

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

OPERATOR, UNIT, DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE INFORMATION FOR CARTRIDGE, 60MM: TARGET PRACTICE (SR), M766 (NSN 1410-01-216-2706)

Approved for public release; distribution is unlimited.

Headquarters, Department of the Army, Washington, DC 31 March 1998

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS
You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. You may mail, e-mail, or FAX your response. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) direct to: Commander, U.S. Army TACOM, Armament Research, Development and Engineerin Center, ATTN: AMSTA-AR-WEL, Picatinny Arsenal, NJ 07806-5000. E-mail address is LSB@PICA.ARMY.MIL. FAX number is Commercial (973) 724-4633, DSN 880-4633. A reply will he furnished to you.

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SECTION I. INTRODUCTION

1. Purpose. The purpose of this bulletin is to provide supplemental operator/maintenance level information for Cartridge, 60mm: Target Practice (SR), M766. This cartridge is a short range (SK) training round for use in the 60mm M224 Mortar System. The cartridge consists of a PD (practice) fuze, a hollow body with vent holes, a tin assembly, three increment plugs, three dud plugs, an obturating ring, and an ignition cartridge.

2. General. This bulletin contains data that will be incorporated into the following ammunition and weapon technical manuals:

a. TM 43-0001-28 - Army Ammunition Data Sheets, Artillery Ammunition for Guns, Howitzers,

Mortars, Recoilless Rifles, Grenade Launchers, and Artillery Fuzes.

b. TM 9-1300-251-20 - Organizational Maintenance Manual Artillery Ammunition for Guns, Howitzers, Mortars, Recoilless Rifles, and 40mm Grenade Launchers.

c. TM 9-1300-251-34 - Direct Support and General Support Maintenance Manual, Artillery Ammunition for Guns, Howitzers, Mortars, Recoilless Rifles, and 40mm Grenade Launchers.

d. TM 9-1010-223-10 - Operator's Manual for Lightweight Company Mortar, 60mm: M224 (1010-01-020-5626).

SECTION II. INFORMATION AND PROCEDURES TO BE INCORPORATED INTO OPERATOR/MAINTENANCE TECHNICAL, MANUALS

3. General. The information in the following paragraphs will be incorporated as changes to the ammunition chapter of the effected manuals.

4. Type Classification. Use. Description. Functioning. and Tabulated Data.

a. Type Classification. Std. 29 May 93.

b. Use. This cartridge is a short range (SR) training round for use in the 60mm M224 Mortar System.

c. Description. The Cartridge, 60mm: Target Practice (SK), M766 (fig. 1) consists of a M779 PD (practice) fuze, a hollow body with vent holes, a fin assembly, three increment plugs, three dud plugs, an obturating ring, and an ignition cartridge.

d. Functioning. When the cartridge is loaded into the mortar tube, it slides down the tube until the primer in the ignition cartridge strikes the firing pin in the base cap of the mortar. The primer ignites the ignition cartridge, the gases generated propel the cartridge out of the barrel and the cartridge travels downrange. The distance depends on the number of plastic increments removed (before firing) and the amount of gas allowed to escape from the mortar tube through the projectile body. The fuze functions on impact with the ground or target. A pyrotechnic smoke cartridge in the fuze produces a flash, an audible sound and a cloud of smoke (simulation of the HE cartridge function). Upon fuze functioning, the dud plugs are expelled from the projectile body. Any dud plugs remaining in the projectile body indicate a possible dud.

