2008 Tactical Wheeled Vehicles Conference (TWV)

Monterey, California

3- 5 February 2008

Agenda

**Monday, 4 February 2008**

**Session 1**

TWV: During and Post OIF by Mr. Anthony Melita

Tactical Wheeled Vehicles Conference by GEN Benjamin S. Griffin

Briefing

Video

Army Wheeled Vehicle Fleet From the G-4 Foxhole by MG Vincent Boles

The 21st Century Army Reserve by LTG Jack Stultz

**Session 2**

The Army –Transforming while at War by LTG Stephen Speakes

Depot Panel

Part 1

Part II

by Ms. Janet Bean, Col. Douglas Evans, Col. Scott Kidd, and Dr. John R. Gray

Mitigating Future Uncertainties by Leveraging Strategic Partnerships by Col. Scott Dalke

Marine Corps Ground Combat Tactical Vehicle Strategy by Brigadier General Larry Nicholson

PEO Land Systems Marine Corps by Col. Bill Taylor

Joint Program Office Mine Resistant Ambush Protected Vehicles by Mr. Paul Mann

**Tuesday, 5 February 2008**

**Session 3**

Meeting the Challenges of Today and Tomorrow by BG James Chambers, BG John R. Bartley, and Col. John “Steve” Myers

Briefing
Video

The Army Truck Team
PM Heavy Tactical Vehicles by LTC Allen Johnson
PM Light Tactical Vehicles by LTC Sam Homsy

“Thanks You for Making Such a Great Workhorse” M1078A1 LMTV by LTC Alfred Grein
2008
TACTICAL WHEELED VEHICLES
CONFERENCE

CONFERENCE
PROGRAM

HIGHLIGHTS:

Meet and hear from key DoD, Army & Marine Corps leaders.

• **Keynote Address:**
  Mr. Anthony Melita,
  Office of the Under Secretary of Defense for Acquisition, Technology and Logistics (OUUSD(AT&L)/A&T/PSA/LW&M)

• **United States Army Materiel Command (AMC):**
  GEN Benjamin S. Griffin, USA
  Commanding General Army Materiel Command

• **BGen Michael M. Brogan, USMC**
  Commander
  MARCORSYSCOM

• Plus a presentation and overview of the MRAP Program by the Joint Program Manager

This year’s conference will highlight the actions to implement the Army’s recently announced Tactical Wheeled Vehicles Transformation Strategy.

February 3 - 5, 2008
www.ndia.org/meetings/8530
Monterey Conference Center, Monterey, CA
Event #8530
This year’s Tactical Wheeled Vehicle (TWV) Conference will highlight the actions being taken to implement the Army’s recently announced new TWV Transformation Strategy. The strategy was developed and resourced by an Army TWV Board of Directors made up of key Army leaders and decision makers in the Pentagon, the PEO CS/CSS and the Chief of Transportation. The intent of this strategy is to ensure the Army and the other services will have a balanced and viable TWV fleet through FY ‘18 and beyond. This Conference will address the procurement of new vehicles while conducting the cyclic refurbishment of existing vehicles. Other topics will include the status of the ongoing ACTD’s intended to modernize the current fleet, and how the Army intends to provide for the spiral insertion of new technologies to support these efforts.

This is the only annual conference held that is specific to the military’s Tactical Wheeled Vehicle community. It has historically brought Department of Defense representatives, prime contractors, subcontractors, and their suppliers together to discuss present and future wheeled vehicle requirements for all services. It has afforded an atmosphere for open discussions between the customers and the suppliers based on the needs of the military users. This is the only conference held specifically for the military’s Tactical Wheeled Vehicle community.

The information presented is valuable to program managers, engineers, planners and marketers. In addition, open discussions will be invaluable to DoD planners and program managers. This year’s theme is: “TWV: DURING AND POST-OIF.”

The agenda speakers, schedule and room assignments contained herein are subject to change.

There are no exhibits or displays at this conference -- it is a conference only.

Cover graphic design by: Mark C. Barbes, PEO CS&CSS
TACTICAL WHEELED VEHICLES DIVISION:
Mission/Objective/Purpose

Division Objectives

The primary objective of the Tactical Wheeled Vehicle Division of NDIA is to enhance the security of the United States by promoting communications and interaction between defense industry, government and military in the area of automotive activities.

