

2008 NDIA
43rd Annual Armament Systems:
Gun and Missile Systems Symposium
21 – 24 April 2008

Development of LW25 Family of Ammunition

Lee Olson
Design Engineer
ATK Medium Caliber Systems

OSR Public Release Approval Ref 08-S-1203

Bradley with M242, 25mm



LW25mm Bushmaster



Medium Caliber Ammunition



M230 Chain Gun



Why LW25

Gun Characteristics Overview

Cartridge Family

Cartridge Design Characteristics

Common Cartridge Components

Common Projectile Components

Cartridge Performance Summary

Conclusion

Acknowledgements & Contacts

Questions & Answers

System size and weight comparable to M2 and Mk19

Increased Lethality

- 70 to 85% of M789 and M792
- Programmable AirBurst Munition (PABM) capable

Remote or Manual Operation

Application-Nearly anywhere a M2, Mk19 or M240 is used

LW25 Gun Characteristics



An advanced weapon and space systems company

Caliber	25mm X 59mm
Rate of Fire	230-260 shots/minute
Power Source	External (electric) chain driven action
Power Requirement	0.4Hp @ 28V DC
Predicted Reliability	Mean Rounds Between Stoppages, 35K
Feed System	Dual Feed, First Round Select



Size (w/o feed chutes):

Length- Less than 1,194 mm (47")

Width- Less than 280 mm (11")

Height- Less than 270 mm (10.625")

Weight:

Receiver 15.8 kg (34.9 lb)

Feeder 8.6 kg (19 lb)

Barrel 6.2 kg (13.6 lb)

Total 30.6 kg (67.5 lb)



LW25 Ammunition



TP



DUMMY



AIRBURST



HEI



HEDP

Shot shell

Non-lethal

TP Marking

Length (max):	138.5 mm
Weight :	174 g
Projectile Mass:	141 g
Muzzle Velocity:	400 m/s
Dispersion:	0.5 mils

Common Components (reduces development time)

- **Primer (common with .50 Caliber)**
- **Cartridge Case**
- **Propellant**

Use of Common Components minimizes Development time

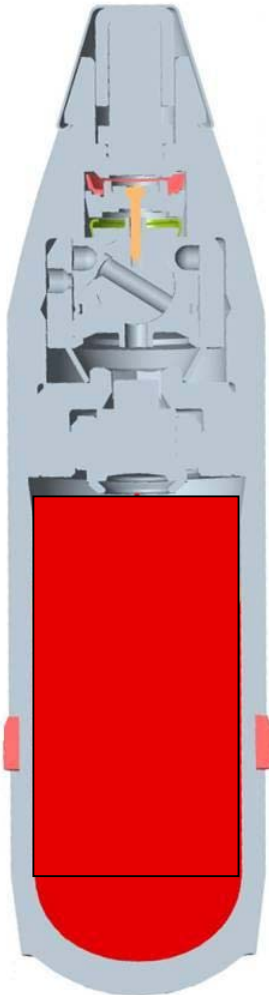
- **Rotating Band for HEI, HEDP and TP common with M792, M793, PGU-23, PGU-25 etc.**
- **Modified M759 Fuze used on both HEI and HEDP, over 90% common with M759 Fuze used on M789 Cartridge**
- **Banded Projectile Body common to HEI and HEDP**
- **Airburst Projectile over 90% common with XM25**

HEI and HEDP Projectile

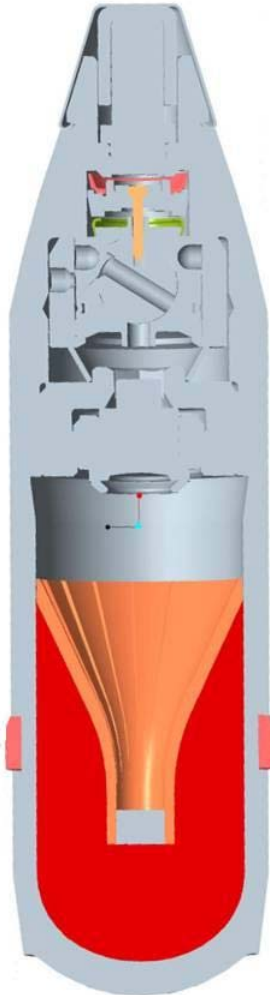


An advanced weapon and space systems company

HEI



HEDP



Velocity more than 400 m/s

Case Mouth Pressure less than 275 MPa

Dispersion less than 0.5 mil X 0.5 mil

Predicted HEDP Penetration more than 1.4”

Blast and Incendiary effects 85% of M792

LW25 Ammunition and Gun offer:

- **Low weight, low recoil, high lethality**
- **Combined Antipersonnel and Light Armor Penetration**
- **Dual Feed, First Round Select**
- **Lethality for Troops in defilade**
- **High reliability of gun and ammunition**

LW25 is a Unique tactical solution.

Acknowledgements

Mr. Larry Douma, ATK Medium Caliber Systems

Ms. Linda Heuer, ATK Medium Caliber Systems

Contacts

Clark Schiferl (LW25 Program Manager)

(480) 324-8797

Clark.Schiferl@atk.com

Lee Olson (Ammunition Design Engineer)

(763) 712-7721

Lee.Olson@atk.com

Rodney Ward (Medium Caliber Systems Business Development)

(480) 324-8608

Rodney.Ward@atk.com