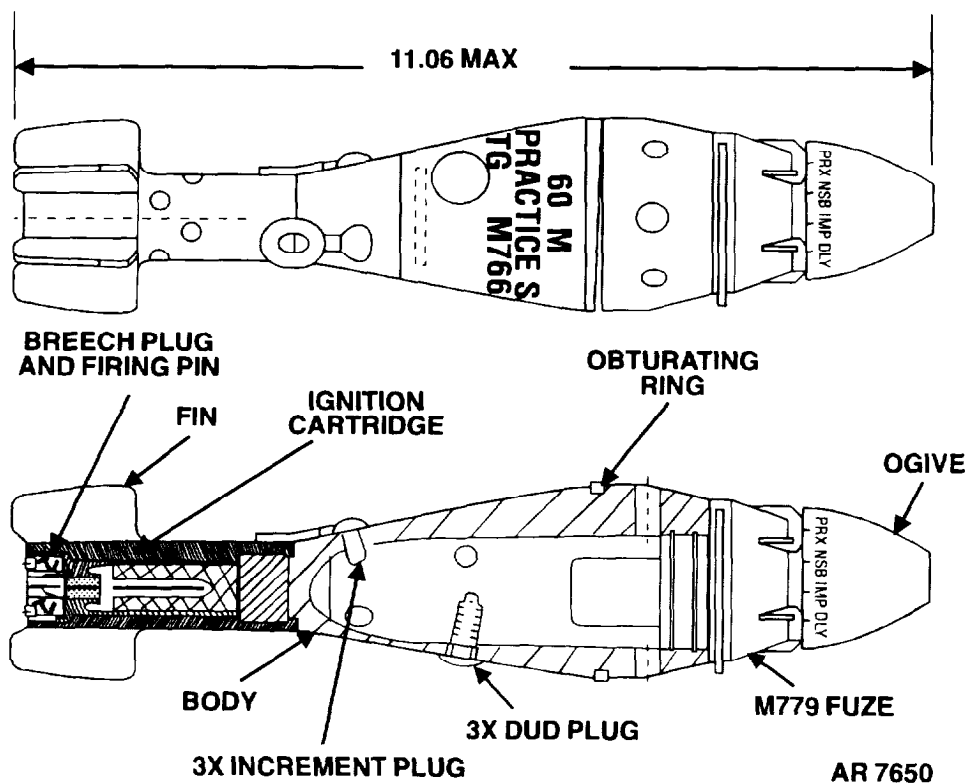


Figure 1. Cartridge, 60MM: Target Practice (SR), M766 with Fuze Point Detonating (PD), M779

e. Tabulated Data.

Complete Round:

Type..... Target Practice (SR)
 Weight..... 2.9 lb
 Length 11.0 in.

Projectile:

Body Material Steel
 Color Blue w/white markings and one brown band
 Filler None (hollow body)

Components:

Fuze PD(practice), M779
 Ignition cartridge M987

Maximum range 538 m

Temperature Limits:

Firing:

Lower limit 0°F (-18°C)
 Upper limit +110°F (-43°C)

Storage:

Lower limit -45°F (-43°C)
 Upper limit +145°F (+63°C)

Packing Box:

Cartridge:

Weight 76.6 lb
 Dimensions 27-3/8 x 12-1/2 x 6-13/16 in.
 Cube 1.35 cu ft
 Packing One round per fiber container, sixteen containers per wire-bound box.

Refurbishment Kit:

Weight 125 lb
 Dimensions 41-1/4 x 20-1/2 x 14-3/4 in.
 Cube..... 5.1 cu ft

Packing One kit per corrugated fiberboard carton, 25 cartons per corrugated fiberboard box in a sealed barrier bag, four fiberboard boxes per wirebound box.

Shipping and Storage Data:

Cartridge:

UNO serial number 0339
 Quantity-distance class. 1.4
 Storage compatability group..... C
 DOT shipping class C
 DOT designation CARTRIDGES FOR WEAPONS, INERT PROJECTILE
 DODAC 1310-B645
 Drawing number 12953564

Refurbishment Kit:

UNO serial number 0430
 Quantity-distance class. 1.3
 Storage compatability group..... G
 DOT shipping class G
 DOT designation ARTICLES, PYRO-TECHNIC
 DODAC..... 1310-B653
 Drawing number 12053611

Limitations:

None.

NOTE: After the round functions, it can be retrieved and refurbished as indicated in TM 9-1310-252-12&P.

