

APPENDIX A
MUNITIONS DATASHEETS

MUNITIONS LIST:

ID	NAME	DATA SHEET
CTT01	SMALL ARMS, GENERAL	YES
CTT11	M28, ROCKET, HEAT, 3.5-INCH	YES
CTT11	M6A1, ROCKET, HEAT, 2.36-INCH	YES
CTT15	M29, PRACTICE ROCKET, 3.5-INCH	YES
CTT15	M7A1, PRACTICE ROCKET, 2.36-INCH	YES
CTT18	10-INCH, AP, Mk III	NO
CTT18	12-INCH, AP, Mk 18	YES
CTT18	3-INCH, HE. MkIX	YES
CTT18	5-INCH AP	NO
CTT18	6-INCH, AP, Mk XXXIII	YES
CTT21	5-INCH, TP (CAST IRON)	NO
CTT25	12-INCH, TP, M1907	NO
CTT36	GRENADE, CN-1, ABC-M25A1	YES
CTT46	12-INCH, TP, Mk 19	YES
CTT46	3-INCH, TP, Mk VII	YES
CTT46	6-INCH, TP, M1911	NO

CTT01

SMALL ARMS

SMALL-ARMS AMMUNITION

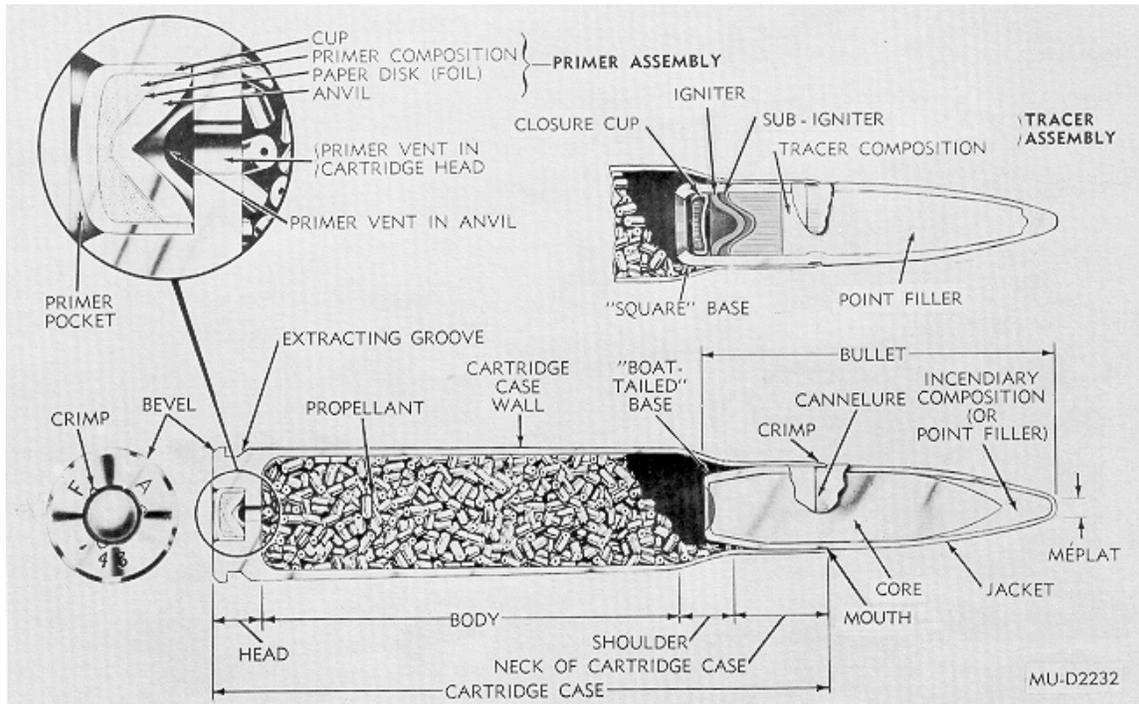
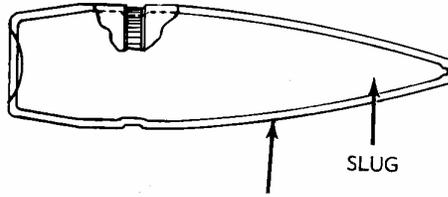


Figure 1. Typical cartridge (sectional)

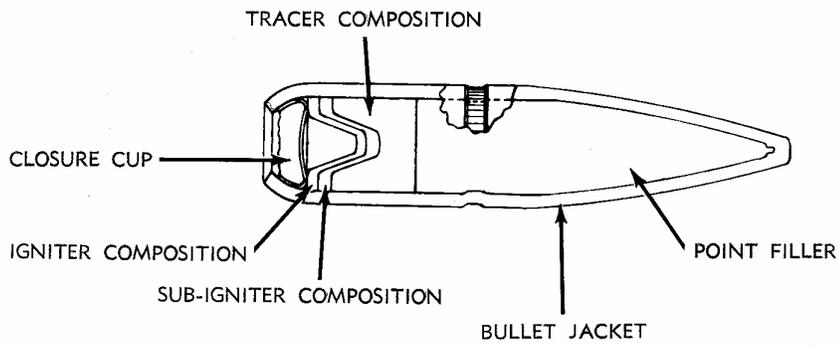
General. Small-arms ammunition, as used herein, describes a cartridge or families of cartridges intended for use in various types of hand-held or mounted weapons through 30 millimeter. Within a caliber designation, these weapons may include one or more of the following: rifles (except recoilless), carbines, pistols, revolvers, machineguns and shotguns. For purposes of this publication, small-arms ammunition may be grouped as cartridges intended primarily for combat or training purposes (API, HEI, tracer or ball); for training purposes only (blank or dummy); or for special purposes (rifle grenade or spotter-tracer). Refer to TM 9-1306-200 for more detailed information on small-arms ammunition.

Cartridges. In general, a small-arms cartridge is identified as an assembly of a cartridge case, primer, a quantity of propellant within the cartridge case, and a bullet or projectile. Blank and rifle grenade cartridges are sealed with paper closure disks in lieu of bullets. Dummy cartridges are composed of a cartridge case and a bullet. Some dummy cartridges contain inert granular materials to simulate the weight and balance of live cartridges. A typical cartridge and the terminology of its components are shown in figure 1.

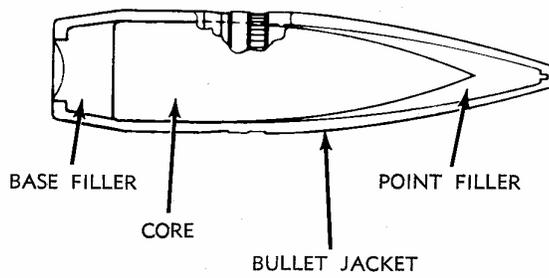
Case. Although steel, aluminum, zinc and plastic materials have been used experimentally, brass, a composition of 70 percent copper and 30 percent zinc, is the most commonly used material for cartridge cases. Steel, as well as brass, is an approved material for caliber .45 cartridge cases. Brass, paper and plastic are used for 12 gage shotshell bodies. Aluminum is used for military-type .410 gage shotshell bodies. Configurations of cartridges and bullets are illustrated in figures 2 through 9.



BALL (NATO)



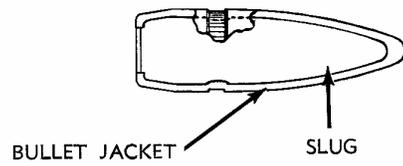
TRACER (NATO)



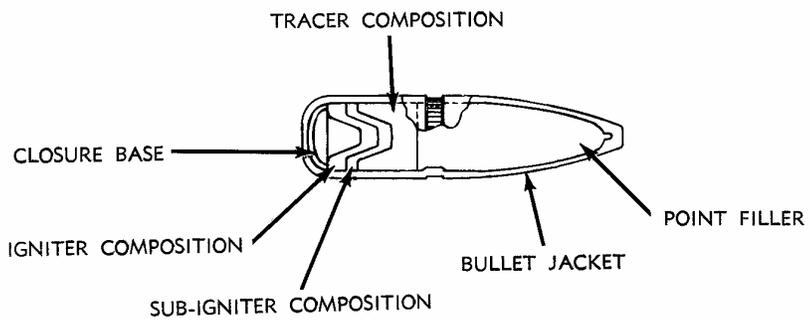
ARMOR-PIERCING (NATO)

MU-D 2233

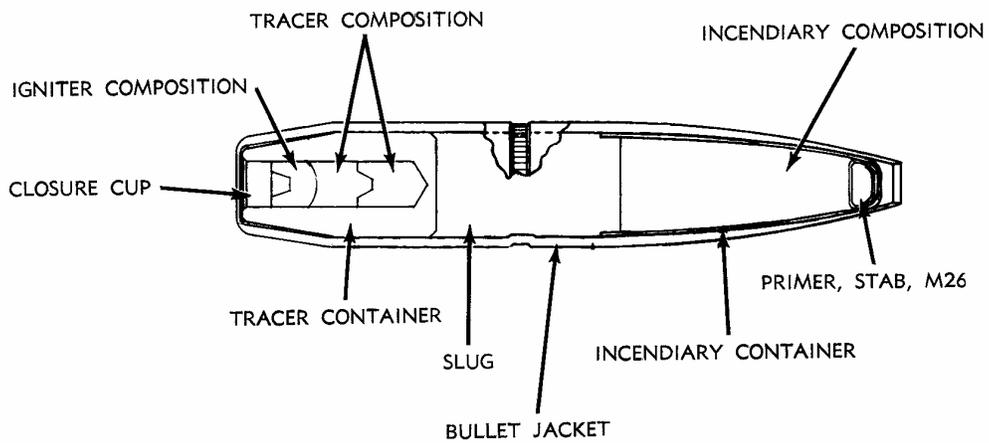
Figure 2. 7.62 mm bullets (sectional)



