emplace minefields

SYSTEM CHARACTERISTICS:

- Common dispenser and ammunition
- Unique mounting kits for host platform: palletized (M1120 HEMMT); 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

SPECIAL FEATURES:

- Mounted on wheeled or tracked vehicle, or Black Hawk helicopter
- The Blackhawk Helicopter dispenses mines while traveling 20 to 120 knots at a Nap Of Earth altitude (20 and 150 feet)

- Lay two minefield strips, one on each side of the vehicle or aircraft to obtain desired minefield density
- Three user selectable self destruct times for anti-tank and anti-personnel mines

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Ammunition — TBD (last producer: LSAAP; Texarkana, TX)
- M139 Dispenser — Sustainment Plus DeLand, FL

LIN: D30897 (LCU); M78551 (Air Mount); M17999 (Track Vehicle Mount)

ACQ Phase: Operations & Support



M131 Modular Pack Mine System, (MOPMS)

SYSTEM DESCRIPTION:

MOPMS is a man-portable antitank/antipersonnel (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. Its 4-hour self-destruct command can be recycled three times or command detonated by remote control. The Remote Control Unit can control up to 15 MOPMS dispensers from a distance of 300 to 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:

- Mobility: deployable by all modes and uniquely tailored for light forces
- Flexibility: command detonation and SD recycling and man-portable

SYSTEM CHARACTERISTICS:

- M131 Mine Dispenser: 17 AT Mines and 4 AP Mines
- M71 Remote Control Unit
- M136 Training Dispenser

SPECIAL FEATURES:

- The only mine system with command detonation capability
- It is the only man-portable scatter-able mine system
- You can recycle the 4 hour self-destruct time three times
- Stryker Brigade required system

FIELDING:

- Fielded

PRIME CONTRACTOR:

- M131 — DZI; Texarkana, TX and Savit Corp, Parsippany, NJ

LIN: D18543 (M136 trainer); C96840 (M71 RCU)

DODIC: (K022)

ACQ Phase: Operations & Support

Demolitions





**Modernized Demolition Initiators (MDI)
M14, M15, M19 through M23**

SYSTEM DESCRIPTION:

The MDI is a suite of initiating components used to activate all standard military demolitions and explosives. Developed for the US Army Engineer School, it consists of non-electric blasting cap assemblies and booster assemblies. The suite will eventually replace all electric and non-electric firing systems for conventional forces while maintaining compatibility with existing Army systems.

CAPABILITIES:

- Initiates all standard military explosives and demolition devices

SYSTEM CHARACTERISTICS:

- Initiate C4, shaped charges, claymore mines and all new demolitions
- Initiation signal via shock tube or low strength det cord Positive Operator Control

- Prime charges under 60 ft of seawater or underground
- Easy to use; blasting cap assemblies have their activation system pre- assembled for increased reliability and reduced time on target

SPECIAL FEATURES:

- Non-electric; impervious to EMP & lightning

FIELDING:

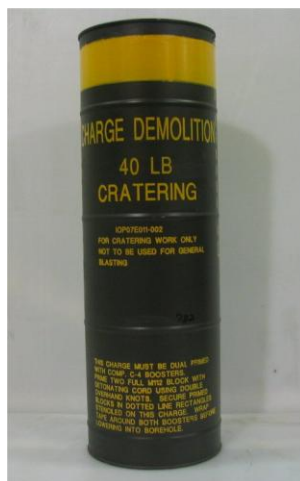
- Fielded

PRIME CONTRACTOR:

- Cap Assemblies: Shock Tube, Charlestown, RI as subsidiary to EBA&D, Simsbury, CT
- Booster Assemblies: EBA&D - Simsbury, CT
- Igniter: MAST Tech, Lake City Ammo Plant, MO

DODIC: Various

ACQ Phase: Production & Deployment



40lb Cratering Charge

SYSTEM DESCRIPTION:

The 40 lb. Cratering Charge contains 39 pounds of Comp HBX type 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.

CAPABILITIES:

- Used primarily for cratering and ditching operations

SYSTEM CHARACTERISTICS:

- Used primarily for cratering and ditching operations. It is usually employed following the use of the 15lbs or 40lbs Shaped Charge and dual primed with two M112 Demo Blocks
- Used in destroying buildings and fortifications and for overturning bridge abutments

SPECIAL FEATURES:

- Use of H-6 explosive results in less moisture sensitivity than predecessors
- Navy/Marine Corps version contains Comp A-5 booster which allows initiation via blasting caps

FIELDING:

- Fielded

PRIME CONTRACTOR:

- AO Iowa AAP, Middletown, IA

DODIC: (M039)

ACQ Phase: Production & Deployment



M112 Demolition Block

SYSTEM DESCRIPTION:

An M112 charge consists of 1.25 pounds of composition C4 packed in an olive-drab, Mylar-film container with a pressure-sensitive adhesive tape on one surface.

CAPABILITIES:

- Used primarily for cutting and breaching

SYSTEM CHARACTERISTICS:

- Used primarily for cutting and breaching. The adhesive backing allows you to place the charge on any relatively flat, clean, dry surface.
- Primary block demolition charge presently in use
- The demolition block can be cut to fit irregularly shaped targets

SPECIAL FEATURES:

- Mylar-film container with a pressure-sensitive adhesive tape on one surface

FIELDING:

- Fielded

PRIME CONTRACTOR:

- AO Milan AAP; Milan, TN

DODIC: (M023)

ACQ Phase: Production & Deployment



M21 Cutter Cartridge

SYSTEM DESCRIPTION:

Cartridge Actuated Device (CAD) is a commodity item that functions as a system component. In operation they release precise explosive energy to perform controlled work function in a variety of applications

SYSTEM CHARACTERISTICS:

- Mechanically Initiated
- 2 second delay
- 4 installed on each G11B/D
- Heavy drop aerial delivery system
- Sever reefing lines

SPECIAL FEATURES:

- Managed CAD items are specific to Army Aircrafts. This item have a set shelf life and installed life

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Indian Head, MD is the Center of
- Excellence for CAD/PAD devices and the Joint Program Office (JPO) is located there. All Army CAD/PAD procurement is through the Joint Program Management Office (JPO), Indianhead, MD

DODIC: (M500)

ACQ Phase: Production & Deployment



Detonation Cord

SYSTEM DESCRIPTION:

The Type I, Class E detonating cord consists of a core of high velocity 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.

SYSTEM CAPABILITIES:

- Detonating cord is used to prime and detonate the explosive charges
- It has a detonating velocity of 5,900 meters per seconds.

SYSTEM CHARACTERISTICS:

- Available in 500 ft and 1000 ft spool
- Has a waterproof version
- Has a canine scent version
- Inert outer coat is blue

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Ensign Bickford Co.; Simsbury, CT

DODIC: (M456), Inert (M458)

ACQ Phase: Production & Deployment



Time Blasting Fuse

SYSTEM DESCRIPTION:

A time-blasting fuse transmits a delayed spit of flame to a non-electric blasting cap, allowing a Soldier to initiate a charge and get to a safe distance before the explosion. The fuse consists of a continuous delay of black powder, tightly wrapped and enclosed by an inner cover of jute yarn counter wound with cotton yarn, and covered by a thin cover of bitumen which in turn is covered on the outside by an extruded plastic sheath. The fuse is olive drab with yellow single band 14 inches wide every 18 inches and double yellow band every 90 inches.

CAPABILITIES:

- Initiates M7 blasting cap
- The burn rate is 36 to 44 seconds per foot

SYSTEM CHARACTERISTICS:

- When the fuse is ignited, the flame travels through the core of black powder towards the blasting cap and detonates it on contact
- 50 ft spool

SPECIAL FEATURES:

- Waterproof

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Ensign Bickford; Simsbury, CT

DODIC: (M670)

ACQ Phase: Production & Deployment



**M183 Demolition
Charge Assembly**

SYSTEM DESCRIPTION:

The M183 Demolition charge assembly or satchel charge is used primarily in breaching obstacles or demolition of large structures where large charges are required. The M183 consists of 16 M112 C-4 Demolition Charges per kit, 4 priming assembly's per kit, One M85 carrying case and 2 bags each containing 8 M112 charges.

CAPABILITIES:

- Used primarily for breaching obstacles and demolition of large structures where large charges are required

SYSTEM CHARACTERISTICS:

- Used primarily for breaching obstacles and demolition of large structures

- The M112 charge is used primarily for cutting and breaching. The adhesive backing allows you to place the charge on any relatively flat, clean, dry surface. The M112 charge is the primary block demolition charge presently in use
- The demolition block can be cut to fit irregularly shaped targets. Molding the charge can decrease its cutting effect

SPECIAL FEATURES:

- 16 M112 charges per kit
- 4 priming assembly per kit
- One M85 carrying case
- 2 bags each containing 8 M112. For a total of 20 lbs of explosives

FIELDING:

- Fielded

PRIME CONTRACTOR:

- US Army
- Crane Army Ammunition Activity (CAAA), Crane, Indiana

DODIC: (M757)

ACQ Phase: Production & Deployment



60lb Shock Test Charge

SYSTEM DESCRIPTION:

The 60-lb Shock Test Charge consists of 60 lbs of HBX-1 explosive packed in a Polypropylene charge container. A Pentolite 50/50 booster is secured to the top of the container. 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.

SYSTEM CHARACTERISTICS:

- The 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

SPECIAL FEATURES:

- Polypropylene has replaced the original steel case configuration

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Indian Head Division, Naval Surface Warfare Center Yorktown, VA
- Crane Army Ammo Plant

DODIC: (XW65)

ACQ Phase: Production & Deployment



**Demolition
Sheet Charges**

SYSTEM DESCRIPTION:

Sheets of flexible explosive per MIL-PRF-46676 comes in various lengths and thicknesses. The sheets are easily cut to desired shape and applied with adhesive. Sheets can be quickly applied to irregular and curved surfaces and is used as a cutting charge against steel, trees, and targets of irregular shape.

SYSTEM CHARACTERISTICS:

- Easily cut to any dimension
- Used as small breaching charge

SPECIAL FEATURES:

- Flexible explosive contains taggant for detection purposes

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Ensign-Bickford, Graham, KY
(Configuration Management by Navy)

DODIC: Various

ACQ Phase: Production & Deployment



**Demolition Roll Charge,
3in x 1/4 in x 50ft**

SYSTEM DESCRIPTION:

M060 Flexible Sheet Explosive is packed three rolls per box and is 3 in wide x 1/4 thick x 50 ft long on a spool. It can easily be cut to desired shape and applied with adhesive. Sheets can be quickly applied to irregular and curved surfaces and is used as a cutting charge against steel, trees, and targets of irregular shape.

SYSTEM CHARACTERISTICS:

- Easily cut to any dimension
- Used as small breaching charge

SPECIAL FEATURES:

- M060 Flexible sheet explosive packed three rolls per box
- M060 roll is 3 in wide x 1/4 thick x 50 ft long on a spool
- Flexible explosive contains taggant for detection purposes

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Ensign-Bickford, Graham KY

DODIC: (M060)

ACQ Phase: Production & Deployment



**M1A3 Bangalore Torpedo
Demolition Kit**

SYSTEM DESCRIPTION:

This man-portable device is used to clear a 0.6 meter path for dismounted infantry or engineer troops. The M1A2 has 10 tubes approx. 10.5 lb each with comp B4 and 1 lb comp A3 booster surrounding a cap wells at each end, connecting sleeves, and nose sleeve. The M1A3 Bangalore Torpedo Kit has 8 - 2.5 foot long tubes filled with 4.6 lbs of Comp B4 and ½ lb. of Comp A3 booster at each end.

CAPABILITIES:

- It clears a path 1.5 meters wide through barbed wire entanglements
- Used for most anti-personal and anti-tank mines

SYSTEM CHARACTERISTICS:

- When the charge is detonated, the resultant blast from the shock wave clears a narrow path through a minefield or barbed wire entanglement. It clears a path 3 to 4 meters wide through barbed wire entanglements. Along with most anti-personnel and anti-tank mines

SPECIAL FEATURES:

- M1A2 consists of: 10 tubes, connecting sleeves and nose sleeves
- M1A3 consists of 8 tubes, 8 connecting sleeves and two nose sleeves

FIELDING:

- M1A3 Deliveries going to Depot
- M1A2 Out of production
- No future Requirements

DODIC: (M028) M1A2, (MP03) M1A3
ACQ Phase: Production & Deployment



**MK7 Anti-Personnel Obstacle
Breaching System,(APOBS)**

SYSTEM DESCRIPTION:

APOBS enables dismounted Soldiers to rapidly clear a footpath through both Anti-personnel mines and complex multi-strand wire obstacles from a 35 meter standoff position. This two-man portable system provides the United States Army and Marine Corps with a partial replacement for the Bangalore Torpedo. APOBS is a Joint Program with the USMC as the lead service. APOBS is an ACAT III program.

SYSTEM CHARACTERISTICS:

- Two man portable rocket propelled line charge 45 meters in length
- Clears a footpath through Wire Obstacles & Anti- personnel 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

SPECIAL FEATURES:

- Neutralizes anti-personnel landmines
- Severs high strength multi-strand wire
- Unique fragmentation munitions
- Insensitive munitions

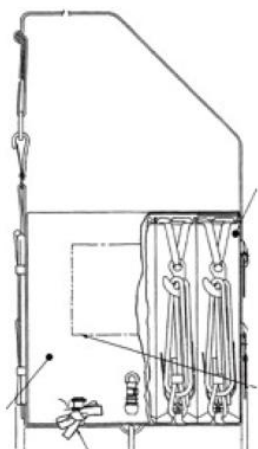
FIELDING:

- Fielded

PRIME CONTRACTOR:

- Chemring Ordnance. Perry. FL

DODIC: (MN79)
ACQ Phase: Production & Deployment



**MK 138 1 Demolition
Assembly Charge**

SYSTEM DESCRIPTION:

The Demolition Assembly Charge is used for underwater demolitions. It is a charge cloth satchel containing 10 MK 35 C4 blocks and a floatation bladder. Each block is pressed around 3 ft of detonation cord with an additional 3 ft extending from each end.

SYSTEM CHARACTERISTICS:

- A satchel charge with 10, 2 pound C4 blocks

SPECIAL FEATURES:

- Floatation bladder can be inflated/ deflated for use in water
- Integral detonation cord allows reliable detonation continuity when used under water
- hooks and straps included so items can be towed by swimmers

FIELDING:

- Fielded

DODIC: (M792)

ACQ Phase: Operations & Support



**M10 Universal
Destructor**

SYSTEM DESCRIPTION:

The M10 Universal Destructor mates to and detonates unfuzed mortar, artillery rounds and bombs. It is a threaded metal tube loaded with composition A-3 explosive and is initiated via blasting cap or M1 Activator.

SYSTEM CHARACTERISTICS:

- Used for rigging for emergency demolition of ammunition supply points
- Secondary use as component of anti-tamper devices

SPECIAL FEATURES:

- Three thread diameters to mate with various artillery, mortar and bomb bodies (1.5", 1.7", 2.0")
- Compatible with blasting caps or the M1 Activator

FIELDING:

- Fielded

DODIC: (M241)

ACQ Phase: Operations & Support



M7 Non-Electric Blasting Cap

SYSTEM DESCRIPTION:

This non-electric blasting cap is used with 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.

SYSTEM CHARACTERISTICS:

- Weight : .004 kg
- Burst Radius: 25 meters
- Basic Load: 20
- Load Weight: .08 kg
- Packaging: 3,600 per case
- Package Weight.: 51.5 kg

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Stressau Labs; Spooner, WI

SPECIAL FEATURES:

- 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
- The flared end facilitates insertion of time-blasting fuse or detonating cord

DODIC: (M131)



M142 Firing Device

SYSTEM DESCRIPTION:

The M142 Firing device performs the function of activating booby traps, mines and demolition charges. They cause the initiation either directly or through its effect on a blasting cap, electric squib, or detonating cord. It may be electrical, mechanical, or electromechanical.

SYSTEM CHARACTERISTICS:

- The M142 FD can be designed to function in the following modes:
- Pressure: 15-25lbs min. to function
- Pressure release: 4lbs min. pre-load function at release of 2lbs)
- Tension: 4-9lbs min
- Tension release: 3+/- .25lbs

SPECIAL FEATURES:

- Output of M42 primer will initiate time fuze or shock tube

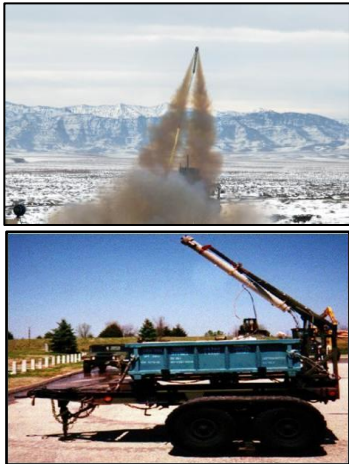
FIELDING:

- Fielded

PRIME CONTRACTOR:

- Bulova Technologies, Mayo, FL

DODIC: (ML03)



M68A2 Inert Mine Clearing Line Charge

SYSTEM DESCRIPTION:

The M68 is an inert, reusable, training version of the M68 Linear Charge (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:

- Training

FIELDING:

- Fielded

SYSTEM CHARACTERISTICS:

- 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

PRIME CONTRACTOR:

- American Ordnance, Milan, TN

SPECIAL FEATURES:

- Inert MICLIC is used to simulate the firing of a M68 Line Charge. The inert charge is deployed by use of a Mk22 5 inch rocket motor

DODIC: (M914)

ACQ Phase: Operations & Support



MK 23/MK 24 Powder Actuated Cutter

SYSTEM DESCRIPTION:

These cutters can be primed for either electrical or non-electrical firing. After the charge is prepared for firing, operation of the source of power activates a blasting cap or another applicable priming system which, in turn, initiates the booster, which, in turn, initiates the main charge. The resulting shock wave inverts the steel ballistic disk and propels it toward the target.

CAPABILITIES:

- Used for cutting or disrupting techniques against ordnance items

- Two T-slots hold the stand and sighting device to the case
- Base plug contains a 1-inch cylindrical CH-6 booster encased in an aluminum cup, and a blasting cap well
- Rubber retention grommet holds in place and the breakaway tab and protects the well
- The only difference between the MK 23 and MK 24 is the size; the MK 23 has a 38-millimeter (1.50-inch)-diameter ballistic disk, while the MK 24 has a 76-millimeter (3.00 inch)-diameter disk

SPECIAL FEATURES:

- Primed for either electrical or non-electrical firing
- MK 23 has a 38-millimeter (1.50-inch)-diameter ballistic disk
- MK 24 has a 76-millimeter (3.00 inch)-diameter disk

FIELDING:

- Army EOD and other services only

PRIME CONTRACTOR:

- Crane Army Ammunition Activity

DODIC: (ML04) Mk23, (ML05) Mk24

ACQ Phase: Operations & Support

M3A1



M2A4

Shaped Charges

SYSTEM DESCRIPTION:

These charges are shaped so as to concentrate their explosive force in a particular direction. They use high explosives 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 8km/second. PM CCS manages two shape types of Demolition Charges: Linearly Shaped, which are used to remotely low-order initiate (blow apart rather than detonate) or cut open explosive ordnance devices in order to render them safe to handle or transport and Conically Shaped, which are used for boring holes in earth, metal, masonry, concrete and paved and unpaved roads.

CAPABILITIES:

- M2A4/M3A1: Primary use: blast craters in paved and unpaved roads and boring holes in metals, masonry or concrete

SYSTEM CHARACTERISTICS:

- **M2A4:** Contains a 6-inch stand-off, 11.5 lb Comp B main charge and .11 lb A3 booster
- **M3A1:** Contains a 15-inch stand-off, 29.5 lb Comp B main charge and .11 lb Comp A3 booster.

SPECIAL FEATURES:

- Insensitive Munitions (IM) Effort in progress

FIELDING:

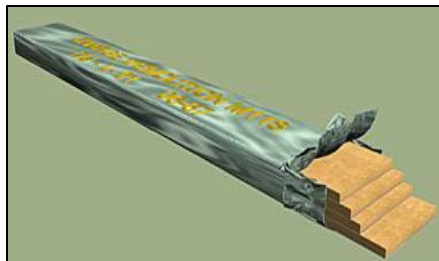
- Fielded

PRIME CONTRACTOR:

- Day & Zimmermann Inc. Parsons, KS

DODIC: (M420) M2A4, (M421) M3A1
ACQ Phase: Operations & Support





M118 Block Demolition Charge, 2LB

SYSTEM DESCRIPTION:

The M118 is used as a cutting charge against steel targets. It consists of four ½ pound sheets of flexible explosive packed in a plastic envelope. Each sheet is approximately 3 in x 12 in x ¼ in thick and has a pressure sensitive adhesive tape attached to one surface.

CAPABILITIES:

- Used as a cutting charge against steel targets
- The type of demolition achieved depends on the placement of the charge relative to the target

SYSTEM CHARACTERISTICS:

- Sheets can be quickly applied to irregular and curved surfaces
- Easily cut to any dimension
- Used as a cutting charge against steel targets
- Used as small breaching charge

SPECIAL FEATURES:

- Four ½ lb sheets of flexible explosive packed in plastic envelope
- Used as a cutting charge against steel targets
- Sheet: 3 in x 12 in by ¼ inch thick

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Ensign-Bickford, Graham KY

DODIC: (M024)

ACQ Phase: Operations & Support



Mk 75 Mod 0 Tubular Demolition Charge

SYSTEM DESCRIPTION:

The Mk 75 is used as a cutting charge against underwater impediments such as Coral and Sand Bars. It consists of fifty pounds of flexible explosive formed in a 25 ft long 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.

SYSTEM 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

SPECIAL FEATURES:

- Fifty lbs of flexible explosive formed in a hollow tube
- Used as a blasting charge against underwater impediments

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Ensign-Bickford, Graham KY

DODIC: (MW84)

ACQ Phase: Operations & Support



TNT Block Demolition Charge

SYSTEM DESCRIPTION:

The TNT charges are effective for all types of demolition work. It is available in three sizes. The 1/4 -pound block is issued in a cylindrical, waterproof, yellow polyethylene container with a threaded Cap well in one end. The 1/2 -pound and 1-pound blocks are available in rectangular, waterproof, olive drab cardboard containers with metal ends, a threaded cap well in one end. Quantifying a alternate container made from green polypropylene

CAPABILITY/IMPROVEMENTS:

- Well suited for cutting or breaching hard surfaces except special steel cutting applications

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Spectra Technologies, LLC East Camden, AR

DODIC: (M030) 1/4lb, (M031) 1/2lb, (M032) 1lb
ACQ Phase: Operations & Support





**M58 Mine Clearing
Line Charge (MICLIC)**

SYSTEM DESCRIPTION:

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 meter long, 8 meters wide. The MICLIC is effective against single pulse, pressure fuzed mines. The line charge does not defeat blast hardened or complex fused 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.

CAPABILITY/IMPROVEMENTS:

- Defeat minefield threats during tactical breaching operations

SYSTEM CHARACTERISTICS:

- 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

SPECIAL FEATURES:

- The MICLIC is an engineer obstacle breaching tool used to defeat mine field obstacles. The line charge is deployed by use of a Mk22 5-inch rocket motor

FIELDING:

- Fielded

PRIME CONTRACTOR:

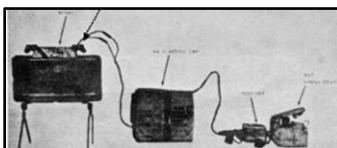
- No Active Contract
- New contract planned for FY11
- Last Producer: American Ordnance, Milan, TN

DODIC: (M913)

ACQ Phase: Operations & Support



Blasting Cap



SYSTEM DESCRIPTION:

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.

SYSTEM CHARACTERISTICS:

- The M6 Electric Blasting Cap is used to initiate high explosives with a blasting machine or other source of electric power.

FIELDING:

- Fielded

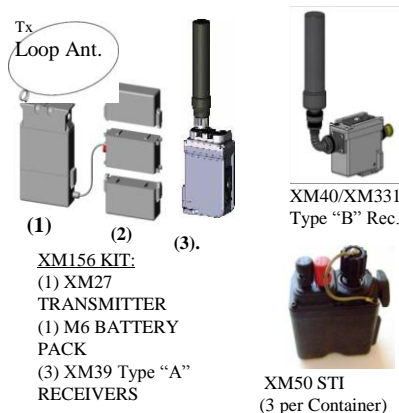
PRIME CONTRACTOR:

- Stressau Labs; Spooner, WI

DODIC: (M130)

ACQ Phase: Operations & Support

M6 Electric Blasting Cap



M156 Magneto Inductive (MI) – Remote Activation Munition System (RAMS)



M152 Remote Activation Munition System (RAMS)

SYSTEM DESCRIPTION:

The Remote Firing Device which can provide reliable wireless initiation of demolition charges through all medium not accessible by RF. The MI transmitter uses patented circuits to efficiently create and modulate large amplitude AC magnetic fields. An AC magnetic field induces an (EMF) voltage in a coil antenna. The MI receiver amplifies and filters the induced voltage, demodulates the signal, and produces an output.

CAPABILITY/IMPROVEMENTS:

- MI fields will penetrate natural or man-made media such as air, water, caves, earth or building structures. Not vulnerable to the reflection, refraction or scattering encountered by radio, optical or acoustic waves

- The XM39 Receiver is capable of functioning the XM50 Shock Tube Initiator (STI) which initiates MDI

SYSTEM CHARACTERISTICS:

- Transmitter generates an AC magnetic dipole field
- Penetrates all natural Media (air, water, earth, rock & caves) and man-made structures
- MI-RAMS range: 200 m through All natural media
- Employment time of 15 days
- Simultaneously firing any-number of MI-RAMS receivers
- Light weight and man portable.
- Uses commercial batteries

SPECIAL FEATURES:

- Interface with RF RAMS for greater standoff of 2-5 km line of sight
- Remote operation of equipment such as beacons, laser markers, ground marking lights, etc.

FIELDING:

- M156 - Fielded
- M156 Kit -TC Std - Fielded
- XM40/XM331 TC planned 3QFY14
- XM50 TC planned 1QFY12

PRIME CONTRACTOR:

- Ultra Electronics, San Bernardino, CA

DODIC: (MP24)

ACQ Phase: Production & Deployment

SYSTEM DESCRIPTION:

RAMS is a secure, radio-controlled system designed to remotely control demolition charges. RAMS gives the user a remote control capability to destroy, delay, and disrupt an enemy while avoiding direct contact. The M152 and the MK152 consist of one transmitter and six receivers, which provide an electrical output. Prior to engagement, operators can perform a full power range data link test to make sure all signals are active through an automatic self-test that is built into the transmitter and receivers. All operations are verified to the user via LED.

CAPABILITY/IMPROVEMENTS:

- M26 Transmitter: up to 2- 5 km range
- M16 Receiver: electrical output for M6 blasting caps
- M17 Receiver: explosive output for M7 Blasting Caps
- M85 Trainer: trainer for M17 Receiver

SYSTEM CHARACTERISTICS:

- Transmitter weight: 1.2 pounds
- Transmitter volume: 8 cubic inches
- Receiver weight: 1.3 pounds
- Receiver volume: 29 cubic inches
- Temperature range: -25 degrees to +135 degrees F
- Receiver output
- M16 & Mk16: fires multiple M6 Electric Blasting Caps
- M17: fires M7 Non-electric Blasting Cap
- XM50: Shock Tube Initiator, attaches to M16 and MK16 Receivers

SPECIAL FEATURES:

- The M152 is a remote firing device produced for the Special Forces
- MK152 version is used by the Marines Corps and ARMY EOD

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Raytheon Technical Services Company, Indianapolis, IN

LIN: F91210

ACQ Phase: Production & Deployment



**MK152 Remote Activation
Munition System (RAMS)**

SYSTEM DESCRIPTION:

The Mk152 provides EOD Soldiers with the capability to remotely dispose of UXO's in all geography area and weather conditions and maintains supportable remote demo capability for EOD. The MK152 consists of a pocket size radio transmitter, battery retainer, low light source flashlight, and family of receivers for remote activation of demolition and sabotage devices. The system replaces the existing M122 Demolition Firing Device, but offers reduced size with enhanced flexibility in programming and application.

SYSTEM CHARACTERISTICS:

A remotely controlled, demolition firing device for initiating electric blasting caps. MK152 Remote Activation Munitions System (RAMS) consists of one MK26 Transmitter and six MK16 receivers. Transmitter is capable of programming receivers to seven unique codes

SPECIAL FEATURES:

- All transmitters and receivers are water resistant and can be safely submerged down to 66 ft in sea water

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Raytheon Technical Service Center
Indianapolis, IN

LIN: F60336

ACQ Phase: Operations & Support



**M153 Time Delay Sympathetic
Detonator (TD-SYDET)
& M316 Inert (TD-SYDET)**

SYSTEM DESCRIPTION:

The M153 provides the capability of time delay functioning of explosive charges or sympathetic simultaneous detonation of numerous explosive charges/munitions in the same general vicinity through the command and control of only one charge, eliminating the necessity of physically linking them together. The TD-SYDET consists of the M153 tactical and its inert trainer, the M316.

SYSTEM CHARACTERISTICS:

- Less time on target
- Time delay/sympathetic modes can be set in relative or absolute times
- Only secondary explosive used in fire train
- Pre-assembled demolition packages

SPECIAL FEATURES:

- Item possess a relative/countdown timer and an absolute timer

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Raytheon Technical Service Center
Indianapolis, IN

DODIC: (MN91)

ACQ Phase: Production & Deployment



**M303 Special Operations
Forces Demolition Kit**

SYSTEM DESCRIPTION:

The Special Operations Forces Demolition Kit (SDK) contains a variety of inert items that are field loaded by the user to make charges that can be used against numerous targets and mission scenarios. With this dynamic system developed for the Special Operations Command, SDK has the capability to tailor charges to the target by using a variety of inert charges. The operator assembles a charge for a specific target using SDK components and C4 or other moldable explosives. The kit provides several methods of attaching charges/munitions to targets. The SDK allows the operator to construct the smallest, lightest charge feasible with the greatest standoff distance attainable, and maximum precision for numerous types of targets and mission scenarios.

CAPABILITY/IMPROVEMENTS:

- Penetration of a variety of rolled homogenous armor and other targets at standoff ranges

SYSTEM CHARACTERISTICS:

- Flexibility to select the appropriate demolition device for the mission
- Availability of a variety of attachment Devices
- Ease in transportation
- Ability to attack at close range or at a standoff distance.
- Maximum precision
- Effective on multiple targets and mission scenarios

SPECIAL FEATURES:

- Explosively Formed Penetrator (Field Loaded) for defeating targets at ranges
- Variety of other field loaded explosive charges and attachment devices

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Raytheon Technical Services Center, Indianapolis, IN





Pyrotechnics - Signals - Flares



M212
Countermeasure Flare

SYSTEM DESCRIPTION:

The M212 is a multi-spectral decoy flare utilizing the standard M206 1"x1"x8" form factor extruded aluminum case cartridge. It contains a brass forward closure, which acts as a weight to improve the aerodynamics of the decoy, and a cast propellant grain. The flare also contains a safe and initiate device (S&I) which uses a BKNO3 pellet used to ignite the flare pellet once the S&I has left the case cartridge.

CAPABILITY/IMPROVEMENTS:

- Provides IR countermeasure protection against state of the art missiles

SYSTEM CHARACTERISTICS:

- Output – classified
- Spectral matching

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Kilgore, Toone, TN

DODIC: (LA15)

ACQ Phase: Production & Deployment



M211 Infrared
Countermeasure Flare

SYSTEM DESCRIPTION:

The M211 is a IR decoy utilizing the standard M206 1"x1"x8" form factor extruded aluminum case cartridge. Major parts of the decoy devices are the case with impulse cartridge cup, the piston, the special material payload foils, and the end cap.

CAPABILITY/IMPROVEMENTS:

- Provides IR countermeasure protection against state of the art missiles

SYSTEM CHARACTERISTICS:

- Output – classified
- Spectral matching

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Alloy Surface; Chester Twp, PA

DODIC: (LA14)

ACQ Phase: Production & Deployment



**M206 Aircraft
Countermeasure Flare**

SYSTEM DESCRIPTION:

The M206 flare consists of an eight-inch aluminum rectangular case which houses the magnesium/teflon flare pellet, piston, and end cap. The flanged base cartridge has a preformed indentation for insertion of the M796 Impulse Cartridge. Fired by electrical impulse, the impulse cartridge expels the M206 from a aircraft mounted flare dispenser. The ignited magnesium composition produces a high temperature IR signature. The burning M206 expelled from aircraft flare dispenser produces an IR signature which serves as a heat seeking decoy for heat seeking surface-to-air missiles and air-to-air missiles fired upon the aircraft. The Army and Air Force use the M206.

CAPABILITY/IMPROVEMENTS:

- Magnesium/teflon Composition
- Provides high temperature IR signature decoy

SYSTEM CHARACTERISTICS:

- Candle is magnesium/teflon composition
- Fire from aircraft mounted dispenser
- Provides high temp IR signature decoy
- Counters heat seeking missiles

SPECIAL FEATURES:

- Teflon composition
- Fires from A/C mounted dispenser
- Part of advanced infra-red countermeasure system used on A/C deployed to AOR

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Kilgore, Toone, TN
- Armtec Defense, East Camden, AR and Kilgore, TN

DODIC: (L410)

ACQ Phase: Production & Deployment



M127A1 Hand Held Signal

SYSTEM DESCRIPTION:

The M127A1 Hand Held Signal is a white star illuminant parachute suspended and propelled by a fin stabilized rocket motor propulsion assembly. This signal is activated by striking the base of the signal with the palm of the hand which drives 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. This signal has the largest Army training requirement of all the hand-held signals. The high candlepower intensity lends the M127A1 to battlefield illumination applications.

CAPABILITY/IMPROVEMENTS:

- Primarily used for battlefield illumination and distress and troop placement

SYSTEM CHARACTERISTICS:

- Length: 10.16 in
- Weight: 1.2 lb
- Distress and troop location signaling and battlefield illuminant
- Candlepower is 90,000 for 25 sec
- White star illuminant parachute suspended
- Propelled by a fin stabilized rocket motor
- Altitude is 725 ft. (average)

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Security Signals, Cordova, TN

DODIC: (L312)

ACQ Phase: Production & Deployment



M125A1 Hand Held Signal

SYSTEM DESCRIPTION:

The M125A1 Hand Held Signal consists of a five star green cluster illuminant assembly and a rocket motor propulsion. The base of the launching tube houses the primer and initiating charge which serves as the actuating device when struck with the palm of the hand. 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.

CAPABILITY/IMPROVEMENTS:

- Primarily used for battlefield illumination and distress and troop placement
- Consists of a five-star white cluster illuminant assembly and a rocket motor propulsion assembly

SYSTEM CHARACTERISTICS:

- Length: 10.16 in.
- Primarily use for signaling among ground troops and aircraft
- Candlepower is 9,000 for 6-10 sec
- Five star green cluster
- Propelled by fin stabilized rocket motor
- Altitude is 725 ft. (average)

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Security Signals; Cordova, TN

DODIC: (L314)

ACQ Phase: Production & Deployment



M49A1 Trip Flare

SYSTEM DESCRIPTION:

The trip flare consists of an illuminant assembly, cover loading assembly, and mounting bracket assembly. The illuminant assembly has an aluminum case containing an ignition increment and three illuminant increments. The waterproof cover loading assembly contains a percussion primer, intermediate charge and a spring loaded striker. The mounting bracket holds the illuminant assembly in the position desired. Two carriage bolts with wing nuts are provided to tighten the sleeve, and a flange with two nail holes included for vertical mounting. The base of the bracket is pointed for in-ground installation. The trigger is attached to the exterior of the mounting bracket.

The lever is hinged to the cover and is held in position by the safety clip when unarmed. The flare is armed by attaching a trip wire to either the trigger or pull pin.

CAPABILITY/IMPROVEMENTS:

- Defense perimeter warning
- Bracket allows assembly to be held in position desired.
- Can spring loaded striker

SYSTEM CHARACTERISTICS:

- Provides warning of defense perimeter infiltration by illuminating the field
- Light intensity is 35,000 candlepower for one minute
- Charge is an illuminate composition
- Trip wire activates a firing pin to strike the primer to ignite the charge

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Chemring Ordinance, Perry, FL

DODIC: (M495)

ACQ Phase: Production & Deployment



M159 Hand Held Signal

SYSTEM DESCRIPTION:

The M159 Hand Held Signal consists of a five-star white cluster illuminant assembly and a rocket motor propulsion assembly. The base of the launching tube houses a primer and initiating charge which serves as an actuating device when struck with the palm of the hand. 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.

