

Product Manager Large Caliber Ammunition

Training Ammunition Safety Initiatives



Distribution Statement A:
Approved for Public Release. Distribution
Unlimited as of 14 April 2010.

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Project Manager

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Agenda



- **Problem**
- **Cause & Effect**
- **Technical Solutions**
 - **Advanced Case System**
 - **Skive Joint Modification**
 - **M14 Propellant Replacement**
 - **Loader Tray Upgrade (discussion)**
- **Path Forward**



Problem

Three Incidents of Training Cartridge Ignition Resulting in Fatalities or Injury





Cause & Effect

■ Ignition Caused by a “Perfect Storm” of Events

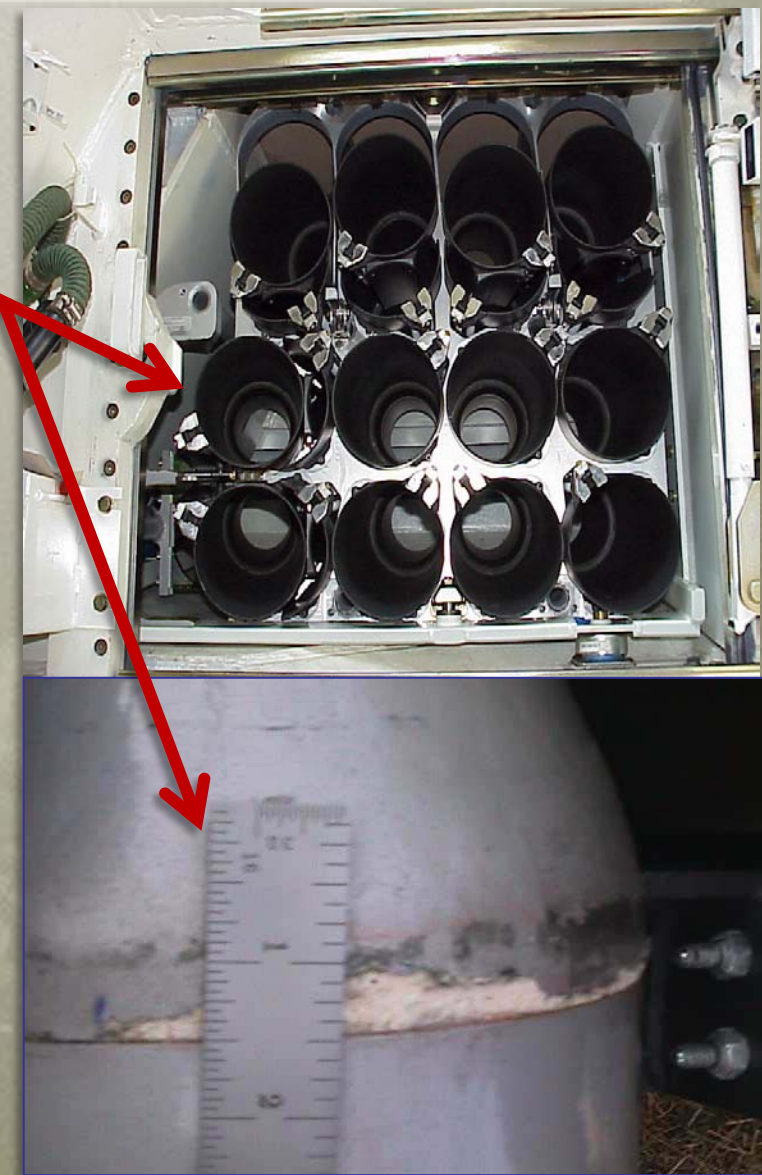
- Cartridge Case Damage Caused by Extraction of Non-Fired Round from 2nd Gen Loaders Tray
- Damage is not Facing Loader—Damage Goes Unnoticed





Cause & Effect

- Chip in the Ready Rack Coating Previously Exists
- Diethyl Ether Fumes Escape from Just Right Sized Hole
- Round Placed in Ready Rack Causing Static Charge-Then Removed for Firing
- Venting Ether is Ignited Due to Electro Static Discharge





Cause & Effect



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Advanced Case System

- ACS Program Eliminates the Bond Joint at Projectile Forward End of Cartridge



Current Case

Skive Joint
←



ACS Case



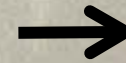
Double Wall Overlap
ACS Case



Skive Joint Modification

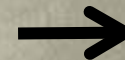


- Large Stockpiles of M865, M831A1 and M1002 Training Cartridges with Forward Skive Joint



Polyurethane Tape

- ACS Cannot be Applied to M831A1/M1002 in Inventory



Polypropylene Band
Edges Sealed
with epoxy



M14 Propellant Solution



- **Potentially Replace M14 Propellant with Less Vulnerable Solution**
- **Competitive Contracts with Promising Results**
- **Reduction in R&D Overall Risk-Leverage Previous Efforts**
- **Affordability is an Exit Criterion**



Path Forward

- **FY11: Skive Joint Modification to Existing Stockpile**
- **FY11: ACS Solution to Future Production of M1002/M865**
- **FY14: M14 Replacement Based Decision by USMC / Army**



Photo of M1A2 SEP taken by SSG Steven Johnson, CI-67 Armor, Fort Hood, Texas on 11 Nov 06