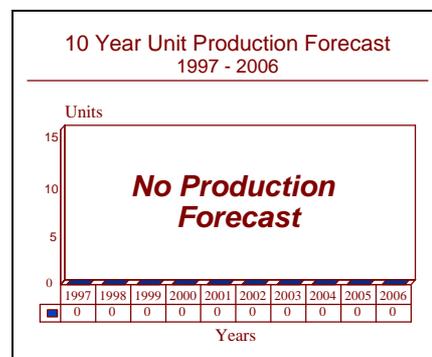


M107 175 mm Self-Propelled Gun - Archived 4/97

Outlook

- The serial production of the M107 is complete
- A total of 1,249 M107 systems was manufactured, although some have been converted to the M110 and vice versa
- Some additional modernization and retrofit potential exists for the remaining systems



Orientation

Description. A tracked 175 millimeter self-propelled artillery system

Sponsor. The development and United States procurement of the M107 was sponsored by the United States Department of Defense through the United States Army Materiel Command and Armament, Munitions and Chemical Command.

Contractors. The M107 was originally developed and manufactured by Pacific Car & Foundry Company (later PCF Defense Industries), Renton, Washington. Other manufacturers included FMC Corporation, San Jose, California and Bowen-McLaughlin-York (later BMY Combat Systems), York, Pennsylvania; this firm was the last contractor. In 1994, the latter two firms merged as United Defense Limited Partnership. Major subcontractors include the Allison Transmission Division of General Motors Corporation, Detroit Diesel Corporation, and Watervliet Arsenal.

Licensees. None

Status. The manufacture of the M107 has been dormant for some time, and no further production is

probable or forecast. It is no longer in service with the armed forces of the United States of America; after some years of service, all systems were converted to the M110 standard and the M110 was retired from United States service in 1993. Some of the other operators of the M107 are also converting their M107 systems to M110 standard while others are converting their M110 systems to M107 configuration or keeping their M107 systems as they are.

Total Produced. A total of 1,249 M107 systems were manufactured; subsequently, some M107 systems were (and continue to be) converted to M110 systems, and some M110 systems converted to the M107.

Application. General mobile long range artillery support for the field army at the division level.

Price Range. In 1988, a reconditioned M107 was offered for \$619,200 by an international broker. This rather high unit price for a used self-propelled artillery system is due to the high demand for the system due to its range performance.

Technical Data

Crew. Thirteen: five on the M107 and eight on the M548 tracked cargo (ammunition) carrier which normally accompanies the M107.

Muzzle Brake. None

Recoil System. Hydro pneumatic

Breech Mechanism. Interrupted stepped screw - Welin type.

Ammunition. The M107 fires High Explosive ammunition only — M437A1 (TNT) or M437A2 (composition B). The M107 is also compatible with the Space Research Corporation developed Mark 7 Mod 7 Extended Range Sub Caliber projectile.

Dimensions. The following dimensions are for the last production standard.

	<u>SI units</u>	<u>US units</u>
Length overall	11.26 meters	36.94 feet
Width	3.15 meters	10.34 feet
Height	3.68 meters	12.07 feet
Combat weight	28.17 tonnes	31.05 tons
Fuel capacity	1,137 liters	302.39 gallons
Cannon caliber	175 millimeters	6.89 inches
Cannon length	61.71 calibers/10.8 meters	61.71 calibers/35.43 feet

Performance. The automotive performance is on a metalled road. With the Mark 7 Mod 7 projectile as described above, the range is increased to 40 kilometers (43,744 yards).

Maximum speed	56 kilometers per hour	34.78 miles per hour
Maximum range	725 kilometers	450.23 statute miles
Step	1.02 meters	3.09 feet
Trench	2.36 meters	7.74 feet
Slope	30%	30%
Gradient	60%	60%
Fording	1.06 meters	3.48 feet
Elevation	+65°	+65°
Depression	-2°	-2°
Traverse (total)	60°	60°
Max ordnance range	32.7 kilometers	35,761.08 yards
Maximum rate of fire	2 rounds per minute	2 rounds per minute
Sustained rate of fire	1 round per minute	1 round per minute

Engine. The M107 uses the Detroit Diesel Corporation 8V-71T two-stroke, supercharged eight-cylinder liquid cooled diesel engine rated at 302.13 kilowatts (405 horsepower) at 38.33 revolutions per second (2,300 revolutions per minute). The power-to-weight ratio is 10.72 kilowatts per tonne (12.86 horsepower per ton). A 24 volt electrical system with four model 6TN batteries is the standard electrical fit.

Gearbox. The M107 is equipped with the Allison Transmission Division of General Motors Corporation model XT6-411-2A gearbox with four forward and two reverse gear ratios.

Suspension and Running Gear. The M107 uses a torsion bar type suspension with five dual tired road wheels on each side; the rear road wheel acts as the idler. There are no track return rollers and each road wheel is provided with a hydraulic shock damper.

Fire Control. The M107 is used for indirect fires only. The M115 panoramic sight, with a four power magnification and a ten degree field of view is fitted; complementing this is the M116C direct fire telescope with a three power magnification and a 13° field of view. The M15 elevation quadrant and M1A1 gunner's quadrant are also fitted.

* * *