CAPABILITY/IMPROVEMENTS:

- Primarily used for battlefield illuminant and distress and troop placement
- Signal consists of a five-star white cluster illuminant assembly and a rocket motor propulsion assembly

SYSTEM CHARACTERISTICS:

- Length: 10.16 in
- Primarily use for battlefield illumination and distress and troop placement
- Candlepower is 30,000 for 6-10 sec
- Five star white cluster
- Propelled by fin stabilized rocket motor
- Altitude is 725 ft (average)
- Flare Composition: 29.5% Magnesium; 49% Barium Nitrate; 16.5% Strontium Nitrate; 5% Binder
- Hazard Class/Net Energetic Weight: 1.3G/0.145150 Kg

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Security Signals, Cordova, TN

DODIC: (L307)

ACQ Phase: Production & Deployment



M158 Hand Held Signal

SYSTEM DESCRIPTION:

The M158 Hand Held Signal consists of a five-star red cluster illuminant assembly and a rocket motor propulsion assembly. The base of the launching tube houses a primer and initiating charge which serves as an actuating device when struck with the palm of the hand. 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. two simultaneous MTW's.

CAPABILITY/IMPROVEMENTS:

- Primarily used for battlefield illumination and distress and troop placement
- Consists of a five-star red cluster illuminant assembly and propelled by a fin stabilized rocket motor

SYSTEM CHARACTERISTICS:

- Length: 10.16 in
- Candlepower is 30,000 for 6-10 sec
- Five star red cluster
- Flare Composition: 33% Magnesium; 48% Strontium Nitrate; 15% Polyvinyl Chloride; 4% Binder
- Hazard Class/Net Energetic weight: 1.3G/0.126099 Kg

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Security Signals; Cordova, TN

DODIC: (L306)

ACQ Phase: Production & Deployment



M126A1 Hand Held Signal

SYSTEM DESCRIPTION:

The M126A1 Hand Held Signal is a red star illuminant parachute suspended and propelled by a fin stabilized rocket motor propulsion assembly. This signal is activated by striking the base of the signal with the palm of the hand which drives 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.

CAPABILITY/IMPROVEMENTS:

- Primarily used for battlefield illumination and distress and troop placement
- Signal is a red star illuminant parachute suspended and propelled by a fin stabilized rocket motor propulsion assembly

SYSTEM CHARACTERISTICS:

- Length: 10.16 in
- Distress and troop location signaling and battlefield illumination
- Candlepower is 10,000 for 50 sec
- Red star illum parachute suspended
- Propelled by a fin stabilized rocket motor
- Altitude is 725 ft. (average)

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Security Signals; Cordova, TN

DODIC: (L311)

ACQ Phase: Production & Deployment



M195 Hand Held Signal

SYSTEM DESCRIPTION:

The M195 Hand Held Signal is a green star illuminant parachute suspended and propelled by a fin stabilized rocket motor propulsion assembly. This signal is activated by striking the base of the signal with the palm of the hand which drives 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

CAPABILITY/IMPROVEMENTS:

- Primarily used for battlefield illumination and distress and troop placement
- Signal is a green star illuminant parachute suspended and propelled by a fin stabilized rocket motor propulsion assembly

SYSTEM CHARACTERISTICS:

- Length: 10.16 in
- Weight: 1.2 lb
- Candlepower is 5,000 for 50 sec
- Propelled by a fin stabilized rocket motor
- Altitude: 725 ft (average)

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Security Signals; Cordova, TN

DODIC: (L305)

ACQ Phase: Production & Deployment



**A/P25S-5 Personnel
Distress Signal Kit**



**BU-35/B Impulse Cartridge
& M796 Impulse Cartridge**

SYSTEM DESCRIPTION:

The A/P25S-5 Signal kit is a distress signaling device used by downed airmen or others exposed to emergency escape and 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. The signals consist of small solid propellant rocket motors actuated by a percussion primer, a delay element, and a pyrotechnic candle in a metal case. The surface of the case is dyed red, to match the color of the candle. The projector is black anodized aluminum, 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. This item is used by the Air Force.

CAPABILITY/IMPROVEMENTS:

- Used as a distress signal for exposed individuals for emergency escape and evasion

SYSTEM CHARACTERISTICS:

- Used in emergency escape and evasion Situations
- Altitude 600 ft
- Burn time 10 sec
- Candlepower 10,000
- Visible for 15 —20 miles
- Part of survival kit vest type

SPECIAL FEATURES:

- This item is used by the Army and Air Force to signal location and communicate a distress situation
- Dense foliage penetration capability

- The kit includes a hand fired launcher, a bandoleer assembly, and seven red signals
- Replaces the M185, Personnel Distress RED & M186 Personnel Distress Multi with additional capability

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Security Signals; Cordova, TN
- Propellant: Talley Defense Systems; Mesa, AZ

DODIC: (L119)

ACQ Phase: Production & Deployment

SYSTEM DESCRIPTION:

The cartridge is a three piece injection molded unit consisting of a 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 magnesium teflon composition is coated with a first fire position that accelerates ignition of the pellet. This pellet is placed in a cardboard tube within the simulator and provides the flash and smoke upon functioning. The bang composition is composed of sixty milligrams of loose magnesium Teflon powder and is loaded into the Bang composition chamber.

CAPABILITY/IMPROVEMENTS:

- A preformed pellet of magnesium teflon composition is coated with a first fire position that accelerates ignition of the pellet

SYSTEM CHARACTERISTICS:

- Used to initiate several types of munitions (M206, M211, M212 flares) and M839 decoy
- Electrically initiated
- Main charge is HPC-1 Propellant

SPECIAL FEATURES:

- Accepts a standard MIL-Spec primer
- Ejects M1 & M839 Chaff and M211 Decoy
- Ejects and ignites M206, and M212 Flares

FIELDING:

- Fielded

PRIME CONTRACTOR:

- BBU-35/B Impulse Cartridge— TEK Ord. MN
- M796 Impulse Cartridge — TEK Ordnance, MN

DODIC: (MD73), (MG62)

ACQ Phase: Production & Deployment



Pyrotechnics - Simulators



**M34 Hostile Fire Simulator
Cartridge**



**M35 Target Hit Simulator
Cartridge**

SYSTEM DESCRIPTION:

The M34 Hostile Fire Cartridge simulates the acoustic (bang) and optical (orange flash and white smoke) signature of tank main gun firing. The M34 is fired from the Omega 60 Battlefield Effects Simulator (BES) which replaces the Armor Target Kill Simulator (ATKS) on gunnery ranges.

CAPABILITY/IMPROVEMENTS:

- Produces a flash and a bang simulating the firing of a main battle tank
- Cartridge used in the OMEGA 60/B2 Battlefield Effects Simulator (BES)
- OMEGA 60/B2 to be fielded on new instrumented range complexes and as a replacement on ATKs ranges
- Emits an orange flash and white smoke visible at 1800 meters

SYSTEM CHARACTERISTICS:

- Simulates large caliber gun fire
- Fired from (BES)
- Emits orange flash with white smoke visible at 1800 meters

SPECIAL FEATURES:

- Simulates the bang, flash and smoke signature of Main Tank Gun Weapon

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Chemring Ordnance, Perry, FL

DODIC: (LA54)

ACQ Phase: Production & Deployment

SYSTEM DESCRIPTION:

The M35 Target Hit Simulator Cartridge main charge consists of 10-12 pellets, which when ignited pop up 1800 meters simulating a strike on an armored target hit (8-12 white burning stars). The Target Hit Simulator cartridge is fired from ground mounted Omega 60 Battlefield Effects Simulator (BES).

CAPABILITY/IMPROVEMENTS:

- Cartridge used in the OMEGA 60/B2 (BES)
- OMEGA 60/B2 to be fielded on new instrumented range complexes and as a replacement on ATKs ranges
- Simulates a target hit signal
- Emits 8-12 white burning stars visible at 1800 meters

SYSTEM CHARACTERISTICS:

- Simulates a strike or target hit signal
- Fired from Battlefield Effects Simulator (BES)
- Emits 8-12 white burning stars
- Stars visible at 1800 meters

SPECIAL FEATURES:

- Fired from BES, Ground Mounted

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Martin Electronics Incorporated, Perry, FL

DDIDIC: (LA53)

ACQ Phase: Production & Deployment



**M115A2
Projectile Ground
Burst Simulator**

SYSTEM DESCRIPTION:

The M115A2 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 quick match in the whistle assembly and subsequently 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 battle noises and battlefield effects — 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.

CAPABILITY/IMPROVEMENTS:

- Produces a whistle followed by a flash and bang

SYSTEM CHARACTERISTICS:

- Used to simulate battle noise and battle effects — shells in flight & explosions
- Training only
- Cylindrical paper tube containing a photoflash and whistle

SPECIAL FEATURES:

- Simulator consists of a cylindrical paper tube containing a photoflash charge and whistle assembly

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Pyrotechnics by Grucci Inc

DODIC: (L594)

ACQ Phase: Operation & Support



**M116A1 Hand
Grenade Simulator**

SYSTEM DESCRIPTION:

The M116A1 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 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.

CAPABILITY/IMPROVEMENTS:

- After a 6 to 10 second delay, the safety fuse ignites photoflash charge which explodes producing a flash and a loud report

SYSTEM CHARACTERISTICS:

- Used to simulate battle noise and battle effects
- Training only, hand thrown
- Cylindrical paper tube containing a photoflash charge
- Produces a flash and loud report

SPECIAL FEATURES:

- Simulator consists of a cylindrical paper tube containing a photoflash

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Pyrotechnic by Grucci Inc.

DODIC: (L601)

ACQ Phase: Operation & Support



**M74A1 Projectile
Airburst Simulator**

SYSTEM DESCRIPTION:

The M74A1 is intended primarily for umpires to simulate air burst of artillery fire for training troops. It is fired from the pyrotechnic pistol AN-M8. The simulator consists of a one-piece outer aluminum case, a black powder propelling charge, and a closed cylindrical aluminum case containing a boron-barium chromate delay fuse and a black powder-aluminum flash charge. An M39A1 Percussion primer is located in the base of the outer case and extends into the propelling charge which, in turn, is in contact with the delay fuse. When fired, the primer ignites the propelling charge. This ignites the delay fuse and propels the inner case of the flash charge out of the outer case.

After a delay of 2 to 3 seconds, the fuse ignites the flash charge, which produces a bright flash and loud noise. The fragments from the inner case lose velocity quickly and are so small that they become harmless in a relatively short distance.

CAPABILITY/IMPROVEMENTS:

- Produces a flash and bang
- Displays at 100 ft altitude

SYSTEM CHARACTERISTICS:

- Used to simulate artillery airburst
- Fired from a pyrotechnic pistol AN-M8
- Altitude is 100 ft
- Produces a flash and loud noise
- Resembles a shotgun shell

SPECIAL FEATURES:

- Used to simulate artillery airburst
- Fired from AN-M8 Pyrotechnic Pistol

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Chemring Ordnance, Perry, FI

DODIC: (L366)

ACQ Phase: Operation & Support



**M31A1 Direct/Indirect
Fire Cue Simulator**

SYSTEM DESCRIPTION:

The M 31A1 Simulator consists of a cylindrical plastic case containing Ignition, flash and bang charge and stars, seal with a 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 Simulator (DIFCUE) firing device when mounted on armor vehicles. When the M31A1 is ignited, a flash bang and smoke cloud occurs and the stars are ejected to a height of forty-five (45) to sixty (60) feet. The M30 stars, flash and smoke is visible at a distance of 1500 meters. The report (sound) does not exceed 140 decibels at a distance of 5 meters. The M31A1 simulator is a pyrotechnic training device that will be 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.

CAPABILITY/IMPROVEMENTS:

- Simulates a target hit with a shower of sparks

SYSTEM CHARACTERISTICS:

- Simulates a hit/kill by direct/indirect fire in a training environment (NTC/Home Station)
- Stars are ejected to a height of 45-60 ft
- Flash & Smoke visible @ 1500 Meters

SPECIAL FEATURES:

- Direct-Indirect Fire CUE (DIFCUE) Firing Unit (FU) contains up to thirty M31A1 Cartridges DIFCUE Firing Unit mounted on M1s, M2s, M3s, M109A6s, M577s, M578, LAVs
- Cartridge simulates the flash, smoke, and star cluster effect of incoming fire

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Chemring, Germany

DODIC: (LA07)

ACQ Phase: Operation & Support



**M117 Flash Booby
Trap Simulator**

SYSTEM DESCRIPTION:

The flash simulator M117 consists of a cylindrical body (outer tube) and a flat, metal nailing bracket which extends from one end of the body. The body is 0.98 inch in diameter and, without nailing bracket, 2.25 inches long. The nailing bracket increases the length to 3.90 inches. An inner tube of approximately half the body diameter is located within the body and houses the charge composition. The assembly used for initiating the charge is located in the space between the inner and outer tubes. This assembly consists of a strip of paper coated with a friction-sensitive composition and folded into a pad so that the coated surfaces are face-to-face. The pad is attached to the inner tube. Over the top of the pad is a strip of felt held in place, under light pressure,

by adhesive tape wrapped around the inner tube. A length of pull cord runs between the coated surfaces of the pad. One end of the pull cord is covered with friction composition; the other end is coiled and placed in the end of the body opposite the nailing bracket. A paper cap, held on by a strip of tape, covers this end of the simulator.

CAPABILITY/IMPROVEMENTS:

- Produces an explosion and flash

SYSTEM CHARACTERISTICS:

- Used to simulate booby traps during maneuvers
- Used to teach troops installation, detection and caution
- Cylindrical paper tube containing a photoflash charge and trip wire
- Produces a flash and bang

SPECIAL FEATURES:

- Simulate Booby Traps in training scenarios
- Produces a flash and bang

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Bulova Technologies

DODIC: (L598)

ACQ Phase: Operation & Support



**M119 Booby Trap
Whistling Simulator**

SYSTEM DESCRIPTION:

The M119 Booby Trap Whistling Simulator consists of a cylindrical body (outer tube) and a flat, metal nailing bracket which extends from one end of the body. The body is 0.98 inch in diameter and, without nailing bracket, 2.8 inches long. The nailing bracket increases the length to 4.4 inches. An inner tube of approximately half the body diameter is located within the body and houses the charge composition. The assembly used for initiating the charge is located in the space between the inner and outer tubes. This assembly consists of a strip of paper coated with a friction-sensitive composition and folded into a pad so that the coated surfaces are face-to-face. The pad is attached to the inner tube. Over

the top of the pad is a strip of felt held in place, under light pressure, by adhesive tape wrapped around the inner tube. A length of pull cord runs between the coated surfaces of the pad. One end of the pull cord is covered with friction composition; the other end is coiled and placed in the end of the body opposite the nailing bracket. A paper cap, held on by a strip of tape, covers this end of the simulator.

CAPABILITY/IMPROVEMENTS:

- Produces a whistling sound for 4-5 seconds

SYSTEM CHARACTERISTICS:

- Used to simulate booby traps during maneuvers
- Used in training to teach the installation detection and use of booby traps and to install caution in troops exposed to traps set by the enemy

- Cylindrical paper tube containing a potassium perchlorate charge and trip wire
- Produces a whistling sound for 4-5 seconds

SPECIAL FEATURES:

- Simulate booby traps in training scenarios
- Produces a 4-5 sec. whistling noise

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Bulova Technologies

DODIC: (L600)

ACQ Phase: Operation & Support



M30 Main Tank Gun Simulator

SYSTEM DESCRIPTION:

The M30 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 armor 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 a distance of 3000 meters, and a Thermal Imaging Optics Detection (TIOD), which is visible at a distance of 3000 meters. The report (sound) does not exceed 140 decibels at a distance of 26 meters. The M30 Tank Main 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 will be fielded at Combined Arms Centers and home stations world-wide to enhance training realism and maintain a high level of readiness through effective training.

CAPABILITY/IMPROVEMENTS:

- Produces a flash and smoke simulating a Main Gun firing

SYSTEM CHARACTERISTICS:

- Carries a simulated UBL and simulates a Main Gun Firing Signature
- Flash & Smoke Visible at 3000 Meters

SPECIAL FEATURES:

- Main Gun Signature Simulator (MGSS) Firing Unit (FU) contains up to sixty M30 cartridges
- MGSS firing units mounted on M1 tanks, Paladin howitzers and OPFOR tanks
- Cartridge simulates the flash, bang and smoke of a main gun firing

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Chemring, Germany

DODIC: (LA06)

ACQ Phase: Operation & Support



M118 Illuminating Booby Trap Simulator

SYSTEM DESCRIPTION:

The M118 Illuminating Booby Trap Simulator consists of a cylindrical body (outer tube) and a flat, metal nailing bracket which extends from one end of the body. The body is 0.98 inch in diameter and, without nailing bracket, 2.25 inches long. The nailing bracket increases the length to 3.9 inches. An inner tube of approximately half the body diameter is located within the body and houses the charge composition. The assembly used for initiating the charge is located in the space between the inner and outer tubes. This assembly consists of a strip of paper coated with a friction-sensitive composition and folded into a pad so that the coated surfaces are face-to-face. The pad is attached to the inner tube. Over

the top of the pad is a strip of felt held in place, under light pressure, by adhesive tape wrapped around the inner tube. A length of pull cord runs between the coated surfaces of the pad. One end of the pull cord is covered with friction composition; the other end is coiled and placed in the end of the body opposite the nailing bracket. A paper cap, held on by a strip of tape, covers this end of the simulator.

CAPABILITY/IMPROVEMENTS:

- Produces illumination for 28 seconds minimum

SYSTEM CHARACTERISTICS:

- Used to simulate booby traps during maneuvers

- Used to teach troops installation, detection and caution
- Cylindrical paper tube containing a black powder charge and trip wire
- Produces illumination for 28 seconds minimum

SPECIAL FEATURES:

- Simulate booby traps in training scenarios
- Produces a light source for 28 seconds min

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Bulova Technologies
Plymouth, MN

DODIC: (L599)

ACQ Phase: Operation & Support



**M27 Anti-Tank Guided
Missile Signature Simulator**

SYSTEM DESCRIPTION:

The Antitank Guided Missile Signature Simulator (ATGMSS) is used during live fire training exercises to simulate enemy antitank missile. The ATGMSS consists of a paper tube body with polyurethane foam nose and tail cone. The rocket motor is in cylindrical form within the paper tube. A hole is provided in the tail section for a guide rod on the simulator. The ATGMSS is inserted onto a launcher with the guide rod of the launcher going through the tail cone guide hole. An Electric Match (M79) is inserted into the missile. The electric match ignites the rocket motor and the simulator travels approximately 1500 meters down range.

CAPABILITY/IMPROVEMENTS:

- Simulate enemy antitank fire missile attack

SYSTEM CHARACTERISTICS:

- Used to simulate enemy antitank missile fire during live fire training exercises
- Cylindrical cardboard tube 15 inches Long
- Travels down range approximately 1500 meters

SPECIAL FEATURES:

- Used to simulate enemy antitank missiles during live fire training Exercises
- Travels approximately 1500 meters down range

FIELDING:

- Fielded

DODIC: (L715)

ACQ Phase: Operation & Support



M79 Electric Match

SYSTEM DESCRIPTION:

The Electric Match Igniter is used to remotely initiate the M27 Antitank 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 Joanel 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.

CAPABILITY/IMPROVEMENTS:

- The igniter composition burns sufficiently to ignite the M27 ATGMSS

SYSTEM CHARACTERISTICS:

- Used to initiate the M27 Antitank Guided Missile Signature Simulator (ATGMSS)
- 3 inch long polypropylene tube & cap assembly
- Burns for approximately 20 seconds

SPECIAL FEATURES:

- Used to remotely initiate the M27 ATGMSS

FIELDING:

- Fielded

PRIME CONTRACTOR:

- MAST Technology, Inc.

DODIC: (MN60)

ACQ Phase: Operation & Support

Shoulder Launched Munitions





**M136A1 AT4 Confined
Space (CS) Reduced
Sensitivity (RS)**

SYSTEM DESCRIPTION:

The AT4CS 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. 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:

The AT4CS provides the individual dismounted Soldier with the operational capability to engage and defeat armored/lightly armored vehicles from a confined or enclosed space.

SYSTEM CHARACTERISTICS:

- Weight 7.5 kg
- Length 1.04 m
- Effective range is 15m to 300m
- Penetration capabilities up to 500mm RHA
- Fire from enclosure, air droppable, no maintenance

SPECIAL FEATURES:

- Reduced Sensitivity (RS) version with IM explosive
- High Penetration (HP) version available
- Tandem Warhead (TW) version available
- 9mm and 20mm sub-caliber trainers available
- MIL STD 1913 compatible "Picatinny Rail"

FIELDING:

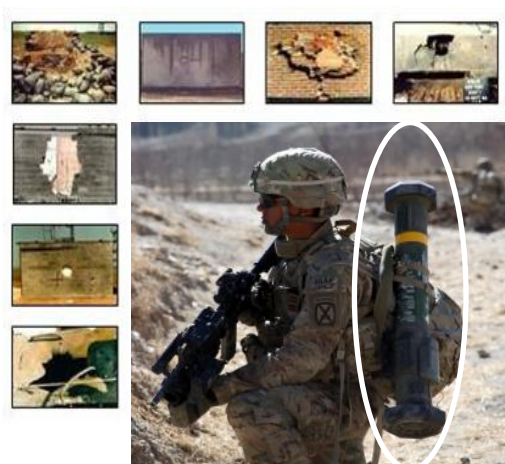
- Fielded

PRIME CONTRACTOR:

- Saab Bofors Dynamics, Karlskoga, Sweden

DODIC: (CA30)

ACQ Phase: Production & Deployment



**M141 Bunker Defeat
Munition (BDM)**

SYSTEM DESCRIPTION:

The M141 BDM is a stand-alone, man-portable, shoulder launched munition. The munition consists of an 83mm High Explosive Dual Purpose warhead on a free-flight rocket packaged and sealed in an expendable, lightweight launcher. Each launcher has an integral night vision device mount that accepts any sight or laser aiming light with rail-grabber attachment. The BDM utilizes a unique fuze that automatically selects the warhead fast or long delay detonation mode without gunner selection.

CAPABILITIES:

The BDM provides the individual dismounted Soldier with the operational capability to incapacitate personnel located within structures such as buildings, fixed facilities, earth and timber fortifications (bunkers), caves, and behind masonry walls.

SYSTEM CHARACTERISTICS:

- Carry length: 812 mm
- Firing length: 1,372 mm
- Effective range: 15 m – 250 m
- Carry weight: 7.26 kg
- Fuze: Mk 420 Dual Safe
- Direct fire, man-portable, no maintenance, night vision capable, air deployable

SPECIAL FEATURES:

- Compatible "Picatinny Rail"
- Marksmanship trainer prototype available – BDM 21mm sub-caliber trainer launcher.

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Nammo-Talley, Inc., Mesa, AZ

DODIC: (HA08)

ACQ Phase: Production & Deployment



**Sub-Caliber Training
Round for the AT4**

SYSTEM DESCRIPTION:

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 (NSN 1305-01-214-8684). Current configuration uses a red tip with a blue stripe as tip identification (NSN 1305-01-307-5536). It is used in AT4 LAUNCHER with M287 9MM TRACER BULLET TRAINING DEVICE ONLY. Both models have the head-stamp of manufacturer and year.

CAPABILITIES:

- 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

CHARACTERISTICS:

- Length: 29.7 mm
- Weight: 150 grams
- Projectile range: 1800 m
- Tracer range: 450 m
- Fired from the M287 trainer, the velocity and trajectory match that of the AT4, produces less noise and no back blast

SPECIAL FEATURES:

- Low cost alternative to train soldiers on AT4

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Ammunition Accessories, Inc., Lewiston, ID

DODIC: (A358)

ACQ Phase: Operations & Support



**M72 Light Anti-Armor
Weapon (LAW)**

SYSTEM DESCRIPTION:

The M72 Light Anti-armor Weapon (LAW) is a compact, ultra-lightweight, single shot, disposable munition optimized to defeat lightly armored vehicles and other hard targets at close combat ranges with a 66mm shaped charge warhead. The improved M72 LAW Family of Munitions offer significantly enhanced capability beyond that of the combat-proven M72A3. The improvements include a higher velocity rocket motor extending the weapon's effective range, a suite of increased lethality warheads, easier trigger release force, rifle type sight system, and better overall system reliability and safety. The latest anti-armor version, designated M72A7, utilizes a qualified IM explosive- fill and other product improvements.

CAPABILITIES:

- The M72 LAW provides the individual, dismounted Soldier with an ultra- lightweight alternative to existing shoulder launched munitions for conditions where mobility is critical. The M72 LAW Family of Munitions will be used to engage threat personnel in the open or behind protective barriers such as hasty fighting positions, light clad masonry walls and light vehicles.

SYSTEM CHARACTERISTICS:

- Carry length: 775 mm
- Firing length: 980 mm
- Effective range: 25 m – 220 m
- Carry weight: 3.63 kg
- Fuze: M412A1 Point Initiating Base Detonating
- M72A7 Armor Penetration: 150 mm RHA

SPECIAL FEATURES:

- Compatible "Picatinny Rail"
- Marksmanship Trainer Prototype available – 21mm sub-caliber trainer launcher, M72AS
- Family of warheads available for alternative effects

FIELDING:

- Fielding complete for M72A3
- Limited production and fielding of M72A7 to support Army Operational Need Statements

PRIME CONTRACTOR:

- Nammo-Talley, Inc. , Mesa, AZ

DODIC: (HA29)

ACQ Phase: Operations & Support



M136 AT4
Anti-Armor weapon

SYSTEM DESCRIPTION:

The AT4 consists of a 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. 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 AT4CS M136A1.

CAPABILITIES:

- The AT4 has been the Army's primary light anti-armor weapon for the light infantry. The AT4 provides the individual dismounted Soldier with the operational capability to engage and defeat armored/lightly armored vehicles.

SYSTEM CHARACTERISTICS:

- Effective range: 300m
- Penetrates: 450mm RHA
- Weight: 6.72 kg
- Length: 1.0m

SPECIAL FEATURES:

- 9mm and 20mm sub-caliber trainers available

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Saab Bofors Dynamics, Karlskoga, Sweden

DODIC: (C995)

ACQ Phase: Operations & Support



Grenades



**M228 Practice Fuze****SYSTEM DESCRIPTION:**

The M228 Practice 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.

CAPABILITY/IMPROVEMENTS:

- Used with M69 grenade body to replicate M67 fragmenting hand grenade in training

SYSTEM CHARACTERISTICS:

- Used for hand grenade training with M69 Grenade body
- 4 - 5.5 second delay
- Emits audible signal and white smoke charge

FIELDING:

- Fielded

PRIME CONTRACTOR:

- ChemRing; Perry, FL
- ATK, Rocket City, WV

DODIC: (G878)

ACQ Phase: Production & Deployment

**M18 Smoke Grenades****SYSTEM DESCRIPTION:**

The M18 color smoke hand grenades are used for ground-to-air or ground-to-ground signaling. The grenade may be filled with any one of four smoke colors: green, yellow, red or violet. Each grenade will emit smoke for 50 to 90 seconds. The grenade body is of thin sheet metal and is filled with a red, green, yellow or violet smoke composition. The filler is topped with a starter mix. The hand grenade fuze M201A1 is a pyrotechnic delay-igniting fuze. The 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 spread.

CAPABILITY/IMPROVEMENTS:

- Emits smoke 50 - 90 seconds
- Can be thrown 35 meters by an average Soldier

SYSTEM CHARACTERISTICS:

- Used for ground to air and ground to ground signaling
- Emits smoke 50 - 90 seconds
- Uses a pyrotechnic delay-igniting fuze (M201A1)

FIELDING:

- Fielded

PRIME CONTRACTOR:

- LAP: Pine Bluff Arsenal (PBA); Pine Bluff, AR
- Body & Lid: Technical Products; Tool Masters Inc, AL
- Fuze: ChemRing; Perry, FL
- Dye producer: Nation Ford Chemical, SC

DODIC: (G940), (G945), (G950), (G955)

ACQ Phase: Production & Deployment



**M67 Fragmentation
Hand Grenade**

SYSTEM DESCRIPTION:

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 high-explosive, composition B. Each grenade is fitted with a fuze that initiates the explosive charge. The M67 grenade uses the M213 fuze which is a pyrotechnic delay detonating device. The delay detonating device gives the soldier 4 to 5 seconds of separation after release of the safety lever.

CAPABILITY/IMPROVEMENTS:

- Can be thrown 40 meters by an average Soldier
- Effective casualty-producing radius is 15 meters
- Fragments can disperse as far away as 230 meters

SYSTEM CHARACTERISTICS:

- Supplements small arm fire
- Uses pyro/delay detonating fuze
- 4 - 5.5 sec delay
- 5.5 oz HE Comp B
- Original Type Classification in 1968,
- Re-Type Classified 1972

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Prime: Day and Zimmerman (DZI), Philadelphia, PA
- LAP: Day and Zimmerman (DZI), Lone Star, TX

DODIC: (G881)

ACQ Phase: Production & Deployment



**M83 White Smoke
Hand Grenade**

SYSTEM DESCRIPTION:

The M83 White Smoke Hand Grenade simulates the effects of the M18 Smoke Hand Grenade. It offers a realistic replication that can be used to train ground-to-ground or ground-to-air signaling, target or landing zone marking or unit movement screening. The M83 grenade is the tactical replacement for the AN-M8 HC Smoke Grenade

CAPABILITY/IMPROVEMENTS:

- Emits smoke 50 — 90 seconds
- Can be thrown 35 meters by an average Soldier

SYSTEM CHARACTERISTICS:

- Sheet metal cylinder (2.5 in diameter , 5.7 in long)
- 11 oz of terephthalic acid
- 16 oz in weight
- No safety clip
- Emits white smoke for 25-70 seconds

- Tactical replacement for AN-M8 H
- Smoke grenade
- Used for ground-to-air and ground-to- ground signaling
- Uses a pyrotechnic delay-igniting fuze (M201A1)

SPECIAL FEATURES:

- Emits white smoke

FIELDING:

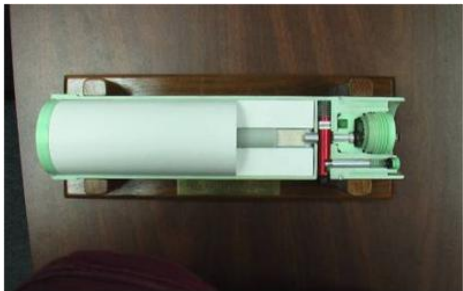
- Fielded

PRIME CONTRACTOR:

- LAP: Pine Bluff Arsenal; Pine Bluff, AR
- Body & Lid: Tool Master, Inc, AL
- Fuze: ChemRing; Perry, FL

DODIC: (G982)

ACQ Phase: Production & Deployment



M82 Simulant
Screening Smoke Grenade

SYSTEM DESCRIPTION:

The M82 Simulant Screening Smoke Grenade is a soft launched 66mm grenade that is used with the M250, M239, M243 and similar grenade launchers. M82 provides armored and tactical vehicles with a dispersed white smoke screen within two seconds after deployment.

CAPABILITY/IMPROVEMENTS:

- Emits smoke 45-60 seconds

SYSTEM CHARACTERISTICS:

- Soft launched 66mm grenade
- Used with the M250, M239, M243 and similar grenade launchers
- Simulant screening with white smoke two seconds after deployment

SPECIAL FEATURES:

- Used with grenade launcher
- Dispenses white smoke

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Pine Bluff Arsenal, Pine Bluff, AR

DODIC: (G978)

ACQ Phase: Production & Deployment



M8 Practice Screening
Smoke Pot

SYSTEM DESCRIPTION:

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.

CAPABILITY/IMPROVEMENTS:

- Floating pot
- Smoke obscuration
- Duration of the smoke screen is 280 seconds

SYSTEM CHARACTERISTICS:

- Floating pot
- 25 lbs. of TA mix
- Total weight of 38 lbs.
- Training for M4A2

SPECIAL FEATURES:

- Floating pot

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Pine Bluff Arsenal, Pine Bluff, AR

DODIC: (K511)

ACQ Phase: Production & Deployment



**AN-M14 TH3 Incendiary
Hand Grenade**

SYSTEM DESCRIPTION:

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 AN-M14 incendiary hand grenade employs the M201A1 fuze.

CAPABILITY/IMPROVEMENTS:

- Original design could 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

SYSTEM CHARACTERISTICS:

- Weighs approximately 32 oz.
- Filler: 26.5 oz. of thermate (TH3) mix
- 5.7 inches tall
- Burns for 30-45 seconds
- Temperature of ~4000 degrees Fahrenheit
- Uses the M201A1 fuze

SPECIAL FEATURES:

- Produces oxygen and burns under water

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Pine Bluff Arsenal; Pine Bluff, AR

DODIC: (G900)

ACQ Phase: Production & Deployment



M69 Practice Hand Grenade

SYSTEM DESCRIPTION:

The M69 Practice Hand Grenade body, used with the M228 practice hand grenade fuze, provides realistic training and familiarization with the functioning and characteristics of the M67 fragmenting hand grenade in a practice environment. The M69 is reusable, allowing expended M228 fuzes to be easily removed and replaced as needed. The grenade is light blue with white markings. The safety lever is light blue with a brown tip to distinguish from the tactical configuration.

CAPABILITY/IMPROVEMENTS:

- Replicates M67 fragmenting hand grenade

SYSTEM CHARACTERISTICS:

- Replicates M67 fragmenting hand grenade for training purposes

SPECIAL FEATURES:

- Simulates M67 weight

FIELDING:

- N/A

PRIME CONTRACTOR:

- No budgeted M69 body buys
- M228 Fuze — ChemRing; Perry, FL
- FL ATK; Rocket City, WV

DODIC: (G811)

ACQ Phase: Operations & Support



**M90 VLOSS
Smoke Grenade**

SYSTEM DESCRIPTION:

The M90 Launcher Smoke Grenade is a soft launched, non-fragmenting, pyrotechnic smoke dispenser. 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.

CAPABILITY/IMPROVEMENTS:

- Fielded as part of Light Vehicle Obscurant Smoke System (LVOSS), a HMMWV self protection system

SYSTEM CHARACTERISTICS:

- Obscures in the Visual and Near IR portions of the Electromagnetic Spectrum
- 66mm compatible launcher ejected grenades
- Non-fragmenting; pyrotechnically disseminated

- Low toxicity and environmentally safe
- Designed for use with the M7 launcher/dispenser

SPECIAL FEATURES:

- Obscures visual and near infrared threat optic and targeting systems

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Pine Bluff Arsenal; Pine Bluff, AR

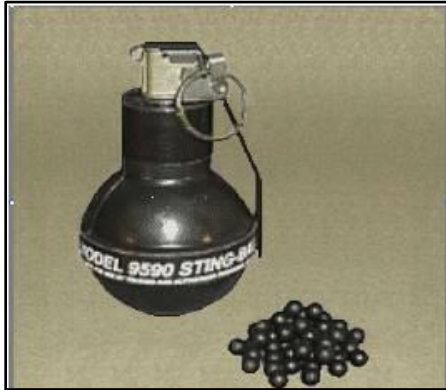
DODIC: (GG03)

ACQ Phase: Operation & Support



The Non Lethal Ammo





**XM104 Non-lethal
Bursting Hand
Grenade (NLBHG)**

SYSTEM DESCRIPTION:

The XM104 NLBHG is a hand-thrown grenade. Upon detonation shall disperse balls/pellets that produce a stinging effect to distract and disorient individuals or groups for crowd control/dispersion and force protection. With the increasing likelihood of U.S. forces being employed in non-traditional military roles, the threat faced by U.S. and allied forces might include rioting mob and harmful crowd activities and harassment techniques, such as rock throwing. The primary focus of the grenade is on counter-personnel capabilities. USMC and USAF also have a requirement for a launch cup capability.

CAPABILITY/IMPROVEMENTS:

- Non-lethal, non-fragmenting
- Hand thrown up to 40 meters

SYSTEM CHARACTERISTICS:

- Non-Lethal Hand Grenade.
- Disperses PVC balls that produce an intense stinging effect.
- Detonation delay is between 2.6 +/- 0.5 seconds.

SPECIAL FEATURES:

- Provides force protection and crowd control capability in scenarios where use of lethal force is not warranted.
- Can be hand-thrown (USMC and USAF requirements include launch cup capability).

FIELDING:

- Projected FMR – 4QFY12

PRIME CONTRACTOR:

- Combined Systems, Inc. (CSI)

TECHNICAL DATA PACKAGE:

- Performance Specification

DODIC: (GG04)

ACQ Phase: Production & Deployment



M84 Stun Hand Grenade

SYSTEM DESCRIPTION:

The M84 Stun Hand Grenade is used as diversionary or distraction devices 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 (through an open door, a standard glass window, or other opening) where it delivers a loud bang and bright flash sufficient to temporarily disorient personnel in the room.