5.56 MM BALL



5.56 MM TRACER



CALIBER .50, SPOTTER TRACER

MU-D 2234

Figure 3. 5.56mm and caliber .50 spotter tracer bullets (sectioned)

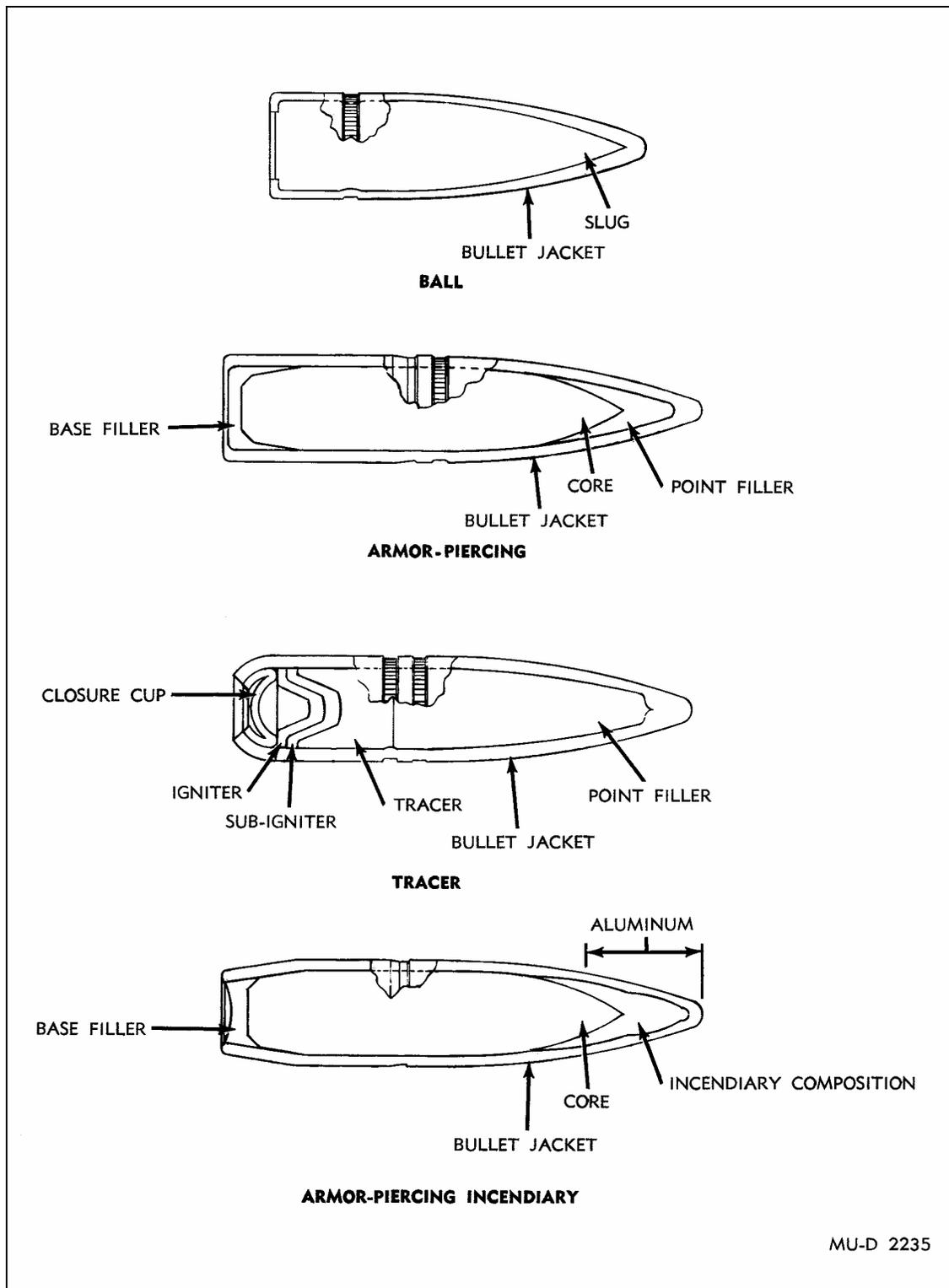


Figure 4. Caliber .30 bullets (sectional)



Figure 5. 7.62mm cartridges

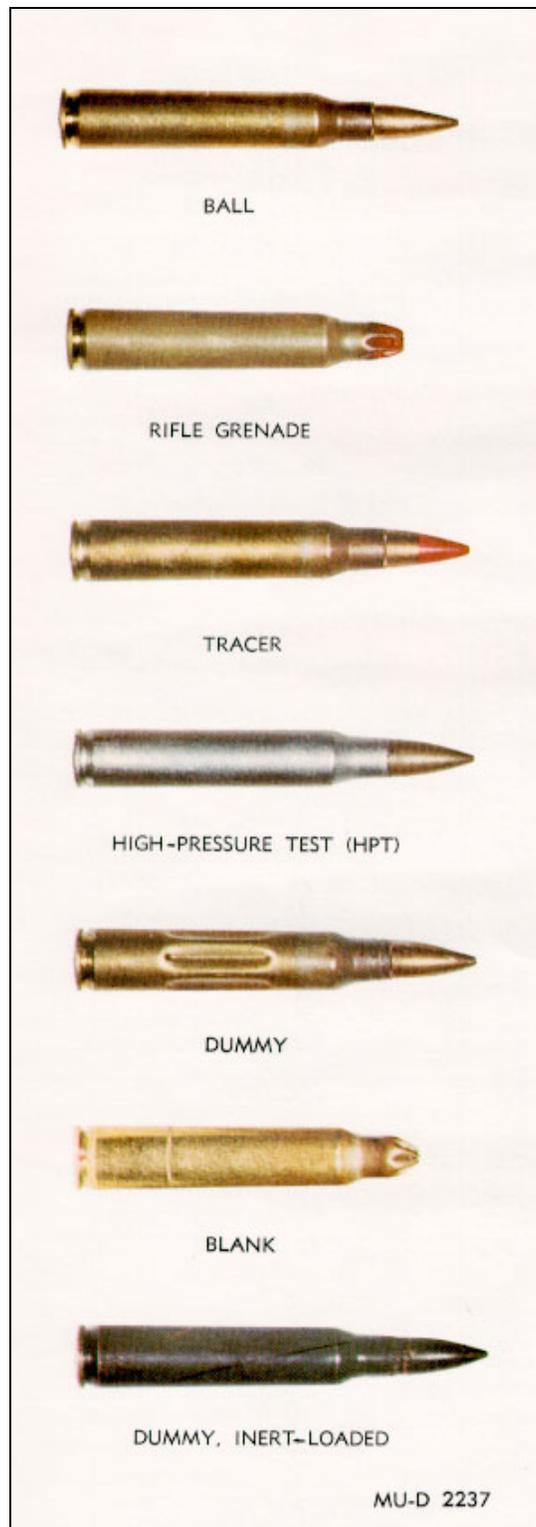


Figure 6. 5.56mm cartridges

Propellant. Cartridges are loaded with varying weights of propellant. This is to impart sufficient velocity (within safe pressures) to the projectile to obtain the required ballistic performance. These propellants are either of the single-base (nitrocellulose) or double-base (nitrocellulose and nitroglycerine) type. The propellant grain configuration may be cylindrical with a single, lengthwise perforation, spheroid (ball) or flake. Most propellants are coated with a deterrent (to assist in controlling the rate of combustion) and with a final coating of graphite (to facilitate flow of propellant and eliminate static electricity in loading cartridges).

Primer. Small-arms cartridges contain either a percussion or electric primer. The percussion primer consists of a brass or gilding metal cup that contains a pellet of sensitive explosive material secured by a paper disk and a brass anvil. The electric primer consists of an electrode button in contact with the priming composition, a primer cup assembly and insulator. A blow from the firing pin of the weapon on the center of the percussion primer cup base compresses the primer composition between the cup and the anvil. This causes the composition to explode. The function of the electric primer is accomplished by a firing pin with electrical potential, which contacts the electrode button. This allows current to flow through the energy-sensitive priming composition to the grounded primer cup and cartridge case, exploding the priming composition. Holes or vents in the anvil or closure cup allow the flame to pass through the primer vent in the cartridge case and ignite the propellant. Rimfire ammunition, such as the caliber .22 cartridge, does not contain a primer assembly. Instead, the primer composition is spun into the rim of the cartridge case and the propellant is in intimate contact with the composition. On firing, the firing pin strikes the rim of the cartridge case, compressing the primer composition and initiating its explosion.

Bullet. With few exceptions, bullets through caliber .50 are assemblies of a jacket and a lead or steel core. They may contain other components or chemicals which provide the terminal ballistic characteristics of the bullet type. The bullet jacket may be either gliding metal, gliding-metal clad steel, or copper plated steel. Caliber .30 and 7.62mm frangible bullets are molded of powdered lead and a friable plastic which pulverizes into dust upon impact with the target. The pellets used in the shotgun shells are spheres of lead alloys varying from 0.08 inch to 0.33 inch in diameter.

