

105MM MOBILE WEAPON SYSTEM (105MWS)

HUMVEE® HAWKEYE



SYSTEM — The 105mm Mobile Weapon System (MWS) is the lightest weight, most highly maneuverable self-propelled howitzer in the world today. The system consists of a U.S. Army standard M20 105mm cannon mounted on an M1152A1w/B2 Humvee. The weapon includes the application of a digital fire control system and on board communication, eliminating the need for surveyed firing points, aiming circles, and wire lines.

MISSION — The 105MWS battery is organized to suppress, neutralize, and destroy both ground forces and structures in an indirect and direct fire mode. The system allows the weapon to move, shoot, and move again without relying on heavy equipment or large number of troops/logistic support. The Humvee platform provides unparalleled off-road mobility over all types of terrain to support this mission.

TACTICAL MANEUVERABILITY — Overall survivability is enhanced by the strategic deployability and flexibility of the system allowing it to quickly move and relocate (“shoot and scoot”) prior to any adverse effects from counter battery fire and other aggressive offensive engagements.

LOW LIFE-CYCLE COST — Simplicity of design allows for a small logistic “footprint”. Crew maintenance is minimal and critical components/assemblies can be simply changed using Line Replacement Units.



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Weapon System

Hawkeye Howitzer, Light, Modular, M20 Cannon

Caliber

105mm (4.13 in)

Length

134.75 in. (3.42 m)

Width

38.68 in. (.98 m)

Height

45.57 in. (1.16 m)

M20 Cannon w/Breech

1145 lb.

Cradle/Recoil Mechanism

605 lb.

Total Tipping Parts

1750 lb.

Top Carriage Group

720 lb.

Total w/o Fire Control

2470 lb.

M187A1 Telescope Mount

45 lb.

M137A2 Panoramic Telescope

24 lb.

MG9000 Digital Fire Control System

13 lb.

Total w/Optical Fire Control

2539 lb.

Total w/MG9000 Digital Fire Control

2550 lb.

Crew Requirements

4 personnel (Extreme Conditions: 2 personnel)

Cannon:

105mm, M20

Projectile travel

110 in.

Caliber

33

No. of grooves

36

Muzzle brake

None (Optional Diffuser if Requested – 80 lb. Additional)

Breech block

Vertical Sliding Block

Recoil Mechanism

Hydro-pneumatic, soft recoil

Carriage

Aluminum Alloy

Traverse limits

180 degrees (3200 mils) – Possible 360 if Required

Elevating limits

-5 to +72 degrees (-89 to 1173 mils)

Temperature Range

Lower Limit

-40°F (-40°C)

Upper Limit

+125°F (+52°C)

Fire Control - Optical

Panoramic Telescope –

M137A2 – Seiler Instruments

Telescope Mount – M187A1 –

Seiler Instruments

Fire Control - Digital (MG 9000) - Digital Pointing and Aiming System

Inertial Navigation System (INS)

– Model LN-270 - Northrop

Grumman

Muzzle Velocity Radar System

(MVRS) – Model MVR-700C –

Weibel Scientific

Direct Fire Camera System

– Model DFS-02 - Sekai

Electronics, Inc.

GPS Antenna – Model S67-

1575-76 - Sensor Systems Inc.

Gunner's Display Unit (GDU)

– Model DK10 – Mandus

– American Reliance, Inc.

(AMREL)

Equivalent Full Charge (EFC)

6,500 rounds

M20 105mm Ammunition Compatibility

M1

High Explosive Round

M314

Illumination Round

M60/M60A2

Smoke Cartridge

M913

RAP Round

M760

High Explosive Round

M1130A1

High Explosive Performed

Fragmented Round

All NATO standard

cartridges and fuzes

M20 Cannon Specifications

Rate of Fire

Maximum: 8 rounds per

minute for 3 minutes

Sustained: 3 rounds per

minute

Maximum Firing Range

Charge 7: 7.2 miles (11.6 Km)

RAP: 12.2 miles (19.5 Km)

Designated Prime Mover

M1152A1w/B2 Humvee



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