The specific charter of the Tactical Wheeled Vehicle Division is to conduct conferences in technology areas directly related to automotive research, design, development, test and production. Such conferences are intended to present advanced technology and provide for an exchange of information and an interchange of views between defense industry, government and military representatives. The effective cooperation between these three groups is vital to our defense effort in the tactical wheeled vehicle area. Each group brings unique inputs to such conferences. No one group can function at maximum effectiveness without the other two.

Specific Objectives:

- To serve as an effective communications vehicle for the exchange of views and information between government and industry on matters of common concern.
- To foster mutual understanding and effective working relationships between government and industry in order to achieve a sound body of government policy and procedures which will serve both the security objectives of the United States as well as the commercial interests of its industry.
- To provide government with industry advice on government policies, practices and procedures and industry’s needs and problems within the Division’s purview.

Mission Responsibility:

To promote national exchanges between the Defense Department, government agencies and industry, of information relating to the design, development, acquisition and support of vehicles and vehicle systems employed in land and amphibious military operations.

2008 Tactical Wheeled Vehicles Conference Committee:

**Conference Chair:**
Mr. Gary Tull,
Vice President, Government Operations,
AM General Corporation,
and Chairman, Tactical Wheeled Vehicle Division, NDIA

**Session I Chairman:**
Mr. Bruce Harrison,
Vice President, Product Support, BAE Systems,
and Vice Chairman, Tactical Wheeled Vehicle Division, NDIA

**Session II Chairman:**
Mr. Jack Reidy,
President & CEO,
Defense Products Marketing, Inc.

**Session III Chairman:**
Mr. Tom Bagwell (SES),
Deputy Program Executive Officer, Combat Support & Combat Service Support (DPEO CS&CSS), U.S. Army
SUNDAY, FEBRUARY 3, 2008

7:30 a.m. - 1:00 p.m. 9th Annual NDIA TWV Golf Scramble Check-in & Continental Breakfast Bayonet Golf Course, Seaside, California Golf Chair: Chuck Prikopa

8:30 a.m. shotgun start

2:00 p.m. - 7:00 p.m. Registration Check-in The DeAnza Ballroom Foyer The Portola Plaza Hotel at Monterey Bay

2:30 p.m. - 7:00 p.m. Welcome Reception and Super Bowl Party (final whistle) The DeAnza Ballroom I and II

ANNUAL SUPER BOWL PARTY
SUPER BOWL XLII SUNDAY FEB. 3, 2008

Super Bowl XLII - University of Phoenix Stadium Sunday Feb. 3, 2008 Glendale Stadium, AZ 2:30 p.m. - 6:30 p.m. (final whistle)* The De Anza Ballroom The Portola Plaza Hotel Monterey

Kickoff time 3:18 p.m. (PST) / 6:18 p.m. EST

A spouse and/or guest of a registered attendee, may attend the Super Bowl Party at an additional cost of $90.00.

Due to fire code regulations, space is limited. Based on the overwhelming response and attendance in previous years, there is a strong possibility that late on-site spouse/guest registrations will not be accepted.

The “Spouse/guest ticket” fee(s) do not include attendance at any of the other conference food functions: continental breakfasts, coffee breaks, and/or lunch, or conference attendance.
MONDAY, FEBRUARY 4, 2008

7:00 A.M. - 8:00 A.M.  Continental Breakfast
                      Serra Ballroom
                      The Monterey Conference Center

7:00 A.M. - 5:00 P.M.  Registration Check-in Continues
                      Serra Ballroom
                      The Monterey Conference Center

8:00 A.M. - 8:10 A.M.  Conference Overview & Welcome
                      Serra Ballroom
                      The Monterey Conference Center

                      Mr. Gary Tull
                      Vice President, Government Operations,
                      AM General Corporation and
                      Chairman, Tactical Wheeled Vehicle Division,
                      NDIA

8:10 A.M. - 8:15 A.M.  NDIA Welcome
                      Serra Ballroom
                      The Monterey Conference Center

                      Lieutenant General Lawrence P. Farrell, USAF (Ret.)
                      President & CEO
                      NDIA

8:15 A.M. - 8:45 A.M.  Keynote Address
                      Mr. Anthony Melita
                      Office of the Under Secretary of Defense for
                      Acquisition, Technology and Logistics
                      (OUSD(AT&L)/A&T/PSA/LW&M)
MONDAY, FEBRUARY 4, 2008 (CONTINUED)