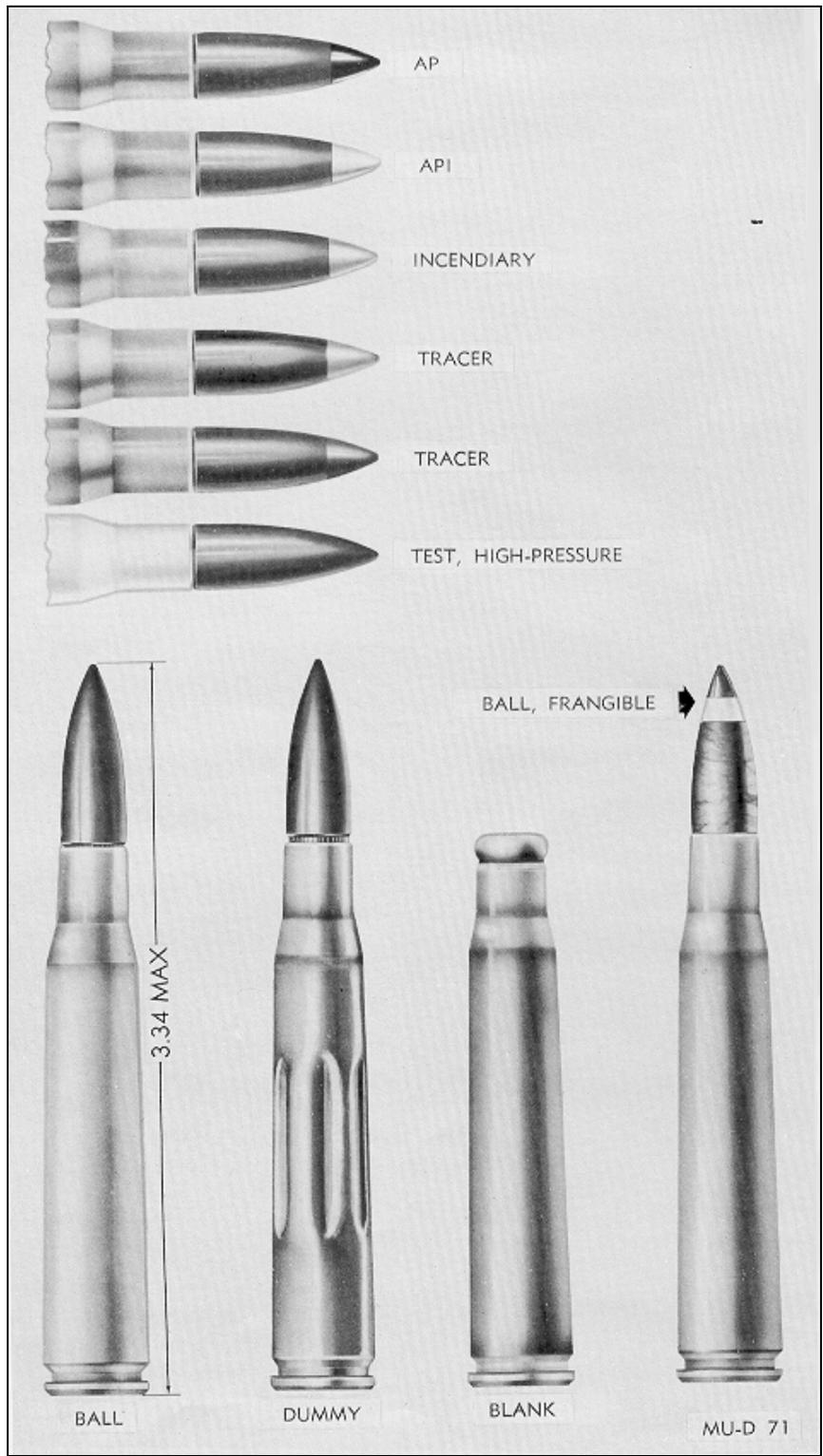


Figure 7. Caliber .30 cartridges

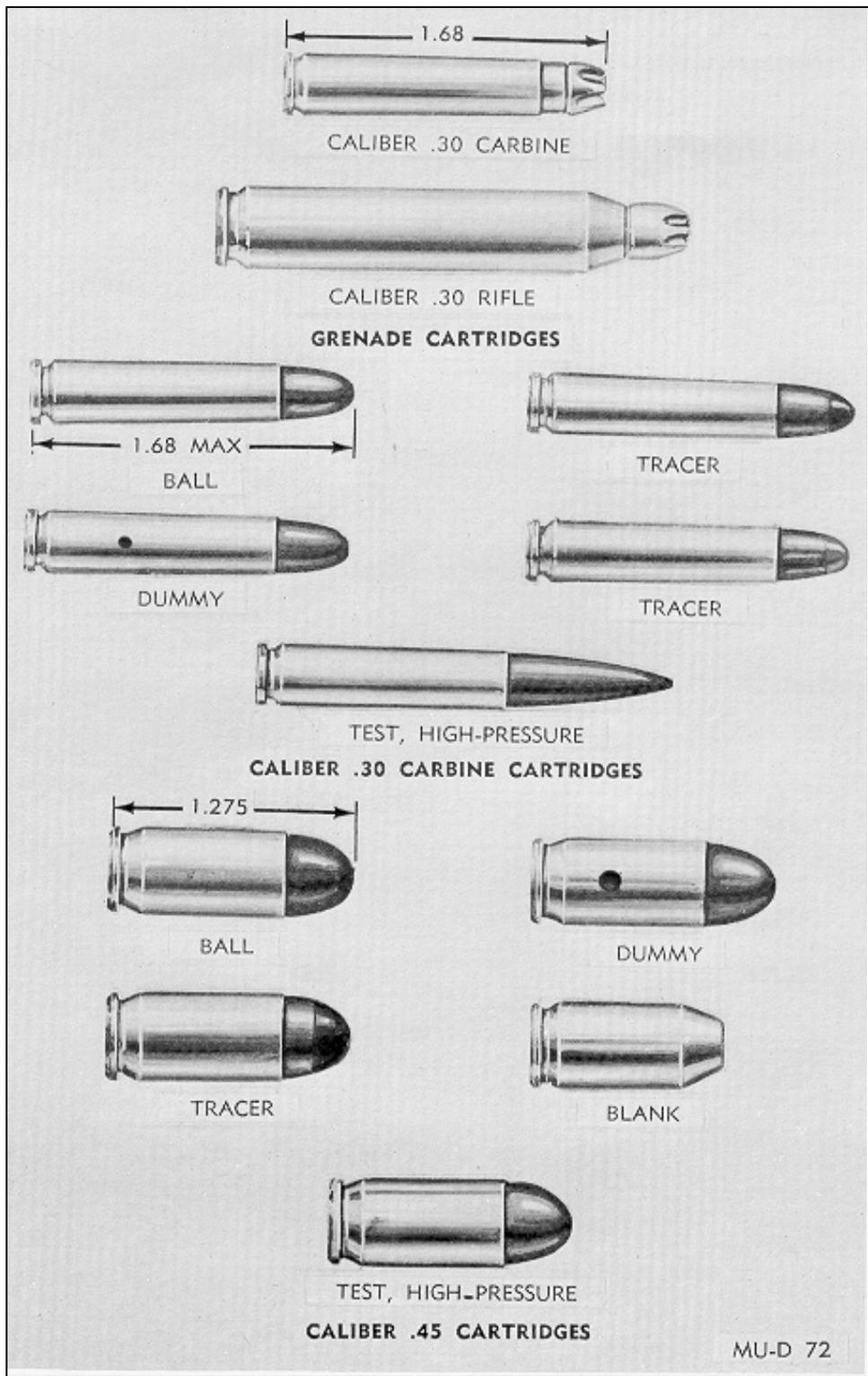


Figure 8. Caliber .30 carbine and caliber .45 cartridges



Figure 9. Caliber .50 cartridges

Ball Cartridge. The ball cartridge is intended for use in rifles, carbines, pistols, revolvers and/or machineguns against personnel and unarmored targets. The bullet, as designed for general purpose combat and training requirements, normally consists of a metal jacket and a lead slug. Caliber .50 ball bullet and 7.62-mm, Ball M59 bullet contain soft steel cores.

Tracer Cartridge. By means of a trail of flame and smoke, the tracer cartridge is intended to permit visible observation of the bullet's in-flight path or trajectory and the point of impact. It is used primarily to observe the line of fire. It may also be used to pinpoint enemy targets to ignite flammable materials and for signaling purposes. The tracer element consists of a compressed, flammable, pyrotechnic composition in the base of the bullet. This composition is ignited by the propellant when the cartridge is fired. In flight, the bullet emits a bright flame which is visible to the gunner. Trace burnout occurs at a range between 400 and 1,600 yards, depending upon the caliber of ammunition.

Match Cartridge. The match cartridge is used in National and International Match Shooting competitions. The bullet consists of a gliding-metal jacket over a lead slug. The cartridges are identified on the head face with the designation NM (National Match) or Match.

Armor-Piercing Cartridges. The armor-piercing cartridge is intended for use in machineguns or rifles against personnel and light armored and unarmored targets, concrete shelters, and similar bullet-resisting targets. The bullet consists of a metal jacket and a hardened steel-alloy core. In addition, it may have a base filler and/or a point filler of lead.

Armor-Piercing-Incendiary Cartridge. The armor-piercing-incendiary cartridge is used in rifles or machineguns as a single combination cartridge in lieu of separate armor-piercing and incendiary cartridges. The bullet is similar to the armor-piercing bullet, except that the point filler is incendiary mixture instead of lead. Upon impact with the target, the incendiary mixture burst into flame and ignites flammable material.