CAPABILITY/IMPROVEMENTS:

- Produced a flash and bang
- Non-lethal, non-fragmenting

SYSTEM 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 +/- .5 sec

SPECIAL FEATURES:

- Flash over 1 million candle power
- Noise level from 170-180 dB at 5 feet

FIELDING:

- Fielded

PRIME CONTRACTOR:

- United Propulsion Company (UPCO);
Fairfield, CA

TECHNICAL DATA PACKAGE:

- Performance Specification

DODIC: (GG09)

ACQ Phase: Production & Deployment



**M102 Reloadable
Practice Stun Hand Grenade
w/M240 PDI**

SYSTEM DESCRIPTION:

The M102 RSPHG is the reloadable trainer for the M84 Stun Hand Grenade. The M240 reload cartridge (fuze & flash cup) are packaged twelve (12 ea) per an M2A1 metal container. There are two (2 ea) M2A1 metal container in a wire bound box. The inert blue bodies are shipped commercially in a cardboard box. There are twelve (12 ea) inert blue bodies in a cardboard box. Once assembled in the field, the device becomes an M102 RSPHG.

CAPABILITY/IMPROVEMENTS:

- Cost effective trainer for M84
- Non lethal, non fragmenting
- Reloadable body (min = 10X; max = 25X)

SYSTEM CHARACTERISTICS:

- Non lethal, non fragment, flash/bang
- Intense flash over 1 million candlepower
- Noise level range from 170 — 180 dB
- Fuze delay time range 1.5 +.8/-.5 sec.
- Reloadable body (min = 10X; max = 25X)

SPECIAL FEATURES:

- Flash over 1 million candle power
- Noise level from 170-180 dB
- GG18 - M102 body
- GG19 - fuze cartridge

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Universal Propulsion Corporation (UPCO); Fairfield, CA

TECHNICAL DATA PACKAGE:

- Performance Specification

DODIC: (GG18), (GG19)

ACQ Phase: Production & Deployment





**M98 Non-Lethal
Distraction Grenade**

SYSTEM DESCRIPTION:

The M98, 66mm Flash-Bang is an area target munition fired from the standard 66mm grenade launcher. These rounds are shot from 80 to 100 meters and burst delivering a flash bang diversionary warning effect. These munitions are not precision delivered and are meant to affect large numbers of people at longer standoff ranges.

CAPABILITY/IMPROVEMENTS:

- Provides NL, Riot Control, stand-off capability to 66 mm equipped vehicles
- Each munition fires 3 sub munitions 50 to 100+ meters. Each M98 sub-munition functions with a 160 DB report

SYSTEM CHARACTERISTICS:

- Employed from any 66mm smoke discharger
- Projectile: 3 ground bursting sub munitions with pyrotechnic charges for audio and visual stimuli
- Disorients individuals with intense light and sound
- Range: 100m (50m-100m with LVOSS)

SPECIAL FEATURES:

- Enhances capability of friendly forces to conduct force protection without direct contact with rioting crowds

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Pine Bluff Arsenal, AK

DODIC: (FZ16)

ACQ Phase: Production & Deployment



**M99 Non-Lethal Blunt
Trauma Grenade**

SYSTEM DESCRIPTION:

The M99, 66mm Rubber Ball is an area target munition that can be fired from the standard 66mm grenade launcher. These rounds are designed to fire from 80 to 100 meters and burst delivering a payload of rubber non-penetrating projectiles, affecting a large number of people at longer standoff ranges

CAPABILITY/IMPROVEMENTS:

- Provides NL, riot control, stand-off capability to 66mm equipped vehicles. Each munition fires 3 sub-munitions 50 to 100+ meters. Each M99 sub-munition delivers 140 516" PVC balls to the target

SYSTEM CHARACTERISTICS:

- Fired from any 66mm smoke discharger
- Projectile: 3 ground bursting sub munitions of 140, 32 cal., PVC balls each
- Delivers strong non-penetrating blow to body
- Range: 100m (50m-100m with LVOSS)

SPECIAL FEATURES:

- Enhances capability of friendly forces to conduct force protection without direct contact with rioting crowds

FIELDING:

- Fielded
- Projected FMR 1QFY12

PRIME CONTRACTOR:

- Pine Bluff Arsenal, AK

DODIC: (FZ17)

ACQ Phase: Production & Deployment



**L97A1 Anti-Riot
Practice Grenade**

SYSTEM DESCRIPTION:

The L97A1, is a training version of the L96A1. It uses Cinnammic Acid (CA) smoke to simulate the riot control agent.

CAPABILITY/IMPROVEMENTS:

- Training grenade for L96A1 Anti Riot, Irritant, CS Grenade

SYSTEM CHARACTERISTICS:

- Employed from any 66mm Smoke Discharger
- Simulates L96A1 CS grenade for training purposes
- Projectile: 23 canisters filled with CA
- Range : 65m — 95m
- Length: 185 mm (7.28 in)
- Total Weight: 568 gm (1.25 lb)

SPECIAL FEATURES:

- Provides a non-irritant, simulant training smoke

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Chemring, Nottingham, UK

TECHNICAL DATA PACKAGE:

- Jointly developed TDP (USA/UK MOD)

DODIC: (FZ15)

ACQ Phase: Production & Deployment



L96A1 Anti-Riot Grenade

SYSTEM DESCRIPTION:

The L96A1 Riot Control Grenade is an anti-riot grenade that dispenses CS riot control agent. It is launched from 66 mm vehicle mounted dischargers in a 4 grenade salvo. Each L96A1 contains 23 individual canisters filled with CS riot control agent, providing a number of dispersants, rather than a single plume. It has an effective range of 65 to 95 meters.

CAPABILITY/IMPROVEMENTS:

- Provides NL, riot control, stand-off capability to 66mm equipped vehicles
- Deploys 23 countermeasure resistant CS canisters 65-90 meters from the launcher

SYSTEM CHARACTERISTICS:

- Employed from any 66mm smoke discharger
- Projectile: 23 canisters filled with CS compound
- Induces intense irritation of the eyes, mucous membranes and skin
- Range: 65m — 95m

SPECIAL FEATURES:

- Enhances capability of friendly forces to conduct force protection without direct contact with rioting crowds

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Chemring, Nottingham, UK

TECHNICAL DATA PACKAGE:

- Jointly developed TDP (USA/UK MOD)

DODIC: (FZ14)

ACQ Phase: Production & Deployment



**M1012 12-Gauge
Non-Lethal Point
Control Cartridge**

SYSTEM DESCRIPTION:

The M1012, 12 gauge non-lethal point target control cartridge round enables shooting individuals without penetrating the body, but nevertheless delivers a strong blow to the body. The round should be fired at the center mass of an adult at ranges between 10 and 20 meters.

CAPABILITY/IMPROVEMENTS:

- Fired from standard issued 12 gauge shotgun

SYSTEM CHARACTERISTICS:

- Fired out of Mossberg 500, Mossberg 590, and Winchester 1200
- Engagement range: 10m to 20m

SPECIAL FEATURES:

- Temporarily disorients/incapacitates a targeted individual with non-lethal blunt trauma from 10-20 meters

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Safariland (formerly Defense Tech), Casper, WY

DODIC: (AA51)

ACQ Phase: Production & Deployment



**M1013 12-Gauge
Non-Lethal Crowd
Dispersal Cartridge**

SYSTEM DESCRIPTION:

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:

- Fired from standard issued 12 gauge shotgun

SYSTEM CHARACTERISTICS:

- Projectile: 18 rubber balls
- Fired out of Mossberg 500, Mossberg 590, and Winchester 1200
- Engagement range: 10m to 20m

SPECIAL FEATURES:

- Temporarily disorients/incapacitates a targeted individual with non-lethal blunt trauma from 10-20 meters

FIELDING:

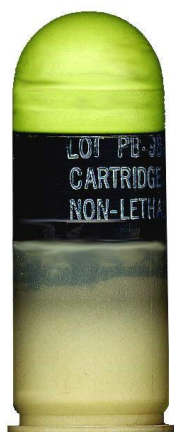
- Fielded

PRIME CONTRACTOR:

- Safariland (formerly Defense Tech), Casper, WY

DODIC: (AA52)

ACQ Phase: Production & Deployment



**M1006 40mm
Non-Lethal Cartridge
(Sponge Grenade)**

SYSTEM DESCRIPTION:

The M1006, 40 millimeter 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.

CAPABILITY/IMPROVEMENTS:

- Provides non-lethal means of crowd control
- Launched from M203 40mm grenade launcher

SYSTEM CHARACTERISTICS:

- Fired from an M16A2/M203 or a M4/M203
- Engagement Range: 10m to 50m

SPECIAL FEATURES:

- Temporarily disorients/incapacitates a targeted individual with non-lethal blunt trauma from 10-50 meters

FIELDING:

- Fielded

PRIME CONTRACTOR:

- AMTEC Corp. Janesville, WI

DODIC: (BA06)

ACQ Phase: Production & Deployment



**M1029 40mm Non-Lethal
Crowd Dispersal Cartridge**

SYSTEM DESCRIPTION:

The M1029, 40 millimeter Crowd Dispersal Round (Area) enables the Soldier to deter two to 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 the adult at ranges between 10 and 30 meters.

CAPABILITY/IMPROVEMENTS:

- Provides Non-Lethal Means of Crowd Control
- Launched from M203 40mm grenade launcher

SYSTEM CHARACTERISTICS:

- Fired from an M16A2/M203 or a M4/M203

SPECIAL FEATURES:

- Temporarily disorients/incapacitates targeted individuals with non-lethal multi-ball blunt trauma from 10-30 meters

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Safariland (formerly Defense Tech), Casper, WY

TECHNICAL DATA PACKAGE:

- Performance Specification

DODIC: (BA13)

ACQ Phase: Production & Deployment



**M5 Modular Crowd
Control Munition (MCCM)**

SYSTEM DESCRIPTION:

The 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.

CAPABILITY/IMPROVEMENTS:

- Provides crowd control without causing life-threatening injuries to the targeted individuals

SYSTEM CHARACTERISTICS:

- Similarity in appearance to the Claymore munition
- Provides deterrence
- 600 .32 caliber rubber balls
- Effective range of 5 to 15 meters with 60 degree coverage
- Command control initiated

SPECIAL FEATURES:

- Low risk of causing serious injury

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Day & Zimmerman at Lone Star Army Ammo Plant, TX

DODIC: (WA97)

ACQ Phase: Production & Deployment



Non Lethal Systems



Non-Lethal Capabilities Set (NLCS)





X26E Taser® Stun Device

SYSTEM DESCRIPTION:

The Taser® is an electro-muscular incapacitation device. It 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 35 feet.

CAPABILITY/IMPROVEMENTS:

- Used to propel wired-probes or to conduct energy directly to affect sensory and motor functions, allowing control over a targeted individual.

FIELDING:

- Quick Reaction Capability UMR;
- Program of Record MSC Aug FY2012

PRIME CONTRACTOR:

- Aardvark Tactical Inc, La Verne, CA

DODIC (JN17) LIN: ZA9547

ACQ Phase: Production & Deployment



Acoustic Hailing Device (AHD)

SYSTEM DESCRIPTION:

The AHD is a non-lethal, counterpersonnel, long-range hailing and warning device. This capability helps Soldiers more effectively determine the intent of a person, crowd, vessel, or vehicle at a safe distance, potentially deterring them prior to escalating to lethal force.

CAPABILITY/IMPROVEMENTS:

- Capable of producing highly directional sound beams, allowing users to project warning tones and intelligible voice commands beyond small arms engagement range.

FIELDING:

- MSC planned 2Q FY14

LIN: TBD

ACQ Phase: Engineering & Manufacturing Development



**Single Net Solution/
Remote Deployment
Device (SNS/RDD)**



**BCT Non-Lethal
Capabilities
Set (NLCS)**

SYSTEM DESCRIPTION:

The SNS/RDD is a man portable, 18 x 9 foot expandable, single use, spiked entanglement net that can be deployed in less than one minute to puncture and lock-up the leading tires of a small vehicle. This net can stop a 5,500 lb wheeled vehicle traveling at 30 mph, within 200 ft in a controlled manner at access control points and checkpoints.

CAPABILITIES:

- Spring Loaded pulley system that pulls the Vehicle Lightweight Arresting Device/SNS across a road in 2 seconds
- Provides remote deployment of VLAD/SNS
- Dimensions: 26.8 x 20 x 14 inches

FIELDING:

- Fielded

PRIME CONTRACTOR:

- QinetiQ/Bridport Aviation, Farnborough, UK

NSLIN: N/A

ACQ Phase: Production & Deployment

SYSTEM DESCRIPTION:

The BCT NLCS set provides a variety of capabilities that include counterpersonnel and materiel systems, protective and enhancement devices and support equipment. The modularity of the NLCS allows the commander to tailor equipment needs based on a specific mission or threat level. Configured to equip a brigade and packed in ten quadcon containers for easy storage and handling, the NLCS can be rapidly deployed by military transport or commercial carrier.

CAPABILITIES:

- Configured into 5 mission modules: checkpoint, convoy, crowd control/detainee operations, dismounted, and Taser sub-module

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Aardvark Tactical Inc, La Verne, CA

LIN: RB6702, RB6703, RB6704 RB6705, RB6706

ACQ Phase: Production & Deployment



**Portable Vehicle
Immobilization Device PVID**

SYSTEM DESCRIPTION:

The PVID is used by small units patrolling vehicle checkpoints or roadblocks to prevent unauthorized access of vehicles into or out of protected areas. When in place, it resembles a standard speed bump.

CAPABILITIES:

- Stops light truck up to 6,500 pounds
- Impedes the opening of front doors eventually
- trapping passengers inside a vehicle
Operational within two seconds of being activated
- Stops vehicles traveling at a speed of up to 40 mph

SYSTEM CHARACTERISTICS

- Spans 12 to 24 feet
- Quickly disassembled, moved, stored, transported, uploaded and reassembled
- It can be set up in less than two hours by a small unit (2-3 individuals)
- Uses a high-tensile strength net
- Internal braking mechanisms

FIELDING:

- Fielded

Non – Standard Equipment





Improvised Explosive Device Defeat

Detect





CounterBomber

SYSTEM DESCRIPTION:

The CounterBomber system is designed to detect potential suicide bombers at base entrances and other control points. It provides stand-off detection capability for personnel-borne suicide bombs (PBIED) at ranges outside the blast range.

CAPABILITIES:

- Employs visible or IR video cameras to automatically detect and track subjects
- Low-power radar to interrogate threat when cued by video
- Automatically assesses the threat in real time

SYSTEM CHARACTERISTICS:

- Consists of radar sensor head, camera, and associated processor box to run SW detection algorithms
- Power levels well below IEEE/ANSI RF exposure limits
- Constructed using off-the-shelf hardware components

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Science, Engineering and Technology Corporation (SET), Arlington, VA

Non - Standard Equipment



DSP No.27

SYSTEM DESCRIPTION:

The DSP No.27 system is a passive handheld detector. It provides audible indication of target detected, and audio and visual indication of operational status.

CAPABILITIES:

- Provides audible indication of target detected, and audio and visual indication of operational status

SYSTEM CHARACTERISTICS:

- Detection waveform
- Passive handheld detector

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Gill R&D Ltd, Lymington, UK

NSLIN: 92433N
Non - Standard Equipment



Cyclone

SYSTEM DESCRIPTION:

This high-powered blower removes debris and other objects used to conceal IEDs on routes. Features a series of nozzle options to suit an array of applications such as heavy, wet, or matted-down debris; fine-tune blowing; and surface drying for low spots and paved surfaces.

CAPABILITIES:

- Keeps main supply routes clear of trash and debris concealing IEDs
- Universal bracket for multiple platforms
- Produces speeds of up to 180 miles per hour with a sustained blast of 175 miles per hour

SYSTEM CHARACTERISTICS:

- Nozzle spins 360 degrees
- Remote operation from cab via cabled remote: start/stop, nozzle rotation, and blower speed functions

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Buffalo Turbine, Springville, NY

NSLIN: SA4006
Non - Standard Equipment



FIDO

SYSTEM DESCRIPTION:

Fido is an explosive trace detection system. It detects particle and vapor sampling. Fido V2 can be mounted on Packbot (RSJPO Managed).

CAPABILITIES:

- Handheld
- Explosive trace detection
- Particle and vapor sampling

SPECIAL FEATURES:

- Fido V2 can be mounted on Packbot

FIELDING:

- Fielded

PRIME CONTRACTOR:

- ICx Technologies, Stillwater, OK

Non - Standard Equipment



Schonstedt Metal Detector

SYSTEM DESCRIPTION:

The Schonstedt provides the capability to detect munitions, caches, and other metal objects. The size, weight, and ease of use have made these units particularly effective in theater.

CAPABILITIES:

- Detects magnetic field of iron and steel and energized power lines
- Provides audio signal and digital readout
- Expanding bar graph displays signal strength and polarity
- Two rechargeable 9V lithium batteries provide 40 to 60 hrs of operation

SYSTEM CHARACTERISTICS:

- Weight: 2.5 lbs.
- Length: 34.5 in.
- Waterproof Length: 21 in.
- Operating Temperature: -13° to 140°F (-25° to 60°C)
- Construction: Rugged, all solid state

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Schonstedt Instrument Company, Kearneysville, WV

NSLIN: FG952A
Non - Standard Equipment



Sherlock Trace Explosive Detector

SYSTEM DESCRIPTION:

Sherlock Trace Explosive Detector provides specific explosive detection and identification capability to the user at entry points and various locations.

CAPABILITIES:

- Mobile Explosive Trace Detector
- Particle swipe and vapor sampling

SYSTEM CHARACTERISTICS:

- 3.5 in color glare resistant display
- 9.4 lbs with battery/network ready and USB compliant
- 2 batteries with 4 hours use and 2VDC vehicle adapter
- 1-year parts and labor warranty
- Not ruggedized
- Commercial-off-the-shelf

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Morpho Detection, Wilmington MA

NSLIN: FG656H
Non - Standard Equipment

Defeat





Self-Protection Adaptive Roller Kit II (SPARK II)

SYSTEM DESCRIPTION:

SPARK II provides pre-detonation of pressure-plated IEDs and blast dampening for Mine Resistant Ambush Protected (MRAP) and other tactical wheeled vehicles. SPARK II provides several enhancements for increased ground effects and improved mobility.

CAPABILITIES:

- Full-width front coverage
- Remote release
- In-cab variable standoff
- Float and hydraulic down pressure operation
- Hydraulic power self-generation
- HID white and IR lighting

SYSTEM CHARACTERISTICS:

- New roller bank clears ~18" obstacles
- Brake foot stows higher for increased ground clearance

SPECIAL FEATURES:

- SPARK II control box provides improved situational awareness
- New SPARK II wheel increases pre-detonation effectiveness, features durable honeycomb design

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Pearson Engineering Ltd, Newcastle upon Tyne, UK

NSLIN: EA302U

Non - Standard Equipment



OEF Self-Protection Adaptive Roller Kit Plus (OEF SPARK+)

SYSTEM DESCRIPTION:

OEF SPARK+ system is used to detonate and neutralize buried pressure-fused mines and other explosive devices. OEF SPARK+ is designed for use with a variety of tactical vehicles: Mine Resistant Ambush Protected (MRAP), including the Dash, Cougar, RG-31, RG-33 and the M-ATV, and the STRYKER Engineer Squad Vehicle.

CAPABILITIES:

- Full width front coverage
- Increased mobility
- Improved braking

SYSTEM CHARACTERISTICS:

- Slew left/right
- Raise/lower front bank
- Bridge track-width bank
- Operator controlled brake
- HID Light Kit
- Rhino Integration

SPECIAL FEATURES:

- Quick jettison
- Self-center steering function
- Braking system improvements
- Reliability improvements

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Pearson Engineering Ltd, Newcastle upon Tyne, UK

NSLIN: EA302U

Non - Standard Equipment



Operation Enduring Freedom Self-Protection Adaptive Roller Kit (OEF SPARK)

SYSTEM DESCRIPTION:

Upgraded OEF SPARK was designed to support the terrain and mission requirements of Afghanistan while providing the same operational and logistical success as OIF SPARK.

CAPABILITIES:

- Third front roller for maximum coverage
- Increased protection for follow-on vehicles
- Unique hydraulic capabilities:
 - Auto steering
 - Emergency braking
 - Articulation
- Vehicle Platforms:
 - Mine Resistant Ambush Protected (MRAP), including the Cougar, RG-31, RG-33, Dash and the MMPV.
 - High Mobility Multipurpose Wheeled Vehicles (HMMWV) M1151
 - Husky

SYSTEM CHARACTERISTICS:

- In cab controls
- Integrated light bar
- Rhino pads
- Extension kit

SPECIAL FEATURES:

- System width optimized for Afghanistan environment

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Pearson Engineering Ltd, Newcastle upon Tyne, UK

NSLIN: EA302U
Non - Standard Equipment



Operation Iraqi Freedom Self-Protection Adaptive Roller Kit (OIF SPARK)

SYSTEM DESCRIPTION:

One of the most effective weapons in our arsenal against IEDs. Originally fielded to Iraq, OIF SPARK is a modular IED roller system mounted to the front of tactical wheeled platforms. The system provides pre-detonation capability against pressure-imitated IEDs.

CAPABILITIES:

Three successive roller configurations:

- Track width
- Full width (M939 Family)
- Front full width
- Vehicle Platforms:
 - Mine Resistant Ambush Protected (MRAP), including the Caiman, Cougar, RG-31, RG-33, and the MaxxPro.
 - Stryker Engineer Squad Vehicle
 - M2 Bradley Fighting Vehicle (BFV)
 - Armored Security Vehicle (ASV)

SYSTEM CHARACTERISTICS:

- Extension kit
- Rhino bracket
- Lights
- No hydraulics

SPECIAL FEATURES:

- Serves as a platform for other IED defeat technologies such as Rhino, Cyclone and Command Wire
- In-stride successive improvements

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Pearson Engineering Ltd, Newcastle upon Tyne, UK

NSLIN: EA302U
Non - Standard Equipment



Calilgo

SYSTEM DESCRIPTION:

Calilgo systems are integrated into High Mobility Multipurpose Wheeled Vehicles (HMMWVs) as well as MRAP vehicles and provide vehicle-mounted IED pre-detonation capability.

CAPABILITIES:

- Targets passive infrared-triggered IEDs and other asymmetric threats

SYSTEM CHARACTERISTICS:

- Used in OIF on multiple vehicle platforms in combination with Rhino
- Extends Rhino standoff capability against PIR-triggered IEDs

FIELDING:

- Fielded

PRIME CONTRACTOR:

- EV2, UK

NSLIN: FA102L
Non - Standard Equipment



Jackal

SYSTEM DESCRIPTION:

Jackal is a counter victim-operated IED system that transmits a high-power waveform designed to counter the continuing IED threat that coalition forces face in today's combat environment.

CAPABILITIES:

- Pre-detonates PIR-triggered IEDs at standoff distance
- Selected as best-of-breed in 2009 JIEDDO-sponsored testing

SYSTEM CHARACTERISTICS:

- Comprised of two major components:
 - Electronic Kit
 - Vehicle installation kits
- Modular architecture; adaptable to new and emerging IED threats
- Can be integrated on multiple tactical MRAP platforms
- Integrated on RG31MK5 and MaxxPro with or without SPARK rollers

SPECIAL FEATURES:

- Placed under the Rapid Acquisition Authority in September 2010

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Raytheon Technical Services Co., LLC

NSLIN: YH900G
Non - Standard Equipment



Rhino

SYSTEM DESCRIPTION:

Rhino is a capability used to defeat a subset of IEDs and features a universal bracket that can be mounted on any vehicle platform. Rhino can be integrated with SPARK or Cyclone providing flexibility to the Soldier.

CAPABILITIES:

- 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)

SYSTEM CHARACTERISTICS:

- Basic systems common to all combat and tactical vehicle platforms
- Vehicle-specific wiring and brackets
- Variable standoff
- Originally Theater designed; refined for mass-production and usability

SPECIAL FEATURES:

- In-cab health and status monitor

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Letterkenny Army Depot, Chambersburg, PA

NSLIN: FA954Q

Non - Standard Equipment



Wire Neutralization System (WNS)

SYSTEM DESCRIPTION:

This system-of-systems provides a range of capabilities to neutralize command or tripwire-operated IEDs. These devices increase Soldier and vehicle survivability by creating greater distance between a vehicle, the Soldiers occupying it and a potential blast area.

CAPABILITIES:

- Consists of four systems: Wolf Collar, Wolf Claw, Roller Rake, and Ripper
- Temporary solution to surface- and buried-threat neutralization capability gap
- Installs onto existing SPARK and SPARK interfaces

SYSTEM CHARACTERISTICS:

- Engineered with the flexibility to attach directly to a vehicle or roller bracket
- Operated from inside cab

SPECIAL FEATURES:

- Raise and lower capability on OEF Collar, Roller Rake, and Ripper
- Integrated variable standoff lengths

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Massie Manufacturing, Inc.

NSLIN: YH900F

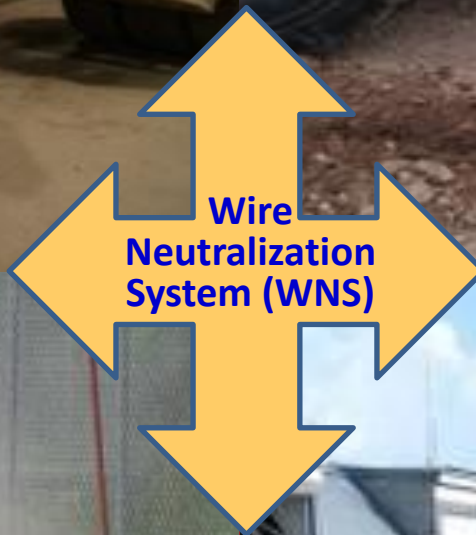
Non - Standard Equipment



Roller Rake



Ripper



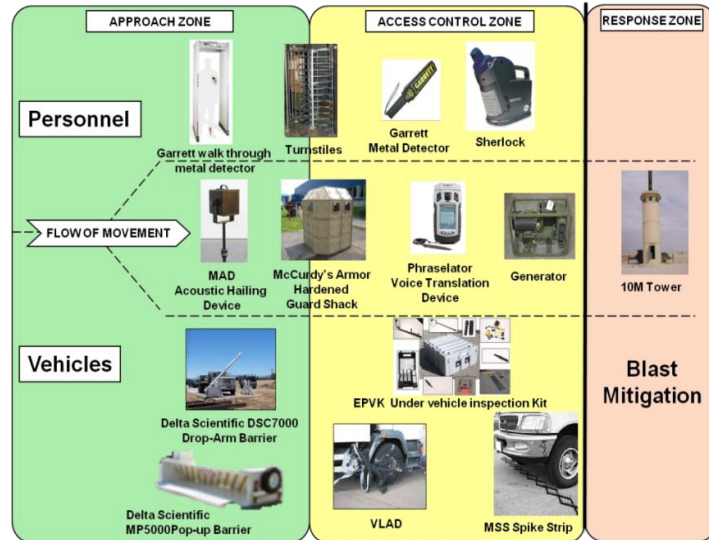
Wolf Collar



Wolf Claw



Deny



Entry Control Point

SYSTEM DESCRIPTION:

This system-of-systems provide a layered approach to control, monitor, and protect access at the Entry Control Points to Forward Operating Bases (FOBS) and other U.S. facilities in the current theater of operations.

CAPABILITIES:

- Provide FOBs with effective Entry Control Point defense to counter:
 - Personnel Borne Improvised Explosive Devices (PBIED)
 - Vehicle Borne Improvised Explosive Devices (VBIED)
 - Blast Mitigation Structures

SYSTEM CHARACTERISTICS:

- Enhance and standardize entry control equipment
- PB/VIED detection and blast mitigation with stand-off protection
- Objective solution is integration systems with central monitoring and control

SPECIAL FEATURES:

- Categorized as small, medium and large based on CENTCOM traffic definition
- Multiple ECPs can exist on one FOB
- Sites can receive compliment of capabilities depending on Commander's intent

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Aardvark Tactical Inc, La Verne, CA

NSLIN: HA402T (Main)
Non - Standard Equipment





Ground Torch

SYSTEM DESCRIPTION:

The Ground Torch System is a trailer-mounted flame throwing system that provides a controlled burn to remove vegetation and foliage along main/alternate supply routes and canals. The standoff ground ignition system expels a burning gel-like fuel that covers the targeted area and eliminates the concealment and reduces security risks for U.S. forces.

CAPABILITIES:

- Clears routes used by the enemy to conceal IEDs or trip wires; egress and regress routes; and triggerman locations
- Sprays with a range of at least 150 feet/50 meters
- Enables removal of vegetation where mechanical systems cannot (i.e. steep banks, canal edges)
- Leveraged USMC lessons learned

SYSTEM CHARACTERISTICS:

- Army system mounted on M1061A1 Flatbed 5-ton trailer; improved with self-sealing fuel tank and upgraded safety kit
- Prime Mover Safety Confirmations for 5-ton M809 series, M939 series, and Family of Medium Tactical Vehicle (FMTV)

SPECIAL FEATURES:

- Soldiers receive in-depth training on safety precautions, standard operating procedures, fuel mixture, and factors such as atmospheric conditions that can affect the system's capabilities

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Firecontrol Inc

NSLIN: HA100Y
Non - Standard Equipment



**Terrapin and LaPeer
Culvert Denial Systems**

SYSTEM DESCRIPTION:

Culvert denial systems block un-authorized access to culverts, the devices used to channel water and allow it to pass underneath roads, railways, or embankments.

CAPABILITIES:

- Deny the enemy the ability to place IEDs in culverts of various dimensions
- Blocks tampering with the culvert denial devices

SYSTEM CHARACTERISTICS:

- Terrapin: Three-piece system, concrete block, metal conduit, anti-tamper device
- LaPeer: Cam lock, three sizes, in square and round, allow for water flow; leave behind as part of permanent infrastructure

SPECIAL FEATURES:

- PM improvements include post-installation of anti-tamper device on theater-fabricated barriers

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Lapeer : Exponent Inc.
- Terrapin designed by Army Research Labs with the subcontractor CTI for the pins

NSLIN: LD9505
Non - Standard Equipment

Countermine







Autonomous Mine Detection System (AMDS)

SYSTEM DESCRIPTION:

AMDS consists of a suite of three payload modules to be deployed on a remotely operated Man Transportable Robotic System (MTRS). AMDS will give the operator a leap-ahead capability for the detection, marking and neutralization of explosive hazards at standoff in complex and urban terrain, including confined areas and subterranean environments.

CAPABILITIES:

- Mine Detection and Marking Payload Module: remotely detects and marks surface laid and buried metallic and low-metallic antitank (AT) and antipersonnel (AP) landmines and scatterable munitions
- Explosive Hazards Detection and Marking Payload Module: remotely detects and marks surface laid, partially buried and camouflaged explosive hazards
- Neutralization Payload Module: remotely neutralizes surface laid, buried and camouflaged explosive hazards

SYSTEM CHARACTERISTICS:

- Remotely locate mines at a minimum of 10m forward
- Increase rate of advance for unit of action
- Marked path for explosive threat avoidance
- Precision marking for threat identification
- Sweeps 0.5 - 1 meter width (depending on configuration)

FIELDING:

- MS B planned 4QFY12
- MS C planned 4QFY15
- IOC: 2QFY16
- FOC: 2QFY19

PRIME CONTRACTOR:

- TBD

SPECIAL FEATURES:

- Leverages the success of hand-held mine detection technologies (i.e. AN/PSS-14)
- Autonomous algorithms for explosive threat and IED detection
- Intended for MTRS platforms
- Electromagnetic induction (EMI) metal detector combined with wideband Ground Penetrating Radar (GPR)

LIN: TBD

ACQ Phase: Technology Development



Family of Military Working Dogs (FMWD) Equipment Kit

SYSTEM DESCRIPTION:

A Military Working Dog (MWD) is any dog procured, acquired or bred by a Department of Defense (DoD) component to meet the following MWD requirements within the DoD: enforcement of laws and regulations, suppression of illegal drugs, detection of explosives, protection of installations and resources, force protection operations, and fulfillment of other security tasks.

CAPABILITIES:

- Patrol Explosive Detection Dog (PEDD) specializes in finding explosives and IEDs. LIN G33732 NSN 8820-00-188-3880
- Patrol Narcotics Detection Dog (PNDD) specializes in drug enforcement programs. LIN D33800 NSN 8820-00-243-7542
- Specialized Search Dog (SDD) is capable of multiple roles. LIN AB2043 NSN 8820-01-526-4588
- Mine Detection Dog (MDD) finds all buried mines. LIN TBD NSN 8820-01-536-4047

SYSTEM CHARACTERISTICS:

- Army MWD requirements are found in:
 - Area Clearance Family of Systems CPD
 - Explosive Dog Detection (EDD) CPD
- New Scent Kits for SDD and Joint capability containing 12 odors vs. 9 sustained odors for PEDD
- Standard Dog Handlers Kit (All)
- Deployable Kennel Systems (All)
- Organizational/Installation Kennel Systems (All)

FIELDING:

- MS C/TCLP: Fielded
- MR: FY13
- IOC: TBD
- FUE: TBD

PRIME CONTRACTOR:

- Equipment Kits –Commercial off the Shelf (COTS)

LIN: Various

ACQ Phase: Engineering & Manufacturing Development



Area Mine Clearance System (AMCS) – Medium Flail

SYSTEM DESCRIPTION:

The Area Mine Clearance System-Medium Flail is an armored countermine vehicle designed for clearing large areas of anti-tank (AT) and anti-personnel (AP) landmines. On 27 July 2010, the U.S. government awarded a five-year indefinite contract to Hydrema of Stovering, Denmark, for delivery of the AMCS (Medium Flail). Two of four Hydrema 910MCV2 Medium Flails for system acceptance testing were delivered on 4 October 2010.

CAPABILITIES:

- 14-mm ballistic-rated armor steel plate protects operator
- Operator cabin located farthest away from the clearing area for increased Soldier survivability
- 72 chains on the 3.5 meter-wide flail shaft rotate at up to 440 rpm to unearth, destroy or detonate AT/AP landmines on contact

SYSTEM CHARACTERISTICS:

- Effective ground penetration depth is up to 250 mm on firm ground; up to 400 mm in sandy soil
- Dual-engine vehicle provides increased clearance power and improved safety
- Flail will be repairable with 60 minutes if detonation is under the flail head of the vehicle
- System will be repairable within 12hours if detonation is under any portion of the platform

SPECIAL FEATURES:

- Upgraded version equipped with a yaw control to prevent ridges of earth forming in a cleared lane
- System can be transported by rail, sealift, highway or airlifted in a Hercules C-130

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Hydrema, Stovering, Denmark,

LIN: Z00699

ACQ Phase: Production & Deployment



Husky Mounted Detection System (HMDS)

SYSTEM DESCRIPTION:

HMDS is a state-of-the-art Ground Penetrating Radar (GPR) mounted to the front of the Husky mine detection vehicle. HMDS significantly upgrades the stock metal detection sensor by providing the capability to detect low-metallic and non-metallic triggers and explosive hazards in support of route clearance operations.

CAPABILITIES:

- Detects the location of buried low metal and metallic-cased IEDs, pressure plates, antitank (AT) mines, and other explosive hazards
- Provides precise marking of the locations of the buried explosive threats
- GPS enables operator to quickly store the location of the threat

- Systems procured under multiple contracts in response to urgent requirements
- Sustainment transitioning to CECOM S3 consolidated services contract in FY12

SPECIAL FEATURES:

- Can scan a road at speeds of up to 12km an hour
- Scan data for up to 100 km of road can be stored in the system computer
- Data can be offloaded to portable hard drives for post analysis

FIELDING:

- Fielded

PRIME CONTRACTOR:

- NIITEK, Dulles, VA

SYSTEM CHARACTERISTICS:

- Front-mounted GPR with 4 panel 3.2m array
- Hydraulically-controlled deploy and retract modes with damage resistant features Real-time GPR sensor imagery with 3-D visualization

LIN: FG651Z

ACQ Phase: Non Standard Equipment



**Vehicle Interrogation
Arm (IA)**

SYSTEM DESCRIPTION:

The Vehicle Interrogation Arm provides standoff interrogation of suspected explosive hazards and IEDs from within a blast protected vehicle in support of route clearance operations.

CAPABILITIES:

- Standoff detection with probing/digging tool to expose objects
- Metal detector/visible camera to identify targets
- Mounted on an extended crane boom for RG-31 and Husky mine protected vehicles
- Same capabilities for each platform simplifies logistics, spares, maintenance and training

SYSTEM CHARACTERISTICS:

- Working range of more than 26'
- Capable of moving objects up to 200 lbs.
- Free lift capability of 50 lbs. at max extension

SPECIAL FEATURES:

- Arm controls, vision camera and monitor same as Buffalo arm
- Contracts procure hardware, delivery, assembly and installation services, initial spares and repair parts, training and tech manuals
- Sustainment support is procured via TACOM FSSD contracts

FIELDING:

- Fielded

PRIME CONTRACTOR:

- FASCAN, Baltimore, MD

LIN: YH900B

ACQ Phase: Non Standard Equipment



**Vehicle Optics
Sensor System (VOSS)**

SYSTEM DESCRIPTION:

A Soldier's first line of defense against IEDs, snipers and other threats at greater stand-off distances, VOSS is a powerful suite of sensor systems composed of a daytime TV, night vision and thermal capabilities to support EOD and route clearance teams.

