NSWC Crane

“Harnessing the Power of Technology for the Warfighter”
Weapon Shot Counter (WSC)

8 May 2007

Presented by Mr. Jason Davis,
USSOCOM Weapon Shot Counter Project Manager
Presented to NDIA Small Arms Symposium
Shot Counter Agenda

- Mission and Goals
- Basics of WSC Technology
- Software Development
- Acquisition Strategy
- Future of WSC Technology
- Questions or Comments
SOPMOD PMO, NSWC Crane, will develop and acquire a Shot Counter for small arms. The Shot Counter will provide count, cadence of fire, weapon serial number, and other data necessary to develop an automated maintenance program for small arms. The maintenance program will predict barrel, bolt, and parts failures for timely replacement. The Shot Counter will first be compatible with the M4A1 Carbine using existing munitions. It will include a Data Collection Device and software compatible with common desktop and laptop computers. It will be reliable and durable in Special Operations Forces environments. It will be upgradeable to other small arms and calibers.
Primary Benefits
- Prevent Failures Before They Occur, Reducing Injuries and Saving Lives
- Reduce Unnecessary Maintenance Costs

Secondary Benefits
- Possible Insight into Ancillary Equipment Failure
- Additional Means of Comparing Vendor Parts
- Compare Failure Occurrences Between Different Types of Weapons
How WSC Technology Works

M4A1 Carbine Shock Profile

[Graph showing shock profile with labels for Fire, Eject, Bolt-feed, Load, and corresponding times and accelerations.]

WSC Looks for High-Frequency Shock Impulses

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How WSC Technology Works

Period of “Debounce”

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Harnessing the Power of Technology for the Warfighter

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WSC Current Events

Accu-Counter Technologies (Erlanger, KY) Selected for M4A1 Carbine WSC
SOPMOD/Armorer Designed


- Automatically Records Results of Scan in a Maintenance Log.

- Maintenance Log Will Permit Armorers to Record Part Replacement and Reason for Replacement.

- Software Will Provide Armorer with Overall Health of Weapons.

- Easily Expandable for Inclusion of Other Weapons, Other WSC Vendors, Better Statistics on Round Count / Part Failure Correlation, and Additional Data Supplied by Future WSCs (such as Barrel Temp). Entirely Government Controlled.

- Software Will Allow Armorer to Age Weapon Parts if Necessary.
# Software Development

## Overall Weapon Health

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<th>Weapon S/N</th>
<th>Barrel</th>
<th>Bolt</th>
<th>Gas Rings</th>
<th>Hammer Spring</th>
<th>Extractor Assy</th>
<th>Ejector Assy</th>
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**SCAN WEAPON**

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Acquisition Strategy
Future of WSC Technology

- WSC Integral to Weapon, Not an Accessory
- Use of RFID Wireless Inventory Management
- WSC Stores Entire Maintenance History
- More Sophisticated Sensors: Able to Distinguish Between Types of Ammunition and Record Other Weapon Parameters, Such as Barrel Temperature
- Integration of WSC, UID, and Logistics Databases
Future of WSC Technology

Small Arms Room of the Future

Logistics

Armorer

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WEAPON SHOT COUNTER
Enhanced Reliability • Increased Survivability • Improved Logistics

Questions or Comments?

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“Harnessing the Power of Technology for the Warfighter”

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