Session I:
Chairman: Mr. Bruce Harrison, Vice President, Product Support, BAE Systems and Vice Chairman, Tactical Wheeled Vehicle Division, NDIA

Serra Ballroom
The Monterey Conference Center

8:45 a.m. - 9:15 a.m.
United States Army Materiel Command (AMC)
General Benjamin S. Griffin, USA
Commanding General, Army Materiel Command

9:15 a.m. - 9:45 a.m.
Office of the Deputy Chief of Staff, Army G-4
Major General Vincent Boles, USA
Assistant Deputy Chief of Staff, G4 (Operations)
Headquarters, U.S. Army

9:45 a.m. - 10:15 a.m.
U.S. Army Reserve
Lieutenant General Jack C. Stultz, USA
Chief, Army Reserve/
Commanding Officer,
United States Army Reserve Command

10:15 a.m. - 11:00 a.m.
Coffee Break
Serra Ballroom Foyer

Session II
Chairman: Mr. Jack Reidy,
President & CEO, Defense Products Marketing, Inc.

Serra Ballroom
The Monterey Conference Center

11:00 a.m. - 11:45 a.m.
Office of the Deputy Chief of Staff, G-8,
Headquarters, Department of the Army
Lieutenant General Stephen M. Speakes, USA
Deputy Chief of Staff, G-8

11:45 a.m. - 12:45 p.m.
Lunch
The DeAnza Ballroom I & II
The Portola Plaza Hotel at Monterey Bay
MONDAY, FEBRUARY 4, 2008 (CONTINUED)

Session II (continued)
Chairman: Mr. Jack Reidy

12:45 P.M. - 2:00 P.M.
Depot Panel
Panel Chair: Major General William M. Lenears, USA
Commanding General,
U.S. Army TACOM Life Cycle Management Command

Panel Members:
• Ms. Janet Bean,
  Executive Director, Integrated Logistics Support Center
  (ILSC), U.S. Army TACOM Life Cycle Management Command
• COL Douglas Evans, USA
  Commander, Red River Army Depot (RRAD), U.S. Army TACOM Life Cycle Management Command
• COL Scott Kidd, USA
  Project Manager, Tactical Vehicles, Program Executive Office, Combat Support & Combat Service Support (PEO
  CS&CSS)
• Dr. John R. Gray
  Deputy to the Commander, Letterkenny Army Depot (LEAD),
  U.S. Army AMCOM Life Cycle Management Command

2:00 P.M. – 2:30 P.M.
USMC Maintenance Center Barstow
COL Scott Dalke, USMC
Commander

2:30 P.M. – 3:00 P.M.
Coffee Break
Serra Ballroom Foyer

3:00 P.M. – 3:30 P.M.
USMC/MCCDC
Brigadier General Larry Nicholson, USMC
Deputy Commanding General,
Marine Corps Combat Development Command

3:30 P.M. – 4:00 P.M.
USMC/MARCORSYSCOM
Brigadier General Michael M. Brogan, USMC
Commander, MARCORSYSCOM

4:00 P.M. – 4:30 P.M.
USMC PEO
COL Bill Taylor, USMC
Program Executive Officer, Land Systems
MONDAY, FEBRUARY 4, 2008 (CONTINUED)

Session II (continued)
Chairman: Mr. Jack Reidy

4:30 p.m. – 5:15 p.m.   Joint MRAP Presentation

- Mr. Paul Mann, USMC
  Joint MRAP Program Manager
- COL Kevin Peterson, USA
  Deputy Joint MRAP Program Manager

5:15 p.m. - 6:30 p.m.   Annual Conference Reception
The DeAnza Ballroom I and II
The Portola Plaza Hotel at Monterey Bay
Evening on Own - Enjoy Monterey!

SPouse/GUEST ACTIVITIES

Annual Conference Reception, Monday, February 4

A spouse and/or guest of a registered attendee, may attend the Annual Conference Reception.

5:15 p.m. - 6:30 p.m.
(additional cost of $45.00)

A spouse and/or guest of a registered attendee may attend the Annual Conference Reception at an additional cost of $45.00.