CAPABILITIES:

- Powerful daytime TV, night vision, and thermal cameras on a gyro stabilized 25' telescoping mast
- Stabilized camera allows detection of threats on the move day and night
- Mounted on RG-31 and EOD JERRV 6x6 blast protected vehicles
- Recorded video enables after action/training/mission briefing for route clearance operations

SYSTEM CHARACTERISTICS:

- Contracts procure hardware, delivery, installation services, initial spares and repair parts, training and tech manuals
- Support is procured via CECOM FSSD contracts
- Operational readiness rate is > 99%

SPECIAL FEATURES:

- Installation performed in-theater
- Spares are procured to fix damaged camera

FIELDING:

- Fielded
- MS C/LRP planned for FY13

PRIME CONTRACTOR:

- Lockheed Martin Gyrocam Systems LLC, Sarasota, FL

LIN: FH1098

ACQ Phase: Non Standard Equipment



**AN/PSS-14 Mine
Detecting Set**

SYSTEM DESCRIPTION:

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 significantly increased mine detection capability and lower alarm rate. AN/PSS-14 is an ACAT III program that entered into Full Rate Production in Aug 06.

CAPABILITIES:

- Single Soldier-operable, handheld standoff mine detection system (HSTAMIDS)
- Combines technologies of Ground Penetrating Radar (GPR) and metal detection
- Locates both metallic and low-metallic, antipersonnel (AP) and antitank (AT) landmines

SYSTEM CHARACTERISTICS:

- Operable in highly mineralized soils and water to depths of four feet
- Provides operator audio alerts to landmine detections
- Utilizes advanced algorithms to process sensor data
- Extremely low false alarm rate

SPECIAL FEATURES:

- Achieves high probability of detection in excess of 95%
- Built-in test alerts operator to system checks and low battery
- More than 9,500 detectors have been fielded in support of Operations Enduring and Iraqi Freedom (OEF/OIF)

FIELDING:

- On-going thru FY15

PRIME CONTRACTOR:

- L3 CyTerra Corp., Waltham, MA

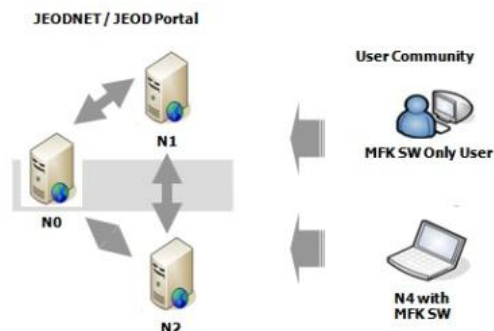
LIN: D03932

ACQ Phase: Production & Deployment/Operations & Support





Explosive Ordnance Disposal (EOD)



**Decision Support
System (DSS)**

SYSTEM DESCRIPTION:

IT Service-Oriented Architecture (SOA), web/portal-based program addresses Joint Service EOD (JSEOD) gaps in asset location, collaboration, coordination and real-time data/action sharing and reporting.

CAPABILITIES:

- JEOD DSS is composed of three core products:
 - JEODNET: provides secure tactical transport Mechanism
 - JEOD Portal: provides access to critical EOD info & tools
 - MFK Software: JEOD mission-performance SW tool suite
- Software is updated quarterly via CDs, mailed to users
- Current laptop is Panasonic Toughbook but operates on any laptop

SYSTEM CHARACTERISTICS:

- DSS can access Joint EOD Portal via SIPR

SPECIAL FEATURES:

- Provides JSEOD technicians with EOD unique situation awareness, improved knowledge management and advanced collaborative decision making
- Navy is the proponent for developing and maintaining system

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Panasonic Headquarters, Secaucus, NJ

LIN: RB8501

ACQ Phase: Production & Development



**Manual Transport Robotic
System (MTRS)**

SYSTEM DESCRIPTION:

MTRS is a light-weight, two-person portable system that consists of robotic vehicle and operator control station with radio frequency (RF) and fiber optic remote control modes selectable by operator.

CAPABILITIES:

- Performs reconnaissance surveillance and EOD operations on battlefields
- Suitable for peacetime urban scenarios in nuclear, biological, and chemical (NBC) environments

SYSTEM CHARACTERISTICS:

- Ability to perform access, render safe, disruption and disposal operations
- Provides robotic capability to each EOD team

SPECIAL FEATURES:

- Enables remote operations in situations where Remote Ordnance Neutralization System (RONS) is too big to be employed

FIELDING:

- Fielded

PRIME CONTRACTOR:

- MK 1 MOD 1: iROBOT Corp., Burlington, MA
- MK 2 MOD 0: Foster-Miller, Inc, Waltham, MA (subsidiary of QinetiQ, Ltd, UK)

LIN: M00002

ACQ Phase: Production & Deployment



**Countermeasure Transmitter
AN/PLT- 4**

SYSTEM DESCRIPTION:

A system that provides the EOD technician protection from IEDs and deliberate explosive devices by preventing their initiation, while working in close proximity to suspect devices.

CAPABILITIES:

- Prevents initiation of IED threat

SYSTEM CHARACTERISTICS:

- Electronic jamming system

SPECIAL FEATURES:

- Provides increased frequency range and power to prevent detonations

FIELDING:

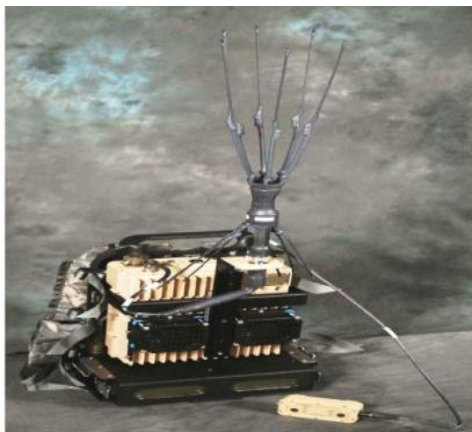
- Fielded

PRIME CONTRACTOR:

- ITT, Annapolis, MD

LIN: C70567

ACQ Phase: Production & Deployment



**Countermeasure Transmitter
AN/PLT- 5**

SYSTEM DESCRIPTION:

A system that provides the EOD technician protection from IEDs and deliberate explosive devices by preventing their initiation, while working in close proximity to suspect devices

CAPABILITIES:

- Man-portable (backpack) active system

SYSTEM CHARACTERISTICS:

- Portable electronic jamming system

SPECIAL FEATURES:

- Protects the operator between the command post and incident
- Programmable

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Sierra Nevada Corp, Sparks, NV

LIN: Z01080

ACQ Phase: Production & Deployment



EOD: PAN Disrupter

SYSTEM DESCRIPTION:

A non-electric EOD tool, this stand-off disrupter is designed to remotely disable and render-safe IEDs from outside the fuze's detection range and without initiating them.

CAPABILITIES:

- Accurately aimed by a visible light laser
- Can be fired from EOD robots
- 18" or 24" barrel length

SYSTEM CHARACTERISTICS:

- Components include a 12-gauge barrel and breech assembly, firing stand, aiming laser, and shipping/storage container
- Known by its commercial name - Percussion Actuated Nonelectrical (PAN) Disrupter

SPECIAL FEATURES:

- Diverse selection of projectiles enable use against different types of IED such as soft case, pipe bomb or hard case
- Joint Service EOD equipment managed by Navy

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Idea Products, Lexington KY

LIN: T43820

ACQ Phase: Operation & Support



**EOD: Platoon
Supplemental Kit
(PSK)**

SYSTEM DESCRIPTION:

The PSK has tools in addition to those in the EOD Response Kit that enable the Heavy Team to perform mission beyond the capability of the response kit, such as EOD munitions with chemical or biological agents.

CAPABILITIES:

- Consolidates separate tool sets – eliminates duplication used in incidents involving munitions with chemical or biological agents
- Enables Heavy Team to handle incidents beyond capability of Light Teams WT: 442 lbs.

SYSTEM CHARACTERISTICS:

- 300 KVP X-ray source for greater penetration than the current 150 KVP chemical/biological incident response equipment
- Special expendable charge containers that can be packed with C4 or det cord for vehicle entry and disruption of IEDs
- Up-to-date borescope

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Kipper Tools, Gainesville, GA

LIN: T57126

ACQ Phase: Operation & Support



**Advanced Radiographic System
(ARS) MK 41 MOD 1**

SYSTEM DESCRIPTION:

The Advanced Radiographic System is a lightweight film-less radiographic system that obtains, enhances and records images of internal structures of IEDs and UXO for identification.

CAPABILITIES:

- An interim replacement for MK 41 MOD 0 pending fielding of Future Radiographic Systems
- Used with MK 32 MOD 3 X-ray
- Digital X-rayed image can be stored and transmitted

SYSTEM CHARACTERISTICS:

- Allows for the system components to be powered by 110/120 Volt AC or batteries
- Control unit includes two 12 volt rechargeable batteries, and the x-ray source has a 14.4 volt removable, rechargeable battery
- Control unit can also be powered from an external 24 volt DC vehicle battery or an optional adapter
- Compact and Lightweight

SPECIAL FEATURES:

- Designed primarily for use with a Golden Engineering XR-150, XR200, XRS-3 and inspector 200 x-ray sources

FIELDING:

- Fielded

PRIME CONTRACTOR:

- SAIC, San Diego, CA

LIN: X91036

ACQ Phase: Operations & Support



Army Preposition Stock (APS)

SYSTEM DESCRIPTION:

The APS sets of equipment enable rapid deployment of EOD companies without shipping their full Modified Table of Organization & Equipment upon deployment.

CAPABILITIES:

- Provides prepositioned EOD capability in APS-3 and APS-5 modules

SYSTEM CHARACTERISTICS:

- Sets of selected EOD company equipment
- Limited to large, heavy items which are configuration stable
- Includes Force Modernization buys
- Consolidated with ADRS buys

SPECIAL FEATURES:

- Comprised of selected EOD Company equipment loaded on LMSR vessels to support COCOM theaters

FIELDING:

- TBD

PRIME CONTRACTOR:

- Various

LIN: TBD

ACQ Phase: Operations & Support



EOD Response Kit

SYSTEM DESCRIPTION:

The EOD Response Kit is a set of common and special purpose tools used by EOD soldiers in response to incidents involving explosive hazards. It consolidates five separate EOD tool sets to eliminate duplication and reduce overall weight.

CAPABILITIES:

- Configured into separately packaged functional mission modules:
 - General demolition
 - Technical intelligence
 - Reconnaissance
 - IED search

SYSTEM CHARACTERISTICS:

- Packaged for storage in EOD utility body
- 50 cubic ft. and 585lbs. when palletized for separate shipment

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Kipper Tools, Gainesville, GA

LIN: T00280

ACQ Phase: Operations & Support



**EOD: MK 32 MOD 3
XR200 X-Ray Kit**

SYSTEM DESCRIPTION:

The portable x-ray set allows EOD technicians to examine internal components of suspected explosives, IEDs or UXOs. The MK 32 MOD 3 is interoperable with the Advanced Radiographic System (ARS) and MK 32 MOD 2.

CAPABILITIES:

- Single-package, pulsed X-ray source for radiographic examination
- System is lightweight and completely portable
- Ability to penetrate 1/2 inch of steel (150 KV penetration)

SYSTEM CHARACTERISTICS:

- Weight: 12 lbs.
- Size (including battery pack): 12.5 in. (31.75 cm) x 4.5 in. (11.5 cm) x 7.5 in. (19 cm)
- Generator allows for system components to be powered by 110/120 volt AC or batteries
- X-ray source has a 14.4 volt removable, rechargeable battery, 110 volt charger, remote cable and carrying case

SPECIAL FEATURES:

- Use with conventional or instant type x-ray film
- Can be used as x-ray source in real time video x-ray imaging systems
- Combination of battery power and minimal weight allows the user to obtain radiographs in remote locations

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Golden Engineering, Centerville, In

LIN: W62672

ACQ Phase: Operations & Support



**Medium Directional Energy
Tool (MDET) MK 42 MOD 0**

SYSTEM DESCRIPTION:

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 commonly seen as a car or truck bomb and can also include boats, aircraft, large shipping containers, etc.

CAPABILITIES:

- Includes six to eight EOD tools required to access, disrupt, or render safe LIEDs
- Greater than 100 lb. net TNT equivalent weight

SYSTEM CHARACTERISTICS:

- 2.75-inch recoilless smoothbore disrupter
- Fires a 1.2-liter water charge to penetrate car door or semitrailer side to disrupt LIED inside

FIELDING:

- Fielded

PRIME CONTRACTOR:

- MDET: Packaging Strategies, Inc., Baltimore, MD
- Propellant charge: R Stresau Laboratories, Inc., Spooner, WI

LIN: Z00346

ACQ Phase: Production & Deployment



Remote Hook and Line Kit

SYSTEM DESCRIPTION:

The kit 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:

- Provides capabilities to move, attach, anchor, reach, manipulate, handle and access various items
- Set of hooks, extension rods, lines, blocks, swivels, slings and pull handles
- Primarily used for remotely moving suspect objects
- Wide applications in both EOD and IED defeat operations

SYSTEMS CHARACTERISTICS:

- Over 50 components of 28 different types
- All housed in a steel case with the 100m main line reel attached to the lid.

SPECIAL FEATURES:

- Pulling/dragging/lifting
- Maneuvering/manipulating
- Unique component specifically designed to improve the probability of success

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Mithix, Farmerville, TX

LIN: R63474

ACQ Phase: Operations & Support



**Remote Ordnance
Neutralization System (RONS)**

SYSTEM DESCRIPTION:

The Remote Ordnance Neutralization System provides each EOD team with a peacetime/wartime remote, standoff capability to perform EOD missions.

CAPABILITIES:

- Provides EOD soldiers with the ability to perform reconnaissance, remote render-safe procedures and disposal tasks in a high-risk and/or contaminated environment

SYSTEM CHARACTERISTICS:

- Manipulator lifts approximately 100 lbs.
- Maneuvers through 30-in. wide openings
- Primary missions are outside due to its size

SPECIAL FEATURES:

- Control via radio frequency or fiber optic cable

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Remotec, Clinton, TN

LIN: M86561

ACQ Phase: Operations & Support



**Small Caliber Dearermer (SCD)
MK 38 MOD 0**

SYSTEM DESCRIPTION:

The Small Caliber Dearermer is capable of rendering safe firing devices, small landmines and other small munitions emplaced in various challenging orientations that cannot be practically rendered safe by existing EOD explosively driven tools.

CAPABILITIES:

- Cutting, gagging, severing or jamming small concealed, or otherwise screened, threat targets

SYSTEM CHARACTERISTICS:

- Set contains three 9 mm and three .22 caliber barrel/breech assemblies
- Barrels for each caliber are three different lengths: 2.5", 6" and 12"
- Each barrel/breech assembly includes a barrel, breech, firing pin, spring, retaining insert and setscrew

SPECIAL FEATURES:

- Set also includes a shock tube cutter, basic maintenance tools, cleaning supplies and a box of spare parts
- An inert tool until it is readied for use by loading ammunition and preparing firing circuit with non-electric shock tube

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Camtech Precision Manufacturing, Inc.
Jupiter, FL

LIN: T57518

ACQ Phase: Operations & Support



Tool Set MK2 Mod 1

SYSTEM DESCRIPTION:

The .50 caliber dearmmer is provides the EOD soldier the capability to render safe small firing devices and fuzes by means of a mechanical, explosively initiated system.

CAPABILITIES:

- Other uses include cutting, penetration of and the withdrawal of fuze components
- Cartridge tool used principally for shearing and jamming purposes

SYSTEMS CHARACTERISTICS:

- 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

SPECIAL FEATURES:

- Can also fire a load of steel shot or water slug
- Can be used without slug or steel shot for blast effect

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Savit Corp, Rockaway NJ

LIN: T60333

ACQ Phase: Operations & Support



**Unexploded Ordnance
Stand-Off Disrupter
(UXO SD) MK 40 MOD 0**

SYSTEM DESCRIPTION:

A modular, recoilless, inert tool, UXO SD was designed to remotely disrupt UXO and IEDs from a stand-off distance via a percussion activated projectile.

CAPABILITIES:

- Capable of firing a range of solid projectiles to defeat various threats
- Can configured as a stand-off dearmmer
- Features both a laser aiming sight and an optical aiming sight

SYSTEM CHARACTERISTICS:

- 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

SPECIAL FEATURES:

- Designed as portable equipment to support the mobility and quick deployment requirements of the EOD operating forces
- Decreases the probability of initiating the UXO or IED while allowing EOD soldier to engage targets from a protective posture

FIELDING:

- Fielded

PRIME CONTRACTOR:

- DTI, Arlington, VA

LIN: T57450

ACQ Phase: Operations & Support

PM

Maneuver Ammunition Systems

PM

Maneuver Ammunition Systems (PM MAS) provides direct fire combat and training ammunition capabilities to Warfighters (Army, Navy Air Force and Marines) and Government agencies to support dismounted Soldiers, Combat Vehicles, Helicopters, Naval Vessels and High Performance Aircraft. The PM does this through life cycle program management of ammunition in the categories of Large Caliber, Medium and Small Caliber, Medium Cannon Caliber and Non-Standard Ammunition.





120mm, Advanced Multi-Purpose (AMP-T)

SYSTEM DESCRIPTION:

Combines the capabilities of the M830, M830A1, M908 and M1028 within a single cartridge. This round will also provide the ABRAMs with new required capabilities to defeat ATGM Teams and Breach reinforced concrete walls.. The Program will utilize three modes of operation including PD, PDD, and Airburst.

CAPABILITIES:

- Concrete Wall, Bunkers, Buildings
- Dismounted Infantry, ATGM Teams
- Light Armor, Trucks, Cars , BMP’s

SYSTEM CHARACTERISTICS:

- Advanced Multi-Purpose tank cartridge.
- Multi-Mode Fuze
- Airburst Technology
- Enhanced Fragmenting Warhead
- Low Vulnerability Explosive

SPECIAL FEATURES:

- Provides new capability to defeat ATGM Teams dismounted Infantry at 7500m. and concrete wall breaching

FIELDING:

- FUE 3QFY17

PRIME CONTRACTOR(S):

- TBD

DODIC: TBD

Acq Phase: Technology Development



120MM, M829E4 (APFSDS-T)

SYSTEM DESCRIPTION:

M829E4 (APFSDS-T) is needed to provide overwhelming superiority against modern armor targets equipped with Advanced ERA. Milestone B was granted in Sept 09. A 4 year EMD Program initiated in FY10 with the award of 2 contractors (Alliant Techsystems & General Dynamics OTS). The EMD program consists of two phases. The first Phase culminated with a competitive shoot off and down-select to a single contractor for phase II (ATK). Phase II is underway

CAPABILITY/IMPROVEMENTS:

- Premier KE Cartridge

SYSTEM CHARACTERISTICS:

- 120mm
- 5th Generation 120mm Kinetic Energy cartridge.
- Depleted Uranium Penetrator
- Advanced Propulsion System
- Defeats Armor Targets Equipped with Explosive Reactive Armor and Active Protection Systems

SPECIAL FEATURES:

- Higher Operating Temperature
- Fully compatible with the ABRAMS & Projected 120mm Platforms

FIELDING:

- FUE 2QFY15

PRIME CONTRACTOR(S):

- Alliant Tech Systems, Inc.

DODIC: TBD

Acq Phase: Engineering & Manufacturing Development



120mm, M829A3
APFSDS-T (CA26)

SYSTEM DESCRIPTION:

120mm APFSDS-T ctg. is the most advanced anti-tank cartridge currently in production in world today. It employs a "Super DU" Penetrator manufactured via a process that enhances Depleted Uranium's properties and a revolutionary discarding sabot manufactured from a Light weight composite material. It employs an enhanced high density conventional propulsion system utilizing RPD-380 Propellant. It is capable of defeating tanks equipped with Explosive Reactive Armor, when fired from existing 120mm series Abrams tank fleet.

CAPABILITY/IMPROVEMENTS:

- Classified

SYSTEM CHARACTERISTICS:

- 120mm Kinetic Energy cartridge.
- Designed to Defeat Modern Tanks with ERA
- Incorporates Improved Penetrator, Sabot and Propulsion System

SPECIAL FEATURES:

- Superior Armor Defeat Capability
- Higher Velocity over M829A2 via Improved Propellant and Sabot
- Super DU Penetrator

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Alliant Techsystems, Inc., Defense Systems, Plymouth, MN

DODIC (CA26)

ACQ Phase: Operations & Support



120MM, KE-W A1
(For FMS)

SYSTEM DESCRIPTION:

Contractor developed tungsten APFSDST cartridges being procured as FMS.

CAPABILITIES:

- Provide Enhanced Lethality over KE-W

SYSTEM CHARACTERISTICS:

- Tungsten Penetrator
- KE-W A1 — Aluminum Sabots, L1M Multi Perforated Granular Propellant
- Designed to Defeat Heavy Armor Targets

SPECIAL FEATURES:

- 10% Increase in Armor Penetration Over KE-W
- Design Based on German DM43A1 ctg. with Tungsten Penetrator

FIELDING:

- No U.S. Fielding. Foreign Military Sales (FMS) Product

PRIME CONTRACTOR:

- General Dynamics — Ordnance and Tactical Systems (GD-OTS)

DODIC — N/A

ACQ Phase: Production & FMS



120mm, M1002 Target
Practice Multi-Purpose with Tracer
(TPMP-T) (CA31)

SYSTEM DESCRIPTION:

Training ctg. for M830A1 HEAT-MP-T & M908 HE-OR-T tactical ctg. utilizes a propulsion system similar to other 120mm training ctgs and a discarding sabot projectile configuration externally similar to M830A1 projectile. The projectile also contains an air/ground mode selector switch simulator on the nose to provide for loader training familiarization with switch setting operation on the tactical ctg.

CAPABILITY/IMPROVEMENTS:

- Provides Training Round that Replicates Tactical Scenario, Including Loader Setting of Air/Ground Switch
- Meets 8km Range Limitation

SYSTEM CHARACTERISTICS:

- Simulates M830A1 HEAT-MP-T & M908 HE-OR-T Configuration and Ballistics
- Provides Range Limitation of 8km

SPECIAL FEATURES:

- Air/Ground Mode Selector Switch Simulator
- Saboted Projectile Replicating Tactical M830A1
- “Drag” Cone Stabilized to Achieve Max. Range Limitation

FIELDING:

- Fielded

PRIME CONTRACTORS:

- Alliant TechSystems (ATK), Plymouth, MN
- GDOTS, St. Petersburg, FL

DODIC - CA31

ACQ Phase: Production & Deployment



120mm, Canister,
M1028 (CA38)

SYSTEM DESCRIPTION:

120mm Canister ctg. to be used against ground troops at short range (<700 meters). Utilizes payload of ~1100 tungsten balls that are dispersed from a projectile casing upon muzzle exit, similar to how a shotgun shell exits the muzzle. This ctg. provides anti-personnel capability on the Abrams.

CAPABILITY/IMPROVEMENTS:

- Provides Effective Anti-Personnel Capability to Abrams

SYSTEM CHARACTERISTICS:

- Provides Anti-Personnel Capability for Abrams Tank
- Developed to Defeat 50% of Advancing Squad & Platoon, 200-500m Threshold; 100-700m Objective

SPECIAL FEATURES:

- Tungsten Balls in Warhead
- No Fuzing: Increased Handling Safety

FIELDING:

- Fielded

PRIME CONTRACTOR:

- N/A

DODIC - CA38

ACQ Phase: Operations & Support



**120mm, M830A1 High Explosive
Anti-Tank Multi-Purpose w/Tracer
(HEAT-MP-T) (C791)**

SYSTEM DESCRIPTION:

High Explosive Anti Tank Multi-Purpose Tactical round for U.S. Main Battle Tank. Designed with Tracer, Discarding Sabot, and RF proximity sensor mounted on the nose to provide capability against helicopters, and improved capabilities against reactive appliqué armor.

CAPABILITY/IMPROVEMENTS:

- Self-Defense Anti-Helicopter Capability
- Improved Hit Probability
- Reduced Time of Flight
- Increased Effectiveness Against Buildings/Bunkers

SYSTEM CHARACTERISTICS:

- Multi-Purpose Capability
- High Explosive for effect against bldgs.
- Shaped charge to defeat armor
- RF Proximity Sensor

SPECIAL FEATURES:

- RF Proximity Switch Provides Air Defense Capability
- Sabot Increases Survivability & Reduces Time of Flight (TOF)

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Alliant TechSystems (ATK), Inc., Plymouth, MN

DODIC - C791

Acq Phase: Operations and Support



**120mm, M831A1
Target Practice
TP-T (C784)**

SYSTEM DESCRIPTION:

M831A1 Target Practice with tracer, in service with U. S. Army and Marine Corps' main battle tank fleet, utilizes a combustible ctg. case and full bore projectile

CAPABILITIES:

- Training cartridge for M830 HEAT-T Tactical cartridge
- Utilizes a propulsion system similar to other 120mm training cartridges
- Target Range: 2000m
- Maximum Range: 6500m

SYSTEM CHARACTERISTICS:

- Training Round that Replicates Tactical Scenario
- Simulates M830 HEAT-T Service Ammo

SPECIAL FEATURES:

- Simulates M830 HEAT-T Tactical Round Configuration and Ballistics

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Stockpile assets were produced by Alliant Techsystems (ATK) Plymouth, MN and General Dynamics Ordnance and Tactical Systems (GD-OTS), St Petersburg, FL.

DODIC - C784

Acq Phase: Operations and Support



**120mm, M908 High Explosive
Obstacle Reduction W/Tracer
(HE-OR-T) (CA-05)**

SYSTEM DESCRIPTION:

M908 is a high explosive 120mm cartridge for the U.S. Main Battle Tank designed to reduce concrete obstacles found in Korea. Identical to the 120mm HEAT-MP-T, except fitted with a steel nose in place of the proximity switch.

Also provides capability similar to the M830A1 against buildings, bunkers and light armor.

CAPABILITY/IMPROVEMENTS:

- Reduces obstacles such as concrete barriers
- Effective Against Buildings/Bunkers and Light Armor

SYSTEM CHARACTERISTICS:

- Same Aeroballistics as M830A1
- Steel Nose
- High Explosive for effects against bldgs.
- Shaped charge to defeat light armor.

SPECIAL FEATURES:

- Enhanced performance against concrete obstacles found in Korea

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Alliant TechSystems (ATK), Inc., Plymouth, MN

DODIC - CA05

Acq Phase: Operations and Support



**120mm, M830 High Explosive
Anti-Tank Multi-Purpose w/Tracer
(HEAT-MP-T) (C787)**

SYSTEM DESCRIPTION:

High Explosive Anti Tank Multi-Purpose Tactical round for U.S. Main Battle Tank. The cartridge is intended for use against tanks, personnel and buildings/bunkers. The design is based on the German DM12A1 except with a U.S. fuze and explosive.

CAPABILITY/IMPROVEMENTS:

- Initial U.S. 120 mm High explosive Ctg.
- Improved effects over original 105mm High Explosive Ctg.

SYSTEM CHARACTERISTICS:

- Shaped charge to defeat tanks
- Steel fragmentation for anti-personnel effects
- High Explosive for effects against buildings

SPECIAL FEATURES:

- Shaped charge
- Stand-off point detonation

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Alliant TechSystems (ATK), Inc., Plymouth, MN
- General Dynamics Ordnance and Tactical Systems (GD-OTS), St Petersburg FL

DODIC - C787

Acq Phase: Operations and Support



105mm, M1040
Canister (CA40)

SYSTEM DESCRIPTION:

Satisfies the Mobile Gun System’s (MGS) primary armament requirement to defeat dismounted infantry squad in the open. The canister ctg. is used against ground troops at short range. Upon muzzle exit, the projectile breaks apart and releases over 2000 tungsten spheres, similar to a shotgun shell. Unique design provides near optimum performance across temperature extremes.

CAPABILITY/IMPROVEMENTS:

- New, Unique Capability for MGS

SYSTEM CHARACTERISTICS:

- Provides anti-personnel capability for Stryker Mobile Gun System
- Required to provide 50% incapacitation to 5 men of a 10 man squad from 100m to 300m (Threshold); 50m to 500m (Objective)

SPECIAL FEATURES:

- Fully compatible With MGS
- Steel cartridge case

FIELDING:

- Fielded

PRIME CONTRACTOR:

- TBD

DODIC - CA40

ACQ Phase: Production & Deployment



105mm, M393A3
(HEP-T) (CA32)

SYSTEM DESCRIPTION:

Satisfies Mobile Gun System (MGS) primary armament requirement to defeat standard infantry bunkers and create openings in double reinforced concrete walls through which infantry can pass through.

CAPABILITY/IMPROVEMENTS:

- Mobile Gun System primary armament to defeat standard infantry bunkers and create openings in double reinforced concrete walls.

SYSTEM CHARACTERISTICS:

- High Explosive Plastic with Tracer (HEP-T)
- Creates holes in 8” Double Rebar Concrete Walls so Infantry can pass through
- Utilizes Dual Safe Fuze
- Defeats Bunkers, Light Armored Vehicles, Trucks, Cars and Sniper positions

SPECIAL FEATURES:

- Dual Safe Fuze (Army 1st)
- Fully Compatible With MGS
- Steel cartridge case

FIELDING:

- Fielded

PRIME CONTRACTOR:

- N/A

DODIC - CA32

ACQ Phase: Operations & Support



105mm, M467A1
(HEP-TP-T) (CA37)

SYSTEM DESCRIPTION:

Inert round of ammunition fitted with a tracer for use by Army's Mobile Gun System (MGS) in gunnery training and qualification. Physically and ballistically matched to 105mm M393A3 High Explosive Plastic with Tracer (HEP-T) procured for MGS.

CAPABILITIES/IMPROVEMENTS:

- Replaced M86 primer with M125 Type Thickwall Primer

SYSTEM CHARACTERISTICS:

- Target Practice with Tracer (TP-T)
- Training Round (Inert) for M393A3
- Dimensional, weight and ballistic match to M393A3
- Range limited to 8,000m

SPECIAL FEATURES:

- Weight and Dimensional Match with M393A3 HEP-T.
- Fully Compatible with MGS
- Steel cartridge case

FIELDING:

- Fielded

PRIME CONTRACTORS:

- N/A

DODIC - CA37

Acq Phase: Operations and Support



105mm, M724A1
TPDS-T (C520)

SYSTEM DESCRIPTION:

M724A1, 105mm Target Practice Discarding Sabot with Tracer (TPDS-T) cartridge is used for gunnery training in M68 cannon mounted to the Stryker Mobile Gun System (MGS). It is used as a training surrogate for all 105mm kinetic energy cartridges including the M735, M774, M833, and M900. The projectile consists of a plastic band encircling the sabot at the forward end, a fiber rotating band, rubber obturator, and a solid core. The projectile lacks armor penetrating strength since it is used for training purposes only.

CAPABILITY/IMPROVEMENTS:

- Provides inexpensive cartridge for training

SYSTEM CHARACTERISTICS:

- Provides KE training capability to Stryker MGS
- Ballistic match to M392A2 out to 2000m

SPECIAL FEATURES:

- Fully compatible with MGS
- Steel cartridge case

FIELDING:

- Fielded

PRIME CONTRACTORS:

- N/A

DODIC - C520

Acq Phase: Operations and Support



**105mm, M456A2
HEAT-MP-T (C508)**

SYSTEM DESCRIPTION:

M456A2 is a High Explosive Anti-Tank, Multi-Purpose with Tracer (HEAT-MP-T) cartridge for use in the M68, 105mm cannon of the Stryker Mobile Gun System (MGS). It 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, point-detonating 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.

CAPABILITY/IMPROVEMENTS:

- Impact switch assembly provides higher functioning reliability
- Initiation can occur from contact with any part of the standoff spike assembly
- Improved performance on irregular surfaces and graze functioning

SYSTEM CHARACTERISTICS:

- Provides Anti-Tank capability to Stryker MGS

SPECIAL FEATURES:

- Shaped charge liner
- Impact switch assembly w/ integrated power supply

FIELDING:

- Fielded

PRIME CONTRACTORS:

- N/A

DODIC - C508

Acq Phase: Operations and Support



**105mm, M490A1
TP-T (C511)**

SYSTEM DESCRIPTION:

M490A1, 105mm Target Practice with Tracer (TP-T) cartridge is an inert round of ammunition fitted with a tracer for use in M68, 105mm cannons on the Stryker Mobile Gun System (MGS). The cartridge is used for training and gunnery qualification. It is similar in appearance and is ballistically matched to the 105mm M456 HEAT-T series.

CAPABILITY/IMPROVEMENTS:

- Ballistic match to M456 series
- Static stabilized versus fin stabilized (M490)

SYSTEM CHARACTERISTICS:

- Provides inexpensive training cartridge

SPECIAL FEATURES:

- Inert steel body
- Steel standoff spike
- M13 tracer

FIELDING:

- Fielded

PRIME CONTRACTORS:

- N/A

DODIC - C511

Acq Phase: Operations and Support



**105mm, M900
Armor Piercing/Kinetic Energy
(APFSDS-T) (C543)**

SYSTEM DESCRIPTION:

M900 is an armor piercing, fin stabilized Discarding sabot with tracer. M900 is kinetic energy ctg., with monolithic depleted uranium penetrator

CAPABILITY/IMPROVEMENTS:

- Antitank round intended for use with 105mm, in Stryker MGS against Armored targets

SYSTEM CHARACTERISTICS:

- Effective range to 3000m
- DU Penetrator
- Weight is 18.50 kg and height is 1003mm

SPECIAL FEATURES:

- Depleted uranium penetrator
- Steel Cartridge Case
- M43 LOVA Propellant

FIELDING:

- Fielded

PRIME CONTRACTORS:

- GD-OTS

DODIC - C543

Acq Phase: Operations and Support







**20mm MK149
APDS w/ MK7 Link**

SYSTEM DESCRIPTION:

The round was developed for the improved MK15 Phalanx . The traced projectile has a self destruct capability that minimizes collateral surface damage from engagement of airborne threats. The Ctg was Developed for U.S. Navy's Phalanx Anti-Ship Missile Defense System

CAPABILITIES:

- Originally Designed to Defeat Aircraft at Ranges up to 2,000m
- Land-based PHALANX Weapon System C-RAM) to Employ M940 Against Rockets, Artillery Shells, and Mortar Rounds

SYSTEM CHARACTERISTICS:

- Armor-Piercing Discarding Sabot
- Pyrotechnic Initiated Explosive (PIE)
- Steel Projectile Body Filled w/ High Explosive and Incendiary Mix

- Aluminum Nose w/ Incendiary Mix
- Overall ctg. Length: 156.6mm
- Propellant Type: WC 859
- Electric Primer: M52A3B1

SPECIAL FEATURES:

- MK149 Used by NAVSEA FMS
- DODIC A692 Dedicated for use in MK15 Phalanx Close-In Weapons System (CIWS) - (M61A1 Gatling Gun)
- Belted With MK7 Links; 100 Linked Rounds Per M548 Metal Box

FIELDING:

- Fielded

PRIME CONTRACTOR:

- General Dynamics Ordnance and Tactical Systems (GDOTS)
- Alliant TechSystems, Inc (ATK)

DODIC A692

ACQ Phase: Production & Deployment



**20mm MK244 Mod 0
APDS-ELC w/ MK7 Link**

SYSTEM DESCRIPTION:

The round was developed for the improved MK15 Phalanx Block 1B and is designed for use only in the Optimized Gun Barrels (OGB). The MK244 cartridge uses an optimized tungsten penetrator that extends the effective range against high-speed anti-ship missile threats.

CAPABILITIES/IMPROVEMENTS:

- The Mk244 projectile dispersion is 40% less than Mk149. Producing lower Circular Error Probable (C.E.P.) with increased probability of hit.
- The Mk244 has a 48% heavier penetrator. The increased penetrator mass coupled with improved ballistic efficiency produces higher kinetic energy on target.

