



105MM C76A1 KE

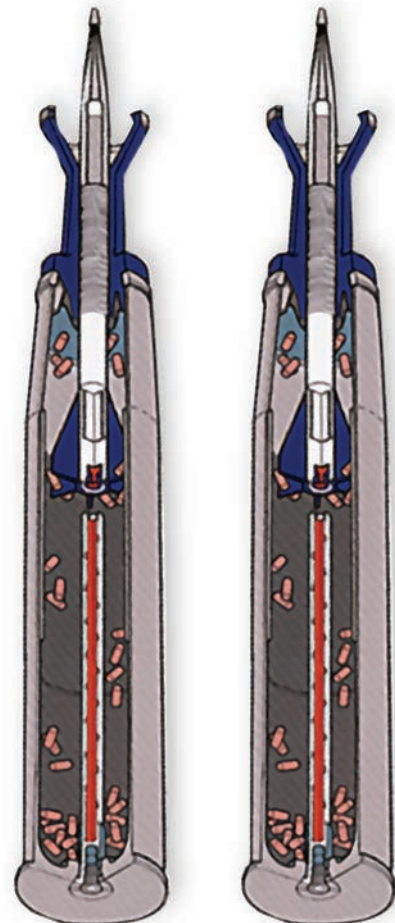
Kinetic Energy



Purpose: This cartridge is used in a direct fire, anti-armor role and is specifically designed for long range tank engagement.

Description: The C76A1(FP105) cartridge is made up of two major elements, the projectile assembly and the cartridge.

The projectile assembly consists of both a ballistic subprojectile and parasitic hardware. The subprojectile is comprised of a ballistic monobloc tungsten alloy penetrator, and aerodynamic windshield and a fin. The subprojectile is propelled downrange at hyper-velocity by the parasitic sabot assembly, which transfers momentum from the propellant gases to the subprojectile in-bore through a series of mating buttress grooves. The sabot assembly consists of a three-segment aluminum sabot, a bore riding steel bourrelet, a two-piece plastic slip band/obturator, and a molded elastomeric seal to prevent gas leakage.



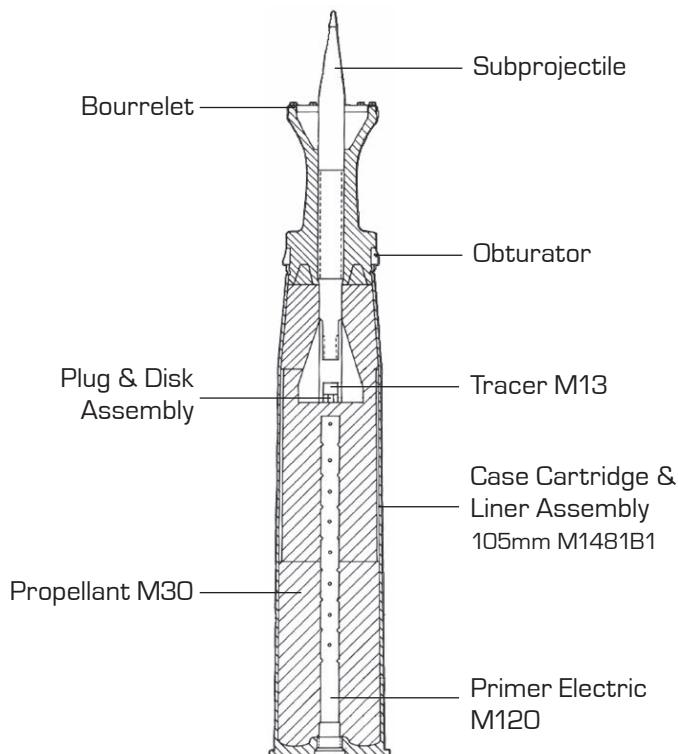
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The sabot incorporates aerodynamic scoops at both the forward and aft ends to produce a smooth, symmetric discard from the subprojectile to muzzle exit. This is accomplished by employing the centrifugal forces of the barrel and the pressures of muzzle blast to insure an unimpeded, and accurate launch. The bourrelet and obturator maintain sabot integrity and provide obturation during in-bore travel. Upon launch, these components break away in a controlled and reproducible manner when a specific load is exerted by the action of the propellant and aerodynamic forces.

The C76A1(FP105) cartridge utilizes a multi-perforated M30 triple base propellant, or equivalent, and an electric M120 primer. The cartridge case is the standard steel M148A1B1. The standard titanium dioxide coated rayon cloth wear liner is used to decrease tube wear.



Operation: Because of its advanced tungsten alloy penetrator, high length to diameter ratio, and low drag, the FP105 projectile exhibits exceptional accuracy with minimal dispersion and very high-performance penetration against heavy armor targets.

Characteristics

Type Classification	Cartridge, 105mm, APFSDS-T, C76A1(FP105)
Cartridge type	105 mm APFSDS-T
Cartridge length	36.5 inches (927mm)
Projectile Weight	12.7 lbs (5.8 kg)
Projectile length	18.7 inches (475mm)
Subprojectile weight	8.0 lbs (3.6 kg)
Subprojectile diameter	1.025 inches (26 mm)
Propellant charge weight	220.0 ozs (6.2 kg)
Propellant type	M30 triple base
Penetrator material	Tungsten alloy
Sabot material	Aluminum
Fin material	Aluminum
Windshield material	Aluminum
Tip material	Steel
Bourrelet material	Stainless Steel
Obturator material	Nylon
Seal Band material	Polypropylene
Cannon used with	M68, L7

Temperature Limits

Firing:	
Lower limit	-25°F (-32°C)
Upper limit	+125°F (52°C)
Storage:	
Lower limit	-65°F (-53.8°C)
Upper limit	+165°F (71.1°C)
Chamber pressure	59,600 psi at +70°F

Packing

1 round per fiber container; 2 containers per wooden box:	
Weight (lb)	132.0
Cu. Ft.	3.4
Packing Box:	
Weight	124.0 lb
Dimensions	47 ⁷ / ₁₆ X 13 ⁵ / ₁₆ X 7 ¹ / ₁₆ in.
Cube	2.5 cu ft

GENERAL DYNAMICS
Ordnance and Tactical Systems