Armor-Piercing-Incendiary Tracer Cartridge. The bullet of the armor-piercing-incendiary-tracer cartridge combines the features of the armor-piercing, incendiary, and tracer bullets and may be used to replace those cartridges. The bullet consists of a hard steel core with compressed pyrotechnic mixture in the cavity in the base of the core. The core is covered by a gliding-metal jacket with incendiary mixture between the core point and jacket. This cartridge is for use in caliber .50 weapons only.

Duplex Cartridge. The duplex cartridge contains two special ball type bullets in tandem. The front bullet is positioned partially in the case neck, similarly to a standard ball bullet. The rear bullet, positioned completely within the case, is held in position by a compressed propellant charge. The base of the rear bullet is angled so that in flight, it follows a path slightly dispersed from that of the front bullet.

Spotter-Tracer Cartridge. The spotter-tracer cartridge is intended for use in coaxially mounted caliber .50 spotting rifles. The bullet trajectory closely approximates that of

106mm projectiles. Thus, this cartridge serves as a fire control device to verify weapon sight settings before firing 106mm weapons. The bullet contains an impact detonator and incendiary composition which identify the point of impact by flash and smoke.

Blank Cartridge. The blank cartridge is distinguished by absence of a bullet. It is used for simulated fire, in training maneuvers, and for saluting purposes. It is fired in rifles and machineguns equipped with blank firing attachments.

Grenade Cartridge. The grenade cartridge is used to propel rifle grenades and ground signals from launchers attached to rifles or carbines. All rifle grenade cartridges are distinguished by the rose petal (rosette crimp) closure of the case mouth.

Frangible Cartridge. The caliber .30 frangible cartridge, designed for aerial target training purposes, is also used in rifles and machineguns for target shooting. Caliber .30 and 7.62mm frangible cartridges are used in tank machineguns, firing single shot, for training in tank gunnery. At its normal velocity, the bullet, which is composed of powdered lead and friable plastic, will completely disintegrate upon striking a 3/16-inch aluminum alloy plate at 100 yards from the muzzle of the gun. These cartridges are not to be used on any but well ventilated indoor ranges to preclude buildup of toxic bullet dust. Inhalation of bullet dust may be injurious to health.

Incendiary Cartridge. The incendiary cartridge was designed for aircraft and ground weapon use to ignite combustible targets (e.g., vehicular and aircraft fuel tanks). The bullet contains a compressed incendiary mixture which ignites upon impact with the target. The incendiary cartridge has been superseded by the API and APIT cartridges because of their improved terminal ballistic effects.

Special Purpose Cartridge

Cartridges of various calibers. (figures. 10 through 12), which consist of different types of projectiles and bullets, are used for training and special purposes. They include the following:

- (1) Caliber .22 long rifle and caliber .38 and .45 wad-cutter cartridge for target shooting.
- (2) Caliber .45 blank cartridges fired in exercises to condition dogs to gun fire.
- (3) Caliber .22 hornet and .410 shotgun cartridges for firing in Air Force combination (survival) weapons for hunting purposes.
- (4) Caliber .45 line-throwing cartridges for firing in caliber .45 line-throwing rifles. The Navy uses these for throwing lines from ship-to-ship. The Army Signal Corps uses these for projecting signal wires over elevated terrain.

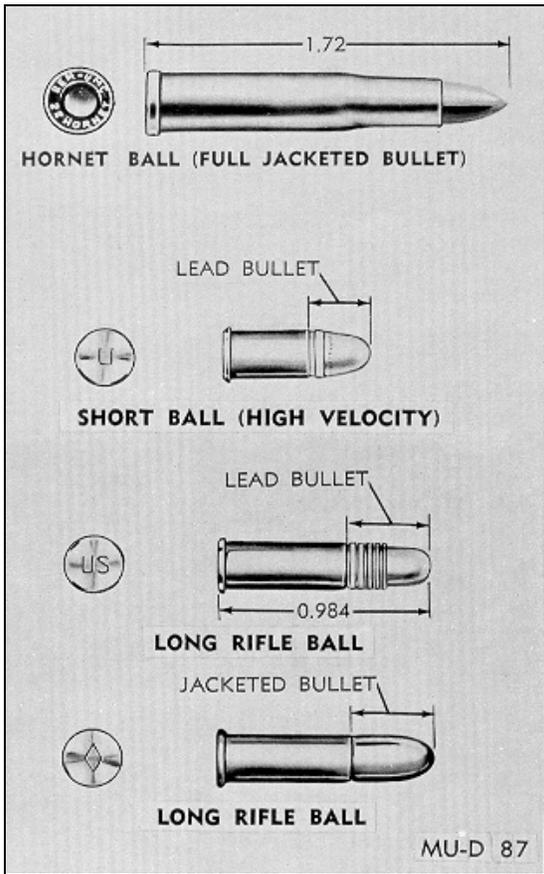


Figure 10. Caliber .22 cartridges

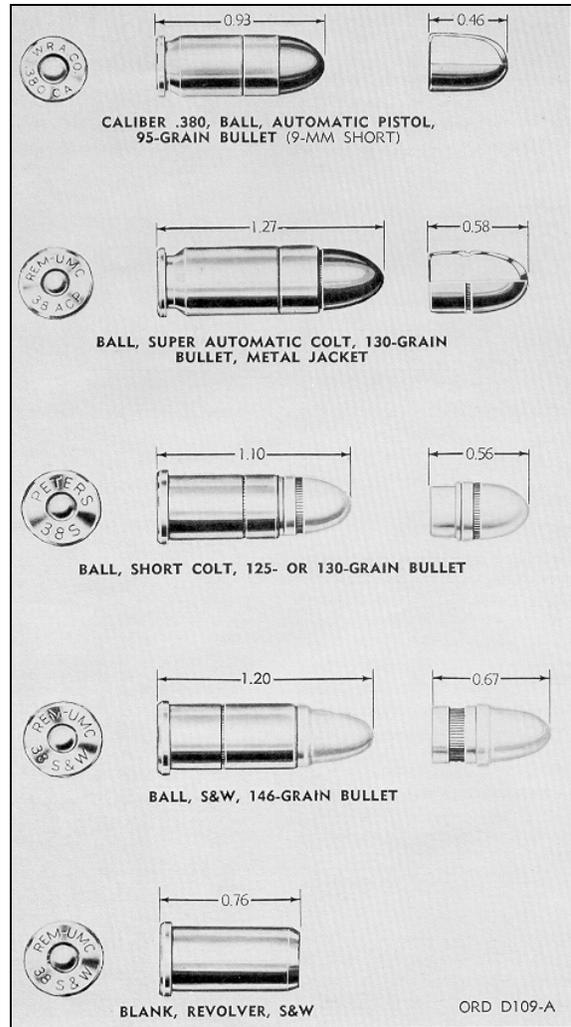


Figure 11. Caliber .38 cartridges

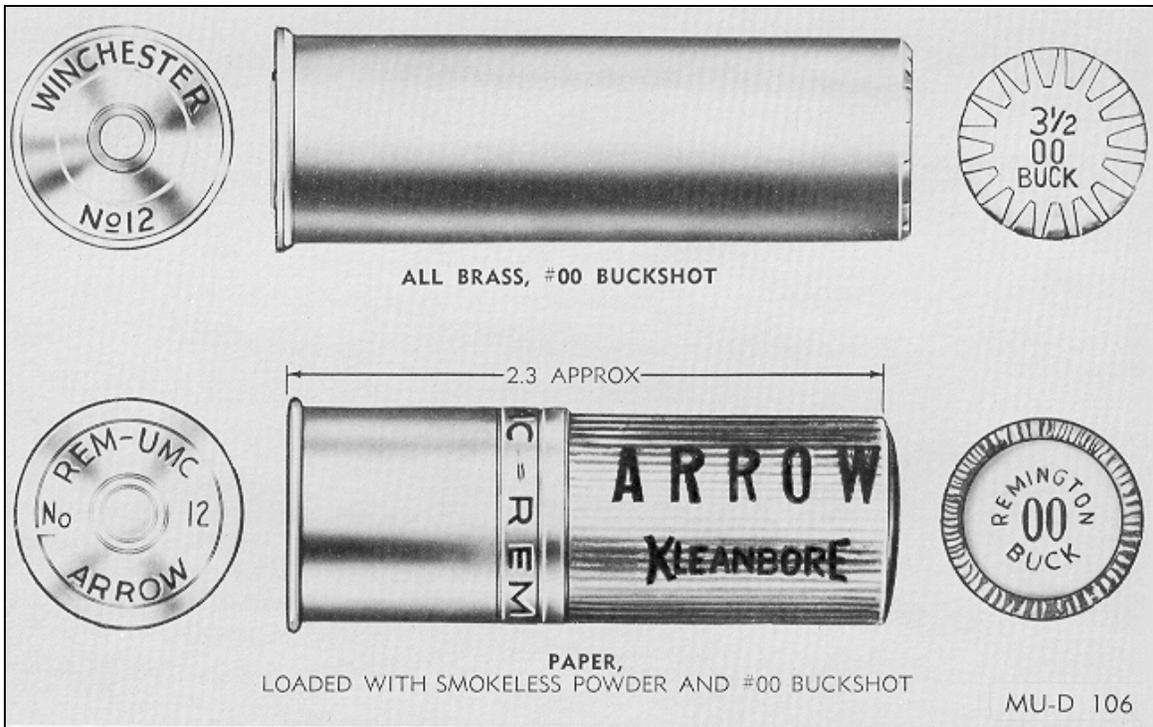


Figure 12. 12 gage shotgun shells

(5) Shotshells containing the designated shot sizes as required for the following:

