Modernizing Field Artillery Maintenance Equipment

2018 Armaments Systems Forum
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Abstract # 20256
Introduction

• Otis Technology founded in 1985 by Doreen Garrett
  – Revolutionized Breech-to-Muzzle® small arms cleaning in Military and Commercial markets
  – In 2010 Otis established a dedicated engineering center near Syracuse, NY to focus on new product
Cleaning Innovation

• Current State:

• Challenges:
  – Large number of personnel to operate
  – Time to assemble / disassemble rods
  – Poor ergonomics
Cleaning Innovation

- Project Goals
  - Reduce time & personnel required
  - Effective
  - Compact
  - Control cost
Cleaning Innovation

• New Technologies
  – Designed to reduce personnel and time required
    • Power-assisted devices
      – Air Powered
      – Electric
    • Manual
      – Rod
      – Cable
Otis Large Bore Cleaning System

Highlights

• Control swab diameter
• Cable rigidity while feeding cable
Otis Large Bore Cleaning System Highlights

• Control swab diameter
  – Expandable swab mandrel enables finite adjustment
Otis Large Bore Cleaning System

Highlights

• Cable rigidity while feeding cable
  – Spring-loaded sleeves bias cable straight to enable the cable to be pushed down the tube to attach brush/swab section
Otis Large Bore Cleaning System

Highlights

• Feed cable from muzzle until loop extends beyond breech
• Attach swab with or without brush to cable
• Pull cable until swab exits muzzle
Otis Large Bore Cleaning System

• Conclusion
  – Requires 2-4 people
  – Cleans with fewer passes than current rod system
  – Cost comparable with other manual systems
  – Less storage space required

• Future Development
  – Expand number of compatible weapon systems
  – Expand scope to include maintenance items
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