Advancements in 40mm Ammunition

**Low Velocity**  **High Velocity**

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Session Overview—Introduction

Dave Broden  
Broden Resource Solutions LLC  
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 Advancement

40mm Ammunition 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
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
• Producibility Improvements of 40mm 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
Technology Advancement

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