- 12 gage #00 Buck for guard duty
- 12 gage #4 Buck for guerrilla purposes.
- 12 gage #6, 7½ and 8 shot for clay target shooting for training purposes.
- .410 gage #7 shot for caliber .22/.410 survival weapons maintained by aircraft

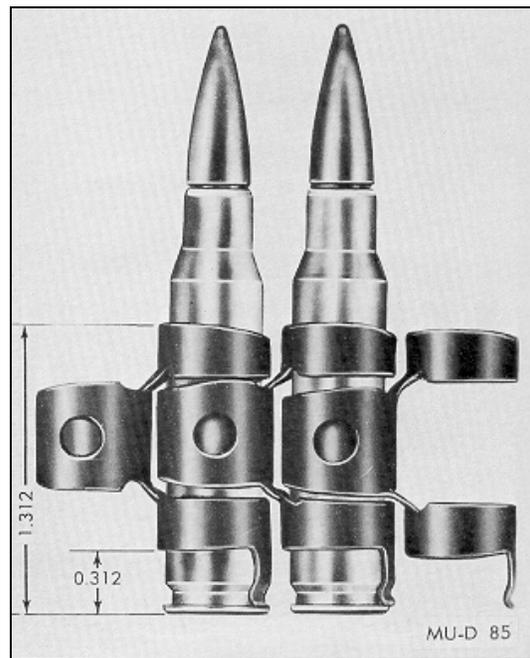


Figure 13. Linked 7.62-mm cartridges

Special purpose cartridges also include the following types of military cartridges:

(1) Dummy. The dummy cartridge is used for practice in loading weapons and simulated firing to detect flinching of personnel when firing weapons. It consists of a cartridge case and a ball bullet. Cartridge identification is by means of holes through the side of the case or longitudinal corrugations in the case and by the empty primer pocket.

(2) Dummy inert-loaded. This cartridge consists of a cartridge case, a ball bullet and inert granular material in the case simulating the weight and balance of a live cartridge. The exterior of the cartridge is identified by a black chemical finish and by the absence of a primer. This cartridge is used by installations for testing weapon function, linkage and feed chutes.

(3) High-pressure test. High-pressure test ammunition is specially loaded to produce pressures substantially in excess of the maximum average or individual pressures of the corresponding service cartridge. This cartridge is not for field issue. It is used only by armorers and weapons mechanics for proof firing of weapons (rifles, pistols, machine guns) at place of manufacture, test and repair. Because of excessive pressures developed by this type of ammunition, and the potential danger involved in firing, proofing of weapons is conducted only by authorized personnel from fixed and shielded rests by means of a lanyard or other remote control methods.

Metallic Links and Clip

Metallic links. (figures. 13 and 14) are used with caliber .30, caliber .50, 5.56mm, 7.62mm and 20mm cartridges in machine guns. The links are made of steel, surface treated for rust prevention. They are used to assemble cartridges into linked belts of 100 to 750 cartridges per belt. The links must meet specific test and dimension requirements to assure satisfactory ammunition feed and functioning in the machine gun under all training and combat service conditions.

Different configurations of cartridge clips. These permit unitized packages of ammunition. This facilitates transfer of cartridges to appropriate magazines for caliber .30, 7.62mm and 5.56mm rifles. The caliber .30 eight-round clip feeds eight cartridges as a unit into the receiver of the rifle. The caliber .45 clip feeds three cartridges as a unit into the revolver cylinder. Five-round and eight-round clips are used with caliber .30 cartridges; five-round clips with 7.62mm cartridges; ten-round clips with caliber .30 carbine and 5.56-mm cartridges; and three-round clips with caliber .45 cartridges.

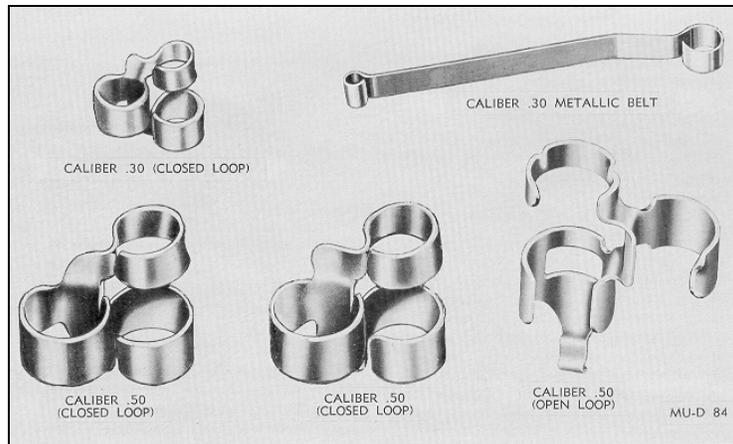


Figure 14. Links for caliber .30 and caliber .50 ammunition

Identification Markings. Each outer shipping container and all inner containers are fully marked to identify the ammunition. Wire- bound boxes are marked in black and ammunition boxes are painted olive drab, with markings in yellow. When linked ammunition is functionally packed, component lot numbers are replaced by a functional lot number. Typical packing and identification markings are illustrated in figures 15 through 17.