- Velocity: 33610fps, 78 ft From Muzzle
- Chamber Pressure: 61,400 psi
- Propellant Type: Double Base Ball/OBP-888

SPECIAL FEATURES:

- MK244Used by NAVSEA
- DODIC AA61 dedicated for use in MK15 Phalanx Block 1B .
- Belted With MK7 Links; 100 Linked Rounds Per M548 Metal Box

FIELDING:

- Fielded

PRIME CONTRACTOR:

- General Dynamics Ordnance and Tactical Systems (GDOTS)
- Alliant Tech Systems, Inc (ATK)

SYSTEM CHARACTERISTICS:

- 20mm Armor-Piercing Discarding Sabot-Enhanced Lethality Cartridge
- Overall Length: 6.615 Inches Nominal (168mm)
- Primer: Electric (M52A3B1)
- Fully Interoperable With all 20mm x 102 Gun Systems and Support/ Handling Equipment

DODIC AA61

ACQ Phase: Production & Deployment



**20mm M940
MPT-SD w/ MK7 Link**

SYSTEM DESCRIPTION:

The projectile has delayed reaction after impact that results in large fragments and incendiary effects inside a threat. The traced projectile has a self destruct capability that minimizes collateral surface damage from engagement of airborne threats. The Ctg was Developed for U.S. Army's Extinct Vulcan Air Defense System (VADS). The M940 was Resurrected by U.S. Army Counter-Rocket, Artillery, and Mortar Program (CRAM)

CAPABILITIES:

- 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

SYSTEM CHARACTERISTICS:

- Traced Multi-Purpose ctg. w/ Self-Destruct
- Pyrotechnic Initiated Explosive (PIE)
- Steel Projectile Body Filled w/ High Explosive and Incendiary Mix

- Aluminum Nose w/ Incendiary Mix
- Overall ctg. Length: 156.6mm
- Propellant Type: WC 866
- Electric Primer: M52A3B1

SPECIAL FEATURES:

- U.S. Army and U.K. (FMS) Current Users
- DODIC AB07 Dedicated for use in Land-Based PHALANX Weapon System (M61A1 Gatling Gun)
- Belted With MK7 Links; 100 Linked Rounds Per M548 Metal Box

FIELDING:

- Fielded

PRIME CONTRACTOR:

- General Dynamics Ordnance and Tactical Systems (GDOTS)
- Alliant TechSystems, Inc (ATK)

DODIC AB07

ACQ Phase: Production & Deployment



20mm M55 Series

SYSTEM DESCRIPTION:

M50 series ammunition was developed for M61A1/A2 aircraft mounted guns. The M55 Threat Practice (TP) is used world wide on 20mm x 102 gun Systems

CAPABILITIES/IMPROVEMENTS:

- Low Cost Target Practice Cartridges Ballistically Matched to M50 Series Ammunition for Training Accuracy
- Compatible With 20mm M39A2, M61, M621, and M197 Chain Gun Systems

SYSTEM CHARACTERISTICS:

- 20mm Target-Practice Round
- Overall Length: 6.615 Inches Nominal (168mm)
- Primer: Electric
- Fully Interoperable With all 20mm x 102 Gun Systems and Support/Handling Equipment
- Velocity: 3380 fps, 78 ft From Muzzle
- Chamber Pressure: 60,500 psi

SPECIAL FEATURES:

- M55 Used by USAF FMS
- 20mm Target Practice Round
- A891/M55A2 TP Bulk Pack/250 Rounds per M548 can
- A889/M55A2 TP M12 Link/100 Rounds per M548 can
- A926/M55A2 TP M14A2 Link/100 Rounds per M548 can
- Shipped on MK3 Metal Pallet M548 Container is GFM

FIELDING:

- Fielded

PRIME CONTRACTOR:

- To Be Selected

DODIC A891, A889, & A926

ACQ Phase: Production & Deployment



20mm M56 HE-I

SYSTEM DESCRIPTION:

M50 Series ammunition was developed for M61A1/A2 Aircraft mounted guns. The M56 High Explosive incendiary (HE-I)

CAPABILITIES:

- Ctg's Used Against Ground Targets, Including Lightly Armored Vehicles, Functioning With Both Explosive and Incendiary Effect
- Compatible With 20mm M39A2, M61, M621, and M197 Chain Gun Systems

SYSTEM CHARACTERISTICS:

- 20mm High Explosive Incendiary Round
- Overall Length: 6.615 Inches Nominal (168mm)
- Primer: Electric
- Fully Interoperable with all 20mm x 102 Gun Systems and Support/Handling Equipment
- Velocity: 3380 fps, 78 ft from muzzle
- Chamber Pressure: 60,500 psi

SPECIAL FEATURES:

- M56 Used by USAF FMS
- 20mm High Explosive Incendiary Round
- A890/M56 HEI Bulk Pack 250 Rounds per M548 can
- Shipped on Wood Pallet
- M548 Container is GFM

FIELDING:

- Fielded

PRIME CONTRACTOR:

- To Be Selected

DODIC A890

ACQ Phase: Production & Deployment



20mm, PGU-27A/B TP
PGU-30A/B TP-T

SYSTEMS DESCRIPTION:

20mm PGU series munition is improvement of M50 series. Used in all M61A1/A12 Aircraft guns. 20mm improved ctg. Family projectiles have optimized aeroballistic shape that reduces time of flight and increases velocity at range for increased probability of hit. PGU 27 A/B TP and PGU 30 A/B TP-T are cost effective training ctgs. That are ballistically matched on the PGU 28 A/B

CAPABILITIES:

- PGU-27 A/B Used as Training Ctg. For PGU-28 A/B SAPHEI Round
- PGU-27/30 A/B Used as Training ctg. for PGU-28/30 A/B SAPHEI Round
- Used on Aircrafts Utilizing M61 Cannon

SYSTEM CHARACTERISTICS:

- 20mm Target-Practice Round Used to Simulate PGU-28 A/B
- 20mm PGU-27/30 A/B Target Practice Tracer (TP-T) Linked 4:1 TP:TP-T

- Overall Length: 6.615 Inches Nominal Ctg. Case: M103
- Propellant: WC 868 Ball Powder
- Primer: M52A3B1 Electric
- Fully Interoperable With all 20mm x 102 Gun Systems and Support/Handling Equipment
- Type Classified and Fielded in F-14, F-15, F-16, F/A-18, and AH-1
- Muzzle Velocity: 3,410 Feet per Second (fps) Nominal
- Case Mouth Pressure: 61,500 Pounds per Sq. Inch (psi) Max
- Action Time: 4.0 Milliseconds
- Accuracy: Average Mean Radius 15 Inches at 500 Yards

SPECIAL FEATURES:

- PGU-27 A/B Used by USN and USAF
- PGU-27/30 A/B Used by USN

- 250 rounds Bulk (AA24) or 100 Belted rounds w/M14A2N Link (AA25) per M548 Container
- 100 Belted rounds w/M14A2N 4:1 / TP:T (AA27) per M548 can
- Shipped on MK3 Metal Pallet

FIELDING:

- Fielded

PRIME CONTRACTOR:

- General Dynamics Ordnance and Tactical Systems (GD-OTS)
- Alliant TechSystems (ATK), Inc

DODIC AA24 & AA27

ACQ Phase: Production & Deployment



**20mm, PGU-28A/
B SAPHEI**

SYSTEMS DESCRIPTION:

20mm PGU series munition is improvement of M50 series. Used in all M61A1/A12 Aircraft guns. 20mm improved ctg. Family projectiles have optimized aeroballistic shape that reduces time of flight and increases velocity at range for increased probability of hit. PGU 28 A/B is used in Air to Ground role due to its armor penetrating capability. Its performance improvements in terms of drag, effective range, time of flight, and graze angle tolerance made the round selection for use against air to air targets in gunnery scenarios.

CAPABILITIES:

- Used on Aircraft Utilizing M61 Cannon
- Effective Against Soft and Light Armored Targets
- Penetration: Probable Ballistic Limit <2,786 f/s Against 0.375 Inch Armor at 0 Degrees

SYSTEM CHARACTERISTICS:

- 20mm Semi-Armor-Piercing High Explosive Incendiary (SAPHEI) ctg.
- Overall Length: 168 mm Nominal, ctg. Case: M103
- Propellant: WC 868 Ball Powder
- Primer: M52A3B1 Electric
- Nose Incendiary: RS 41
- Body Incendiary: RS 40
- Body Explosive: Composition A4
- Qualified for Use in M61 Cannon
- Muzzle Velocity: 3,410 Feet per Second (fps) Nominal
- Case Mouth Press: 61,500 Poundsper Square Inch (psi) Max
- Action Time: 4.0 Milliseconds
- Accuracy: Average Mean Radius 15 Inches at 500 Yards

SPECIAL FEATURES:

- PGU-28A/B Used by USN, USAF and USMC
- Bulk Pack (AA22) or Belted (AA23) Utilizing M14A2N Link
- 100 rounds Bulk or 250 Belted rounds per M548 Container
- Shipped on MK3 Metal Pallet

FIELDING:

- Fielded

PRIME CONTRACTOR:

- General Dynamics Ordnance and Tactical Systems (GD-OTS)
- Alliant TechSystems (ATK), Inc.

DODIC AA22 & AA23

ACQ Phase: Production & Deployment





25mm, M793, TP-T

SYSTEM DESCRIPTION:

M793 was developed as part of original Bradley Fighting vehicle System as a low cost target practice ctg. to simulate the M792. It is fired from M242 autogun mounted on US Army M2/M3 BFVS, USMC LAV-25 or the MK38 Weapon Station aboard Navy ships.

CAPABILITY:

- Target Practice

SYSTEM CHARACTERISTICS:

- 25mm, Target Practice with Tracer (TP-T)
- Simulates the Ballistic Trajectories of M792 and MK210
- Typical Dispersion: .50 X .050 MILS
- Muzzle Velocity: 1,100 Meters per Second (mps)

- Chamber Pressure: 3496 Megapascals (Mpa) Max.
- Trace Time: Minimum 3.5 Seconds
- Time of Flight to 2,000 Meter Target: 3.6 Seconds
- Guns — M242, KBA, M811, and GAU-12/A Cannons
- Platforms — Bradley, LAV-25 and MK38
- The M793 is NATO Certified, per STANAG 4173 (NATO Design AC/225-161A)

SPECIAL FEATURES:

- Low Cost Ballistic Simulator for the M792 and MK210

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Alliant TechSystems (ATK)
- General Dynamics Ordnance and Tactical Systems (GD-OTS)

DODIC A976

ACQ Phase: Production & Deployment



25mm, M794, Dummy

SYSTEM DESCRIPTION:

25mm Dummy M794 ctg. is used for training of proper handling and loading of ammunition and for non-firing system training and checkout of the 25mm M242 Automatic Cannon

CAPABILITY:

- Operator training in stowing, unpacking, interface checks

SYSTEM CHARACTERISTICS:

- Inert training Device
- Simulates Size, Shape and Mass Distribution of M792, M793, MK210, PGU-23, PGU-25, PGU-32, and PGU-38
- Gun — M242, KBA, M811, and GAU – 12/A Cannons
- Platforms — Bradley, LAV-25, MK38, and AC-130

SPECIAL FEATURES:

- Inert Training Device
- Uses Modified M793 Hardware so Size and Shape are Identical to M793
- Case Filled With Epoxy to Simulate Weight and Mass Distribution of Live ctgs.

FIELDING:

- Fielded

PRIME CONTRACTOR:

- No Current (can be made by GD, ATK or other)

DODIC A967

ACQ Phase: Production & Deployment



25mm, M910, TPDS-T

SYSTEM DESCRIPTION:

M910 was developed as a low cost range limited target practice ctg. to simulate the M791. It is fired from M242 autogun mounted on US Army M2/M3 BFVS or the USMC LAV-25. The M910 ctg. assembly consists of a steel ctg. case crimped to projectile assembly. The ctg. case contains M115 percussion primer, IB52 booster pellet and approximately 100 grams of Ball powder. The projectile consists of a steel core, aluminum pusher, steel windscreen, nylon sabot and a tracer.

CAPABILITY:

- Target Practice

SYSTEM CHARACTERISTICS:

- 25mm Target Practice Discarding Sabot with Tracer (TPDS-T)
- Simulates the M791 and M919 ctgs
- Typical Dispersion: 0.40 X 0.40 Mils

- Muzzle Velocity: 1,520 Meters per Second (mps)
- Chamber Pressure: 4196Megapascals (Mpa) Max
- Trace Time: 2.0 Seconds (Minimum)
- Time of Flight to 2,000 Meter Target: 1.90 seconds
- Gun — M242, KBA, M811, and GAU-12/A Cannons
- Platforms — Bradley, LAV-25

SPECIAL FEATURES:

- Low Cost Ballistic Simulator for:
- M791 From 0 to 2600m
- M919 From 0 to 2100m

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Alliant TechSystems (ATK), Inc
- General Dynamics Ordnance and Tactical Systems (GD-OTS)

DODIC A940

ACQ Phase: Production & Deployment



25mm, M919 APFSDS-T

SYSTEM DESCRIPTION:

25mm APFSDS-T, M919 was developed to counter the growing light armor vehicle threat. It provides a significant increase in lethality compared to the 25mm M791 APDS-T ctg.. It is the primary medium caliber service round for armor piercing for the US Army. It is used in M242 automatic cannon which is turret mounted on M2 or M3 Bradley Fighting Vehicles and the USMC LAV-25. The M919 ctg. consists of a DU penetrator, 3-piece discarding aluminum sabot, nylon obturator, plastic nose cap, steel fin, tracer, steel ctg., El propellant, percussion primer and black powder flash tube. M919 is an ACAT III Program

CAPABILITY:

- Effective Range & Penetration Capability – Classified
- Enhances Overall Performance and Survivability of Bradley Fighting Vehicle System

SYSTEM CHARACTERISTICS:

- 25mm Armor-piercing, Fin Stabilized Discarding Sabot With Tracer
- Provides Capability Against Known Light Armor Systems
- Depleted Uranium Penetrator Gun — M242, KBA,
- Platforms: Bradley Fighting Vehicle System & USMC LAV-25

SPECIAL FEATURES:

- Fin Stabilized, Sabot Launched, High L/D Depleted Uranium Penetrator
- High Energy/Low Flame Temp Propellant
- Metal Injected Molded Stainless Four Vane Fin

FIELDING:

- Fielded

PRIME CONTRACTOR:

- General Dynamics Ordnance and Tactical Systems (GD-OTS)

DODIC A986

ACQ Phase: Production & Deployment



25mm, PGU-23, TP

SYSTEM DESCRIPTION:

PGU-23 is low-cost and ballistically similar to the USAF PGU-25 and PGU-38. PGU-23 can be fired from the M242, KBA, M811, and GAU-12/A Cannons

CAPABILITY:

- PGU-23 Ballistically Similar to PGU-25 and PGU-38
- Functionally Similar to M793, Minus Tracer Training use Only

SYSTEM CHARACTERISTICS:

- 25mm, Target Practice (TP)
- Designed to Simulate Ballistic Trajectory of 25mm, PGU-25
- Typical Dispersion: 0.50 MILS X 0.50 MILS
- Muzzle Velocity: 1,100 Meters per Second (mps)

- Both Alliant and GD-OTS use WC-890 Double Based Ball Powder™
- Both Configurations Utilize M115 Percussion Primer and IB-52 booster pellet
- Steel ctg. Case

SPECIAL FEATURES

- Low Cost Ballistic Simulator for M792 and MK210

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Alliant TechSystems (ATK)

DODIC A978

ACQ Phase: Production & Deployment



25mm, PGU-25 HEI

SYSTEM DESCRIPTION:

PGU-25 is a tactical round used against aircraft and light material targets. PGU-25 can be fired from any system using the M242, Bushmaster, KBA, M811, or GAU-12 weapon. PGU-25 complies with NATO STANAG 4173

CAPABILITY:

- High Explosive Round can be Fired From any System Using M242 Bushmaster, KBA, M811, or GAU-12 Weapon

SYSTEM CHARACTERISTICS:

- 25mm, High Explosive Incendiary
- Weight: 493 g
- Muzzle Velocity (nominal): 1,100 m/s
- Chamber Pressure: 402 Mpa
- Trace: Untraced
- Typical Dispersion: 0.50 MILS X 0.50 MILS
- Time of Flight (2000m): 3.6 sec
- Fuze: M505 Point Detonating

SPECIAL FEATURES:

- PGU-25 Used by USAF & USN
- USAF is Current Customer
- Pack out is 100 rds per CNU-405 Container for This Procurement
- Uses M505 Point Detonating Fuze

FIELDING:

- Fielded

PRIME CONTRACTOR:

- General Dynamics Ordnance and Tactical Systems (GD-OTS), Inc
- Alliant TechSystems (ATK), Inc

DODIC A982

ACQ Phase: Production & Deployment



25mm, PGU-32/
U SAPHEI-T

SYSTEM DESCRIPTION:

The PGU-32/U SAPHEI-T, 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.

CAPABILITY:

- Effective Against Light Structures
- Effective Against Light Vehicles

SYSTEM CHARACTERISTICS:

- 25mm Semi-Armor Piercing High Explosive Incendiary-Traced
- Provides improved effectiveness against soft and light armored targets.
- Typical Dispersion .77 x .77 mils

- Ballistic match to PGU-20/U API, PGU-33/TPF-T and conventional 25mm ammunition Muzzle Velocity 1100 Meters per Second (m/s)
- Chamber Pressure 425 Mega Pascals (MPa)
- Gun — M242, KBA, M811, or GAU-12/A
- Platforms: AV-8/B Harrier and Mk 38 Navy platforms

SPECIAL FEATURES:

- Self Destruct Fuze
- Explosive Charge Contains an Incendiary
- PGU-32/U is Used by Marine Corps and Navy

FIELDING:

- Fielded

PRIME CONTRACTOR:

- General Dynamics Ordnance and Tactical Systems (GD-OTS)
- Alliant TechSystems (ATK)

DODIC A990

ACQ Phase: Production & Deployment





25mm, PGU-38/U HEI

SYSTEM DESCRIPTION:

PGU-38 is a tactical round used against aircraft and light material targets. PGU-38 can be fired from any system using the M242, KBA, M811, and GAU-12/A cannons. The PGU-38 is used by the USAF on the AC-130 platform.

CAPABILITY:

- Effective Against Personnel
- Effective Against Light Structures
- Effective Against Light Vehicles

SYSTEM CHARACTERISTICS:

- 25mm High Explosive Incendiary with Tracer
- Provides Lethality Against Personnel And Some Capability Against Light Structures And Light Vehicles
- Typical Dispersion .50 x .50 mils

- Muzzle Velocity 1100 Meters per Second (m/s)
- Chamber Pressure 379 Mega Pascals (MPa)
- Self Destruct at 6.2 Seconds
- Gun — M242, KBA, M811, and GAU-12/A
- Platforms: Bradley Fighting Vehicle System & USMC LAV-25

SPECIAL FEATURES:

- Self Destruct Fuze
- Explosive Charge Contains an Incendiary
- PGU-38 is Used by USAF

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Alliant TechSystems (ATK)

DODIC A941

ACQ Phase: Production & Deployment



25mm, M792 HEI-T

SYSTEM DESCRIPTION:

M792 was developed as part of the original Bradley Fighting vehicle System to engage enemy personnel, lightly armored vehicles to include Soviet type personnel carriers, weapon emplacements and conduct reconnaissance by fire. It is fired from M242 autogun mounted on US Army M2/M3 BFVS or USMC LAV-25.

CAPABILITY:

- Effective Against Personnel
- Effective Against Light Structures
- Effective Against Light Vehicles

SYSTEM CHARACTERISTICS:

- 25mm High Explosive Incendiary with Tracer
- Provides Lethality Against Personnel and Some Capability Against Light Structures and Light Vehicles
- Typical Dispersion .50 x .50 mils
- Muzzle Velocity 1100 Meters per Second (m/s)
- Chamber Pressure 496 MegaPascals (MPa) Max

- Self Destruct at 6.2 Seconds
- Gun — M242, KBA, M811, and GAU-12/A
- Platforms: Bradley Fighting Vehicle System, USMC LAV-25, & AC-130

SPECIAL FEATURES:

- Self Destruct Fuze
- Explosive Charge Contains an Incendiary

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Alliant TechSystems (ATK)

DODIC A975

ACQ Phase: Production & Deployment



**30mm X 113mm TP, M788
(LIGHTWEIGHT)**

SYSTEM DESCRIPTION:

The M788 was developed as part of the Apache Attack Helicopter System as a low cost target practice ctg. to simulate the M789. 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 helicopter and Army Special Operations Forces Blackhawk Helicopter. The M788 ctg. consists of a steel projectile body and an aluminum nose. The projectile is mated to the ctg. case assembly which is composed of an aluminum case, PA520 electric primer, flash tube assembly and propellant.

CAPABILITY:

- Target Practice

SYSTEM CHARACTERISTICS:

- Lightweight 30mm Target Practice
- Simulates Ballistic Trajectory of the M789 HEDP ctg.

- Muzzle Velocity: 805 Meters per Second (mps)
- Case Mouth Pressure: 430 Mpa Max (Elevated Temperature Mean Peak Pressure)
- Gun — M230
- Platform: AH-64 Apache Helicopter and SOF Blackhawk helicopter

SPECIAL FEATURES:

- Low Cost ballistic Simulator for M789

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Alliant TechSystems, Inc (ATK)
- General Dynamics Ordnance and Tactical Systems (GD-OTS)

DODIC B118

ACQ Phase: Production & Deployment



**30mm X 113mm HEDP, M789
(LIGHTWEIGHT)**

SYSTEM DESCRIPTION:

M789 was developed as part of Apache Attack Helicopter System. The only tactical round qualified for use by the 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 ctg. consists of a hollow steel projectile body containing high explosive and a spin compensated copper shaped charge liner. The projectile body assembly is mated to a M759 point detonating fuze. The ctg. case assembly is composed of an aluminum case, PA520 electric primer, flash tube assembly and propellant. The M789 ctg. provides both armor-piercing capability and fragmentation for use against armored targets and troops respectively.

CAPABILITY:

- Effective against Personnel
- Effective against Light Armor

SYSTEM CHARACTERISTICS:

- High Explosive Dual-Purpose (HEDP) ctg.
- Muzzle Velocity: 805 Meters per Second (mps)
- Case Mouth Pressure: 430 Mpa Max (Elevated Temp. Mean Peak Pressure)
- Utilizes M759 Point Detonating Fuze and Spin Compensated Shaped Charge Liner
- Gun M230
- Platform: AH-64 Apache Helicopter and SOF Blackhawk Helicopter

SPECIAL FEATURES

- Spin Compensated Shaped Charge Liner
- Fragmenting Body
- Compact Lightweight Design = 30mm Performance in ctgs About Same Volume and Weight as 25mm

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Alliant TechSystems, Inc (ATK)
- General Dynamics OTS

DODIC B129

ACQ Phase: Production & Deployment



**30mm, M848 Dummy,
30mm x 113mm**

SYSTEM DESCRIPTION:

Used in automatic cannon, 30mm M230. The ctg. is used in drills of the weapon mechanism and as an inert training device.

CAPABILITY:

- Used in Drill of Weapon Mechanism and to Test Link/De-link Functions

SYSTEM CHARACTERISTICS:

- Completely Inert
- Modified Target Practice (TP) Projectile and ctg. Case
- Projectile Body is Steel With Aluminum Nose

SPECIAL FEATURES:

- M848 is used by USA
- Packed out in M592 box

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Last Produced by General Dynamics Ordnance and Tactical Systems (GD-OTS)

DODIC B133

ACQ Phase: Production & Deployment



**30mm, PGU-13B/
B & D/B GAU-8 HEI,
30mm x 173mm**

SYSTEM DESCRIPTION:

30mm High Explosive Incendiary Round Used in AF GAU-8A Automatic Gun System. The PGU13B HEI's primary role is to defeat light armor targets.

SYSTEM CHARACTERISTICS:

- Overall Length: 290 mm Nominal
- ctg. Case: Extruded Aluminum
- Propellant: Single Based Granular
- Primer: M36A2 Percussion
- Fuze: M505 Point Detonating
- Muzzle Velocity: 1021 meters per Second (mps) Nominal
- Case Mouth Pressure: 61,400 Pounds per Square Inch (psi) Max
- Action Time: 5.3 Milliseconds
- Accuracy: 1.0 mr at 1000 Inches

SPECIAL FEATURES:

- The PGU-13B/B & D/B are Used by USAF in GAU-8/A Gun System
- PGU-13B/B is remanufacture rounds with existing projectiles
- PGU-13D/B is new production

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Alliant TechSystems (ATK), Inc
- General Dynamics Ordnance and Tactical Systems (GD-OTS)

DODIC AB22, B104

ACQ Phase: Production & Deployment



**30mm, PGU-14C/B
GAU-8 API, 30mm x
173mm**

SYSTEM DESCRIPTION:

The PGU 14C/B API has the kinetic energy needed to defeat armor. 30mm Armor Piercing Incendiary Used in AF GAU-8A Automatic Gun System

SYSTEM CHARACTERISTICS:

- Overall Length: 290 mm Nominal
- Ctg. Case: Extruded Aluminum
- Propellant: Single Based Granular
- Primer: M36A2 Percussion
- Muzzle Velocity: 1013 meters per Second (mps) Nominal
- Case Mouth Pressure: 61,400 Pounds per Square Inch (psi) Max
- Action Time: 5.3 Milliseconds
- Accuracy: 1.0 mr at 1000 Inches
- Not Ballistically Matched to PGU-15A/B rounds

SPECIAL FEATURES:

- The PGU-14C/B possesses a high density (DU) penetrator and demonstrates the follow-through fragmentation and pyrophoric effects for maximum effectiveness
- PGU-14C/B is being remanufactured with existing DU projectiles

FIELDING:

- Fielded

PRIME CONTRACTOR:

- General Dynamics Ordnance and Tactical Systems (GD-OTS)
- Crane AAP Performing Projectile Recovery GFM to GD-OTS

DODIC AB20

ACQ Phase: Production & Deployment



**30mm, PGU-15A/B
GAU-8 TP, 30mm x
173mm**

SYSTEM DESCRIPTION:

30mm Target Practice Round Used for Training in AF GAU-8A Automatic Gun System. The PGU 15A/B is a low cost target practice round ballistically matched to the PGU13 HEI Ctg.

SYSTEM CHARACTERISTICS:

- Overall Length: 290 mm Nominal
- ctg. Case: Extruded Aluminum
- Propellant: Single Based Granular
- Primer: M36A2 Percussion
- Muzzle Velocity: 1021 meters per Second (mps) Nominal
- Case Mouth Pressure: 61,400 Pounds per Square Inch (psi) Max
- Action Time: 5.3 Milliseconds
- Accuracy: 1.0 mr at 1000 Inches
- Ballistically Matched to PGU 13/B HEI

SPECIAL FEATURES

- The PGU-15/B is Used by USAF in GAU-8/A Gun System
- Ballistically Matched to PGU-13/B High Explosive Incendiary (HEI)

FIELDING:

- Fielded

PRIME CONTRACTOR:

- Alliant TechSystems (ATK), Inc
- General Dynamics Ordnance and Tactical Systems (GD-OTS)

DODIC B116

ACQ Phase: Production & Deployment



**40mm, M918,
Target Practice (B584)**

SYSTEM DESCRIPTION:

Ctg is fixed round of ammunition consisting of a one-piece steel body, with aluminum insert, fitted to ctg case assembly. An aluminum ogive contains firing pin, a rubber anti-creep spring and M550 fuze escapement assembly and is threaded to projectile body. Aluminum insert contains flash charge mixture. Ctg Case is a bi-chambered aluminum cylinder with vents connecting chambers. Propellant chamber is sealed with a base plug. A percussion primer (FED 215) is crimped into center of the base plug

CAPABILITY:

- Used in Gunnery Training

SYSTEM CHARACTERISTICS:

- Target Practice Round Designed to Simulate M430A1 HEDP in Appearance and Ballistics
- Fired From MK19 Machine Gun
- Max Range 2200 Meters
- Muzzle Velocity 790 Ft/Sec
- Packed into PA120 Configuration (32 Rnds)

SPECIAL FEATURES:

- Upon Target Impact, Provides Flash, Smoke and a Loud Report Due to Generation of Gases which Rupture Projectile Base

FIELDING:

- Fielded

PRIME CONTRACTOR:

- AMTEC and DSE
- Projectile Assy — Elite & GTI

DODIC B584

ACQ Phase: Production & Deployment



**40mm, M385A1,
Practice (B576)**

SYSTEM DESCRIPTION:

Fixed round of ammunition consisting of one-piece solid aluminum projectile body with copper rotating band. Ctg Case is a bi-chambered aluminum cylinder with vents connecting chambers. Propellant chamber is sealed with a base plug. A percussion primer (FED 215) is crimped into center of the base plug

CAPABILITY:

- M385A1 Used for Practice and Proof-Testing Only

SYSTEM CHARACTERISTICS:

- Target Practice or Proof-Testing Round
- Fired From MK19 Machine Gun
- Max Range 2200 Meters
- Muzzle Velocity 790 Ft/Sec
- Packed Into PA120 Configuration (32rds)

SPECIAL FEATURES:

- Projectile does not Function Upon Target Impact

FIELDING:

- Fielded

PRIME CONTRACTOR:

- AMTEC and DSE
- Projectile Assy. - Avasar, GTI

DODIC B576

ACQ Phase: Production & Deployment



**40mm, M781,
Practice (B519)**

SYSTEM DESCRIPTION:

Fixed round of ammunition consisting of zinc-alloy projectile body with a rotating band and ctg. case assembly. A hollow polystyrene ogive is filled with high visibility yellow-orange dye. Projectile is attached to ctg case by adhesive. Ctg case is hollow, bi-chambered nylon cylinder. A .38 caliber blank ctg is press-fitted into the base of the ctg case and provides gas pressure needed to propel projectile through launcher barrel

CAPABILITY:

- Used for Gunnery Training

SYSTEM CHARACTERISTICS:

- Target Practice Round Designed to Simulate M433 HEDP in Ballistics

- Emits Bright Orange dye Upon Target Impact
- Fired from M79 and M320 Launchers
- Max Range 400 Meters
- Muzzle Velocity 247 Ft/Sec
- 100 Rounds per Wood Box

SPECIAL FEATURES:

- Upon Impact, Provides Orange dye Signature to Simulate Target Impact

FIELDING:

- Fielded

PRIME CONTRACTOR:

- AMTEC, DSE

DODIC B519

ACQ Phase: Production & Deployment



**40mm, M430A1
HEDP (B542)**

SYSTEM DESCRIPTION:

Ctg. is fixed round of ammunition with internally embossed steel projectile body containing high explosive (Comp A5) and copper, shaped-charge liner. Point Initiating, Base Detonating (PIBD) fuze with Spit-back, secondary charge is threaded into body to form projectile. Ctg. Case is hollow, bi-chambered aluminum cylinder with vents between chambers. Propellant chamber is sealed at rear with a base plug. A percussion primer (FED 215) is crimped into center of base plug

CAPABILITY:

- Incorporated link pivot coupling that allows the user to link additional ammo for continuous fire capability.

SYSTEM CHARACTERISTICS:

- High Explosive, Dual Purpose (HEDP) Ctg. w/PIBD Fuze M549A1
- Penetrates 3 inches of Steel Armor
- Inflicts Personnel Casualties in Target Area
- Fired From MK19 Machine Gun
- Max Range 2200 Meters
- Muzzle Velocity 790 ft/sec
- Linked into 32 Round Belts

SPECIAL FEATURES:

- Provides Both Armor Piercing and Anti-Personnel Effects at Rate of 350 Rounds per Minute

FIELDING:

- Fielded

PRIME CONTRACTOR

- AMTEC, DSE

DODIC B542

ACQ Phase: Production & Deployment



40mm, M433,
HEDP (B546)

SYSTEM DESCRIPTION:

Ctg. is fixed round of ammunition consisting of a projectile assembly and ctg. case assembly. Projectile has hollow steel cup and aluminum skirt with metal rotating band. PIBD fuze assembly, RDX spit-back charge and copper liner are fitted to opening of projectile cavity. The cavity is filled with high explosive, shaped charge. Projectile assembly is crimped into ctg. case. Ctg. case is hollow, bi-chambered cylinder with metal base plug. A propellant cup serves as a high-pressure chamber and includes vent holes for expansion of gases into space surrounding projectile cup (the low pressure chamber). Percussion primer is crimped into center opening of base plug

CAPABILITY:

- Penetrates 2.5 Inches of Steel
- Inflicts Fragmentation Casualties in Target Area

SYSTEM CHARACTERISTICS:

- Dual-Purpose Impact Round Designed to Penetrate, at Least 2.5 Inches of Steel Armor and Inflict Personnel Casualties in Target Area
- Fired From M79, M203 and M320 Single-Shot Launchers
- Max Range 400 Meters
- Muzzle Velocity 76 M/Sec
- Packaged Six Rounds/Bandoleer

FIELDING:

- Fielded

PRIME CONTRACTOR:

- AMTEC & DSE

DODIC B546

ACQ Phase: Production & Deployment



40mm, M992,
IR Para (BA03)

SYSTEM DESCRIPTION:

Ctg. is fixed round of ammunition consisting of a projectile assembly and ctg. case assembly. The projectile has a one-piece, hollow aluminum body with a metal rotating band. A plastic ogive, with raised lettering, for night-time identification, is snapped into the projectile body. The body contains a pyrotechnic flare candle and an integrated ignition/ejection charge attached to a 20 inch diameter parachute. The projectile has a 4-5 second ignition delay element. The ctg. case is a hollow, bi-chambered cylinder with a metal base plug. A percussion primer is crimped into center opening of plug.

CAPABILITY:

- Provides Minimal Visual Signature Outside of Infrared Bound

SYSTEM CHARACTERISTICS:

- Provides IR Illumination to Enhance Nighttime Operational Capabilities for Troops Engaged using Night Vision Equipment
- Fired From M79, M203 and M320 Single-Shot Launchers
- Burst Height 150-215 Meters
- Muzzle Velocity 76 Meters/Sec
- Burn Time 40 Seconds
- 600-900 30mm Wave Length Illumination

SPECIAL FEATURES:

- Enhances Target Detection & Recognition at Night
- Parachute Lowers Candle at 7 Ft/Sec
- Provides IR Illumination with Minimal Visible Light Output

FIELDING:

- Fielded

PRIME CONTRACTOR:

- AMTEC, DSE

DODIC BA03

ACQ Phase: Production & Deployment



40mm, M583A1,
WS Para (B535)

SYSTEM DESCRIPTION:

Ctg. is fixed round of ammunition consisting of a projectile assembly and ctg. Case assembly. Projectile has one-piece, hollow aluminum body with metal rotating band. A plastic ogive, with raised lettering, for night-time identification, is snapped into projectile body. Body contains pyrotechnic flare candle and an integrated ignition/ ejection charge attached to 20 inch diameter parachute. Projectile has a ignition delay element. Ctg. case is hollow, bichambered cylinder with metal base plug. Percussion primer is crimped into center opening of plug

CAPABILITY:

- Less Weight & Bulk Than Handheld Signals

SYSTEM CHARACTERISTICS:

- Illumination and Signaling Round
Designed for Less Weight and Bulk, Greater Accuracy than Comparable Hand-held Signals
- Fired From M79, M203 and M320 Single-Shot Launchers
- Burst Height 183 Meters At QE=85
- Muzzle Velocity 250 Ft/Sec
- Candlepower 90,000
- Burn Time 30 Seconds

SPECIAL FEATURES:

- Candle Visible at Slant Range of at Least 3 Miles From 3000 ft Alt.
- Raised Letter “W” on Ogive Identifies Color of Ctg.

FIELDING:

- Fielded

PRIME CONTRACTOR:

- AMTEC & DSE

DODIC B535
ACQ Phase: Production & Deployment



40mm, M585, WS
Cluster (B536)

SYSTEM DESCRIPTION:

Ctg. is fixed round of ammunition consisting of a projectile assembly and ctg. Case assembly. Projectile has one-piece, hollow aluminum body with metal rotating band. Plastic ogive, with raised lettering, for night-time identification, is snapped into projectile body. Body contains an illuminant candle assembly of five white star charges and a black powder ejection charge. Projectile has pyrotechnic ignition delay element. Ctg. case is hollow, bi-chambered cylinder with metal base plug. Propellant cup acts as a high-pressure chamber and cavity surrounding cup acts as low-pressure chamber. A percussion primer is crimped into center opening of plug

CAPABILITY:

- Less Weight & Bulk, Greater Accuracy than Handheld Signals

SYSTEM CHARACTERISTICS:

- Illumination and Signaling Round
Designed for Less Weight and Bulk, Greater Accuracy than Comparable Hand-held Signals
- Fired from M79, M203 and M320 Single-Shot Launchers
- Burst Height 167 Meters
- Muzzle Velocity 76 M/Sec
- Candlepower 55,000
- Burn Time 30 Seconds

SPECIAL FEATURES:

- Five Raised Dots and “W” on Ogive Identify Color and Type of Ctg.

FIELDING:

- Fielded

PRIME CONTRACTOR:

- AMTEC

DODIC B536
ACQ Phase: Production & Deployment



40mm, M662,
RS Para (B505)

SYSTEM DESCRIPTION:

Ctg. is fixed round of ammunition consisting of a projectile assembly and ctg. case assembly. Projectile has one-piece, hollow aluminum body with metal rotating band. A plastic ogive, with raised lettering, for night-time identification, is snapped into projectile body. Body contains pyrotechnic flare candle and an integrated ignition/ejection charge attached to 20 inch diameter parachute. Projectile has a ignition delay element. Ctg. case is hollow, bichambered cylinder with metal base plug. Percussion primer is crimped into center opening of plug

CAPABILITY:

- Less Weight & Bulk Than Handheld Signals

SYSTEM CHARACTERISTICS:

- Illumination and Signaling Round
Designed for Less Weight and Bulk, Greater Accuracy than Comparable Hand-held Signals
- Fired From M79, M203 and M320 Single-Shot Launchers
- Burst Height 183 Meters At QE=85
- Muzzle Velocity 250 Ft/Sec
- Candlepower 20,000
- Burn Time 30 Seconds

SPECIAL FEATURES:

- Candle Visible at Slant Range of at Least 3 Miles From 3000 ft Alt.
- Raised Letter “R” on Ogive Identifies Color of Ctg.