The “Spouse/guest ticket” fee(s) do not include attendance at any of the other conference food functions: continental breakfasts, coffee breaks, and/or lunch, or conference attendance.
TUESDAY, FEBRUARY 5, 2008

7:00 a.m. - 8:30 a.m. Continental Breakfast
Serra Ballroom Foyer
The Monterey Conference Center

7:00 a.m. - 12:00 noon Registration Check-in continues
Serra Ballroom Foyer
The Monterey Conference Center

Session III
Chairman: Mr. Tom Bagwell (SES),
Deputy Program Executive Officer
Combat Support & Combat Service Support (DPEO CS&CSS),
U.S. Army
Serra Ballroom
The Monterey Conference Center

8:30 a.m. – 9:10 a.m. Meeting the Challenges of Today and Tomorrow
• Brigadier General(P) James Chambers, USA
  Commanding General/Commandant
  U.S. Army Transportation Center and School
• Brigadier General John R. Bartley, USA
  Program Executive Officer for Combat Support &
  Combat Services Support (PEO CS&CSS)

9:10 a.m. – 10:00 a.m. Overview – PM TV & JCSS

(9:10 – 9:30) COL Scott Kidd, USA
Project Manager for Tactical Vehicles

(9:30 – 10:00) COL John “Steve” Myers, USA
Project Manager for Joint Combat Support Systems
LtCol Ruben Garza, USMC
Product Manager (USMC)
Joint Light Tactical Vehicles
## Revised Agenda: Tuesday, February 5, 2008

### 10:00 a.m. – 10:15 a.m.
**Mr. Gary Tull**
Conference close-out

### 10:15 a.m. – 10:45 a.m.
**Coffee Break**
Serra Ballroom Foyer
(Serra Ballroom will be reconfigured into two rooms)

### 10:45 a.m. – 12:25 p.m.
PM Breakout Sessions
- will follow on from Overview –
PM TV presentations
Attendees can remain in same ballroom as briefers will rotate

<table>
<thead>
<tr>
<th>Time</th>
<th>Group 1 – Serra (A)</th>
<th>Group 2 – Serra (B)</th>
<th>Group 3 – Steinbeck Ballroom</th>
</tr>
</thead>
</table>
| 10:45 – 11:15 | LTV  
LTC Sam Homsy, USA Product Manager, Light Tactical Vehicles, PM LTV | MTV  
Mr. Jim Satchfield, Deputy Product Manager, Medium Tactical Vehicles, PM MTV | HTV  
LTC Lewis Johnson, USA Product Manager, Heavy Tactical Vehicles, PM HTV |
| 11:15 – 11:20 | Speaker room transition break |                                                                                   |                              |
| 11:20 – 11:50 | MTV  
Mr. Jim Satchfield, Deputy Product Manager, Medium Tactical Vehicles, PM MTV | HTV  
LTC Lewis Johnson, USA Product Manager, Heavy Tactical Vehicles, PM HTV | LTV  
LTC Sam Homsy, USA Product Manager, Light Tactical Vehicles, PM LTV |
| 11:50 – 11:55 | Speaker room transition break |                                                                                   |                              |
| 11:55 – 12:25 | HTV  
LTC Lewis Johnson, USA Product Manager, Heavy Tactical Vehicles, PM HTV | LTV  
LTC Sam Homsy, USA Product Manager, Light Tactical Vehicles, PM LTV | MTV  
Mr. Jim Satchfield, Deputy Product Manager, Medium Tactical Vehicles, PM MTV |

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The National Defense Industrial Association wishes to acknowledge the following Super Bowl Party Sponsors:

Allison Transmission
AM General
Arvin Meritor, Inc.
BAE Systems
Caterpillar, Inc.
Ceradyne, Inc.
Cummins Inc.
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Defense Products Marketing, Inc.
Detroit Diesel Corporation
DRS Technologies, Inc.
Freightliner LLC
Lockheed Martin JLTV Team
Mack Trucks
Nevada Automotive Test Center (Hodges Transportation, Inc.)
Oshkosh Truck Corporation

Thank-you for your generous support!
The National Defense Industrial Association wishes to acknowledge the following Golf Tournament Hole, Prize, and Super Bowl Party Giveaway Sponsors:

Alcoa, Inc.

Allison Transmission

AM General

Arnco, Inc.

BAE Systems

Bodycote Testing Group

Burtek, Inc.

CAT

Caterpillar, Inc.

Custom Manufacturing Solutions, Inc.

Coorstek

EnerSys - Hawker Batteries

Force Protection Industries, Inc.