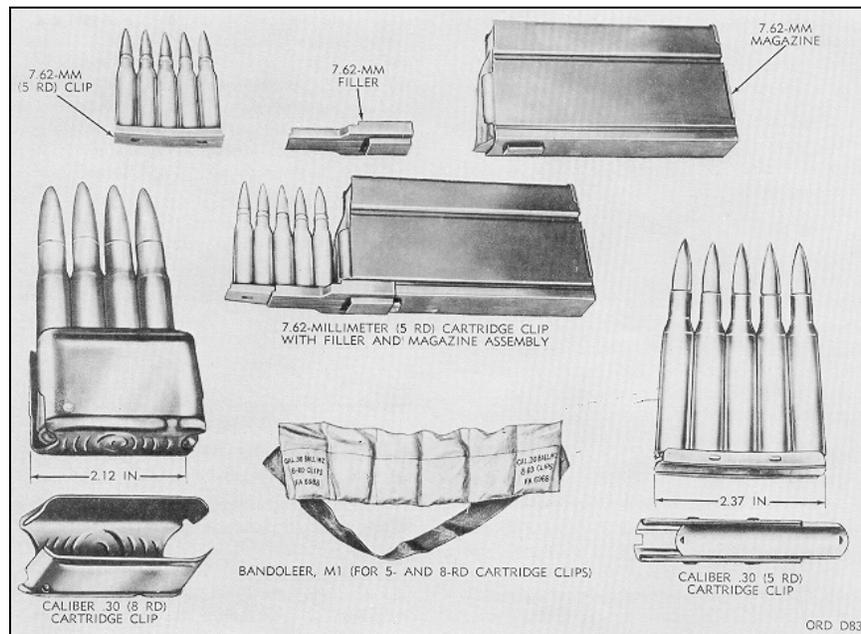


Figure 15. Cartridges, links, belt, cartons, bandoleers and ammunition box

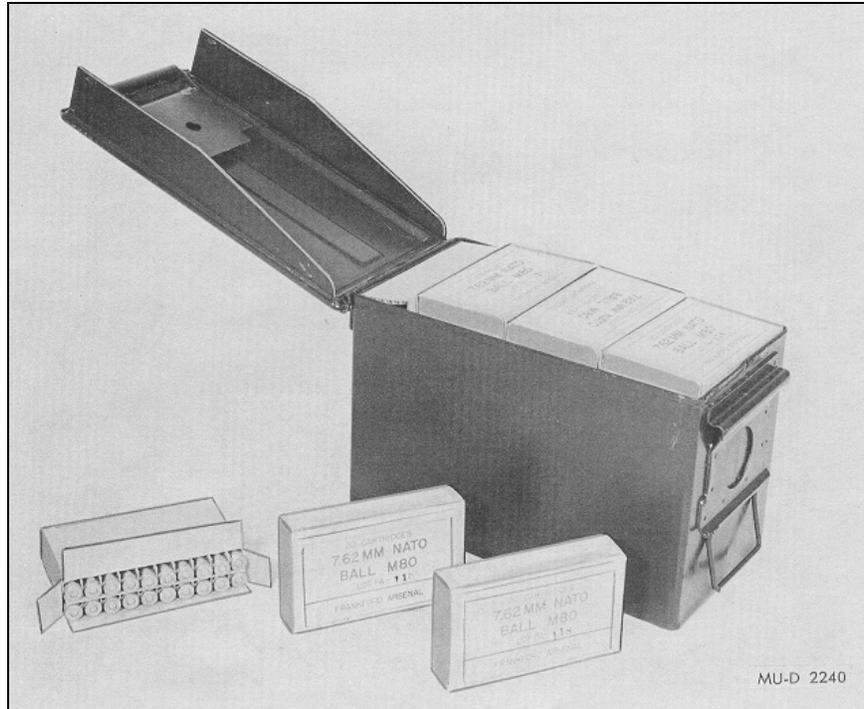


Figure 16. Cartridges, link belt, cartons, bandoleers and ammunition box

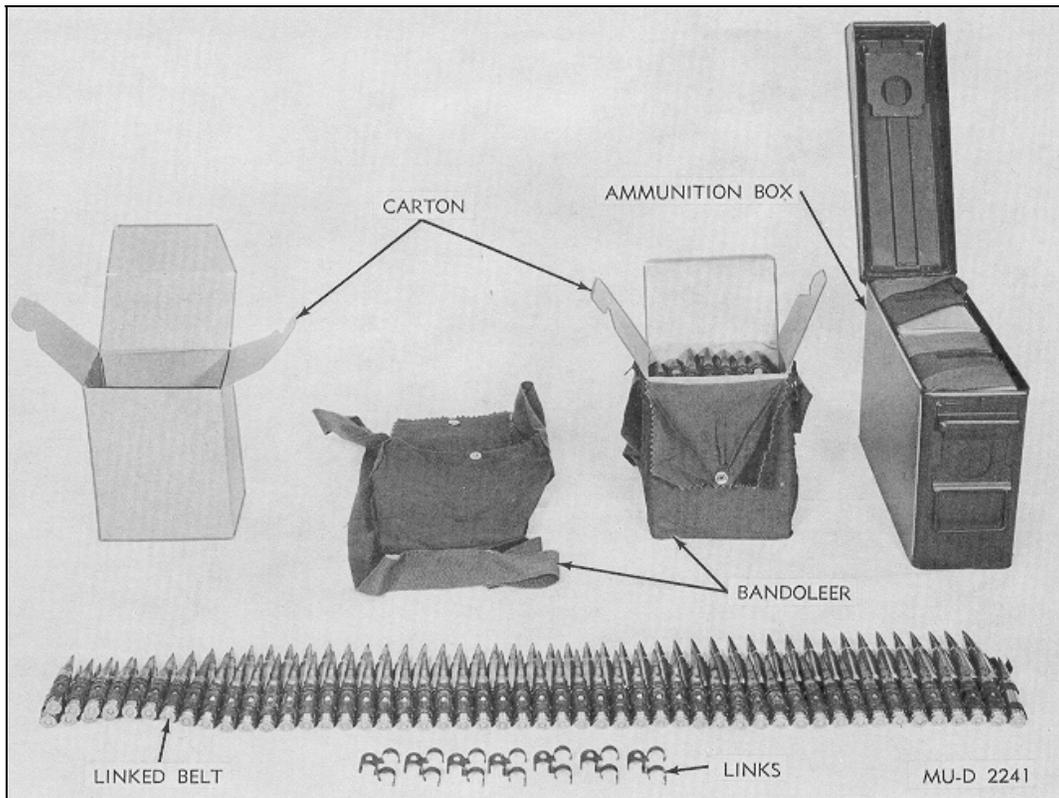


Figure 17. Cartridges, link belt, cartons, bandoleers and ammunition box

Care, Handling and Preservation

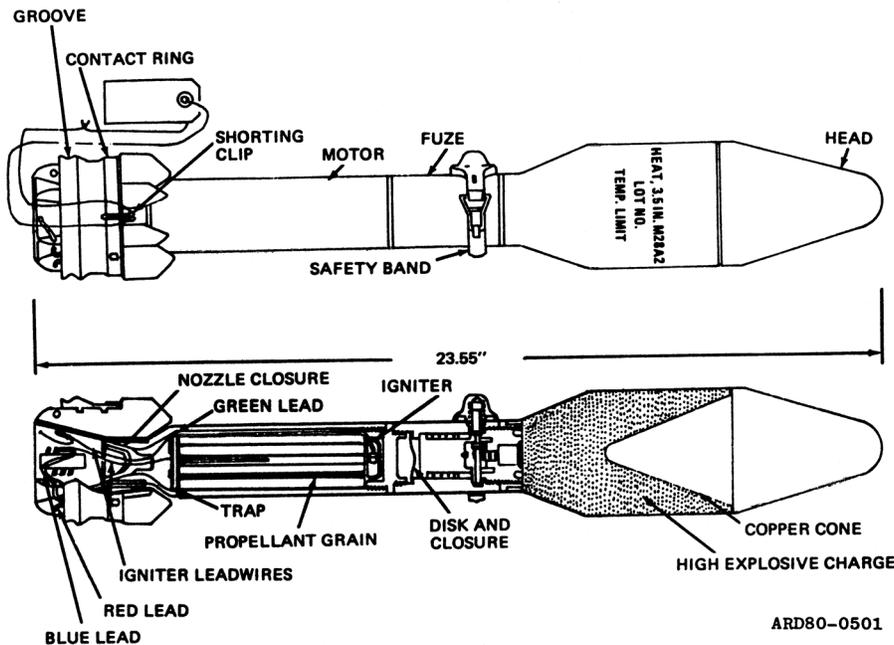
Small-arms ammunition is comparatively safe to handle. It is packed to withstand transportation, handling and storage conditions normally encountered in the field. However, consideration should be given to general handling precautions pertaining to ammunition and explosives.

Reference: This data is a reprint of Chapter 3, TM 9-1300-200, *Ammunition General*, October 1969

CTT11

GROUND ROCKETS, LIVE

ROCKET, HEAT, 3.5 INCH, M28A2



Description. This is a high-explosive antitank rocket. The complete round is an assembly consisting of a head, fuze, motor, nozzle and fin assembly.

Head. The head, which contains the explosive charge (composition B, 1.82 lb.), is of light steel construction. It is cylindrical in shape, 3.5 inches in diameter, with a conically shaped ogive, and tapers to 2 inches in diameter at the rear. It contains an internal cone, which provides for shaping the explosive charge. The rear of the head is threaded internally for attachment of base detonating fuze.

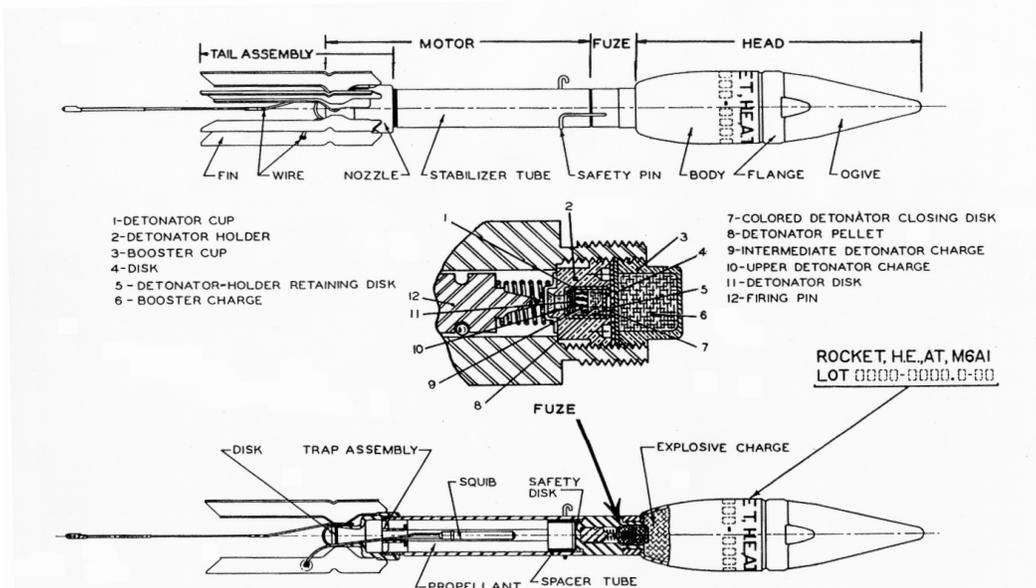
Fuze. The base-detonating fuze is of the simple inertia type which functions with non-delay action upon impact. The explosive train includes a detonator and a booster. An ejection pin, which passes through the fuze body and prevents movement of the internal parts, is provided to preclude accidental functioning during shipment, handling, and firing. The safety band covers the head of the ejection pin and prevents it from moving shipping and handling.

Motor. The motor consists of a body, closure, trap and spacer assembly, propellant, igniter with electric squib and leads, nozzle closure, and nozzle and fin assembly.

Over-all length	23.67 inches
Diameter	3.5 inches
Weight	8.61 pounds
Filler	Comp B
Filler weight	1.82 pound
Propellant	M7 propellant powder
Propellant weight	12 grains
Igniter	M20

Reference: TM 9-1950, *Rockets*, July 1950, TM 43-0001-30, *Army Data Sheets, Rockets, Rockets Systems, Rocket fuzes, Rocket Motors*, December 1981

ROCKET, 2.36-INCH ANTITANK, M6A1



Use. Pill boxes, tanks, and armored vehicles are prime targets. The rocket can also be used in a stationary emplacement for demolition or as an anti-tank mine or booby trap.

Description. The Rocket is 21½ inches long and weighs 3½ pounds. The rocket consists of the high-explosive head, the stabilizer tube and the fin assembly. The head contains a shape-charge containing a composition, which is mainly 50/50 pentolite with a 10/90 pentolite booster surround. The stabilizer tube consists of the fuze body, which contains the fuze mechanism, and the powder tube contains the propellant charge. The fuze consists of a steel firing pin, which slips into the central cavity of the fuze body, where it is held in a rearward position by the firing-pin spring. When the safety pin is removed, the firing pin will overcome the spring and detonate the rocket if dropped over four feet. The fin assembly consists of the nozzle, the trap and six metal fins. The rocket is painted lusterless olive drab and stenciled in yellow.