References:

TM 9-1010-233-10
 SB 700-20
 AMC-P 700-3-3
 DOD Consolidated Ammunition Catalog
 TM 9-1300-251-20

5. Unit Maintenance.

a. Refer to Table 1 for nomenclature, dimension, weight, color identification, DODIC and maintenance functions pertaining to the M766 Cartridge to be included in the Army-authorized ammunition listing for 60mm mortars.

Table 1. Army-Authorized Ammunition for Mortars (60MM through 120MM)

Nomenclature and caliber	Length, (in.)	Weight, (lb)	Color Identification	DODIC	Maintenance functions (Ref to appendix B) of TM 9-1300-251-20&P	
					Group No.	Functional group
60MM Cartridge, 60MM: Target Practice (SR), M766	11.06	2.9	Blue w/white markings and brown band.	B645	0401 0402 0403 0404	a, b a, k a, b a

b. See Table 2 for packing, marking and storage data for the M766 Cartridge.

Table 2. Packing, Marking and Storage Data

(1) Item	(2) Outer pack	(3) Inner pack	(4) No. items in package	(5) No. items per inner pack	(6) ¹ Total weight (lb)	(7) ¹ Total explosive weight (lb)	(8) Cube	(9) ² Field storage category
CARTRIDGE, 60MM: TP (SR), M766	Wirebound box	Fiber container	16	1	76.6	0.41	1.45	C

6. Unit/Direct/General Support Maintenance.

Table 3 contains information on the Wirebound Box and PA159 Fiber Ammunition Container used to pack the M766 Cartridge.

Table 3. Packing Materials

Part No. (Dwg. No.)	CAGE code	Figure No.	Description
			60MM CARTRIDGES
12960921	19200		BOX, WIREBOUND: for Cartridge, 60MM: TP (SR), M766.
12953579	19200		CONTAINER, AMMUNITION, FIBER: PA159 for Cartridge, 60MM, TP (SR), M766.

7. **Markings.** Typical markings for the M766 Cartridge are shown in Figure 2.

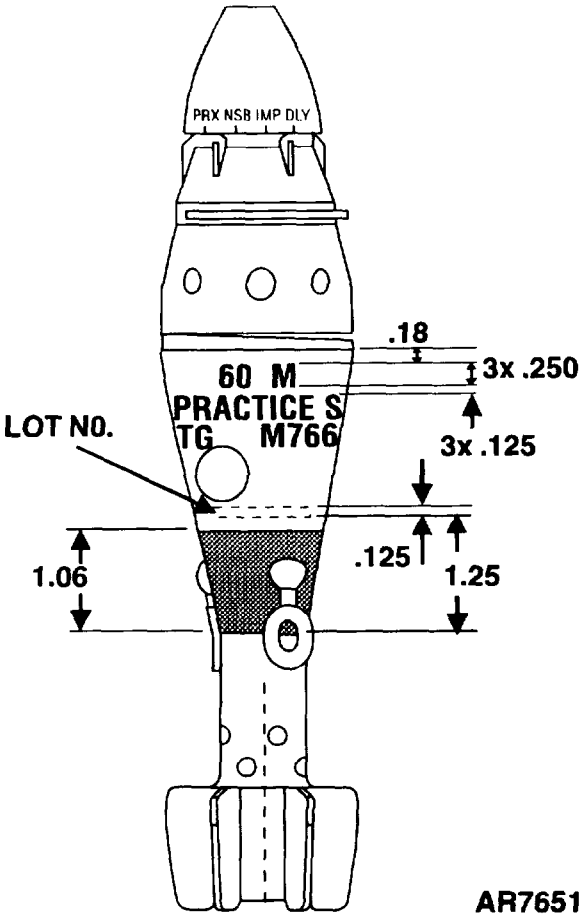


Figure 2. Typical marking for 60mm target practice (SR) cartridge M766.

8. Operator Procedures. The following Work Packages (WP no. 0024 00) covering the M766 Cartridge will be included in the operator's technical manual for the 60mm M224 Lightweight Company Mortar.