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General Kinetics Engineering Corporation

International Truck & Engine Corporation

Lockheed Martin

Lord Corporation

Mack Trucks, Inc./Volvo

Miltope Corporation

Omega Training Group

PPG Industries, Inc.

Premier Professional Systems, Inc.

Productive Resources

SCS/Frigette

Telephonics Corporation

VT Miltope

Whitney, Bradley & Brown, Inc.
(Hampton, Virginia Office)

Thank-you for your generous support!
The Tactical Wheeled Vehicles Division of NDIA thanks you for attending & we look forward to seeing you again next year.

The National Defense Industrial Association (NDIA) thanks you for your participation in this year’s conference, and wishes you a safe trip home.
Tactical Wheeled Vehicle Conference
Supporting the Warfighter
04 February 2008

GEN Benjamin S. Griffin

“Need to be faster, more agile, less bureaucratic… Need to fight this every day”
Mission

Provide superior technology, acquisition support and logistics to ensure dominant land force capability for Soldiers, the United States and our Allies.

“If a Soldier shoots it, drives it, flies it, wears it, or eats it, Army Materiel Command provides it.”

“Need to be faster, more agile, less bureaucratic… Need to fight this every day”
“Providing Support to the Joint Warfighter”

Avenues of Change

Transforming Army Materiel Command from an organization that is “Production-based, commodity-focused, and platform-centric” to one that is “Service-based, capabilities-focused, and unit-centric” for Persistent Conflict

<table>
<thead>
<tr>
<th>ORGANIZATIONAL CHANGE</th>
<th>CULTURE OF INNOVATION</th>
<th>COMPLEX SERVICES</th>
<th>KNOWLEDGE MANAGEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Life-Cycle Management Commands</td>
<td>• Safety</td>
<td>• Support to ARFORGEN</td>
<td>• Condition Based Maintenance</td>
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<tr>
<td>• Army Field Support Brigades and Brigade Logistic Support Teams</td>
<td>• Lean Six Sigma</td>
<td>• MRAP Fielding/Sustainment</td>
<td>• Central Technical Support Facility (CTSF)</td>
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<tr>
<td>• 2 Star Contracting Command</td>
<td>• Reset Parts Management</td>
<td>• Soldier as a System</td>
<td>• Global Help Desk</td>
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<td>• Surface Deployment and Distribution</td>
<td>• Outreach to Industry</td>
<td>• Ammunition Enterprise</td>
<td>• Depot IT Modernization</td>
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<tr>
<td>• Base Realignment and Closure (BRAC)</td>
<td>• Partnerships</td>
<td>• Forward Repair Activities</td>
<td>• AMC Enterprise Portal</td>
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<td>• Army Watercraft</td>
<td>• Performance Based Logistics</td>
<td>• Unit-focused RESET</td>
<td>• Sample Data Collection</td>
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<td>• Central Issue Facilities</td>
<td>• Rapid Review Teams</td>
<td>• Small Arms Repair</td>
<td>• Factory-to-Foxhole Visibility</td>
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<td>• Installation Maintenance and Ammunition</td>
<td>• Research &amp; Development/Technology to the Warfighter</td>
<td>• Left-Behind &amp; Theater Provided Equipment</td>
<td>• Operations Center</td>
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<tr>
<td>• Security Assistance</td>
<td>• Informing the Requirements Process</td>
<td>• TRADOC Fleet Management</td>
<td>• Single Army Logistics Enterprise</td>
</tr>
</tbody>
</table>

End State

“Cradle-to-Grave Capabilities Support”

End State

“Efficient Production Processes”

End State

“Customer Focused Solutions”

End State

“Data Driven Decisions”
Life Cycle Management Commands... Soldier Focused

Depots,Arsenals,Ammunition Plants
TACOM,AMCOM,CECOM,CMA,JM&L

• Unity of effort between Acquisition, Research and Logistics
• Acquisition decision authority between Army Acquisition Executive and Program Executive Officers not affected

Logistic & Maintenance
Lessons Learned

Resources/Direction

Production and Fielding

Production Decision

Feedback

Customers
• DOD and Dept of Army
• Combatant Commands
• Allies
• Coalition
• Other Services, NASA
• Dept Homeland Security

