TACOM LCMC...Understanding and Combating Aging

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Presented by CW4 Frank Wilson and CW3 Jason Greegor

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TACOM LCMC
Understanding and Combating Aging

CW4 Frank Wilson; CW3 Jason Greegor

US Army RDECOM-TARDEC 6501 E 11 Mile Rd Warren, MI 48397-5000, USA

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The original document contains color images.
The Environment

Army Equipment Headed for Iraq

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Develop, acquire, field, and sustain Soldier and ground systems for the Warfighter through the integration of effective and timely Acquisition, Logistics, and cutting-edge Technology.

What we do (Core Competencies):
- Research, Development, Engineering
- Acquisition / Program Management
- Logistics, Industrial Operations, and Contracting

The Magnitude:
- 141 Allied Countries Own TACOM Equipment
- Every Army Unit has TACOM Equipment
- Approximately 3000 Fielded End Items
- 29,000 Components

The TACOM LCMC Product Lines:
- Combat Vehicles
- Trailers
- Materiel Handling Equipment
- Fuel & Water Dist Equipment
- Chemical Defense Equipment
- Howitzers
- Commercial Vehicles
- Tactical Vehicles
- Construction Equipment
- Sets, Kits & Outfits
- Shop Equipment
- Large Caliber Guns
- Watercraft
- Mortars
- Aircraft Armaments
- Rail
- Fuel & Lubricant Products
- Rifles / Machine Guns
- Soldier Equipment
- Tactical Bridges

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Life Cycle Management Command
Equipment Condition vs Causes

<table>
<thead>
<tr>
<th>Condition</th>
<th>Causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well Used = High miles/hours</td>
<td>Age, deployments, optempo, multiple users</td>
</tr>
<tr>
<td>Rust &amp; Corrosion issues</td>
<td>Exposure to unexpected &amp; extreme conditions (caustic elements &amp; long term storage)</td>
</tr>
<tr>
<td>Obsolescence issues</td>
<td>High Demand, transportation, return &amp; repair, funding constraints</td>
</tr>
<tr>
<td>Damage or degradation</td>
<td>Age, Technology and Industrial Base influences</td>
</tr>
<tr>
<td>Multiple Configurations</td>
<td>Environmental developments and considerations</td>
</tr>
<tr>
<td></td>
<td>Long term wear influences (cracks/stress)</td>
</tr>
<tr>
<td></td>
<td>Some existing equipment will not be included with the future force</td>
</tr>
<tr>
<td></td>
<td>Multiyear acquisitions/support strategies/policy guidance</td>
</tr>
</tbody>
</table>

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Delayed Desert Damage & Degradation Program (4D)

• Look at effects of extended SWA Operations on TACOM equipment; maintenance actions to reduce environmental impacts

• Data mine/analyze Logistics Information Warehouse and related data sources; and identify and investigate candidate and frequent, high-cost critical demand components

• Complete Failure Modes and Effects Analysis (FMEA), Root Cause Analysis, and Evaluation/Recommendations

• Utilize AMSAA Sample Data Collectors, Depot Reset, Army, and Reserve activities in identifying demand drivers
4D Process Overview

Data Mining & Analysis

- **Demand Data**
  - Order Qty & Cost (ILAP)

- **OPTEMPO Data**
  - Density/Usage (OSMIS)

**PRI DATA QUERY**

**DATA ANALYSIS**

- **Group Data**
  - NIIN, Years, LOC, DMD, Cost, etc.

- **Group Data**
  - Years, LOC

- **Normalize**
  - Adjust for Density & OPTEMPO

- **Data Review**
  - Charts/Graphs
  - ID Trends, Spikes
  - Specialist Review
  - Data Consistency Check
  - Tech Manuals/Drwgs
  - Ref MWOs, ECPs, etc.

**Top Readiness Drivers List**

**Validation**

- **Maint Records & Suppl Data Sources**
  - (SAMS-2, EDA, AMS, QDR, C-REPS)

**SEC DATA QUERY**

**PHYSICAL ANALYSIS**

- **AMSA Field Reports & Analysis**

- **On-Site**
  - Visit Depots/Reset Sites, ARNG/USAR Feedback, Other Reports

**ENGINEERING**

- **FMEA**
  - Failure Mode & Effects Analysis

**DELIVERABLES**

- **Recommendations**
  - Tech Bulletin, Tech Manual Rev., Engrg'g Changes

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4D Process Observations

- Surprisingly, equipment reliability improved while used as a result of increased attention and maintenance.
- The 4D process identified actual versus perceived causes of equipment failures.
- The biggest impact to equipment condition related to deployment was related to corrosion damage occurring during re-deployment prep and long term storage.
What Is RESET?

Restoring units returning from a theater of operations to a desired level of combat capability based on mission requirements & available resources.