AMMUNITION MARKING INFORMATION 0024 00

AUTHORIZED CARTRIDGES

The following cartridges are authorized to be fired in the 60mm, M224 mortar:

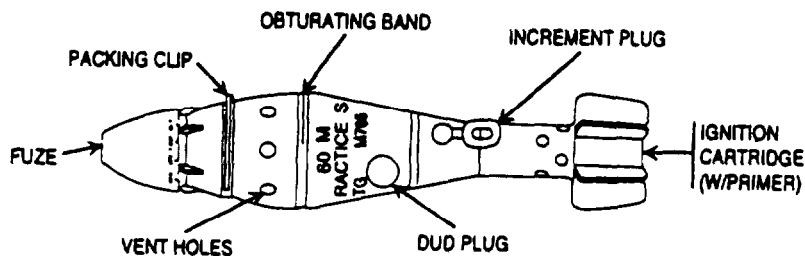
- Cartridge, 60mm: HE, M720
- Cartridge, 60mm: Illum, M721
- Cartridge, 60mm: Smoke, WP, M722
- Cartridge, 60mm: HE, M888
- Cartridge, 60mm: HE, M49A4
- Cartridge, 60mm: Smoke, WP, M302A1
- Cartridge, 60mm: Illum, M83
- Cartridge, 60mm: TP, M50A3
- Cartridge, 60mm: Training, M69
- Cartridge, 60mm: Training Device
- Cartridge, 60mm: SRTP, M766

0024 00-1

AMMUNITION MARKING INFORMATION - Continued 0024 00

AUTHORIZED CARTRIDGES - Continued

M766 Cartridge



Type/Use: Target practice (short range)/training
Identification: Blue w/brown band and white markings

0024 00-12

AMMUNITION MARKING INFORMATION - Continued

0024 00

AUTHORIZED CARTRIDGES - Continued

Components: Fuze, PD, Practice, M779
 Propelling Charge - ignition cartridge only

Max Range: 538 Meters

- Remarks:**
1. Projectile body is hollow.
 2. Range of cartridge is reduced by removing increment plugs from projectile body. Removal of plugs allows gases to escape (from the mortar barrel) through the body and out the vent holes.
 3. A pyrotechnic charge in the fuze produces a flash, an audible sound, and a cloud of smoke on impact.
 4. The spent (fired) cartridges can be recovered for rebuilding and reuse. Refer to TM 9-1310-252-12&P for instructions and limitations.

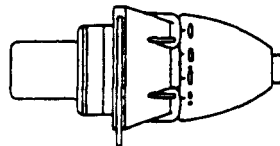
0024 00-13

AMMUNITION MARKING INFORMATION - Continued

0024 00

FUZES - Continued

Point Detonating, Practice, M779



Functions: Impact

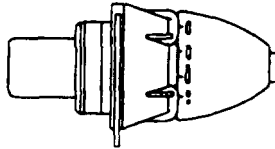
Settings: Dummy Multi-option
 PRX/NSB/IMP/DLY

Remarks: Fuze has a smoke charge and a safety/packing dip.

0024 00-26

FUZE SETTING

M779 Point Detonating (Practice) Fuze



- 1 This fuze only functions superquick on impact.
- 2 Remove safety/packing dip from fuze just prior to firing.
- 3 This fuze has dummy multi-option PRX/NSB/IMP/DLY settings (for practice only).

0024 00-27

ADJUSTMENT OF PROPELLING CHARGE - Continued

- 5 Reduce range of M766 cartridge by removing plastic plugs from projectile body. The following chart show number of plugs that should be remaining.

- Charge 0- Ignition cartridge only
- Charge 1- Ignition cartridge and one plug
- Charge 2- Ignition cartridge and two plugs
- Charge 3- Ignition cartridge and three plugs

- 6 Place excess increments in an empty ammo box for protection. Close lid of box during firing to prevent accidental ignition from burning debris/residue.

0024 00-40

By Order of the Secretary of the Army:

Dennis J. Reimer
General, United States Army
Chief Of Staff

Official:



Handwritten signature of Joel B. Hudson in black ink.

JOEL B. HUDSON
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04943

Distribution:

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