Improvement Suggestions

Research, Development & Engineering Command

Future Capabilities

Technology/System Improvements

Army Sustainment Command:
AMC’s Face to the Field

More Reliable Systems,
Reduced Cost

Training and Doctrine Command,
Defense Advance Research Projects
Agency,National Labs,Industry,
Academia

Acquisition
Life-Cycle Management Commands & Army Sustainment Command

Integrating the Unit & Weapon System View to Deliver Warfighting Capability

ARMY MATERIEL COMMAND

HQ AMC Staff

AMCOM/LCMC
Aviation and Missile Life Cycle Management Command
Acquisition
Depot Maint
Installation Armament
R&D

CECOM/LCMC
Communications-Electronics Life Cycle Management Command
Acquisition
Depot Maint
Installation Armament
R&D

TACOM/LCMC
Tank-automotive and Armaments Life Cycle Management Command
Acquisition
Depot /Arsenal
Installation Armament
R&D

JM&L LCMC
Joint Munitions and Lethality Life Cycle Management Command
Acquisition
Ammo Plant
Installation Armament
R&D

SDDC
TRANSPORTATION
ASC
INTEGRATION

403rd AFSB
DAEGU, KOREA

404th AFSB
FT LEWIS, WA

407th AFSB
FT HOOD, TX

406th AFSB
FT BRAGG, NC

405th AFSB
Seckenheim, Germany

401st AFSB
AFGHANISTAN

AFSBn-AF
KUWAIT

AMC FWD
SWA
KUWAIT

402nd AFSB
ANACONDA, IRAQ

Face to the Warfighter – Unit Focus

Weapons Systems / Fleet Focus

As of 18 May 2007
Setting the Force
What We’ve Done . . . What We’re Doing

 **ARMY PLAN**
The Army will undertake a disciplined, orderly reconstitution to restore combat power.

<table>
<thead>
<tr>
<th>Aircraft</th>
<th>Generators</th>
<th>Commo/Electric</th>
<th>COMSEC</th>
<th>Missiles</th>
<th>Small Arms</th>
<th>Wheels</th>
<th>MLRS</th>
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(* Includes Reset & Recap)
## Army Vehicles

### Current Fleet

(Approximate Values)

<table>
<thead>
<tr>
<th>Ground Vehicles</th>
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<tbody>
<tr>
<td>HMMWV (Armored, Non-Armored)</td>
<td>135,699</td>
</tr>
<tr>
<td>FMTV Trucks (2.5 and 5 Ton series)</td>
<td>83,650</td>
</tr>
<tr>
<td>Heavy Expanded Mobility Tactical Truck</td>
<td>13,383</td>
</tr>
<tr>
<td>Palletized Load System</td>
<td>4,456</td>
</tr>
<tr>
<td>Heavy Equipment Transporter</td>
<td>2,012</td>
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<tr>
<td>Line Haul Tractor</td>
<td>7,859</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>247,059</strong> Prime Movers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aircraft</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Apaches</td>
<td>751</td>
</tr>
<tr>
<td>Blackhawks</td>
<td>1,684</td>
</tr>
<tr>
<td>Chinooks</td>
<td>420</td>
</tr>
<tr>
<td>Kiowa</td>
<td>350</td>
</tr>
<tr>
<td>UAS</td>
<td>2315</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>5,520</strong> Aircraft</td>
</tr>
</tbody>
</table>
MRAP Highlights

- Partnership is essential to Success
  - Maintain several variants simultaneously
  - Supply Chain Management

- Streamlined delivery of Capabilities is key
  - Continue use of “off the self technology”
  - No more long acquisition cycles
    (128 days for the MRAP)
  - Need to make this the standard

- What we need to Continue
  - Responsiveness to the Warfighter
  - Predictive technology applications
  - Sustainment across multiple generations of equipment
HOW DOES CBM WORK?

1. **Embedded Sensors**
2. **Work Stations**
3. **Soldiers Perform Immediate Maintenance Actions**
4. **Production Control Office**
5. **Data loaded Into CBM Data Warehouse**

**Key Enablers:**
1. Embedded Sensors
2. Plane side diagnostics
3. Planned Maintenance
4. Data Fusion
5. Engineering Analysis

**Actionable Maintenance and Supply Notifications**

**Engineering Analysis to Determine Component Health and Remaining Life (Prognostics)**

- **Reduce Maintenance Cost**
- **Improve System Performance**
- **Applications for Air/Ground Platforms**
  - **Air** = 359 with 3,344 downtime hours avoided/9409 maintenance manhours avoided
  - Saved ~ 18 T700 Engine Overspeeds
  - From Removal for Cost Savings of $ 9.8M
- **Ground** = plan for integration into all FCS variants; 1st CAV legacy fleet