FIELDING:

- Fielded

PRIME CONTRACTOR:

- AMTEC

DODIC B546

ACQ Phase: Production & Deployment



40MM M661 Green
Star Para (B504)

SYSTEM DESCRIPTION:

Ctg. is fixed round of ammunition consisting of projectile assembly and ctg. case assembly. Projectile has one-piece, hollow aluminum body with metal rotating band. A plastic ogive, with raised lettering, for night-time identification, is snapped into projectile body. The body contains a pyrotechnic flare candle and integrated ignition/ejection charge attached to 20 inch diameter parachute. Projectile has a ignition delay element. Ctg. case is hollow, bi-chambered cylinder with metal base plug. A percussion primer is crimped into center opening of plug.

CAPABILITY:

- Less Weight & Bulk Than Handheld Signals

SYSTEM CHARACTERISTICS:

- Illumination and Signaling Round
Designed for Less Weight, Bulk and Greater Accuracy than Comparable Hand-held Signals
- Fired from M79 and M203 Single Shot Launchers
- Burst Height 183 Meters
- Muzzle Velocity 250 Ft/Sec
- Candlepower 8,000
- Burn Time 30 Seconds

SPECIAL FEATURES:

- Candle is Visible at Slant Range of at Least 3 Miles From 3000' Altitude
- Raised Letter “G” on Ogive Identifies Color of Ctg.

FIELDING:

- Fielded

PRIME CONTRACTOR:

- DSE

DODIC B504

ACQ Phase: Production & Deployment



**40mm, M918/M385A1
Mixed Belt Ctg. (BA30)**

SYSTEM DESCRIPTION:

M918 Ctg is fixed round of ammunition consisting of one-piece steel body, with aluminum insert, fitted to ctg case assembly. Aluminum ogive contains firing pin, a rubber anti-creep spring and M550 fuze escapement assembly and is threaded to projectile body. Aluminum insert contains flash charge mixture. Ctg Case is bichambered aluminum cylinder with vents connecting chambers.

CAPABILITY:

- Used in gunnery training

SYSTEM CHARACTERISTICS:

- (M918) Target practice round designed to simulate M430A1 HEDP in appearance and ballistics
- (M385A1) A target practice or proof-testing round

- Fired from MK19 Machine Gun
- Max range 2200 meters/Muzzle velocity 790 ft/sec
- Linked 22 M918 to 10 M385A1 configured in a 2 M918 to 1 M385A1 mix.
- Currently packed into PA120 configuration (32 rounds)

SPECIAL FEATURES:

- (M918) Upon target impact, provides flash, smoke and a loud report due to generation of gases which rupture the projectile base
- (M385A1) The projectile does not function upon target impact

FIELDING:

- Fielded

PRIME CONTRACTOR:

- AMTEC & DSE
- Projectile Assy — Avasar, Elite & GTI (M385) Elite and GTI (M918)

DODIC CA26

ACQ Phase: Production & Deployment





5.56mm Ball, M855

SYSTEM DESCRIPTION:

M855 Ball was designed for use in M249 Squad Automatic Weapon. M16A2 Rifle was designed to fire M855 Ball to achieve commonality of ammunition at small unit level. Chamber pressures generated by the M855 and the required barrel twist make it unsuitable for use in the M16A1. 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.

SYSTEM CHARACTERISTICS:

- Projectile Design: Conical Steel Insert and Lead Antimony Alloy Cylindrical Core in Copper Alloy Jacket
- Projectile Mass: 62 Grains Dispersion:
- Standard Deviation = 6.8" @ 600yds.
- Marking: Green Tip

SPECIAL FEATURES:

- Commonality of ammunition at small unit level Effective against most types of fabric body armor

FIELDING:

- Fielded

A059 - f/M16A2

A062 - Linked f/SAW

A064 - 4 Ball M855/1 Tracer M856 f/SAW

AA33 - M855 Ball Clipped Commercial Pack

ACQ Phase: Production & Deployment



**5.56mm Ball, M855A1
Enhanced
Performance Round**

SYSTEM DESCRIPTION:

M855A1 Ball was designed for use in M16A2/A4, M4, M249 Squad Automatic Weapon. 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. It contains an improved propellant which reduces flash.

SYSTEM CHARACTERISTICS:

- Projectile Design: Lead Free Slug (or core)
- Steel Penetrator encapsulated in a Reverse Gilded Metal Jacket
- Projectile Mass: 62 Grains
- Dispersion: Standard Deviation = 6.8" @ 600 Yards
- Marking: Bronze Tip

SPECIAL FEATURES:

- Optimized for use in the M4 Carbine
- Enhanced Close Quarter Battle Performance

FIELDING:

- Fielded

AB57

AB58 - Commercial pack

AB73 - 4/1 Linked

AB56 - Linked (Straight Ball)

ACQ Phase: Production & Deployment



5.56mm Tracer, M856

SYSTEM DESCRIPTION:

M856 Tracer was designed as complement to the M855 Ball for use in the M249 Squad Automatic Weapon. 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

SYSTEM CHARACTERISTICS:

- Projectile Design: Lead Alloy Core in Copper Alloy Jacket With Incendiary Compound fill in Hollow Base
- Projectile Mass: 62 Grains
- Dispersion: Standard Deviation = $\leq 10.3''$ @ 600 Yards
- Marking: Orange Tip

SPECIAL FEATURES:

- Tracer effective to a range of 1000m

FIELDING:

- Fielded

M856 - DODIC

A063 - f/M16A2

A064 - 4 Ball M855/1 Tracer M856 f/SAW

ACQ Phase: Production & Deployment



5.56mm Tracer, M856A1

SYSTEM DESCRIPTION:

M856A1 Tracer was designed as a complement to the M855A1 for use in the M249 Squad Automatic Weapon. 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

SYSTEM CHARACTERISTICS:

- Projectile Design: Copper Core in Copper Alloy Jacket With Incendiary Compound fill in Hollow Base
- Projectile Mass: 57 Grains
- Dispersion: Standard Deviation = $\leq 10.3''$ @ 600 Yards
- Marking: Orange Tip

SPECIAL FEATURES:

- Tracer effective to a range of 1000m
- Copper is main component of bullet core

FIELDING:

- Fielded

AB73 Ball M855A1 and Tracer M856A1 f/SAW

AB74 - Tracer M856A1 f/ M16A2

AB75 - AP M955 and Tracer M856A1 f/SAW

AB76 - Ball M855 and Tracer M856A1 f/SAW

ACQ Phase: Production & Deployment



5.56mm Dim Tracer, Mk301 Mod 0

SYSTEM DESCRIPTION:

Mk301 Dim Tracer was designed as complement to the M855 Ball. The Mk301 Mod 0, 5.56mm Dim Trace was Naval Ordnance Safety and Security Activity (NOSSA) Qualified for use in Naval Special Warfare Command (NAVSPECWARCOM) weapons including the Mk46 Light-Weight Machine Gun (LMG), M4A1 Carbine, and Mk18 Carbine. The US Army weapons for Mk301 Mod 0, 5.56mm Type Classification (TC)/Full Materiel Release (FMR) includes the M249 Light-Weight Machine Gun (LMG), M4A1 Carbine, and M16 Rifle. The 5.56mm Dim Tracer Cartridge is designed to be used with Night Vision Devices (NVDs) where a lower burning temperature of the dim trace mix produces light in a spectrum invisible to the naked eyes, but visible only to NVDs. The WC-845S propellant includes Flash Suppression.

SYSTEM CHARACTERISTICS:

- Projectile Design: Lead Alloy Core in Copper Alloy Jacket With Incendiary Compound fill in Hollow Base
- Projectile Mass: 62 Grains
- IR Tracer: 900 meters
- Dispersion: Standard Deviation = $\leq 10.3"$ @ 600 Yards
- Chamber Pressure: 58,700 psi
- Height (max): 2.260 in
- Marking: Violet Tip

SPECIAL FEATURES:

- Tracer effective to a range of 900m

ISSUES:

- Barium Nitrate in IR Tracer composition

FIELDING:

- Fielded

AA99 - DODIC

M855 Ball / Mk301 DT

AB03: Linked 4/1, M855 Ball/ Mk301 DT

ACQ Phase: Production & Deployment



5.56mm Armor Piercing, M995

SYSTEM DESCRIPTION:

M995 AP was designed for use in all US 5.56mm weapons: the M249 SAW, M16A2/A4 Rifle and M4 Carbine. It will penetrate 12mm of steel at 100m to defeat light armored vehicles and other barrier materials on the battlefield

SPECIAL FEATURES:

- Designed to defeat light armored vehicles and barrier materials

FIELDING:

- Fielded

SYSTEM CHARACTERISTICS:

- Projectile Design: Tungsten-Cobalt Core Located by Aluminum Cup
- Copper Alloy Jacket
- Projectile Mass: 52 Grains
- Dispersion: Standard Deviation = $\leq 7.0"$ @ 600 Yards
- Marking: Black Tip

AA01 - AP M995 Lkd DODIC

AA02 - 4 AP M995/1 Tracer M856 f/SAW

AA69 - AP M995 Clipped

ACQ Phase: Production & Deployment



5.56mm Ball, M193

SYSTEM DESCRIPTION:

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

SYSTEM CHARACTERISTICS:

- Projectile Design: Lead Alloy Core in a Copper Alloy Jacket
- Projectile Mass: 55 Grains
- Dispersion: Mean Radius = 2 inches @ 300m (from M16A4)
- Marking: None

ISSUES:

- Sub optimal performance in M16A2

FIELDING:

- Fielded

DODIC A071 - Clipped
A066 - Carton Pack

ACQ Phase: Production & Deployment



5.56mm Blank, M200

SYSTEM DESCRIPTION:

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

CAPABILITY:

- Training

SYSTEM CHARACTERISTICS:

- Projectile Design: Not Applicable
- Projectile Mass: Not Applicable
- Dispersion: Not Applicable
- Marking: Purple Seal on Rosette Crimp

FIELDING:

- Fielded

DODIC A075 - Linked f/SAW
A080

ACQ Phase: Production & Deployment



5.56mm, M862 Short
Range Training
Ammunition (SRTA)

SYSTEM DESCRIPTION:

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; an effective range of 25 meters (trajectory match and round to round dispersion comparable to the service ammunition) and provides a functional capability when used in the M16 Rifles and M4 Carbines with the M2 Training Bolt. 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.

CAPABILITY:

- 5.56mm cartridge with plastic projectile
- Used with M2 training bolt
- Simulates standard 5.56mm ammo out to 25m

SYSTEM CHARACTERISTICS:

- Accuracy: Ave. Mean radius 0.34" @ 25m
- Muzzle Velocity: 4525 fps; 15 ft. from muzzle
- Height: 2.03"
- Weight: 108 Grains

SPECIAL FEATURES:

- Decreases Surface Danger Zones creating opportunities for increased training at installations

FIELDING:

- Fielded

DODIC AA68)

ACQ Phase: Production & Deployment



5.56mm, XM1037 Short
Range Training
Ammunition (SRTA)

SYSTEM DESCRIPTION:

XM1037 provides the capability to conduct training with a reduced Surface Danger Zone with the M16A1/A2 Rifle, M4 Carbine, and M249 SAW weapon systems. Use of XM1037 rounds will not require weapon modification. The XM1037 will replace the M862 Ball rounds and weapon modification is not required during training. The existing M862 SRTA round was not designed to use with the M249 Squad Automatic Weapon (SAW); also required user to replace the M16A2/M4 service bolt with M2 training bolt.

CAPABILITY:

- 5.56mm cartridge with copper nylon projectile
- Simulates standard 5.56mm ammo out to 100m

SYSTEM CHARACTERISTICS:

- Height: 2.2inches
- Weight: 33Grains (Bullet)
- Muzzle Velocity (Nominal): 3848 ± 60fps
- Accuracy: AMR ≤ 3.54 inches @ 110 yards
- Penetration: None, Frangible
- Chamber Pressure: 40,000 psi
- Action Time: 1.26 ms (max)

SPECIAL FEATURES:

- Decreases Surface Danger Zones creating opportunities for increased training at installations

FIELDING:

- Fielded

DODIC - AB66 - Linked
AB67 - Single

ACQ Phase: Engineering and Manufacturing Development



**M1042, M1071
Close Combat Mission
Capability Kit (CCMCK) –
5.56mm (M4/M4A1/M16A2/
M16A3/M16A4/M249)**

SYSTEM DESCRIPTION:

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. 5.56 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 Conversions offset

firing pin will strike outside the primer pocket of the 5.56mm “Live” round. This makes it impossible to detonate the “Live” cartridge in the converted weapon.

CAPABILITY:

- The M4 Carbine/M16 Rifle Conversion Adapter installs with a simple exchange of the bolt. It adapts the host weapon to fire unlinked 5.56mm M1042.
- The M249 Squad Automatic Weapon (SAW) Conversion Kit adapts the host weapon to fire linked 5.56mm M1071.
- Incapable of Firing Live Standard Ammunition

SYSTEM CHARACTERISTICS:

- Muzzle Velocity: M1042 – 483 ft/s M16; 428 ft/s M4 M1071 – 441 ft/s M249
- Weight: M1042 – 94.86 gr Cartridge; 6.9 gr Projectile M1071 – 147.8 gr Cartridge; 6.9 gr Projectile

FIELDING:

- Fielded

DODIC AB09, 10, & 11 - Clipped M1042 Practice (Blue, Red, & yellow)
AB15, 16, & 17 - Linked M1071 Practice (Yellow, Blue, & Red)

ACQ Phase: Production & Deployment





**7.62mm, M993,
Armor Piercing**

SYSTEM DESCRIPTION:

M993 Ctg. designed for use in M240B Series and M60 Machine Guns. The Projectile consists of a tungsten carbide penetrator contained in an aluminum cup and jacketed by copper clad steel. The shaped tungsten core provides enhanced armor penetration, Representing a key departure from the current 7.62mm ball service round. The ctg. uses a conventional brass ctg. case with Berdan primer. Propellant is a single base type. Total ctg. weight is 263 grains. Current 7.62mm ammunition is capable of penetrating ¼ inch armor plate at a distance not greater than 100 meters. M993 AP round is capable of penetrating ¼ inch plate at a distance of 550m

CAPABILITY:

- Provides enhanced armor penetration

SYSTEM CHARACTERISTICS:

- Accuracy: Average Mean Radius $\leq 6.0"$ @ 600 Yards
- Muzzle Velocity: 2985 ± 32.8 fps @ Action Time: 4 ms (max) Height: 2.8 in
- Weight: 362.6 Grains

SPECIAL FEATURES:

- Armor Piercing

FIELDING:

- Fielded

DODIC AA03 - M993 Single Round (combat only)
AA04 - M993 (combat only)
linked 4/1,AP/M62 Tracer
ACQ Phase: Production & Deployment



**7.62mm, M118 Ball
Long Range**

SYSTEM DESCRIPTION:

7.62mm M118 has a plain bullet tip, does not have a bullet cannelure, and its case mouth is not crimped. The 7.62mm Special Ball ctg. is intended and specifically prepared for use in weapons designated as competition or sniper rifles. AA11 is used in M24, M110, M14, & M21 Sniper Weapon Systems. AA11 has an extended long range accuracy at 1000 yds.

CAPABILITY:

- Provided improved accuracy at extended ranges.

SYSTEM CHARACTERISTICS:

- Accuracy: Ave Horizontal Spread at 1000 Meters $\leq 10.3"$ Ave Vertical Spread at 1000 Meters $\leq 14"$
- Muzzle Velocity: 2580 ± 30 fps @ 78 ft.
- Chamber Pressure: Ave 50,000 psi
- Action Time: 4 ms (max)
- Height (max): 2.83 in
- Weight: 390 Grains

SPECIAL FEATURES:

- Long Range

FIELDING:

- Fielded

DODIC AA11
ACQ Phase: Production & Deployment



**7.62mm, M80
Ball / Linked**

SYSTEM DESCRIPTION:

A164 is for combat and training. These ctgs. are for use primarily in the GAU-2B1A Machine Gun but also can be used in M60, & M240B. The bullet consists of copper alloy clad steel jacket with a lead antimony slug. Link configuration is 1,500 per belt f/Mini-gun.

SYSTEM CHARACTERISTICS:

- Accuracy: Average Mean Radius $\leq 7.5''$ @ 600 Yards
- Muzzle Velocity: 2750 ± 30 fps @ 78 ft.
- Action Time: 4 ms (max)
- Height: 2.80 in
- Weight: 392-32 Grains

SPECIAL FEATURES:

- Ball/Linked

FIELDING:

- Fielded

DODIC A164 - Mini-Gun
ACQ Phase: Production & Deployment



**7.62mm, M80 Ball /
M62 Tracer**

SYSTEM DESCRIPTION:

A131, Linked, 4/1 M80 Ball/M62 Tracer. Primary 7.62mm combat ctg., linked 800 rounds/belt. These ctgs. are for use in Machine Gun Series M60, M240B and M73. The linked 4 M80 Ball/1 M62 Trace configuration is packed into M19A1 cans. The bullet consists of copper alloy clad steel jacket with a lead antimony slug.

SYSTEM CHARACTERISTICS:

- Accuracy: Average Mean Radius $\leq 7.5''$ @ 600 Yards
- Muzzle Velocity: 2750 ± 30 fps @ 78 ft.
- Action Time: 4 ms (max)
- Height: 2.80 in
- Weight: 393-29 Grains

SPECIAL FEATURES:

- Linked Tracer

FIELDING:

- Fielded

DODIC A131 - 4 Ball/1 Tracer Linked
ACQ Phase: Production & Deployment



7.62mm, M80/M62
Overhead Fire

SYSTEM DESCRIPTION:

A151 Linked, 4/1 M80 Ball/M62 Tracer for Overhead Fire. A151 is a training unique round. These ctgs. are used in Machine Gun Series M60, & M240B. These rounds are accepted at higher performance standards for overhead usage. The 4 M80 Ball/1 M62 Trace ctgs. are a linked configuration - 800 rounds per belt. The bullet consists of copper alloy clad steel jacket with a lead antimony slug.

SYSTEM CHARACTERISTICS:

- Accuracy: Average Mean Radius $\leq 5.0"$ @ 600 yards
- Action Time: 4 ms (max)
- Height: 2.80 in
- Weight: 392-32 Grains

SPECIAL FEATURES:

- Overhead Fire

FIELDING:

- Fielded

A151 - 4 Ball/1 Tracer Linked f/OHF
ACQ Phase: Production & Deployment



7.62mm, M80
Ball/M62A1 Tracer

SYSTEM DESCRIPTION:

A165 is for combat and training. These ctgs. are for use primarily in the GAU-2B1A Machine Gun but also can be used in M60, & M240B. The bullet consists of copper alloy clad steel jacket with a lead antimony slug. Link configuration is 1,500 per belt f/Minigun.

SYSTEM CHARACTERISTICS:

- Accuracy: Average Mean Radius $\leq 7.5"$ @ 600 Yards
- Muzzle Velocity: (M80 - 2750 ± 30 fps @ 78 ft), (M62 - 2680 ± 30 fps @ 78 ft)
- Action Time: 4 ms (max)
- Height (max): 2.80 in
- Weight: (M80 - 392-31 Grains), (M62 - 383-29 Grains)

SPECIAL FEATURES:

- Tracer

FIELDING:

- Fielded

DODIC A165 - Linked, 4/1 M80 Ball/M62 Tracer for Mini-Gun
ACQ Phase: Production & Deployment



**7.62mm, M80A1
Ball / Linked**

SYSTEM DESCRIPTION:

AZ54 is for combat and training. These ctgs. are for use primarily in the M240 MG and GAU-2B1A Machine Gun but also can be used in M60, & M14 Rifle. The bullet consists of copper alloy jacket with an exposed steel penetrator to improve hard/soft target performance. Link configuration is 200 cartridges per belt for M240 MG family and M134 Mini-gun.

SYSTEM CHARACTERISTICS:

- Accuracy: Average Mean Radius $\leq 7.5''$ @ 600 Yards
- Muzzle Velocity: 3050 ± 30 fps @ 78 ft.
- Action Time: 4 ms (max)
- Height: 2.80 in
- Weight: 372-32 Grains

SPECIAL FEATURES:

- Exposed Steel Penetrator in M80A1

FIELDING:

- Fielded

DODIC AZ54 - Linked

ACQ Phase: Engineering and Manufacturing Development



**7.62mm, M80A1 Ball
/ M62 Tracer**

SYSTEM DESCRIPTION:

AZ53, Linked, 4/1 M80A1 Ball/M62 A1 Tracer. Primary 7.62mm combat ctg., linked 100 rounds/belt. These ctgs. are for use in all 7.62 mm Machine Gun Series - M60, M240 MG family and M73.

The linked 4 M80A1 Ball/1 M62 A1Trace configuration is packed into M19A1 cans. The M80A1 bullet consists of copper alloy jacket with an exposed steel penetrator to improve hard/soft target performance.

The M62A1 bullet contains a copper alloy jacket and copper slug.

SYSTEM CHARACTERISTICS:

- Accuracy: Average Mean Radius $\leq 7.5''$ @ 600 Yards
- Muzzle Velocity: 3050 ± 30 fps @ 78 ft.
- Action Time: 4 ms (max)
- Height: 2.80 in
- Weight: 372-29 Grains

SPECIAL FEATURES:

- Exposed Steel Penetrator in M80A1, Companion Tracer, M62A1 uses Environmentally Friendly Core

FIELDING:

- Fielded

DODIC AZ53 - 4 Ball/1 Tracer Linked

ACQ Phase: Engineering and Manufacturing Development



**7.62mm, 9/1 M80
Ball/M62 Tracer**

SYSTEM DESCRIPTION:

A168 is for combat and training. These ctgs. are for use primarily in the GAU-2B1A Machine Gun but also can be used in M60, & M240B. The bullet consists of copper alloy clad steel jacket with a lead antimony slug. Link configuration is 9 M80 / 1 M62 Tracer at 1,500 per belt.

FIELDING:

- Fielded

SYSTEM CHARACTERISTICS:

- Accuracy: Average Mean Radius $\leq 7.5"$ @ 600 Yards
- Muzzle Velocity: (M80 - 2750 ± 30 fps @ 78 ft), (M62 - 2680 ± 30 fps @ 78ft)
- Action Time: 4 ms (max)
- Height (max): 2.80 in
- Weight: (M80 - 392-31 Grains), (M62 - 383-29 Grains)

DODIC A168 - for Mini-Gun
ACQ Phase: Production & Deployment



**7.62mm, M80 Ball/
M276 Dim Trace**

SYSTEM DESCRIPTION:

A255 are for combat and training. The dim trace rounds are only visible with night vision goggles. Rounds are configured 4 M80 FS/1 M276 Dim Trace — linked 100 rounds/belt. These ctgs. are for use primarily in the Machine Gun Series M60, & M240B. The bullet consists of copper alloy clad steel jacket with a lead antimony slug.

SPECIAL FEATURES:

- M276 only Visible with Night Vision devices

FIELDING:

- Fielded

SYSTEM CHARACTERISTICS:

- Accuracy: Average Mean Radius $\leq 15"$ @ 600 Yards
- Muzzle Velocity: (M80 - 2750 ± 30 fps @ 78ft), (M276 - 2750 ± 30 fps @ 78 ft)
- Action Time: 4 ms (max)
- Height (max): 2.80 in
- Weight: (M80 - 392-31 Grains), (M276 - 381-28 Grains)

DODIC A255 - 4/1 Dim Trace, Linked
ACQ Phase: Production & Deployment



7.62mm, M80 Ball/
M276 Dim Trace

SYSTEM DESCRIPTION:

A257 is for combat and training. These ctgs. are for use primarily in the GAU-2B1A Machine Gun but also can be used in M60, & M240B. Dim Trace only visible with NVG. Linked 9 M80 FS / 1 M276 Dim Trace -750 Rounds/belt f/Mini-gun. The bullet consists of copper alloy clad steel jacket with lead antimony Slug.

SYSTEM CHARACTERISTICS:

- Accuracy: Average Mean Radius $\leq 15''$ @ 600 Yards
- Muzzle Velocity: (M80 - 2750 ± 30 fps @ 78 ft), (M276 - 2750 ± 30 fps @ 78 ft)

- Action Time: 4 ms (max)
- Height (max): 2.80 in
- Weight: (M80 - 392-31 Grains), (M276 - 381-28 Grains)

SPECIAL FEATURES:

- 9/1 mix for use with Mini Gun
- Dim Trace

FIELDING:

- Fielded

DODIC A257 - 9 Ball M80 FS/1 Dim Trace, M276 Linked
ACQ Phase: Production & Deployment



7.62mm, M82

SYSTEM DESCRIPTION:

A111 is a training unique round, not used in combat. The 7.62mm M82 is used in rifle 7.62mm and machine guns M60, M240B, and M73 with a Blank Firing Attachment (BFA) M21. The round is used to simulate live firing in training exercises,.

SYSTEM CHARACTERISTICS:

- Muzzle Flash: Visible 100 Yards From Weapon in Darkness
- Screen Perforation: Max 1 Inch Diameter at 15 ft From Muzzle
- Height: (max) 2.595 in
- Weight: 234.5-18.5 Grains

FIELDING:

- Fielded

DODIC A111 - Blank M82 Linked/M13
ACQ Phase: Production & Deployment



7.62mm, M82A1

SYSTEM DESCRIPTION:

AB57 is a training unique round, not used in combat. The 7.62mm M82A1 is used in M14 rifle without a Blank Firing Attachment (BFA). The round is used for ceremonial applications and sniper training.

FIELDING:

- Fielded

SYSTEM CHARACTERISTICS:

- Muzzle Flash: Visible 100 Yards From Weapon in Darkness
- Screen Perforation: Max 1 Inch Diameter at 15 ft From Muzzle
- Height: (max) 2.595 in
- Weight: 234.5-18.5 Grains

DODIC AB72 - Blank M82A1

ACQ Phase: Production & Deployment





**7.62mm, Lightweight
Ammunition**

SYSTEM DESCRIPTION:

New lightweight 7.62mm ammunition will use the same bullet and primer as the current M80A1/M62A1 ammunition. The 20% assembled ctg. weight reduction has been achieved by replacing the current brass alloyed ctg. case with a thin walled stainless steel case.

CAPABILITY:

- Ballistically Similar to M80 & M62 ctgs.
- No Degradation in Performance, Reliability, or Operating Conditions

SYSTEM CHARACTERISTICS:

- Ballistically Similar to Standard 7.62mm M80 Ball & M62 Tracer
- 20% Minimum Weight Reduction
- No Degradation in Current Performance, Reliability, or Operating Conditions
- Full Compliance to M80 & M62 Performance Specifications

SPECIAL FEATURES:

- Provides at Least 20% Weight Reduction Compared to Standard 7.62mm M80 Ball and M62 Tracer Ammunition
- Changes Shall be Transparent to User

FIELDING:

- N/A

DODIC – N/A

ACQ Phase: Engineering & Manufacturing Development





**7.62mm, M973/M974
Short Range Training
Ammunition (SRTA)**

SYSTEM DESCRIPTION:

M973 Short Range Training Ammunition (SRTA) Ball and M974 SRTA Tracer (SRTA-T) ctg. consist of standard ctg. case, 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. Result is ballistic match of 7.62mm M80 Ball/M62 Tracer out to 100 meters with max. range of 600 meters, providing realistic training alternative on restricted ranges. Items are intended for use in M60 and M240B machineguns with no ancillary hardware or adapters. Tracer produces a visual daylight out to 100 meters. Projectile is also frangible, which minimizes damage to MOUT training facilities

CAPABILITY:

- Ballistic Match to Tactical Ammo out to 100m
- Suitable for Restricted Ranges
- Does not Damage MOUT Training Facilities

SYSTEM CHARACTERISTICS:

- Accuracy: Average Max. Mean Radius @ 100m \leq 78 mm
- Muzzle Velocity: 2729 fps
- Height: 2.625"
- Weight: 300 Grains

SPECIAL FEATURES:

- Front Fin Design
- Frangible Projectile

FIELDING:

- Fielded

DODIC AA37 - 7.62mm, 4/1 M973 Ball/M974 Tracer

AB60 - 7.62mm, M973 Ball

ACQ Phase: Production & Deployment





**.300 Winchester Magnum
MK 248 MOD 0**

SYSTEM DESCRIPTION:

The A191 bullet (projectile) 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 for use in XM2010 Enhanced Sniper Rifle or MK13 for sniper applications.

FIELDING:

- Fielded

CAPABILITY:

- Effective Range 1100m

SYSTEM CHARACTERISTICS:

- Height: 3.5 inches
- Weight: 190 Grains
- Muzzle Velocity (Nominal): 3000 ± 50 fps
- Accuracy: Individual shot group ≤ 4.71 inches @ 300 Yards and 9.42 inches @ 600 yards
- Chamber Pressure: 78,900 psi

DODIC A191

ACQ Phase: UMR Program for Deployment



**.300 Winchester Magnum
MK 248 MOD 1**

SYSTEM DESCRIPTION:

The AB43 bullet (projectile) for the MK 248 MOD 1 is a 220 grain Sierra MatchKing 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 for use in XM2010 Enhanced Sniper Rifle or MK13 for sniper applications.

FIELDING:

- Fielded

CAPABILITY:

- Effective Range 1370m

SYSTEM CHARACTERISTICS:

- Height: 3.5 inches
- Weight: 220 Grains
- Muzzle Velocity (Nominal): 2850 ± 50 fps
- Accuracy: Individual shot group ≤ 4.5 inches @ 300 Yards and 9.0 inches @ 600 yards
- Chamber Pressure: 78,900 psi

DODIC AB43

ACQ Phase: Production & Deployment



**Ctg Cal .30 Blank
M1909**

SYSTEM DESCRIPTION:

The M1909 has purple lacquer on the rosette crimp (6 flutes) and is used on the M1 Garand, the M1903 Springfield and M1917 Enfield rifles. The round is used for saluting for ceremonial applications

SYSTEM CHARACTERISTICS:

- Height (max): 490 - .15 in
- Weight: 218-20 Grains

FIELDING:

- Fielded

DODIC A222

ACQ Phase: Production & Deployment



**.50 Cal M33 Ball****SYSTEM DESCRIPTION:**

For use in machine guns M2 and M3. The .50 cal M33 Ball has a plain bullet tip. The ctg. 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 ctg. has a soft steel core bullet and is primarily used for training.

SYSTEM CHARACTERISTICS:

- Accuracy: Average Mean Radius = 12" @ 600 Yards
- Muzzle Velocity (Nominal): 2910 ± 30 fps
- Chamber Pressure (typical): 55,000 psi
- Height: 5.450 inches
- Weight: 1762.5 - 76.5 Grains

FIELDING:

- Fielded

DODIC A555 - .50 Cal Ball M33 w/M9 Link
ACQ Phase: Production & Deployment

**.50 Cal M903/M962****SYSTEM DESCRIPTION:**

.50 Cal , M903/M962 Saboted Light Armor Penetrator (SLAP) / Saboted Light Armor Penetrator-Tracer (SLAP-T) ctg. consists of a Tungsten Alloy penetrator which is sabot-launched at a much higher velocity than standard rounds, approximately 4000 feet per second. The sabot releases projectile upon exiting muzzle.; use with M2HB Machine Gun.

SYSTEM CHARACTERISTICS:

- Accuracy: Ave. Max. Mean Radius @ 600 Yards < 18"
- Muzzle Velocity: 4000 fps @ 78 ft.
- Chamber Pressure: 55,000 psi
- Height: 5.45"
- Weight: 1466 Grains

FIELDING:

- Fielded

DODIC A518, Linked, 4/1, M903 SLAP / M962 SLAP-T
ACQ Phase: Production & Deployment



**.50 Cal M8 API /
M20 API-T**

SYSTEM DESCRIPTION:

For use in machine guns M2 and M3. Used against armored vehicles. M8 identified by gray bullet tip. M20 identified by red over gray bullet tip. Ctg. has a manganese molybdenum steel core, a point filler of incendiary composition, and a lead-antimony base seal. It produces a great deal of damage upon impact and is effective against armored personnel vehicles.

SYSTEM CHARACTERISTICS:

- Height: 5.450 inches
- Weight: 1765 Grains
- Muzzle Velocity (Nominal): 2910 ± 30/50 fps

- Accuracy: MK211 Mod 0 - AMR ≤ 6 inches (Grade A) @ 600 Yards
- Penetration: Core min penetrates 87.5% Armor at 100 Yards
- Chamber Pressure: 55,000 psi
- Action Time: 4 ms (max)

FIELDING:

- Fielded

DODIC A576, Linked 4/1, M8 API / M20 API-T
ACQ Phase: Production & Deployment



**.50 Cal M33 Ball/M17
Trace**

SYSTEM DESCRIPTION:

For use in machine guns M2 and M3. The .50 cal M17 has a brown bullet tip. The round is intended for use on full-sized ranges and is produced to meet a U.S. military specification. It produces a red trace and is used against unarmored targets.

SYSTEM CHARACTERISTICS:

- Accuracy: Average Mean Radius = 12" @ 600 Yards
- Trace: 85% min, Visible From 100 Yards to 1600 Yards
- Chamber Pressure (Typical): (M17 – 54,000 psi), (M33 - 55,000 psi)
- Muzzle Velocity: 2910 ± 30 fps
- Action Time: (max) 4 ms
- Height (max): 5.450 in
- Weight: (M17 - 1718.5-77 Grains), (M33 -1762.5 - 76.5 Grains)

FIELDING:

- Fielded

DODIC A557: 4 Ball M33/1 Trace M17 w/M9 Link
ACQ Phase: Production & Deployment





**.50 Cal Mk257 Mod 0
API-DT**

SYSTEM DESCRIPTION:

For use in machine guns M2 and M3. NAVSPECWARCOM (NSOF) initiated design in 1996 to modify already fielded, M20, .50 Caliber Armor Piercing Incendiary - Tracer (API-T) to Dim Trace (DT).

SYSTEM CHARACTERISTICS:

- Accuracy: Average Mean Radius = 12" @ 600 Yards
- IR Trace: Visible From 100 Yards to 1600 Yards Penetration: 7/8 Armor Plate @ 100 Yards
- Chamber Pressure (Max): 65,000 psi
- Muzzle Velocity: 2910 ± 30 fps
- Action Time: (max) 4 ms
- Height (max): 5.450 in
- Weight:

SPECIAL FEATURES:

- Armor Piercing Incendiary - Tracer (API-T)

FIELDING:

- Fielded

DODIC AA42: Cal. .50, API-DIM-TRACER

.50 Cal. M8 API/Mk257 API DIM Trace

AB30: 4 API M8/1 Dim Trace Mk257 w/M9 Link

ACQ Phase: Production & Deployment



**.50 Cal MK211
MP/M20 API-T**

SYSTEM DESCRIPTION:

For use in machine guns M2 and M3. HE with incendiary. Used against armored vehicles. MK211 identified with a green bullet tip with an aluminum color annulus. M20 identified by red over gray bullet tip designed to perforate or penetrate hardened or bullet resistant targets. Has improved fragmentation capabilities over M20 API-T. Effective at starting fuel fires including heavy distillates, i.e. diesel fuel.

CAPABILITY:

- Designed to perforate or penetrate hardened or bullet resistant targets with after armor effects
- Used against armored personnel vehicles
- Effective at starting fuel fires including heavy distillates
- HE with incendiary

SYSTEM CHARACTERISTICS:

- Height: 5.450 Inches
- Weight: 1765 Grains
- Trace: 85% min, Visible From 100 Yards to 1600 Yards
- Muzzle Velocity (nominal): 2910 ± 30/50 fps
- Accuracy: MK211 Mod 1 - AMR ≤12 inches (Grade B) @ 600 Yards
- Penetration: MK211 - Core min Penetrates 87.5% Armor at 100 Yards
- Chamber Pressure: 55,000 psi
- Action Time: 4 ms (max)

SPECIAL FEATURES:

- Identified with green bullet tip with aluminum color annulus
- M20 identified by red over gray bullet tip

FIELDING:

- Fielded

DODIC A607 4 MK211/ Mod 1 Multi-Purpose /1 M20 API -T w/M9 Link

ACQ Phase: Production & Deployment



**Caliber .50 Plastic
Short Range Training
Ammunition (SRTA)**

SYSTEM DESCRIPTION:

Caliber .50 Short Range Training Ammunition (SRTA) 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 500m allowing higher capacity of training on smaller ranges. While using the M2 MG in conjunction with the M3 Recoil Adapter, Caliber .50 SRTA has an accuracy match to the M33/M17 at 150m making this ctg. ideal for training with the M2 both on a vehicular mount and off of a tripod.