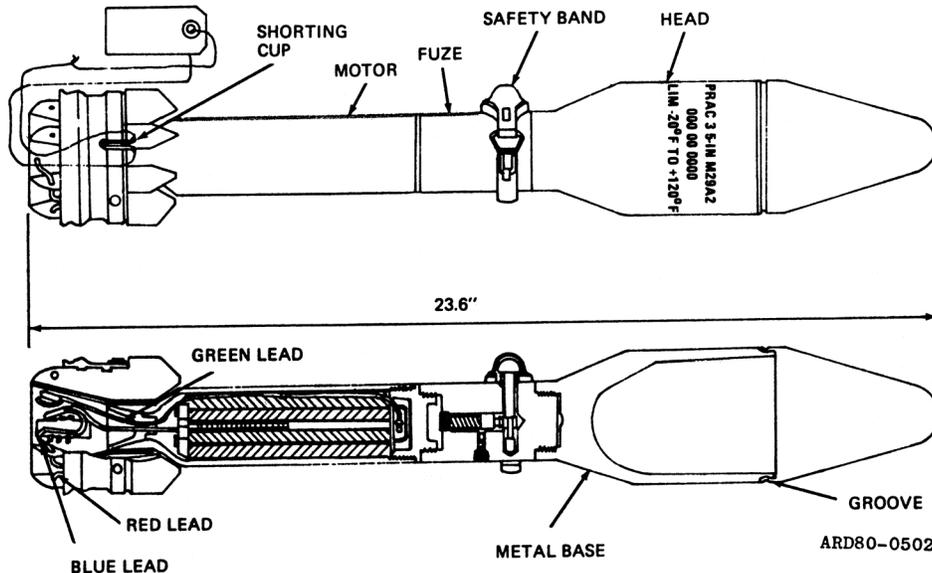
Over-all Length	21.6 inches
Diameter (body)	2.23 inches
Total Weight	3.5 pounds
Filler	Pentolite
Propellant	ballistite
Fuze	M400
Painting and markings	M6A1- olive drab w/ yellow markings, M7A1- black w/ white markings

References: TM 9-1904, *Ammunition Inspection Guide*, March 1944; OS 9-69, *Ordnance School Text, Rockets & Launchers*, February 1944

CTT15

GROUND ROCKETS, RIFLE GRENADES, PRACTICE

ROCKET, PRACTICE, 3.5-INCH, M29

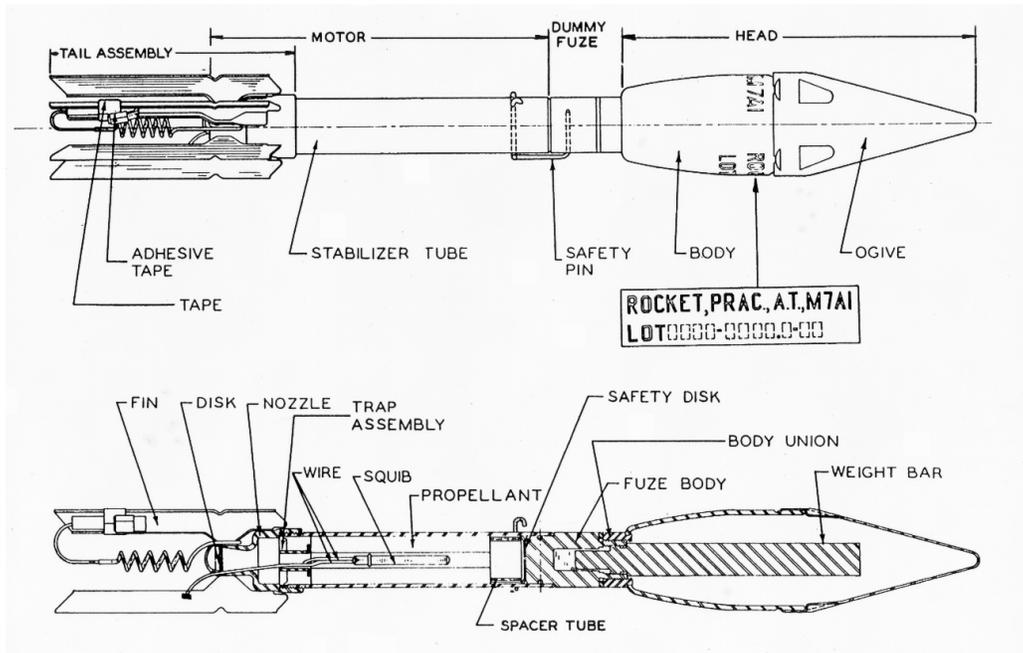


Description. This rocket generally is similar to the M28 High-explosive rocket except that it is provided with an inert bursting charge and the inert dummy fuze M405. The head is of light steel construction. It is cylindrical in shape, 3.5 inches in diameter, with a conically shaped ogive, and tapers to 2 inches in diameter at the rear. The rear of the head is threaded internally for attachment of dummy fuze M405. The rear of the fuze is threaded internally to receive the motor. The inert charge (plaster of paris and stearic acid) weighs 1.82 pounds. The motor consists of a body, closure, trap and spacer assembly, propellant, igniter with electric squib (cap) and leads, nozzle closure (blow out plug), and nozzle and fin assembly. Other characteristics are the same as for the M28.

Over-all Length	23.67 inch
Diameter	3.5 inch
Weight	8.61 pound
Filler	Plaster of paris/stearic acid
Propellant	M7 propellant powder
Propellant weight	12 grains
Igniter	M20

Reference: TM 9-1950, *Rockets*, July 1950, TM 43-0001-30, *Army Data Sheets, Rockets, Rockets Systems, Rocket fuzes, Rocket Motors*, December 1981

ROCKET, 2.36-INCH, PRACTICE, M7A1



Description. The M7A1 rocket is similar in design and construction to the M6A1 rocket, lacking only an explosive charge. The head is inert and no fuze is provided, however it is provided with a live propellant. It has the same dimensions, weight, and trajectory as the service round. A steel rod, fitted into the fuze body, makes up for the weight of the explosive charge and fuse present in the M6A1 rocket. All other components of the M7A1 practice round are similar to the components of the M6A1 rocket. A safety pin passes through the stabilizer to simulate realism during training. The rocket is painted blue and stenciled in white.

Over-all Length	21.6 inches
Diameter (body)	2.23 inches
Total Weight	3.5 pounds (approx.)
Filler	None
Propellant	5 sticks of ballistite
Weight (average)	61.5 grams
Fuze	None
Painting and markings	Blue w/ white markings

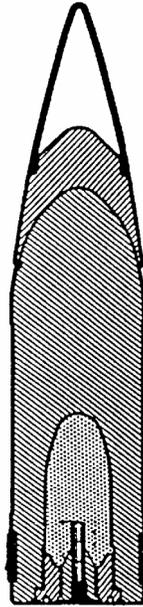
References: TM 9-1904, *Ammunition Inspection Guide*, March 1944; OS 9-69, *Ordnance School Text, Rockets & Launchers*, February 1944

**NO DATASHEET AVAILABLE
10-INCH, AP, MK III**

CTT18

LARGE CALIBER (37MM AND LARGER), HE

PROJECTILE, 12-INCH, AP, MK 18 MOD 1



12-inch A.P. Mk 18 Mod 1

Armor-Piercing (AP). These projectiles are designed to penetrate an equal caliber of Class A armor plate. The cap is a soft steel designed to increase the power of penetration to the projectile. The body is of high quality alloy steel. The base plug closes off the explosive cavity and holds the base fuze or base fuze adapter. The base fuze is inserted through the base plug or base fuze adapter and is designed to detonate the projectile after penetration.

Length

With Cap & Windshield	54.0 inches
Without Cap & Windshield	38.95 inches
Diameter of Base	11.98 inches
Diameter of bourrelet	12.98 inches
Width of band	4.0 inches
Weight	1140 pounds
Filler	Explosive D
Weight of filler	17.10 pounds
Fuze	Base Fuze, Mk 21; Mk 23

Reference: U.S.N. Bomb Disposal School, *Projectiles and Fuzes*, April 1943, West Point Text Book, "Ordnance and Gunnery", copyright 1907

SHELL, 3-INCH, HE, MK IX

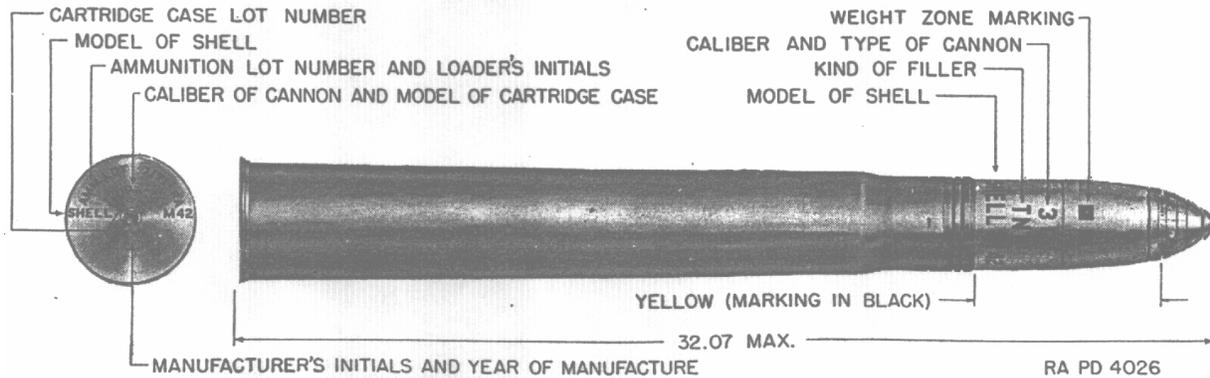


FIGURE 21.—Antiaircraft 3-inch high explosive projectile.

