
DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

OPERATOR'S INFORMATION
FOR CARTRIDGE, 105MM APFSDS-T M833
(TANK COMBAT, FULL TRACKED, 105MM, GUN, M48 SERIES, M60 SERIES AND M1)

Headquarters, Department of the Army, Washington DC
17 August 1992

REPORTING OF ERRORS

You can help improve this bulletin. If you find any mistakes or know of a way to improve the procedures, please let us know. Mail your DA Form 2028 (Recommended Changes to Publications and Blank Forms), direct to Commander, US. Army Armament Research, Development and Engineering Center, ATTN: SMCAR-LMB, Picatinny Arsenal, New Jersey 07806-5000. A reply will be furnished to you,

WARNING

FIRING THE M833 AT AMMUNITION TEMPERATURES ABOVE 126 DEGREES F (+52.0°C) MAY RESULT IN EXCESSIVE CHAMBER PRESSURES WHICH MAY LEAD TO WEAPON DAMAGE. FIRING THE M833 AT AMMUNITION TEMPERATURES BELOW -35 DEGREES F (-37.2°C) MAY RESULT IN WEAPON DAMAGE.

1. Introduction. The purpose of this TB is to provide operator-level information on Cartridge, 105mm: APFSDS-T, M833 and its care, handling, and maintenance. This armor defeating round is designed for firing by the M68 series gun in all tanks which mount it,

2. General. This technical bulletin is an interim document for use until changes to the following operator technical manuals are issued.

a. TM 9-2350-253-10- Operator's Manual: Tank, Combat, Full-Tracked: 105mm Gun, M60A3.

b. TM 9-2350-258-10- Operator's Manual: Tank, Combat, Full-Tracked: 105mm Gun, M48A5.

c. TM 9-2350-215-10- Operator's Manual: Tank Combat, Full-Tracked: 105mm Gun, M60A1 W/E (2350-00-756-8497) Tank: M60 W/E (2350-00-678-5773).

d. TM 9-2350-255 -10-3 - Operator's Manual: Tank, Combat, Full-Tracked: 105mm Gun M1 (2350-01-061-2445) General Abrams,

e. TM 9-2350-257-10-3- Operator's Manual: Tank, Combat, Full-Tracked: 105mm Gun, M60A1 (RISE) (NSN 2350-00-116-9765): (RISE PASSIVE) (2350-01-059-1503).

* This bulletin supercedes TB 9-2350-357-10, 31 August 1990.

3. Information to be Incorporated into Operator Technical Manuals. The following information will be incorporated as changes to the ammunition chapter of the affected weapons manuals:

a. Description.

(1) The 105mm, M833, APFSDS-T, Cartridge (fig. 1) is an armor-piercing antitank cartridge and is intended for use on 105mm guns M68 cannon, against armored targets.

The projectile consists of a subprojectile and sabot.

(2) The subprojectile consists of a monolithic staballoy (depleted uranium) core, and is fitted with an aluminum windshield with steel tip to eliminate aerodynamic heating and an aluminum fin assembly

(3) The aluminum sabot is composed of three 120° sections, which transfers momentum to the subprojectile through a series of mating buttress grooves.

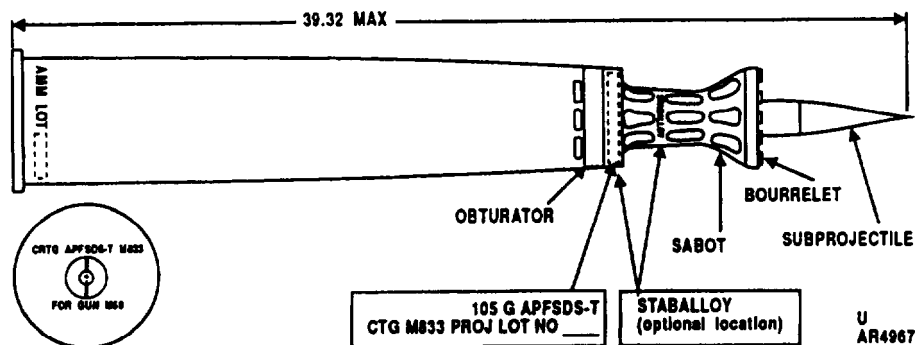


Figure 1. Cartridge, 105mm, M833, APFSDS-T.

(4) The sabot is an adaptation of the M735/M774 technology differing in design by the use of gussets in the sabot segments to retain strength and rigidity and reduce weight. A steel bourrelet, containing three shear cuts, is screwed to the sabot forward face. A two piece nylon obturator and polypropylene seal is assembled around the sabot and a silicone rubber seal is applied over the rear face of the sabot. An M13 Tracer is assembled to the fin and is held in place by a threaded plug and disc assembly. The projectile is crimped to an M148A1B1 Cartridge Case, which holds approximately 12.8 pounds of M30 propellant, and is fitted with an M120 electric primer. A gun tube wear-reducing titanium-dioxide liner is assembled to the interior wall of the cartridge case.

b. Functioning. During projectile flight, the tracer burns for a minimum of 2.5 seconds. The sabot discards upon leaving the gun tube by aerodynamic and centrifugal forces. The projectile is fin stabilized in flight. In order that only minimal spin is imparted to the projectile when the obturator engages the gun tube rifling, the plastic seal under the obturator reduces the coefficient of friction, producing approximately 80 percent slippage. The core penetrates the target solely by kinetic energy.

c. Tabulated Data.

Type Classification:

Cartridge, 105 mm:

APFSDS-T, M8-33----- TC standard

NOTE

Classified tabulated data has not been included in this TB.

Complete round:

Type-----

Weight -----

Length -----

Cannon used -----

Projectile