SYSTEM CHARACTERISTICS:

- Accuracy: Ave. Max. Mean Radius @ 150m < 35cm
- Muzzle Velocity: 2790 fps @ 78 ft. from muzzle
- Height: 5.2"
- Weight: 460 Grains

SPECIAL FEATURES:

- Reduced Surface Danger Zones Enhances training opportunities at installations.

FIELDING:

- Fielded

DODIC A576,
A602 - .50 Cal, Plastic, SRTA : 4-M858 Ball/1-M860 Tracer
ACQ Phase: Production & Deployment



.50 Cal M1A1 Blank

SYSTEM DESCRIPTION:

.50 Caliber training round for simulated fire. Identified by absence of bullet and a 6 fluted rosette crimp at the mouth. Purple lacquer on mouth

SYSTEM CHARACTERISTICS:

- Operates With M2 MG, M19 Blank Firing Attachment (BFA)
- Weight: 915-55 Grains
- Length: 3.91 in (99.3 mm)
- Propellant: WC 150

FIELDING:

- Fielded

DODIC A598 - .50 Cal Blank M1A1 Link w/M9 Link f/M2 MG
ACQ Phase: Production & Deployment



Ctg 10 Gauge Blank

SYSTEM DESCRIPTION:

Ctg. is similar to standard shotgun ctgs. but It contains no lead shot. It has a plastic ctg. case and marked blank on the shell. The ctg. is designed to produce a noise when initiated. It is used as a salute item in large caliber weapons. The blank is inserted either in a prepared ctg. case or in a breech block of the weapon being used. Commonly fired in 3-inch guns, 75mm, 75mm howitzers or 105mm howitzers.

SYSTEM CHARACTERISTICS:

- Length: 2.88 in. (73.2mm)
- Weight 290 grains
- Propellant: Black Powder
- Propellant Weight: 8 g

FIELDING:

- Fielded

DODIC A010

ACQ Phase: Production & Deployment





**Ctg 12 Gauge
#00 Buckshot**

SYSTEM DESCRIPTION:

The ctg. case is all plastic, and is loaded with smokeless powder and No. 00 commercial shot. An ECP was approved by ARDEC on 6/06 to changing the tube coloring from standard red to olive drab to camouflage the round. This round is commonly used for force protection and combat use in military issue shotgun, 2-3/4" chamber.

SYSTEM CHARACTERISTICS:

- Length: 2.53 in. (64.3mm)
- Weight .736 Grains
- Propellant: Smokeless Powder
- Chamber Pressure: 11,000 psi
- Velocity: 1325 fps, 3 ft from muzzle

FIELDING:

- Fielded

A011 - Military Pack

ACQ Phase: Production & Deployment



Ctg 12 Gauge #9 Shot

SYSTEM DESCRIPTION:

The configuration of A017 is a 12 Ga. 2 3/4" round with 1 1/8 ounces of #9 shot (approximately 575 pellets .080" in diameter). It is packed 25 ctgs. in a cardboard carton, 20 cartons in a fiberboard box. Ammunition is used for training and target competition.

SYSTEM CHARACTERISTICS:

- Gauge: 12
- Shell Length: 2-3/4
- Velocity (in.): 1145
- Shot Size: 9

FIELDING:

- Fielded

A017 - Commercial Pack

ACQ Phase: Production & Deployment



12 Gauge M1030 Ctg Breaching Round

SYSTEM DESCRIPTION:

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

CAPABILITY:

- Defeat Door Lock Mechanisms, Hinges and Pad Locks on Interior Wooden Doors

SYSTEM CHARACTERISTICS:

- (42 grains) Compressed Zinc Pellets supported by Plastic Wad. Overall Length of 62.23mm (2.45 inches). Diameter of 22.35 mm (0.88 inches).

SPECIAL FEATURES:

- Defeat Door Lock Mechanisms
- Standard 12 Gauge Case and Primer
- Fits Current Standard Military 12 Gage Shotgun with a 2.75 Inch and 3 Inch Long Chamber

FIELDING:

- Fielded

DODIC AA54

ACQ Phase: Production & Deployment



Ctg 9mm Ball M882

SYSTEM DESCRIPTION:

Used for Training, Force Protection and Combat— M9 & M11, 9mm pistols. Compatible with all NATO 9mm weapons.

SYSTEM CHARACTERISTICS:

- Ctg. Designation: US M882 Ball
- Ctg. OAL: 1.165 Inches or 29.591mm
- Powder Used: HPC-26
- Powder Weight Used: 6.0 Grains
- Bullet Weight: 112 Grains
- Bullet Length: .610 Inches or 15.494mm
- Bullet Velocity: 1230 fps @ 16.4 Yards
- Bullet Accuracy: Average Max. Mean radius $\leq 1.5"$ @ 50 m

FIELDING:

- Fielded

DODIC A363 Military Pack

ACQ Phase: Production & Deployment



**9mm MOD 0 MK243
Jacketed Hollow Point**

SYSTEM DESCRIPTION:

9mm JHP ctg. is required for use in situations where high lethality and limited over-penetration of target are necessary to meet mission profile. 9mm JHP ammunition is critical for providing enforcement agents with means to rapidly incapacitate dangerous criminals in situations warranting the use of deadly force. 9mm JHP 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.

SYSTEM CHARACTERISTICS:

- Increased Lethality, Reduced Over Penetration of Personnel Targets, Restricted to Law Enforcement use (Hollow Point Ammo Banned by International Treaties for Military Conflict)

SPECIAL FEATURES:

- 147 Grain JHP Ammunition
- 25 Percent Lower Velocity Than M882 Ball
- All Army Stocks Placed in Ammo Condition Code B

ISSUES:

- OCONUS Restriction per Hague Accord.

FIELDING:

- Fielded

DODIC A260

ACQ Phase: Production & Deployment





9mm M1041 Close Combat
Mission Capability Kit (M9, M11)

SYSTEM DESCRIPTION:

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.

9mm utilizes a smaller bore diameter and chamber shape to preclude the conversion kit from firing a combat cartridge. Live Round Lockout is achieved by using a chamber design that has insufficient head space for the weapons standard caliber “Live” round to fully chamber.

CAPABILITY:

- The M9 and M11 Pistol Adaptors are designed for firing 9mm M1041 cartridges.
- Incapable of Firing Live Standard Ammunition

SPECIAL FEATURES:

- Muzzle Velocity:
M1041 – 575 ft/s M9; 491 ft/s M11
- Weight: M1041 – 71.8 gr Cartridge; 7.7 gr Projectile

FIELDING:

- Fielded

DODIC AB12, 13, & 14 - Practice (Yellow, Blue, & Red)
ACQ Phase: Production & Deployment



Ctg Cal .22 LR
Match F/Pistol

SYSTEM DESCRIPTION:

USED FOR ROTC MATCH GRADE PISTOLS

SYSTEM CHARACTERISTICS:

- Velocity - m/sec (ft/sec)
- Muzzle - 305 (1000)
- 20m (20yds) - 296 (973)
- 50m (50yds) - 284 (935)
- Energy - Kg.m (ft.lb)
- Muzzle - 12.3 (89)
- 20m (20yds) - 11.6 (84)
- 50m (50yds) - 10.7 (78)

FIELDING:

- Fielded

DODIC A091
ACQ Phase: Production & Deployment



**Grenade, Rifle Entry
Munition, M100**

SYSTEM DESCRIPTION:

Muzzle launched breaching munition fired from M16 series Rifles or M4 series Carbines using standard M855 or M856 ammunition. Fired at distance of 15 to 40 meters, arming at approx. 15 meters, to breach locked doors or windows with minimal hazard to operator. Length is approx. 30" with dia. of about 4", overall weight is slightly more than one pound and is propelled by service ammo. Overpressure of explosion will cause breaching of either wood or metal skin exterior doors. Grenade Rifle Entry Munition provides friendly forces the necessary capability to gain access into sealed buildings during urban operations from a safe distance, without risk to enemy fire.

CAPABILITY:

- Defeats Exterior Doors and Windows at a Distance of 15-40 Meters

SYSTEM CHARACTERISTICS:

- Rifle Grenade Fired from M16 Rifle or M4 Carbine
- Breaches Wood or Metal Skin Exterior Doors
- 15-40m Range Allows Breaching of Exterior Doors Without Risk to Operator

SPECIAL FEATURES:

- 120 Gram PBXN-109 Charged Warhead
- Bullet Trap
- 95% Probability of Breaching Doors with two Rounds

FIELDING:

- Fielded

DODIC N/A

ACQ Phase: Production & Deployment



**Grenade, Rifle Entry
Munition, Target
Practice, M101**

SYSTEM DESCRIPTION:

Grenade Rifle Entry Munitions, Target Practice is a lightweight muzzle launched training round fired from M16 Rifle or M4 Carbine using M195 Grenade Ctg. Fired at a distance of 15-40 meters, arming at approx 15 meters, to fire at locked doors. Round consists of two components: Inert Grenade body (no HE) and standoff rod. Overall length is approx 30" with diameter of about 4" Overall weight is slightly more than one pound. When assembled the round slides over barrel of rifle and is propelled by M195 Grenade Ctg

CAPABILITY:

- Round has Same Projectile Characteristics and Provide Operator Real Training on Aiming and Hitting Door Target. Round is Reusable Minimum of 5 Times

SYSTEM CHARACTERISTICS:

- GREM Target Practice Round Fired From M16 Rifle or M4 Carbine Using M195 Ctg.
- Provides Operator Proper Training on how to aim and Fire M100 GREM Round

SPECIAL FEATURES:

- Target Practice Round has Same Physical Characteristics as M100 Live Round and is Inert and Safe to Operate for Training
- Uses M195 Grenade Ctg. To be Supplied With M101
- Round is Provided With 5 Spare Stand-off Rods and can be Reused a Minimum of 5 Times

FIELDING:

- Fielded

DODIC GG11

ACQ Phase: Production & Deployment



.50 Cal, 7.62mm,
5.56mm, 9mm DDI

SYSTEM DESCRIPTION:

Used for weapons training and maintenance.

CAPABILITY:

- None

SYSTEM CHARACTERISTICS:

- Brass cartridge cases, copper bullets, nickel plated
- No energetic or stored energy.
- Cases are fluted except the 9mm which has two holes.
- Primer cavity in base but no primer inserted.
- AB45 – 9mm
- AB46 – 5.56mm
- AB47 – 7.62mm
- AB48 - .50cal
- AB36 - .50cal linked

SPECIAL FEATURES:

- Entire rounds are nickel plated

FIELDING:

- In inventory

DODIC N/A

ACQ Phase: Production & Deployment







7.62x39mm
Ammunition

SYSTEM DESCRIPTION:

7.62x39mm ammunition is Soviet designed cartridges for the AK Series of weapons. It is effective against unprotected personnel targets.

CAPABILITY/IMPROVEMENTS:

- Velocity: 725 m/s (nominal)
- Pressure: 2745 bar

SYSTEM CHARACTERISTICS:

- Types: Ball, Tracer, Blank
- Projectile Design: Lead or Steel Core, Bimetal Jacket
- Case Design: Steel or Bimetal
- Projectile Mass: Ball - 7.9 grams (approx), Tracer — 7.6 grams (approx)
- Marking: Ball — None, Tracer — Green or Red Tip

FIELDING:

- FMS Security Assistance

PRIME CONTRACTOR:

- Alliant Tech Systems
- General Dynamics - Ordnance and Tactical Systems

ACQ Phase: Production & Deployment



7.62x54mm
Ammunition

SYSTEM DESCRIPTION:

7.62x54mm ammunition is Soviet designed cartridges used in the PK Series of weapons. It is effective against unprotected personnel targets.

CAPABILITY/IMPROVEMENTS:

- Velocity: 828 m/s (nominal)
- Pressure: 2800 bar

SYSTEM CHARACTERISTICS:

- Types: Ball, Tracer, Blank
- Projectile Design: Lead or Steel Core, Bimetal Jacket
- Case Design: Steel or Bimetal
- Projectile Mass: Ball — 9.6 grams (approx), Tracer — 9.6 grams (approx)
- Marking: Ball — None, Tracer — Green or Red Tip

FIELDING:

- FMS Security Assistance

PRIME CONTRACTOR:

- Alliant Tech Systems
- General Dynamics - Ordnance and Tactical Systems

ACQ Phase: Production & Deployment





12.7x108mm
Ammunition

SYSTEM DESCRIPTION:

12.7x108mm ammunition is Soviet designed cartridges for the DShK and NSV Machine Guns. It is effective against light-armored air and ground targets.

CAPABILITY/IMPROVEMENTS:

- Velocity: 818-833 m/s (nominal)
- Penetration: 20mm at 100m

SYSTEM CHARACTERISTICS:

- Types: Armor Piercing (AP), Armor Piercing Incendiary (API)
- Projectile Design: Hardened Steel Core, Bimetal Jacket
- Case Design: Steel
- Projectile Mass: AP — 48 grams (approx), API — 48 grams (approx), APT — 44 grams (approx)
- Marking: AP — Black Tip, API — Black and Red Tip, APT — Violet tip

FIELDING:

- FMS Security Assistance

PRIME CONTRACTOR:

- Alliant Tech Systems
- General Dynamics - Ordnance and Tactical Systems

ACQ Phase: Production & Deployment



14.5x114mm
Ammunition

SYSTEM DESCRIPTION:

14.5x114mm ammunition is Soviet designed cartridges used in the KPV and KPVT Machine Guns. It is effective against light-armored air and ground targets.

CAPABILITY/IMPROVEMENTS:

- Velocity: 980-995 m/s
- Penetration: 20mm at 300m

SYSTEM CHARACTERISTICS:

- Types: API, API-T
- Projectile Design: Lead or Steel Core, Bimetal Jacket
- Case Design: Steel
- Projectile Mass: API - 64 grams (approx), API-T — 59.6 grams (approx)
- Marking: API — Black and Red Tip, API-T— Violet and Red Tip

FIELDING:

- FMS Security Assistance

PRIME CONTRACTOR:

- TBD

ACQ Phase: Production & Deployment



40mm VOG
Grenade Ammunition

SYSTEM DESCRIPTION:

The VOG grenade ammunition is Designed to defeat enemy troops in Open terrain or light shelters.

CAPABILITY/IMPROVEMENTS:

- Velocity: 75 m/s
- Max Range: 400 m
- Operational Temp: -50 to +50C

SYSTEM CHARACTERISTICS:

- VOG-25 and VOG-25P
- Fired From GP-25/30 Under-Barrel Grenade Launchers
- Packaged 40 Rounds/Sealed Can

SPECIAL FEATURES:

- VOG-25P — Jumping grenade fired at target impacts ground, explosive charge propels grenade 05.-2.5 m up where it detonates — increased lethal signature
- Fragmentation radius: 4-6 m

FIELDING:

- FMS Security Assistance

PRIME CONTRACTOR:

- Alliant Tech Systems
- General Dynamics - Ordnance and Tactical Systems

ACQ Phase: Production & Deployment



7.62mm Ammunition

SYSTEM DESCRIPTION:

The 73mm ammunition is designed to destroy armored vehicles, hasty fortifications, and enemy troops.

CAPABILITY/IMPROVEMENTS:

- Velocity: 435m/s
- Max Range: 1,300m
- Penetration: 300mm

SYSTEM CHARACTERISTICS:

- Types: HE, HEAT
- Fired from SPG-9, 2A28 (BMP-1)

FIELDING:

- FMS Security Assistance

PRIME CONTRACTOR:

- TBD

ACQ Phase: Production & Deployment



40mm RPG-7
Ammunition

SYSTEM DESCRIPTION:

The family of 40mm ammunition fired from the RPG-7 launcher is intended to engage enemy troops in open and in light shelters, and to engage tanks, armored vehicles and fortifications.

CAPABILITY/IMPROVEMENTS:

- Velocity: 112-152m/s
- OG Max Range: 1000m
- PG Max Range: 500m

SYSTEM CHARACTERISTICS:

- Fired from RPG-7 launcher
- OG ammunition designed to defeat enemy troops in open terrain or in light shelters
- PG ammunition designed to defeat tanks, armored vehicles, and fortifications

FIELDING:

- FMS Security Assistance

PRIME CONTRACTOR:

- Alliant Tech Systems

ACQ Phase: Production & Deployment



57mm Rocket
Ammunition

SYSTEM DESCRIPTION:

The 57mm Aviation Rockets fired from aircraft with UB-16-57UM & UB-32 Rockets Pods.

CAPABILITY/IMPROVEMENTS:

- Velocity: 540-586 m/s
- Penetration: 172-250mm
- Operational Temp: -40 to +50 C

SYSTEM CHARACTERISTICS:

- Types: S-5KO, S-5KP, & S-5KO (Practice)
- Designed to destroy enemy manpower, shelters and armored targets.
- Packaged 8 Rockets/Crate

FIELDING:

- FMS Security Assistance

PRIME CONTRACTOR:

- Alliant Tech Systems
- General Dynamics - Ordnance and Tactical Systems

ACQ Phase: Production & Deployment



PP3, PP9 & PPL
Pyro-Cartridges

SYSTEM DESCRIPTION:

PP3, PP9 & PPL Pyro-Cartridges used in Soviet helicopters to operate safety equipment and cycle the weapon in the event of a jam.

CAPABILITY/IMPROVEMENTS:

- None

SYSTEM CHARACTERISTICS:

- PP3 — Activates fire bottles on the Mi-17 Helicopter
- PP9 — Opens the canopy of the Mi-35 Helicopter
- PPL — Actuating cartridge for the Yak-B 12.7x108mm Machine Gun

FIELDING:

- FMS Security Assistance

PRIME CONTRACTOR:

- Alliant Tech Systems

ACQ Phase: Production & Deployment



82mm Mortar
Ammunition

SYSTEM DESCRIPTION:

The family of 82mm mortar ammunition is intended to destroy manpower in the open and trenches, obscure targets, and provide illumination.

CAPABILITY/IMPROVEMENTS:

- Velocity: 211 m/s
- Max Range: 4,500m (HE), 4,850m (Smoke), 3,380m (Illum)
- Operational Temp: -50 to +50C (HE), -30 to +50C (Smoke and Illum)

SYSTEM CHARACTERISTICS:

- Types: HE, Smoke, Illum
- Fired from M69 82mm Mortar

SPECIAL FEATURES:

- 82 Illum burn time 30 sec minimum, 500,000 Cd

FIELDING:

- FMS Security Assistance

PRIME CONTRACTOR:

- Alliant Tech Systems
- General Dynamics - Ordnance and Tactical Systems

ACQ Phase: Production & Deployment



120mm Mortar
Ammunition

SYSTEM DESCRIPTION:

The family of 120mm mortar ammunition is intended to destroy manpower in the open and trenches, obscure targets, and provide illumination.

FIELDING:

- FMS Security Assistance

PRIME CONTRACTOR:

- TBD

CAPABILITY/IMPROVEMENTS:

- Velocity: 272 m/s
- Max Range: 5,800m (HE)
- Operational Temp: -50 to +50C (HE), -30 to +50C (Smoke and Illum)

SYSTEM CHARACTERISTICS:

- Types: HE, Smoke, Illum
- Fired from M-38, M-43 and 2S11, 2S12, 2S14

ACQ Phase: Production & Deployment



122mm Artillery
Ammunition

SYSTEM DESCRIPTION:

The family of 122mm artillery ammunition is intended to destroy manpower , armored vehicles and shelters, obscure targets, and provide illumination.

FIELDING:

- FMS Security Assistance

PRIME CONTRACTOR:

- Alliant Tech Systems

CAPABILITY/IMPROVEMENTS:

- Velocity: 565-690m/s
- Max Range: 15.3km
- Operational Temp: -40 to +50C

SYSTEM CHARACTERISTICS:

- Types: HE Frag, HEAT, Smoke, Illum
- Fired from D-30 and 2S-1 122mm Howitzer

ACQ Phase: Production & Deployment

PM Towed Artillery Systems

PM TAS 209

PM Towed Artillery Systems (PM TAS) Provides direct, reinforcing, and general support towed artillery fires to maneuver forces. Provide direct support artillery for the Stryker and Infantry Brigade Combat Teams.





M777A2

SYSTEM DESCRIPTION:

Lightweight, 155-mm Towed Howitzer
 Provides Direct, Reinforcing and General Support Fire
 Replaces M198 Howitzer
 Weight: 10,000 pounds or less
 Max range: 30 km (assisted)
 Excalibur Capability Fully Embedded
 Prime Mover: FMTV, MTRV, M900
 AAO: 542 ARMY/ 511 USMC
 Air Mobility: MV22, CH53D/E, CH47D
 Rate of Fire: 4/min max, 2/min sustained
 Emplace, Displace: <3 min, 2-3 min

CAPABILITIES:

- Improved Lethality and Strategic Deployment
- Increased Tactical Mobility & Reliability
- Improved Survivability (decreased emplace/displace time -- shoot and scoot tactics with digital fire control)
- 1-Mil Pointing Accuracy

SYSTEM CHARACTERISTICS:

- M776 NATO Compliant Cannon
- Titanium Structures
- Digital and Optical Fire Control System
- Inertial Navigation with GPS backup
- Primer Feed Mechanism
- Independent Suspension
- Semi Automatic Breech and Loading Tray

SPECIAL FEATURES:

- Lighter weight due to Titanium Structures

FIELDING:

- USMC IOC Dec 05/FOC Dec 10
- ARMY IOC OCT 06/FOC Jun 14

PRIME CONTRACTOR(S):

- BAE Systems

DODIC N/A

ACQ Phase: Production & Sustainment



M119A2

SYSTEM DESCRIPTION:

- Lightweight, 105-mm towed howitzer
- Direct support and counter battery fire
- Fires all standard and R&D 105-mm cartridges
- Max range = 19,500 m with M913 HERA
- Max rate of Fire 10 rds/min max 3rds/min sustained
- Emplace/Displace: 3 minutes
- Weight = 4,330 pounds
- UH-60 Airmobile and Air Droppable
- Prime Mover: HMMWV
- Authorized Acquisition Objective:893 (revision pending)
- Authorized Procurement Objective:823

CAPABILITY/IMPROVEMENTS:

- One piece cradle trunnion
- Replacement of various weldments with one-piece castings
- More robust fire control mount

SYSTEM CHARACTERISTICS:

- M20A1 Cannon
- Bow-shaped tubular trails and spade
- Saddle/Cradle
- Elevating mechanism
- Hydro-pneumatic variable length recoil
- Spring type equilibrators
- 2-wheeled, single axle carriage
- Optical Fire Control System

SPECIAL FEATURES:

- Design Improvements to enhance long-term mission readiness and durability

FIELDING:

- Fielded

PRIME CONTRACTOR(S):

- Rock Island Arsenal

DODIC N/A

ACQ Phase: Production & Sustainment

M777





Digitized M119A2

SYSTEM DESCRIPTION:

- Lightweight, 105-mm towed howitzer
- Direct support and counter battery fire
- Fires all standard and R&D 105-mm cartridges
- Max range = 19,500 m with M913 RA cartridge
- Weight = 4,500 pounds
- Prime Mover: HMMWV
- Air Mobility: UH-60 Blackhawk
- Rate of Fire: 10/min max, 3/min sustained
- Emplace, Displace: <3 min, 2-3 min

CAPABILITY/IMPROVEMENTS:

- Improved Lethality and Strategic Deployment
- Improved Survivability (decreased emplace/displace time -- shoot and scoot tactics with digital fire control)
- 1-Mil Pointing Accuracy
- Onboard Ballistic Calculations
- Embedded Training

SYSTEM CHARACTERISTICS:

- M119A2 Plus Digital Fire Control System
- Fire Control Computer
- Inertial Navigation with GPS backup
- Integrated Electronic Fuze Setter
- Integrated Muzzle Velocity Sensor
- Self Contained & Supplemental Power
- Digital Communication with FDC

SPECIAL FEATURES:

- Digitized M119A2 to improve lethality and survivability

FIELDING:

- IOC MAR 13
- FOC DEC 16

PRIME CONTRACTOR(S):

- US Government

LIN H57505

ACQ Phase: Production & Sustainment



IPADS

SYSTEM DESCRIPTION:

IPADS is a self-contained inertial surveying system capable of rapidly determining accurate position, altitude, and azimuth when used in ground survey operations.

CAPABILITY/IMPROVEMENTS:

- Weight: 135 lbs
- Accuracy:
 - Horizontal: 4.0 m CEP
 - Vertical: 2.0m CEP
 - Azimuth: 0.4 mils PE
- Survey Area: 75 kilometers radius from last update point
- Survey Area: 221 kilometers from last update point
- Mission Duration: Unlimited
- Temperature:
 - Operation: -46 to +52°C
 - Storage: -46 to +71°C
- Power:
 - Steady state: 104 watts (3.7 amp @ 24 VDC)
 - Transient: 120 watts (5 amp @ 24 VDC)

- Initialization Time: 5 - 10 minutes
- MTBF: 2,500 hours
- NSN: 6675-01-515-4610
- LIN: S69925
- Digital interface to FOS / AFATDS
- Digital map capability

SYSTEM CHARACTERISTICS:

Reliability – 30 times More **Reliable**
 Than PADS Hot Start Capable - 5
 Minute Initialization Noise and Light
 Discipline Features Keyboard Light
 for Night Ops Enhanced Control &
 Display Performance All Required
 Data On Single Screen Embedded
 Navigation & TM Embedded
 Emulator For Unit Training
 Establishes Common Survey
 Increased Lethality Enables Massing
 of Fires Two-Level Maintenance
 Operator Remove & Replace 1 PADS
 IMU = 2/3 New IPADS 5 Year System
 Warranty

SPECIAL FEATURES:

- Inertial survey system

FIELDING:

- Fielded

PRIME CONTRACTOR(S):

- L3 Communications

LIN S69925

ACQ Phase: Production & Sustainment





122mm Howitzer, D30

SYSTEM DESCRIPTION:

- 122-mm Towed Howitzer
- Provides sustained long range fire
- Weight: 7,055 pounds
- Max range: 15.4 km or 21.9km (assisted)
- Rate of Fire: 10-12/min max, 5-6/min sustained

CAPABILITY/IMPROVEMENTS:

- 360 degree on carriage traverse with 3 leg stabilizing system
- Fires HEAT, smoke, illumination and chemical projectile

SYSTEM CHARACTERISTICS:

- OFC Optical Fire Control ("Glass and Iron" sights) - 6000 mil system, being converted to 6400 mil for Afghan National Army (ANA)
- Sight quadrants and telescopes for direct and indirect fire
- Hydraulic or mechanical jack for carriage lift
- Independent recoil system located above the gun barrel
- Vertical falling breech with auto cartridge extraction

FIELDING:

- Currently being fielded to ANA (Afghan National Army) to develop the country's Artillery Kandaks
- FMS actions have provided 100 of 104 D-30howitzers to the ANA (Afghan National Army) as of 11 Dec 2011.
- ANA (Afghan National Army) has refurbished an additional 23 D-30 as part of training/mentoring effort as of 11 Dec 2011.

PRIME CONTRACTOR(S):

- UNIS Group, Bosnia I Herzegovina
- General Dynamics ,Ordnance and Tactical Systems , St. Pete, FL

DODIC N/A

ACQ Phase: Sustainment



PD Joint Services

PD JS 215

PD Joint Services

(PD JS) coordinates and integrates the DoD's Single Manager for Conventional Ammunition (SMCA) functions, processes, and operations; executes the SMCA's industrial base responsibilities to include Army Ammunition Plant modernization and sustainment; manages the Demilitarization of all conventional ammunition and missiles for the Services; manages ammunition manufacturing technology - prototyping programs and Army ammunition logistics R&D programs.



Scranton Army Ammunition Plant



SINGLE MANAGER FOR CONVENTIONAL AMMUNITION (SMCA) RESPONSIBILITIES:

- Coordinate and integrate the DoD's SMCA activities on behalf of PEO Ammunition
- Manage transition of Services' conventional ammo items into the SMCA account
- Annual Survey measures performance

AMMUNITION INDUSTRIAL BASE:

- Manage Ammunition Industrial Base modernization
- Section 806 implementation & Single Point Failure (SPF) Program
- Execute Armament Retooling & Manufacturing Support (ARMS) efforts
- Ammunition Industrial Base strategic planning

PRODUCT MANAGER DEMILITARIZATION:

- Demil of all DoD conventional ammunition
- Demil research & development projects
- Ammunition Peculiar Equipment (APE)

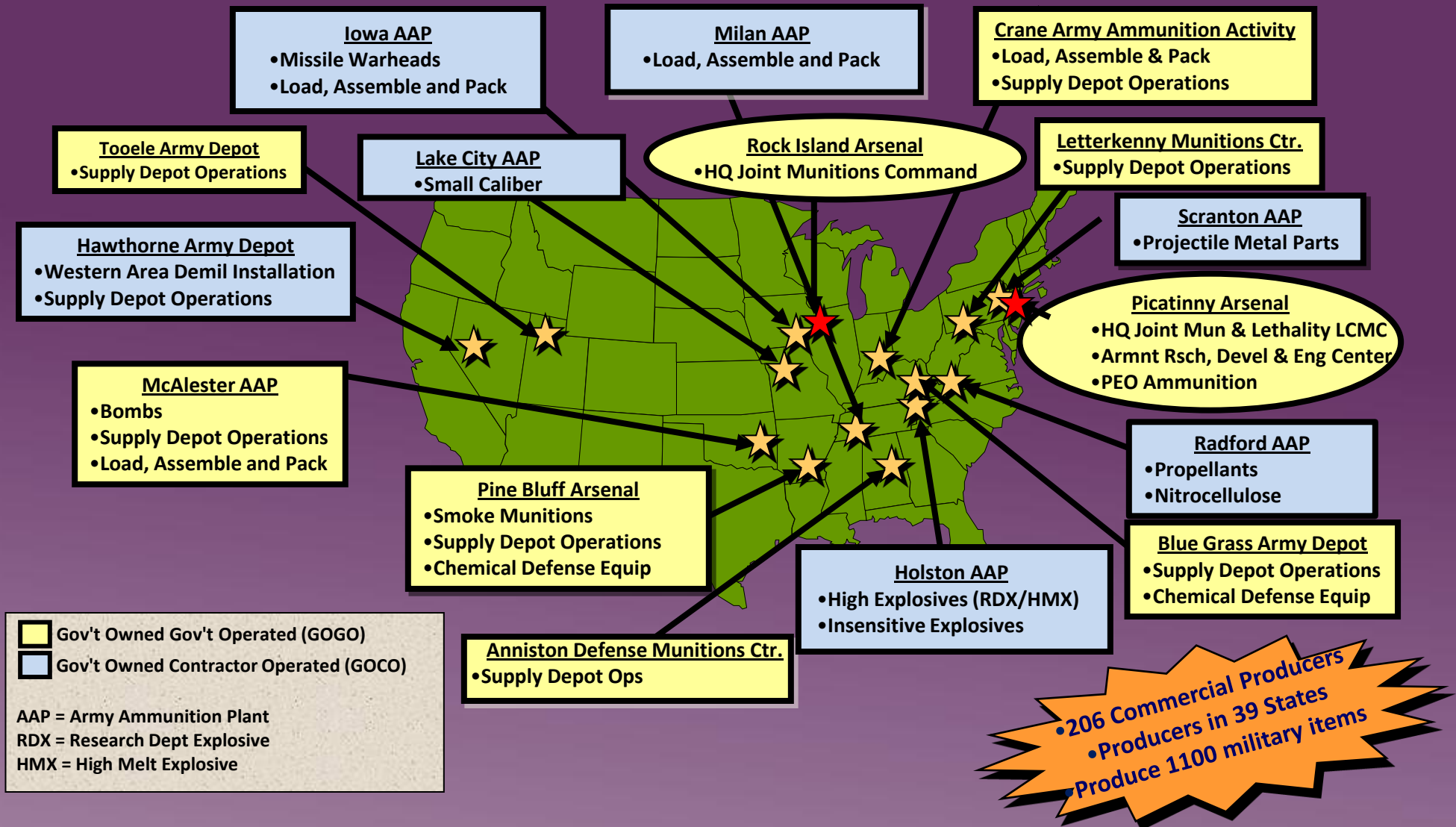
MANUFACTURING TECHNOLOGY AND PROTOTYPING:

- Manufacturing Technology solutions for the Ammo Industrial Base addressing:
 - Single Points of Failure/No Source of Supply
 - Cost reduction efforts
 - Production efficiencies

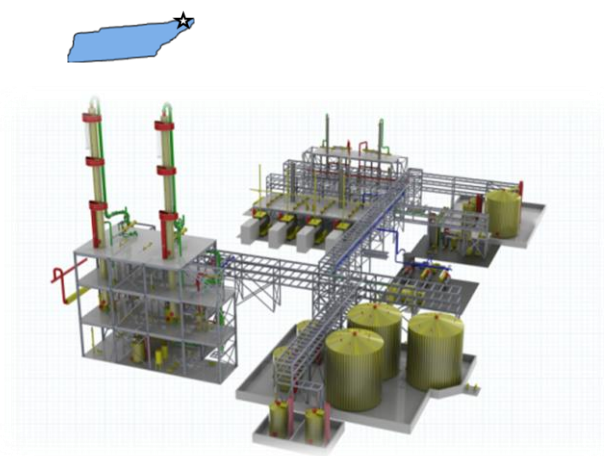
AMMUNITION LOGISTICS:

- Manage US Army ammunition logistics R&D efforts
- Develop/synchronize joint ammunition logistics programs with other Services

Manages the Ammunition Production Base Support Program In support of Government Owned Contractor Operated (GOCO) AAP modernization; Lay-away of Industrial Facilities; Maintenance of Industrial Facilities; Armament Retooling and Manufacturing Support (ARMS) programs; Section 806 Implementation; Single Point Failure Program, and strategic planning.



Organic Ammunition Industrial Base



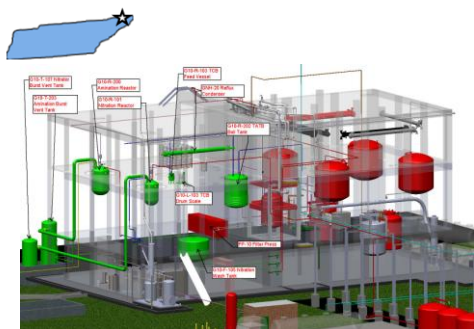
**Planned new acid
processing facility at Holston AAP**

Production Base Support (PBS) Program:

The following pages contain examples of the more than 120 modernization projects currently underway.

Holston AAP (TN) Relocation of Area A Functions to Area B Site -

Relocate the acid processing operations being carried out in Area A to Area B, the main production site, resulting in a reduction of overall facility footprint and increased energy efficiency. The relocation will also result in a reduction in risks of environmental incidents; equipment failure related downtime; liability of operation; and in the exposure to unintentional disruption of operations improving the overall efficiency of the system.



**Schematic of new TATB Facility (top view)
and construction site (bottom view)**

Holston AAP (TN) Triaminotrinitrobenzene (TATB) Insensitive Energetic (OSD Tri-Service & Department of Energy Program) -

Used in bomb fuzes, bomb boosters, missiles, mines and the M934 mortar fuze where safety is significantly enhanced for the Warfighter. Establish and qualify domestic production sources for TATB production by 2013.



**Current Holston AAP Coal Fired
Steam Plant**

Holston AAP (TN) Coal Fired Steam Plant - Modernize the 1940's era coal-fired boiler steam plant. The Project will upgrade the boilers and add pollution control equipment and technology, providing a reliable steam plant that meets the National Environmental Standards for Hazardous Air Pollutants (NESHAP) requirements and promotes energy efficiency.



**View of Iowa AAP's upgraded Coal
Fired Steam Plant**

Iowa AAP Upgraded Coal Fired Steam Plant - Provide a reliable steam plant that meets the National Environmental Standards for Hazardous Air Pollutants (NESHAP) requirements, and promotes energy efficiency. Project will upgrade the existing coal-fired boiler steam plant and add pollution control equipment and technology to comply with the Maximum Achievable Control Technology requirements.



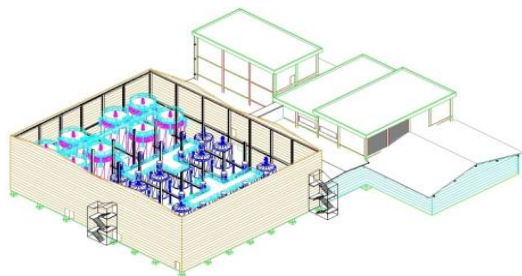
**Section of current Lake City AAP
Wastewater Treatment Plant**

Lake City AAP (MO) Industrial Waste Water Upgrade - This project will upgrade the existing wastewater treatment plant to ensure current and projected future effluent limitations. The upgraded wastewater treatment plant will be capable of treating the wastewater flow from producing 1.6 billion rounds of ammunition per year while meeting the EPA's effluent discharge limits.