GOAL: Assets available for “Next Deployers”
Forms of RESET

Since Time & Money are limited... there are several options available to “Reset” Army Units with TACOM equipment:

PROCUREMENT
New Procurement to Cover Battle Losses & Washouts

MAINTENANCE
Major Repair of Damaged & Stressed Vehicles
Inspection & Minor Repair (10/20 + 3D)
Maintain Left Behind Equipment (LBE)

REPLACE
Reset

RECAP
Sustainment Level Reset

Field Level Reset

Industrial Base (Depots/Arsenals) & Original Equipment Manufacturers

Industrial Base (Depots/Arsenals), DOLs, National Contractors & In-Theater Repairs

Unit Motor Pools, DOLs & FLRCs, Regional Contractors

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TACOM FLEET REPAIR FORECAST MODEL

Goal = CONSISTENT Quality

SOURCE OF REPAIR AVAILABILITY CONSIDERATIONS:
- Manpower
- Scheduling / Time
- Funds
- Parts

UNIT LEVEL

FIELD LEVEL
(DOLs/FLRCs/ Local & Regional Contractors)

Same Standards for ANY site conducting Field Level Repairs

SUSTAINMENT LEVEL
(Deport/National Contractors)
DOLs

Unit determines what their Soldiers can do in the Motor Pool

Same Standards for ANY site conducting Sustainment Level Repairs

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TACOM
Life Cycle Management Command
SARET-R supports the following standard small arms and crew-served weapons:

- M9 Pistol
- M16 Rifle
- M4 Carbine
- M203 Grenade Launcher
  - M249 Machine Gun
  - M240 Machine Gun
  - M2 Machine Gun
- MK19 Grenade Machine Gun
- M296 Machine Gun (Kiowa) (dismounted)
  - M500 Shotgun
  - M107 Sniper Rifle
- Mortars and mounts: 60mm, 81mm, 120mm (tubes and ground mounts only)
## Small Arms Readiness Evaluation Team w/Repair (SARET-R)

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Missions Completed</th>
<th>Weapons Inspected / Repaired</th>
<th>Weapons Requiring Depot Repair</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 09</td>
<td>52</td>
<td>172,431 / 171,348 (99%)</td>
<td>2,065 (1.20%)</td>
</tr>
<tr>
<td>FY 10</td>
<td>57 / 2</td>
<td>189,209 / 8,719</td>
<td>113 (1%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Missions Planned / Completed</th>
<th>Weapons Inspected / Fully Mission Capable</th>
<th>Weapons Requiring Depot Repair</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 04-10</td>
<td>216 / 615,042</td>
<td>8,719 / 8,570 (98%)</td>
<td>113 (1%)</td>
</tr>
</tbody>
</table>

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TACOM
Life Cycle Management Command
SARET-O

Supports the following standard weapon optics:

- M68 Sight, Reflex
- M145 Machine Gun Optic
- M203 Day Night Sight
- XM150/Advanced Combat Optical Gun Sight
- M22 Binoculars
- M24 Binoculars
- M25 Stabilized Binoculars
- M151 Spotting Scope
CBERT

Supports the following Chemical Detection Equipment (CDE) systems:

**Individual Protection**
- M40 Mask
- M42 Mask
- M45 Mask
- M48 Mask

**Contamination Avoidance**
- Improved Chemical Agent Monitor (ICAM/CAM)
- M22 ACADA

**Decontamination**
- M17 Decon Apparatus

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Organizational Clothing and Individual Equipment (OCIE)

Mission: To replace organizational clothing and individual equipment (OCIE) worn or destroyed during deployments in order to allow units to flow smoothly through the ARFORGEN readiness cycle using CMO and RFI.
Condition

- The entire fleet (53 modules) is deployed or in the process of deploying
- 15 are being reviewed as washouts
- Approximately half of remaining 38 are newly deployed and in average condition
- The remainder are nearing the end of their useful life and are in very poor condition
 Contributing Causes

• Age and a lack of operator level maintenance are the prime drivers of the condition

• Force Provider Modules, once established on a FOB, become akin to a common utility

• Not much attention is paid to the daily maintenance

• As modules are moved, many components are pilfered, or otherwise re-tasked

• This item is a non-reportable item that consists of several thousand lines

• It is large enough and complex enough that no one is maintaining it as a system

• The end result is poor material condition
Corrective Actions

- TACOM has received additional direct theater support funding to improve material conditions and accountability in theater.
- We, in conjunction with PM-FSS, have established a forward support area and are working closely with CJTF-82 and USFOR-A to identify, repair, and reuse material as efficiently as possible.
- The intent is to manage the use of the materials and leverage the LOGCAP contractors for maintenance.
- Force Provider requested a WSR through DA but did not make the priority list.
- We are working to ensure it is reviewed in the AMC internal WSR.
Issues/Challenges

- Return of assets for induction... Force Provider Base-camp Materials (Tents, Air Conditioners, Showers, latrines, etc...) are all highly desirable

- Units hold on to components and reuse them outside of the context of the module

- Limited material flow to Reset

- Result is that we have depleted the APS inventory

- TACOM is working closely with the deployed commands, DA and the R2TF to expedite any returned materials.