

105MM C76A1 KINETIC ENERGY (TUNGSTEN) TANK AMMUNITION

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. 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.



GENERAL DYNAMICS
Ordnance and Tactical Systems

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**CARTRIDGE 105MM ARMOR
PIERCING
FIN STABILIZED DISCARDING
SABOT C76A1 (FP105)**

**105MM KINETIC ENERGY
(TUNGSTEN) TANK AMMUNITION**

TYPE CLASSIFICATION:

Cartridge, 105mm, APFSDS-T, C76A1(FP105)

CHARACTERISTICS:

Type Classified by _____ General Defense Corporation
/Canadian Government C76A1

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:

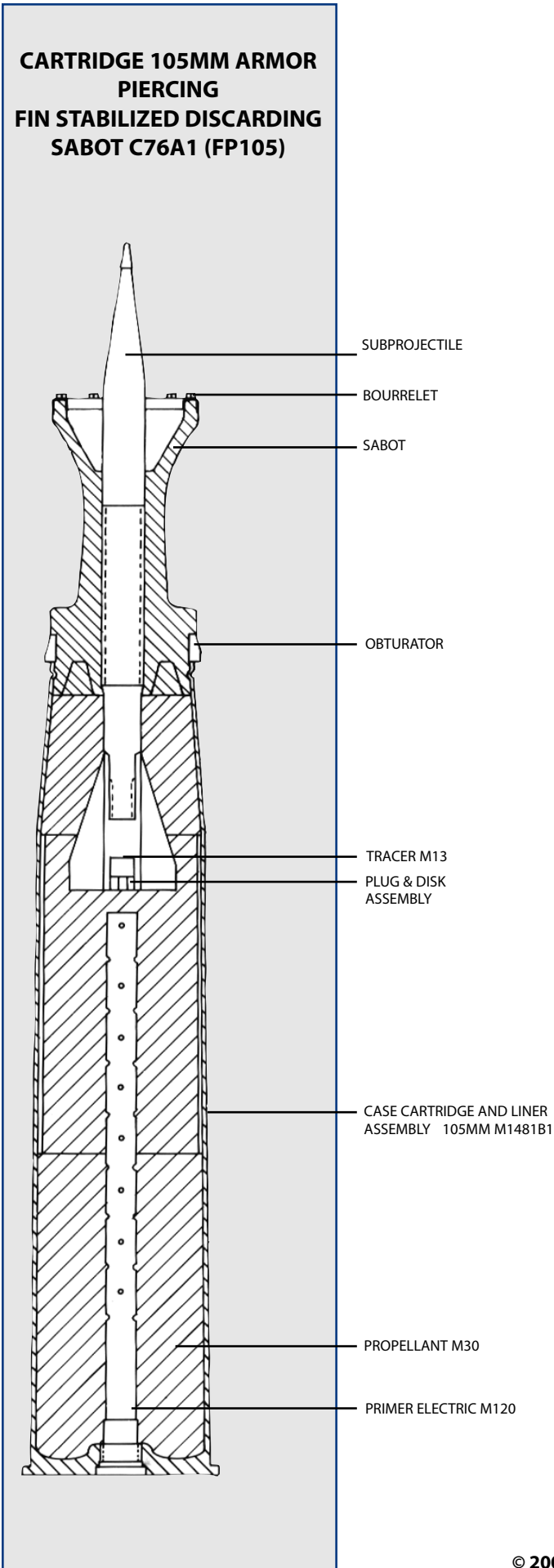
Firing:
 Lower limit _____ -25°F (-32°C)
 Upper limit _____ +125°F (52°C)

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
 Cube (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



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