

Advancements in 40mm Ammunition
Low Velocity High Velocity

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Session Overview—Introduction

**Dave Broden
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NDIA
Small Arms Symposium 2008**

Objectives

- **Establish Rigorous Engineering Based Design and Performance Rationale for 40mm Grenade Ammunition**
 - Low Velocity Family
 - High Velocity Family
 - Product Improvements
 - Weapon Interfaces
- **Evolve Improved Documentation for:**
 - Technical Data Packages
 - Specifications
 - Performance Characteristics
 - Interior, Exterior, Terminal Ballistics
 - Reliability
 - Safety
- **Support Performance, On-Going, Production, and Operational Failure Analysis**

**40mm Ammunition
Government Technology Insertion Team**

- **Melissa Wanner** **PM-MAS** **Project Management Engineer**
- **James Grassi** **ARDEC** **40mm Special Projects Lead**
- **Adam Sorchini** **ARDEC** **Project Engineer**
- **Adam Jacob** **ARDEC** **Project Engineer**
- **Jason Wasserman** **ARDEC** **Project Engineer**
- **Peter Martin** **ARDEC** **Project Engineer**
- **Christopher Summa** **ARDEC** **Project Engineer**
- **Matthew Millar** **ARDEC** **Project Engineer**

Technology Insertion Participants

- US Army PM—MAS
- USAIC
- US Army JMC
- ARDEC
- PEO Soldier Weapons
- ARL
- ATC
- 40mm Ammunition System Management Contractors
 - AMTEC Corporation
 - DSE
- Various Supporting Subcontractors

**Integrated Product Team (IPT)
Linking
Technology, Development, Production
To Realize
40mm Ammunition Improvements**

**40mm Technology
Advancement
Highlights**

- **Focused on Rigorous Engineering**
 - Analysis
 - Design/Development
 - Test
 - Producibility
- **Establishing 40mm Ammunition Baseline Characteristics**
 - Performance Characteristics
 - Identifying and Addressing Concerns
 - Supporting On Going Production
- **Implementing Product Improvement Priorities**
 - Performance (Ballistic, Reliability, Quality, Safety etc.)
 - Producibility
 - Affordability

**40mm Technology
Advancement Status
Presentations**

- **Producibility Improvements of 40m High and Low Velocity Shaped Charge Liners**
 - **Mr. Adam Sorchini**
- **Center of Mass Changes During Arming of 40mm Fuzes**
 - **Mr. Adam Jacob**
- **Electronics and Sensors in 40mm Low Velocity Grenade Ammunition**
 - **Mr. Jason Wasserman**

**40mm Technology
Advancement Status
Presentations**

- **40mm Day/Night Practice Cartridge for Mk13/XM320/M203 Grenade Launchers**
 - **Mr. Peter Martin**
- **M385A1 Composite Projectile Feasibility Study**
 - **Mr. Christopher Summa**
- **Development of M16A2 Pivoting Coupling**
 - **Mr. Matthew Millar**

**40mm Technology
Advancement
Benefits**

- **Rigorous In-Depth Engineer Rationale and Design/Performance Data Base Evolving for all 40mm Ammunition**
 - **Baseline Design/Performance Evolving**
- **Attention to Implementing Priority Product Improvements**
 - **Development (New Technology, Components, Cartridges)**
 - **Addressing Producibility Topics**
 - **Technology Insertion**
- **Linking the 40mm Government and Contractor Community**
 - **Effective IPT Teams**

Supporting the Warfighter Objectives

40mm Ammunition

Capability, Quality, Reliability, Availability, and Affordability

Today and the Future