**Data Warehouse**
- Failure Analysis
- Development
- OPS Scenarios
- Prognostics

**HOW DOES CBM WORK?**
## PARTNERING SUCCESS:

### Tactical Wheeled Vehicles

<table>
<thead>
<tr>
<th>Ongoing</th>
<th>Evolving</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Red River Army Depot</strong>&lt;br&gt;– BAE: 9 partnerships valuing $5.7M&lt;br&gt;– Textron from Marine &amp; Land Systems: 2 partnerships valued at $290K</td>
<td><strong>Oshkosh Truck Company</strong>&lt;br&gt;• Family of Heavy Tactical Vehicles</td>
</tr>
<tr>
<td><strong>Letterkenny Army Depot</strong>&lt;br&gt;– BAE&lt;br&gt;• RG33 Series Mine Protected Vehicles Valuing $1.1M&lt;br&gt;• New Medium Mine Protected Vehicle value to be realized</td>
<td><strong>BAE</strong>&lt;br&gt;• Family of Medium Tactical Vehicles</td>
</tr>
<tr>
<td><strong>BAE</strong>&lt;br&gt;• Family of Medium Tactical Vehicles</td>
<td><strong>TMLS</strong>&lt;br&gt;• Armor Security Vehicle</td>
</tr>
</tbody>
</table>

The HEMTT provides transport capabilities for re-supply of combat vehicles and weapons systems.

The RG33 (4x4) is a Mine Protected Vehicle. The M117 Armored Security Vehicle is also shown.
2007 Shingo Prize Results

**GOLD**
- Rock Island Arsenal – Joint Manufacturing & Technology Center
  Forward Repair System (FRS)
- Tobyhanna Army Depot
  AN/TPQ-36 Firefinder Antenna
- Red River Army Depot
  HMMWV Recap

**SILVER**
- Rock Island Arsenal – Joint Manufacturing & Technology Center
  Shop Equipment Contact Maintenance (SECM)
- Letterkenny Army Depot
  HMMWV Recap
- Red River Army Depot
  Bradley Power-train
- Red River Army Depot
  HEMTT
- Anniston Army Depot
  FAASV

**BRONZE**
- Aviation Center Logistics Command
  AMCOM – Fort Rucker
  TH-67 Creek C20J Engines
- Letterkenny Army Depot
  Power Generators
- Corpus Christi Army Depot
  H-60 Pavehawk
- Anniston Army Depot
  M1 Abrams Turbine Engines

ISO Certifications
- ISO 9001:2000 Quality Management System
- ISO 14001:2000 Environmental Management System
- AS 9100B Aviation Maintenance System
Thoughts I want to Leave You With

• AMC’s mission is to provide direct support to the Warfighter
  – Synergy gained through LCMCs
  – *Face to the Field* with ASC and AFSBs
  – Real-time/coordinated transportation through SDDC
  – Continuous supply and re-supply through Depots and Arsenals utilizing refined/Lean methodologies

• Partnering with Private Sector is a *Win-Win*
  – Teaming: Inside / Outside Depots
  – Reliant on our relationship with industry

• Future presents us with both challenges and opportunities
  – Resources
  – Technology
  – Efficiency

Continues to transform through technology developments & innovative applications
BACK UP SLIDES
Army Field Support Brigades (AFSB)
and Contracting Support Brigades (CSB)

**Commanders**

- **COL Bobby Pinkston**
  - 403rd AFSB
  - SECKENHEIM, GE

- **COL Andre Fletcher**
  - 403rd AFSB
  - DAEGU, KOREA

- **COL Steven Risley**
  - 404th AFSB
  - FT. LEWIS, WA

- **COL Kristin French**
  - 406th AFSB
  - FT. BRAGG, NC

- **COL Mario Coronel**
  - 407th AFSB
  - FT. HOOD, TX

- **COL Dennis Thompson**
  - 401st AFSB
  - SWA (deployed in Afghanistan)

- **COL Joseph Bass**
  - 409th CSB
  - SWA

- **COL Stephen Leisenring**
  - 409th CSB
  - Europe

- **COL Daniel Cottrell**
  - 411th CSB
  - FT. LEWIS, WA

- **COL Ted Harrison**
  - 410th CSB
  - The Americas

AFSBs…Integrating Field Support with Acquisition, Logistics, and Technology
Condition Based Maintenance (CBM) for Ground Vehicles

• CBM is a proactive equipment maintenance capability that utilizes system health indications to predict functional failure beforehand and take action.