**Views of new small cal production
equipment and rounds coming
off the line**

Lake City AAP (MO) Small Caliber Modernization - A seven-year program started in 2005 to develop and execute projects that position LCAAP to better support the Warfighter. The modernization plan is comprised of a mix of new equipment to replace existing World War II era machines, refurbishment of existing older equipment, incorporation of modern control systems and automated inspection equipment and addition of OSHA safety features. The main objectives of the program are to assure improved quality at an annualized production capability of 1.6 billion cartridges for 5.56 mm, 7.62mm and 50 Caliber.



**Planned view of the new Radford AAP
Nitrocellulose Facility**

Radford AAP (VA) Nitrocellulose (NC) Facility – Design and construct a state-of-the-art Nitrocellulose (NC) manufacturing plant that is energy efficient and right sized to meet the DoD's needs. The new facility will require fewer operators, have a smaller footprint and will increase environmental compliance, while improving product quality, safety, surge capacity and cost savings through a more efficient process.



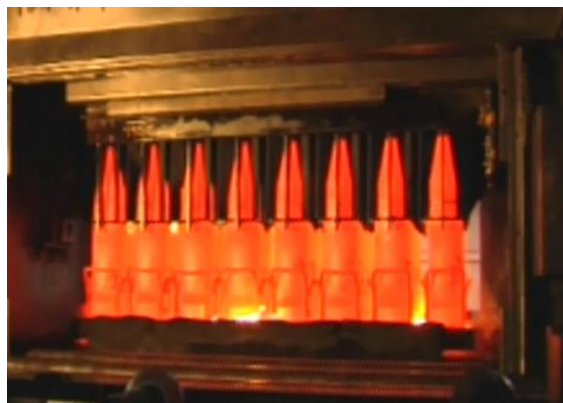
**View of Radford AAP Coal Fired
Steam Plant**

Radford Powerhouse Coal Fired Steam Plant Repair and Upgrade For Radford AAP (VA) - Repair and/or upgrade major Powerhouse/Steam Plant subsystems to meet the 2007 Maximum Achievable Control technology (MACT) regulations. The repairs and upgrades will reduce operation, maintenance and repair costs. New automated controls and management systems will reduce the number of operators exposed to hazardous industrial conditions.



**Construction of Solvent Recovery
System underway**

Radford AAP (VA) Solvent Recovery System - Replace the current Solvent Recovery Distillation facility with a new distillation system. The current system has exceeded its 20 year design life, experiences frequent unscheduled shut-downs and has deteriorated distillation towers and corroded storage tanks.



**155mm artillery projectiles
out of the furnace**

Scranton AAP (PA) Rebuilt Bliss I Forge Press - Rebuild the existing Bliss I Forge System. This includes the 2500 ton mechanical press, the 400 Ton draw press and the material handling system. The current press system is over 30 years old and has been experiencing mechanical failure due to age. The rebuilt press system will maintain current capability and is expected to operate at a faster cycle time, increasing forging productivity. Utilizing proven technology, the rebuild system will be energy efficient and will provide a minimum of 20 years of trouble-free service with proper maintenance.



**Commercial and Organic
Industrial Base**

Section 806 of Public Law 105-261:

Provides the Single Manager for Conventional Ammunition (SMCA) the authority to limit specific procurement of ammo to maintain National Technology and Industrial Base (NTIB) capabilities. Determines if limitations of specific procurements of ammunition are necessary to maintain an NTIB facility, producer, manufacturer or other supplier available for furnishing an essential item of ammunition or ammunition component for national emergency or industrial mobilization.

Single Point Failure (SPF) Program:

Identifies, maintains and manages a single point failure risk management program for ammunition components and end items. Coordination occurs with responsible PMs and Services to develop strategies to mitigate critical single point failures.



**Cover for the 2009 SMCA
Industrial Base Strategic Plan**

SMCA Industrial Base Strategic Plan:

Provides strategic guidance and establishes a management framework to posture the ammunition production and logistics supply chain to effectively and efficiently respond to the Joint Warfighter's current and future conventional ammunition requirements.

Program Description:

The Armament Retooling and Manufacturing Support (ARMS) 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.

- Congressionally established in 1993 (ARMS Act of 1992) and Codified in 2000 (10 U.S.C. 4551-4555) to Encourage Use of Underutilized AAP Facilities by Commercial Firms
- PAA Activity 2 Funds to Repair, Refurbish and Upgrade Existing Facilities for Commercial Use

ARMS Program Benefits

1. Sustains Army manufacturing capability for Armed Services national security requirements
2. Reduces Facility ownership, operations and maintenance costs
3. Reduces product costs
4. Accelerates private sector economic growth, employment and investment





Radford Army Ammunition Plant

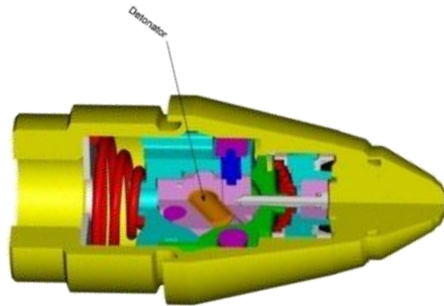
The Technology and Prototyping Division within PD Joint Services provides technology solutions to improve ammunition manufacturing safety, effectiveness, quality and cost

Life Cycle Pilot Process (LCPP) Thrust Areas:

1. Single Point Failures (SPFs)
2. No Source of Supply
3. Product Costs
4. Manufacturing Technology for Industrial Base Transformation

LCPP Execution:

- A. Pilot Critical Ammunition Technology
- B. Science Based Production Emphasis
- C. Assessments



Cutaway view of the Multi-option Fuze for Artillery (MOFA) and the detonator within the fuze associated with the DBX-1 Scale

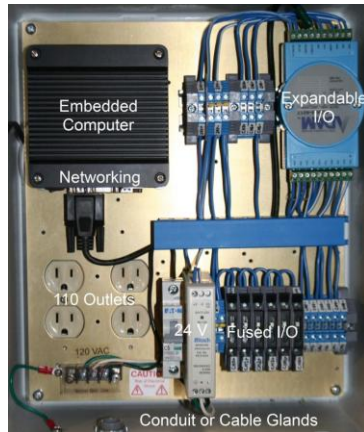
PD JS Technology and Prototyping: Below are some examples of the 30+ PD JS Technology and Prototyping R&D projects currently underway

DBX-1 Scale-Up - This program will team with a Navy project to continue the development of the manufacturing process for Copper Nitrotetrazole (DBX-1), an environmentally benign replacement for Lead Azide. DBX-1 will be synthesized in batch sizes of up to 100 grams. Performance verification will be demonstrated through detonator, explosive train and full 25 and 30 mm High Explosive Cartridge testing. **LCPP Thrust Area(s): 1 & 4**



120mm mortar round instrumented with the Ultrasound Melt Cast Inspection System

Ultrasound Melt Cast Inspection for Mortars - This technology will measure the degree of solidification and detect defects in real time for melt cast ammunition, specifically the 120mm mortar High Explosives (HE) round. This proposed Phase I “demonstration system” would be used to verify the capabilities of an ultrasound melt-cast analyzer prior to the development of a production system. Once demonstrated, later efforts would develop and deploy analyzer instruments for specific ordnance-fill production facilities. **LCPP Thrust Area(s): 3 & 4**



Adaptive Control Board for Improved Metal Part Production Process

Adaptive Controls – Develop an adaptive metal cutting control solution that combines machine tool modeling, multi-modal sensing and adaptive control technologies. This will enable current control systems to take advantage of technology optimizations to improve the metal part production process by reducing cycle times, increasing part quality and reducing tool breakage. **LCPP Thrust Area(s): 4**



Preparing Mortar projectiles for melt pour loading

Manufacturing Process Improvements to Achieve High Quality Cast Explosive Products - Implement modern metal casting solidification control technologies in the melt pour loading of artillery and mortar projectiles with HE fill. This will reduce defects and resolve safety issues for various size projectiles, large scale gap test tubes, and others cast loaded items. **LCPP Thrust Area(s): 3 & 4**



Product Manager Demilitarization performs the Demilitarization portion of acquisition life-cycle management of conventional ammunition and missiles for the Military Services and other US Government agencies. Current demilitarization stockpile exceeds 600K tons.

Demilitarization is accomplished at US Government Owned Government Operated (GOGO) and Government Owned Contractor Operated (GOCO) facilities (depots and army ammunition plants (AAPs)) , 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). CDT, driven by environmental concerns, will gradually reduce the reliance on OB/OD. The Demil R3 Program (Resource Recovery and Recycling) allows the Army to sell recyclable residual materials resulting from the munitions demil process, with the proceeds reinvested back into the program.



Explosive Waste Incinerator

APE 1236M2 Explosive Waste Incineration – The Explosive Waste Incinerator utilizes a gas fired steel rotary kiln which is an unlined rotary furnace originally designed to destroy small arms and bulk explosives. The kiln contains internal spiral flights, which move the waste in an auger-like fashion through the retort as the kiln rotates. The flights also provide charge separation for the in-process materials, and discourage sympathetic detonations and scattering of materials. The kiln is equipped with a variable speed drive, which allows varying rotation speeds and material residence time. The pollution abatement system breaks down organic compounds and captures particulate effluents in compliance with applicable state and federal environmental laws and regulations. **(Locations used: Crane Army Ammunition Activity, McAlester Army Ammo Plant, Tooele Army Depot, Hawthorne Army Depot)**



APE 1401M1 Autoclave Meltout (top view); worker directing bomb body into pressure vessel (bottom view)

APE 1401M1 Autoclave Meltout - The autoclave meltout system is used to remove and reclaim meltable main charge explosives such as TNT, Comp B, and Tritonal from projectiles and bombs. The system consists of a steam heated pressure vessel and pneumatic control panel. Projectiles or bombs are disassembled to expose the explosive fillers. The item is fixtured with the energetics exposed end down, inserted into the autoclave, the lid closed, and the steam turned on. The molten explosive flows from the bottom of the autoclave by gravity onto a belt flaker system for size reduction and to reduce the moisture content. The recovered explosive is packaged after cooling for use in loading operations, donor material or commercial sales. **(Locations used: McAlester Army Ammo Plant, Hawthorne Army Depot)**



Technicians lowering inverted munitions into washout tank

Explosives Washout Plant - Washout capability, based on the APE 1300M1 Washout Plant, provides the capability to remove and reclaim main cast explosive charges from projectiles, bombs and mines. Munitions are prepared for washout by disassembly to expose the main explosive filler. Inverted munitions are placed over a washout tank where low pressure, hot water is injected into the cavity to wash out the explosives into a recovery tank. The water-explosive mixture is pumped through separation, mixing, palletizing and packaging processes. The packaged pellets may be reused in munitions production, recycled as donor explosives for Open Detonation operations or sold commercially, depending on the quality of recovered product. **(Location used: Bluegrass Army Depot)**



Artillery projectiles being fed into Metal Parts Flashing Furnace

APE 2048 Metal Parts Flashing Furnace - The APE 2048 Flashing Furnace System is used to remove explosives residue from explosively contaminated metal parts, processing lightly contaminated metal into energetic free parts to allow resale as scrap material to the general public. It can be used as part of an "R3" facility to decontaminate processed munitions (105mm Cartridges to 750 pound bombs). It is not used to flash explosively contaminated waste. The furnace consists of a "continuous feed" roller hearth furnace and a one second afterburner and is designed to operate under a Clean Air Permit. Metal parts are loaded onto specifically designed skids on the input conveyor, enter the flashing furnace, reside for a designated time and exit to cool on the output conveyor. **(Locations used: Bluegrass Army Depot, Tooele Army Depot, McAlester Army Ammo Plant)**



Open Detonations

Open Burn / Open Detonation – Is a safe and cost effective approach to demolish and destruct items which are too costly, complicated or dangerous to disassemble. The controlled open detonation or open burning of explosives or munitions, is performed in a safe and environmentally acceptable manner, using burn pans to prevent ground contamination, recovered explosives for cost effective donor material and earth covered detonations to contain fragments.





The Base Hydrolysis system utilizes sodium hydroxide to dissolve aluminum containment bodies exposing the CAD or PAD's energetics

Cartridge/Propellant Actuated Device (CAD/PAD) Base

Hydrolysis - Provides Tooele Army Depot the ability to demil obsolete aluminum-bodied cartridge and propellant actuated devices (CAD/PADs) in an environmentally friendly manner. The process utilizes warm sodium hydroxide (NaOH) to dissolve the aluminum containment bodies, exposing the energetic constituents. The same NaOH solution then hydrolyzes the energetic materials into benign, low molecular weight organic salts. Non-hydrolyzable "tramp" materials are removed from the bath, rinsed with fresh water and disposed of after inspection for residual energetic materials. The spent NaOH solution is disposed of at a commercial hazardous waste treatment and storage facility. **(Location used: Tooele Army Depot)**



Automated work-cell downloading M42 and M46 submunitions from 155mm DPICM rounds

D563 Projectile Demil Work Cell (PDWC) – Is an automated work-cell used in the download of M42 and M46 Submunitions from 155mm, M483A1, Dual Purpose Improved Conventional Munitions (DPICM) projectiles. The PDWC uses a commercially purchased multi-axis robotic arm and applicable fixtures to handle, grip and rotate projectiles, remove base plates and download submunitions. The robotic process reduces the chance of stress and strain injury from handling of 155mm projectiles, encountered during manual demil operations, as well as requiring fewer operators due to automation. When operated in conjunction with the manual MCAAP ICM download operations, the duties of certain personnel are shared between the two processes. **(Location used: McAlester Army Ammo Plant)**



View of the Super Pull Apart Machine (SPAM) allows for the soft recover of projectiles for reuse or demil

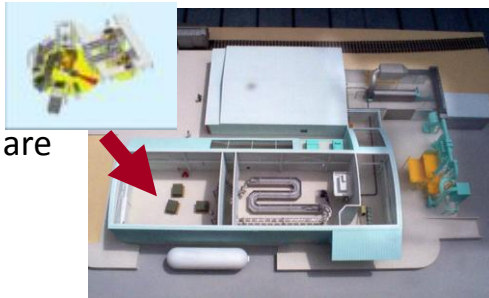
APE 1001M2 Super Pull Apart Machine (SPAM) – Removes the projectiles from medium caliber cartridge cases, separates and safely stores the propellant and functions the primer at a rate of 75 rounds per minute. Allows for the soft recovery of projectiles for reuse or demil and disposal. Also allows the recovery of high value brass cartridge cases. Future improvements will expand the range of ammunition that can be processed and the production rate of the prototype machine currently used. Munition types will include 20mm electrical, 20mm M90 percussion fired rounds, 25mm electrical, and 30mm electrical munitions. Additional design goals will include some 40mm grenades. **(Location used: Crane Army Ammunition Activity)**



Munitions entering the Hot Gas Decontamination Chamber for removal of residual energetic material

Hot Gas Decontamination (HGD) - The HGD chamber is a low temperature thermal treatment process used for treating munitions bodies, range scrap, noncombustible building materials and process equipment that still retain residual amounts of energetic materials. The HGD system is a batch process that uses hot jets of air to heat contaminated items to temperatures of 500 °F so that energetic materials can be decomposed, vaporized, or deflagrated. The HGD facility can also decontaminate energetically contaminated process equipment without destruction for re-use in other applications. **(Location used: Hawthorne Army Depot)**

Cryofracture Demil Facility - Munitions are made brittle by immersion in liquid nitrogen



Flexible Munitions Residue Inspection System (MRIS) - Used to insure items are explosive free and capable of being sold as scrap metal



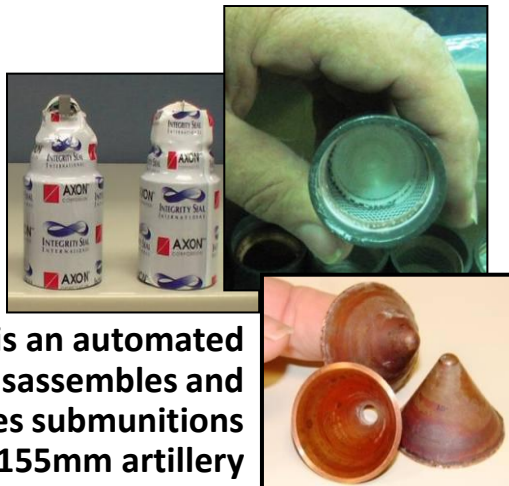
McAlester Cryofracture Demilitarization Facility (MCDF)-

Munitions are made brittle by immersion in a liquid nitrogen bath and subsequently crushed and warheads punched out using a hydraulic press. Fractured explosive components are subjected to thermal treatment in an APE 1236 EWI and residual material is separated, energetically deactivated using an induction heater and collected for proper disposal. The initial focus for MCDF is on ADAM mines, however trial runs have been conducted on small steel bodies, HE loaded munitions such as grenades, mines, and submunitions typically found in ICMs, CEMs and CBUs. **(Location used: McAlester Army Ammo Plant)**

Flexible Munitions Residue Inspection System (MRIS)- Used as a back end process for autoclaving; This multi-tasking operational module automates the final cleaning, visual inspection and capping of 105mm-155mm projectile bodies upon removal from the autoclave kettles. Items declared explosive free are sold as scrap metal. **(Location used: Hawthorne Army Depot)**

M42/M46/M77 ICM R3 Process - A comprehensive CDT Resource Recovery and Recycling (R3) demil solution for the automated disassembly and demil of M42, M46 and M77 submunitions recovered from both M483A1 155mm Projectiles and warheads removed from M26 Multiple Launch Rocket Systems (MLRS) rockets. This development process consists of shrink wrapping the M223 fuze, providing a safe condition, milling out of the copper shaped charged liner and thermal treatment of the bomb loaded assembly to allow for recovery of metal parts. **(Location used: Hawthorne Army Depot)**

The ICM R3 Process is an automated system which disassembles and demilitarizes submunitions recovered from 155mm artillery projectiles and MLRS rockets



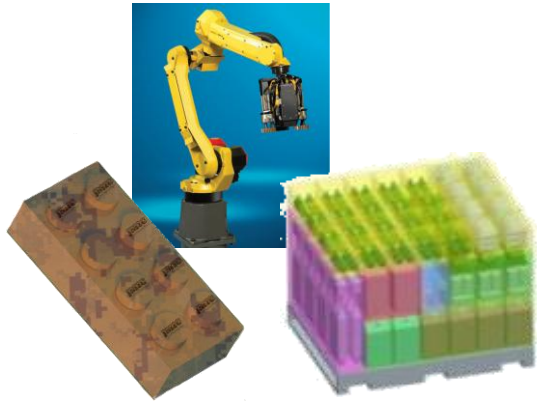




Manages current and future US Army ammunition logistics R&D efforts and develops/synchronizes joint programs with other Services, thereby providing the Warfighter a set of enablers that deliver the right ammo in the correct quantity, at the right time, to the proper place in the appropriate condition.

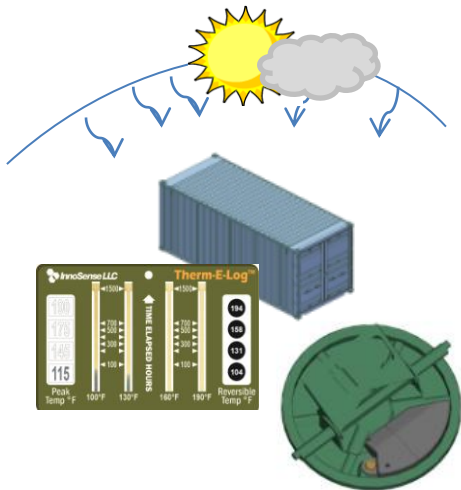


Joint Modular Intermodal Distribution System (JMIDS)



Automated loading system and nested, reusable containers for next generation packaging

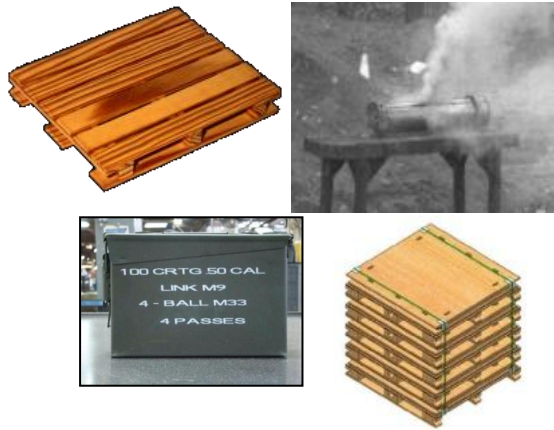
Munitions Containerization Program - Develop next generation packaging with standardized characteristics that permit easy reconfiguration and are reusable, nestable, unit of issue based and automation friendly.



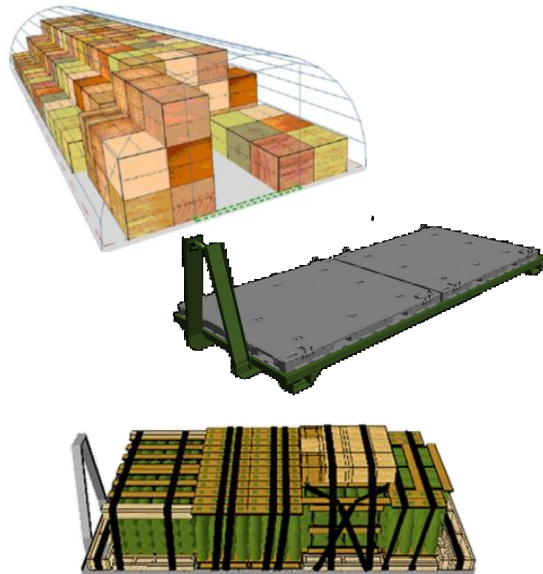
New imbedded technologies enabling munitions to indicate their serviceability to the operator

Munitions Predictive Life - Develop technologies and algorithms that enable munitions to indicate their serviceability to the operator based upon aggregate environmental exposures, system cycling and munition degradation models.

Improved Munitions Packaging - Develop ammunition packaging with lightweight advanced materials and high efficiency designs. These will be applied to legacy items still in production.

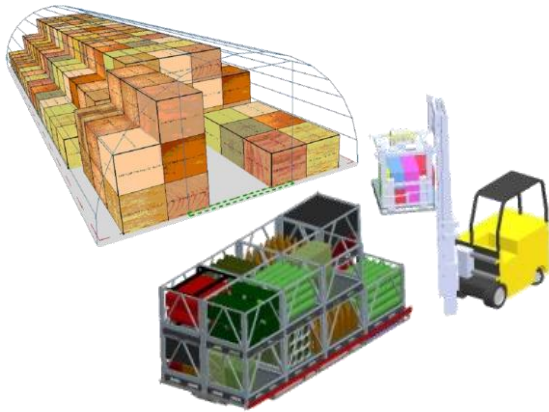


Improved Munitions Packaging for legacy items still in production



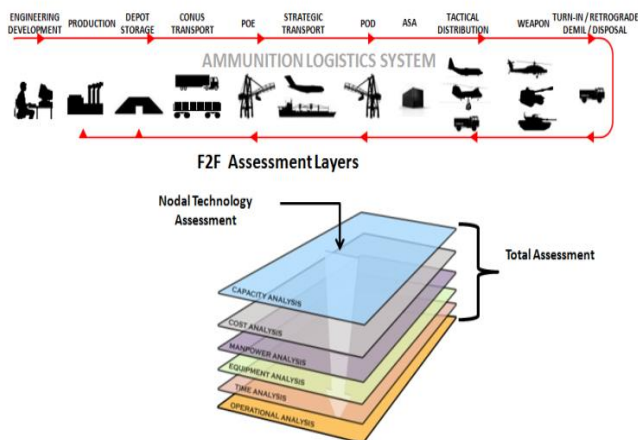
Demonstrate logistic system improvements that accelerate ammunition resupply and minimize explosive events

Ammo Provider – Demonstrate logistics system improvements that accelerate ammunition resupply and prevent or minimize catastrophic explosive events. Key thrusts are munitions storage area survivability, munitions configured loads, weapon system rearm and resupply and distribution system enhancements.



**Optimize storage configurations
enabling automated forklifts to carry
out operations with minimal
operator oversight**

Automated Material Handling Equipment - Develop an appliqué system for use by depot and tactical material handling equipment (MHE) systems (forklifts, container handlers and cranes). The system will dynamically create optimized storage configurations and then guide automated forklifts to accomplish pick/ place/ retrieve/ move operations with minimal operator oversight.



**Future Concept for
Ammunition Logistics**

Future Concept for Ammunition Logistics – Review, analyze and integrate advanced developments in: materials, manufacturing processes, packaging, handling, storage, transportation, surveillance, accountability, in-transit visibility, weapon rearm and demilitarization of ammunition.

PD Joint Products



PD JP 241

PD Joint Products

(PD JP) Established October 2009, the Project Director (PD) for Joint Products is one of the newest PDs within PEO Ammunition. PD Joint Products executes Single Manager for Conventional Ammunition (SMCA) acquisition responsibility for products configuration managed by and/or primarily procured for other Services to include Air Force and Navy Bombs and associated components, Energetics, Navy Gun Ammunition product lines, and CAD/PADs for Army Aviation.





**MK82 500lb
General Purpose Bomb**

SYSTEM DESCRIPTION:

The MK82 is designed for soft, fragment sensitive targets such as troops, POL, and radars. The Air Force is the primary user. This weapon is not intended for hard targets or penetrations.

CAPABILITY/IMPROVEMENTS:

- Attacks soft fragment sensitive targets, troops, POL, radars, and aircraft in the open.

CONTRACTOR

- Empty Bomb assembly — General Dynamics, Loaded Bomb assembly (McAlester AAP)

NOMENCLATURE:

- MK82
- The bomb can be carried by the following aircraft:
 - A/OA-10A
 - B-1B
 - B-2A
 - B-52H
 - F-15A-E
 - F-16A-D
 - AV-8B
 - F/A-18A-F
 - P-3C

DODIC USAF E485 USNA F237
Acq Phase: Production & Deployment



**MK83 1000lb
General Purpose Bomb**

SYSTEM DESCRIPTION:

The MK83 is designed for soft, fragment sensitive targets such as troops, POL, and radars. The Navy is the primary user. This weapon is not intended for hard targets or penetrations.

CAPABILITY/IMPROVEMENTS:

- Attacks soft fragment sensitive targets, troops, POL, radars, and aircraft in the open.

CONTRACTOR

- Empty Bomb assembly — General Dynamics, Loaded Bomb assembly (McAlester AAP)

NOMENCLATURE:

- MK83
- The bomb can be carried by the following aircraft:
 - A/OA-10A
 - F-15A-E
 - F-16A-D
 - F/A-18A-F
 - AV-8B

DODIC: USAF EC37 (Inert Version)
Acq Phase: Production & Deployment



**MK84 2000lb
General Purpose Bomb**

SYSTEM DESCRIPTION:

The MK84 is designed for soft and intermediately protected targets. The destruction mechanism of the MK84 is blast and fragmentation. Ideal targets for this weapon are buildings, rail yards, and lines of communication. The Navy and Air Force both use the MK84 intensively.

CAPABILITY/IMPROVEMENTS:

- Attacks soft and intermediately protected targets, buildings, rail yards and lines of communications.

CONTRACTOR

- Empty Bomb assembly — General Dynamics, Loaded Bomb assembly (McAlester AAP)

NOMENCLATURE:

- MK84
- The bomb can be carried by the following aircraft:
 - A/OA-10A
 - B-1B
 - B-2A
 - B-52H
 - F-15A-E
 - F-16A-D
 - F/A-18A-F
 - AV-8B

DODIC USAF F275 USAF 262 (Inert Version)
Acq Phase: Production & Deployment





**BLU-111 500lb
General Purpose Bomb**

SYSTEM DESCRIPTION:

The BLU-111 General Purpose bomb is identical to the MK82 MOD 2 bomb, with the exception of the explosive fuze. It is used by the Navy and Air Force. 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 uses either a conical, non-retard, or retarding fin, or laser/GPS guidance airfoil kit, or a mine kit.

CAPABILITY/IMPROVEMENTS:

- Attacks soft fragment sensitive targets, troops, POL, radars, and aircraft in the open.

CONTRACTOR

- Empty Bomb assembly — General Dynamics, Loaded Bomb assembly (McAlester AAP)

NOMENCLATURE:

- BLU-111
- The bomb can be carried by the following aircraft:
 - A10A
 - B-1B
 - F-15
 - F-16
 - AV-8B
 - F/A-18A-D

DODIC USAF ED15 USNA F289
Acq Phase: Production & Deployment



**BLU-110 1000lb General
Purpose Bomb**

SYSTEM DESCRIPTION:

The BLU-110 General Purpose bomb is identical to the MK83 MOD 5 bomb, with the exception of the explosive fill. It is used by the Navy and Air Force. 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 uses either a conical or retarding fin, or laser/GPS guidance airfoil kit, or a mine kit.

CAPABILITY/IMPROVEMENTS:

- Attacks soft fragment sensitive targets, troops, POL, radars, and aircraft in the open.

CONTRACTOR

- Empty Bomb assembly — General Dynamics, Loaded Bomb assembly (McAlester AAP)

NOMENCLATURE:

- BLU-110

DODIC USFA EB28 & ED41 USNA F288
Acq Phase: Production & Deployment



**BLU-117 2000lb
General Purpose Bomb**

SYSTEM DESCRIPTION:

The BLU-117 General Purpose Bomb is identical to the 2000lb MK84 MOD 6 bomb, with the exception of the explosive fill. It is used by the Air Force. 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 uses a conical fin, or laser/GPS guidance airfoil kit, or a mine kit.

The BLU-117C/B and BLU-117B/B have vented base plates for better IM reaction.

CAPABILITY/IMPROVEMENTS:

- Attacks soft and intermediately protected targets, buildings, rail yards and lines of communication

CONTRACTOR

- Empty Bomb assembly — General Dynamics, Loaded Bomb assembly (McAlester AAP)

NOMENCLATURE:

- BLU-117

DODIC USAF ED09

Acq Phase: Production & Deployment



**BLU-109 2000lb
Hard Target
Penetrator Warhead**

SYSTEM DESCRIPTION:

The BLU-109 is a 2000lb class hard target penetrator warhead. The BLU-109/B and B/B are used by the Air Force; the BLU-109A/B is the Navy version. The BLU-109 body is a thick casing of forged gun-barrel hardened steel and is approximately twice the thickness of the MK84. It is typically detonated by an FMU-143 series tail fuze. The absence of a nose fuze well makes the nose stronger and, additionally, the weapon's base plate is reinforced to better protect the fuze from the shock of impact. The BLU-109 is not used as a standalone free fall bomb; it is a warhead for the following guided bombs and missile: GBU-10, -15, -24, -27 and -31(V)3/B, and AGM-130.

CAPABILITY/IMPROVEMENTS:

- Penetrate bunkers, aircraft shelters and concrete structures.

CONTRACTOR

- Empty Bomb assembly — Ellwood National Forge Company, Loaded Bomb assembly (McAlester AAP)

NOMENCLATURE:

- BLU-109

DODIC USAF EC72 & ED49 USNA F142

Acq Phase: Production & Deployment



**MK76 25lb
Practice Bomb**

SYSTEM DESCRIPTION:

The MK 76 is a tear drop shaped practice bomb that simulates a MK82 low drag configuration used by the Navy. It is similar to the Air Force's BDU-33. It 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.

CAPABILITY/IMPROVEMENTS:

- Training bomb that simulates the 500lb MK82 in low drag configuration.

CONTRACTOR

- Del Fasco

NOMENCLATURE:

- MK 76
- The bomb can be carried by the following aircraft:
 - AV-8B
 - F/A-18A-F

DODIC USNA E973

Acq Phase: Production & Deployment



**BDU-33 25lb
Practice Bomb**

SYSTEM DESCRIPTION:

The BDU-33 is a tear drop shaped practice bomb that simulates a MK82 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 Navy's bomb configuration with similar function is the MK76 but has different dimensional attributes.

CAPABILITY/IMPROVEMENTS:

- Training ordnance to simulate the 500lb MK82 and 2000lb MK84 general purpose, non-guided bombs in low drag configuration.

CONTRACTOR

- Del Fasco

NOMENCLATURE:

- BDU-33D/B
- The bomb can be carried by the following aircraft:
 - A10A
 - B-1B
 - F-15
 - F-16
 - AV-8B
 - F/A-18A-D

DODIC USAF E969

Acq Phase: Production & Deployment



**BDU-50 500lb
Practice Bomb**

SYSTEM DESCRIPTION:

The BDU-50 is a 500lb practice bomb, an inert version of the MK82. This inert "heavyweight" bomb is dropped either with a parachute for "High Drag" or "Slick", which has no drag device. Delivery of a BDU-50 High Drag Bomb from a low altitude, low dive angle results in the bomb impacting at or near the target and has very little or no ricochet, due to the aerodynamic effect of the high drag retard device. However, when the high drag system fails to deploy, the weapon takes on the characteristics of a low drag weapon and has a significantly increased slant range to impact (up to 4,000 ft longer under certain conditions). The bomb is manufactured as a cast ductile iron configuration.

CAPABILITY/IMPROVEMENTS:

- Training ordnance representative in size and weight of an explosive filled bomb to simulate the 500lb MK82 general purpose bomb.

CONTRACTOR

- Tower Industries/Allied Mechanical

NOMENCLATURE:

- BDU-50
- The bomb can be carried by the following aircraft:
 - B-1B
 - B-2A
 - B-52H

DODIC USAF EB71

Acq Phase: Production & Deployment



**BDU-56 2000lb
Practice Bomb**

SYSTEM DESCRIPTION:

The BDU-56 is a 2000lb practice bomb, an inert version of the MK84. This inert "heavyweight" bomb is dropped either with a parachute for "High Drag" or "Slick", which has no drag device. Delivery of a BDU-56 High Drag Bomb from a low altitude, low dive angle results in the bomb impacting at or near the target and has very little or no ricochet, due to the aerodynamic effect of the high drag retard device. However, when the high drag system fails to deploy, the weapon takes on the characteristics of a low drag weapon and has a significantly increased slant range to impact (up to 4,000 ft longer under certain conditions). The bomb is manufactured as a cast ductile iron configuration.

CAPABILITY/IMPROVEMENTS:

- Training ordnance representative in size and weight of an explosive filled bomb to simulate the 2000lb MK84 general purpose bomb.

CONTRACTOR

- Tower Industries/Allied Mechanical

NOMENCLATURE:

- BDU-56
- The bomb can be carried by the following aircraft:
 - B-1B
 - B-2A
 - B-52H

DODIC USAF E756 E012

Acq Phase: Production & Deployment



FMU-143 Bomb Fuze

SYSTEM DESCRIPTION:

The FMU-143 Fuze is an electrical device used to initiate the bomb detonation during the desired circumstances. Electronic bomb fuzes require an electric pulse from the aircraft for initiation. The pulse is delivered to the fuze as the weapon falls clear of the bomb rack.

CAPABILITY/IMPROVEMENTS:

- Fuze is used on penetrator warheads (BLU-109, BLU-113, BLU-121, BLU-122, BLU-116). Differences in models have varying arm & delay times.

CONTRACTOR

- KDI Precision Products, Inc. now L-3 Fuze and Ordnance Systems

ANALYSIS:

- Customers: USAF and Foreign Militaries

DODIC TBD

Acq Phase: Production & Deployment



5"/54 Navy Gun

SYSTEM DESCRIPTION:

The 5"/54 Navy Gun system is used as a tactical weapon against surface and airborne targets, and Naval Surface Fire Support for United States Marine Corps (USMC) ashore. The 5"/54 caliber conventional ammunition is used in the MK45 Lightweight Gun Mount (LWGM) on CG 47 Class Cruisers and DDG 51 Class Destroyers. The MK45 lightweight gun provides surface combatants accurate naval gunfire against fast, highly maneuverable surface targets, air threats and shore targets during amphibious operations.

The MK67-5 5"/54 Propelling Charge (D326) is a component to the end round that provides the force to propel the projectile from the gun to the target.

The Projectile MK186-0 HE-MOF (DA48) - employs the MK437 multi option fuze on the high explosive MK64 projectile body. Provides a moderately

priced solution for Naval Surface Fire Support (NSFS) & Surface Warfare (SuW) Missions, and will be the pre-eminent High Explosive projectile configuration in Navy Gun.

The Projectile 5"/54 Blind Loaded & Plugged MK92-1 (D349) is an inert round that utilizes the MK64 projectile body. This round is used for training and firing warning shots.

CONTRACTOR:

- General Dynamics (MK64 Projectile Body); ATK (BS-NACO Propellant); HSAAP (PBXN-9); D&Z (MK45 Primer for Prop Charge); MCAAP (LAP of Propelling Charge); CAAA (LAP of MK186 HE-MOF projectile)

DODIC TBD

Acq Phase: Production & Deployment



PEO Ammunition



PM Combat Ammunition Systems



PM Close Combat Systems



PM Maneuver Ammunition Systems



PM Towed Artillery Systems



PD Joint Services



PD Joint Products