General. In order to increase the life of the 3-inch AA gun, the twist of the rifling in all late models and relined or retubed guns was reduced to one turn in forty calibers. This change in rifling, however, caused the Mk I High Explosive Shell to become unstable in flight, and it was therefore necessary to design a new HE shell. The shell designed to supersede the Mk I is known as the Mk IX.

Projectile. The Projectile, Mk. IX is of steel construction, and is shorter and lighter in weight than the Mk I. It has a radius of ogive of 7 calibers, and it continues its cylindrical shape from the rotating band to the base. The rotating band is 1 inch wide. The filler is 0.91 pound of TNT. This shell has a steel base plate and an adapter.

Components. The complete round consists of the Mk IX Projectile with its adapter, fuzed with the MIIIA1 Time Fuze, (earlier Mk I Projectile used the M1907, 21-second, Combination Fuze). This loaded, boosted, and fuzed projectile is assembled to the Mk IM2 or the Mk IIM2 Cartridge Case with its propelling charge of NH smokeless powder, distance wad, and M28A2 Primer.

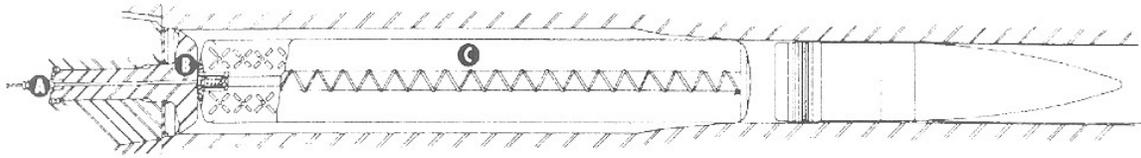
Overall Length	3.07 inches
Diameter	3 inches
Weight	12.7 pounds
Explosive Filler	TNT
Weight of filler	0.91 pounds
Propellant	NH or FNH smokeless powder
Propellant Weight	78 ounces
Fuze	Mk IIIA1 Time Fuze
Color	Yellow w/ black markings

References: TM 9-1904, *Ammunition Inspection Guide*, March 1944; No. 5891, *Complete Round Chart*, Issued, August 1924

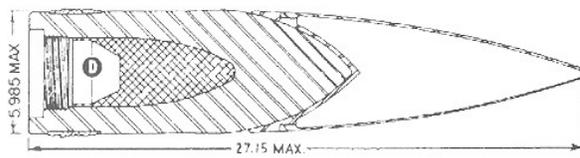
**NO DATASHEET AVAILABLE
5-INCH AP**

SHELL, A.P., 6-INCH, MK XXXIII

COMPLETE ROUND, PROJECTILE, A.P., 6 INCH, MK. XXXIII, LOADED IN GUN, M1905



PROJECTILE, A.P., 6 INCH, MK. XXXIII



- (A) Primer, Electric, M30
- (B) Obturator Spindle
- (C) Bag, Powder, Single-Section Type
- (D) Fuze, B.D., M60

Use: This, the only standard combat ammunition for the 6-inch seacoast guns, is a Navy design projectile. Guns - M1900A2; M1903A2, M1905A2

Description: The projectile is identical in design with the Projectile, APC, 155mm, M112. A bursting charge of 2.17 pounds of explosive D is detonated by the M60 base-detonating fuze. To improve the flight characteristics a ballistic windshield is attached to the projectile body. This windshield is screwed onto an adapter, which is soldered and crimped in five places to the projectile body. A single section type powder bag contains the propelling charge – 37 pounds of NH powder. This charge gives the 105 pound projectile a muzzle velocity of 2,800 f/s. The propellant is an M1 class powder, 87-10-3 formula. The web size is 0.068 inch and the grains have seven perforations. The electric primer, M30, is used to ignite the propelling charge.

The projectile measures 27 inches in length and the powder bag a maximum of 42 3/8 inches by 6 1/2 inches in diameter.

Weight of Projectile as fired	105 pounds
Length of Projectile w/fuze	27.0 inches
Filler and Weight	2.17 lb, Exp D
Fuzes	BD, M60
Propelling charges	37.0 pounds
Maximum Range	27,150 yards

Reference: *Catalogue of Ordnance Items*, Second Edition 1944

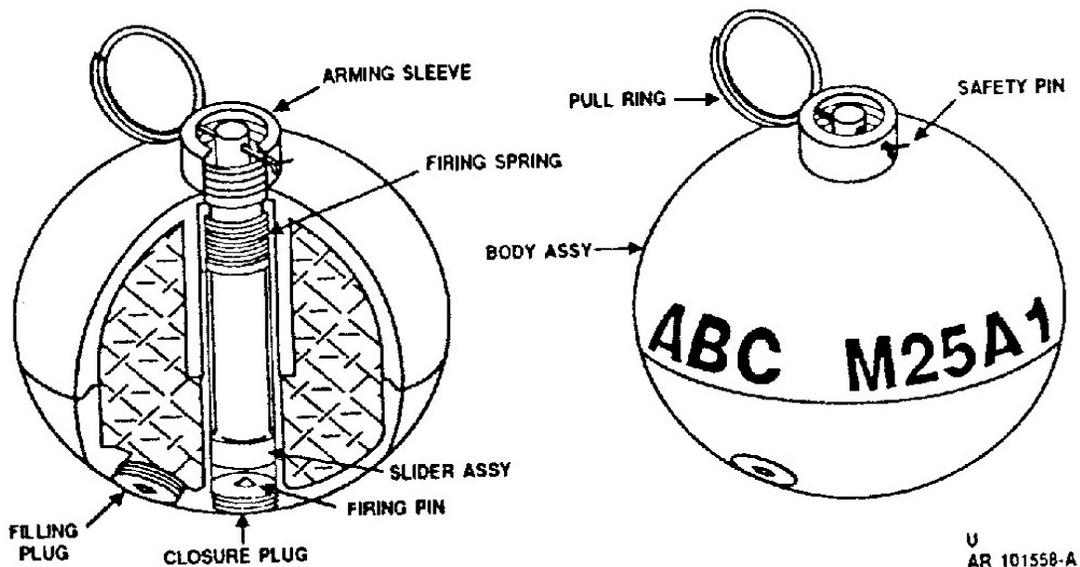
**NO DATASHEET AVAILABLE
5-INCH, TP (CAST IRON)**

NO DATASHEET AVAILABLE
12-INCH, TP, M1907

CTT36

RIOT CONTROL AGENTS

GRENADE, HAND, RIOT, CN-1, ABC-M25A1



Use. The ABC-M25A1 is a bursting-type riot control agent grenade and may be used to simulate casualty agents during training.

Description. The grenade body is spherical. It is made of two plastic hemispheres cemented together. The two pieces together form a burster well and slider housing. The fuze is a pyrotechnic delay-detonating type integral with the grenade body. The fuizing components consist of an arming sleeve, arming pin, firing spring, slider assembly, primer, pyrotechnic delay column, and a detonator. The grenade is assembled with a safety pin and pull ring.

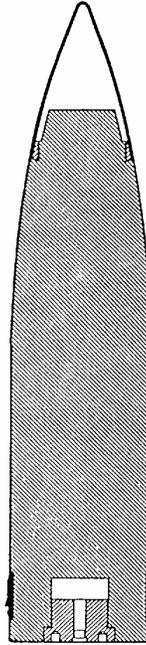
Length	3.4 inches
Diameter	2.93 inches
Weight	7.5 ounces
Color	Grey with red band & red markings
Filler	CN-1
Weight of filler	3.2 ounces
Fuze	Integral

Reference: TM 43-0001-29, *Army Ammunition Data Sheets for Grenades*, October 1977

CTT46

PRACTICE ORDNANCE (WITHOUT SPOTTING CHARGES)

PROJECTILE, 12-INCH, TARGET PRACTICE, MK 19



12-inch Target Mk 19 Mod 1

Description. The metal parts consists mainly of a cast steel body, a soft steel cap crimped onto the body, and may be fitted with a tracer. There is no provision for a spotting dye loaded in the windshield of this projectile.

Length	54 inches
Diameter of Base	11.977 inches
Distance base to band	2.0 inches
Diameter of bourrelet	12.97 inches
Width of band	4.0 inches
Weight	1140 pounds
Primer	Mk 15 Mod 1
Tracer (if loaded)	Mk 5

Reference: NAVSEA OP 1664, *U.S. Explosive Ordnance*, April 1943

SHELL, 3-INCH, TP, Mk. VII; Mk VIIA1

Picture of Round is Unavailable

General. This round was been designed as the practice round for training gun crews operating 3-inch seacoast guns. The round is fired from the 3-inch Seacoast Guns M1902M1 and M1903.

Projectile. The Projectile is of cast iron construction with no fuze, booster, or H.E. filler.

Components. The complete round consists of the Mk. IIA1 Projectile, attached to a Mk. IM2 or Mk. IIM2 Cartridge Case with NH propelling charge, distance wad, and M28A1 Primer.

Guns, This round is fired from the M1902MI (same chamber as mobile mount, 3-inch AA) and the M1903 (same chamber as fixed mount, 3-inch AA) Guns.

Explosive Filler	None
Propellant	NH smokeless powder
Propellant Weight	4 lb 12 oz
Fuze	None

References: TM 9-1904, *Ammunition Inspection Guide*, March 1944; No. 5891, *Complete Round Chart*, Issued, August 1924

NO DATASHEET AVAILABLE
6-INCH, TP, M1911