• Implementation will:
  – Provide prognostics and diagnostics
  – Improve fleet management
  – Provide users, maintainers, and commanders with near real time data of vehicle operation and usage severity

• Initially will field limited number of CBM boxes on tactical wheeled vehicles

• CBM will link data with actual maintenance actions (i.e., part replacements)

• Need to leverage industry efforts:
  – Industry telematics initiatives (onStar, ePulse, Aware)
Condition Based Maintenance (CBM) for Ground Vehicles

KNOWLEDGE MANAGEMENT

- Specialized software and/or hardware (laptop)
  To assist in maintenance management, troubleshooting, parts ordering, status

- Software that integrates all the information to identify impending failure, order parts

- Track health and status of installed components

- Interactive Electronic Technical Manuals (software) to troubleshoot, test, document, report

- Enterprise Resource Planning
  - Standard Army Management Information
  - Automatic Identification Technology

- Global Combat Support Systems Army Antenna

- Supply Status
- Water Status
- Crew Indications (Operator's Station)

- Crew Display

- H20 sensor

- Sensors

- Maintenance Aid

- Data Base

- Reasoner

- Data Bus

- IETM

- Ammo sensors

- Fuel sensor

- STAMIS GCSS-A Interface

- ERP

- Embedded Diagnostics and Prognostics

- Ammunition Status - QTY by type

- Crew Status...Health

- Track health and status of installed components

- Embedded Diagnostics and Prognostics

- Interactive Electronic Technical Manuals (software)
  - To troubleshoot, test, document, report

- Interactive Electronic Technical Manuals (software)
## 2007 Shingo Prize Results Highlights

### GOLD
- **Rock Island Arsenal – Joint Manufacturing & Technology Center**
- **Forward Repair System (FRS)**
- **Tobyhanna Army Depot**
  - AN/TPQ-36 Firefinder Antenna
- **Red River Army Depot**
  - HMMWV Recap

### SILVER
- **Letterkenny Army Depot**
  - HMMWV Recap
- **Red River Army Depot**
  - Bradley Power-train
- **Red River Army Depot**
  - HEMTT
- **Anniston Army Depot**
  - FAASV
- **Rock Island Arsenal – Joint Manufacturing & Technology Center**
  - Shop Equipment Contact Maintenance (SECM)

### BRONZE
- **Aviation Center Logistics Command**
  - AMCOM – Fort Rucker
  - TH-67 Creek C20J Engines
- **Letterkenny Army Depot**
  - Power Generators
- **Corpus Christi Army Depot**
  - H-60 Pavehawk
- **Anniston Army Depot**
  - M1 Abrams Turbine Engines
Shingos Award Notes

• Owner: G-4/7/9  Validated by: XO: Hilton Mills, 703-806-9225  SME: Steve Miller, 703-806-9247
• 2007 - 12 Shingo Prizes awarded to AMC (in 2007, only 4 others awarded outside the Army in DoD)
  • Rock Island Arsenal – Jt. Manufacturing & Technology Center - Forward Repair System (FRS)
    ✓ Reduced Flow Time from 265 to 62 days
    ✓ Reduced Work In Process from 32 to 13 units
    ✓ Cost savings/avoidance of $4.8M
  • Tobyhanna Army Depot - AN/TPQ-36 Firefinder Antenna
    ✓ Reduced Repair Cycle Time from 514 days to 429 days
    ✓ Reduced Work In Process from 16 per month to 11 per month
    ✓ Increased production from 1 to 15 systems
  • Red River Army Depot - HMMWV Recap
    ✓ Increased production from 3 vehicles per month in 2004 to 32 vehicles per day since February 2006
    ✓ Produced 65 additional vehicles at no additional cost in FY06
    ✓ Cost avoidance of $3.89M
  • Letterkenny Army Depot - HMMWV Recap
    ✓ Increased throughput to 17 vehicles per day
    ✓ Reduced direct labor hours from 274 to 150
    ✓ Produced 27 additional vehicles at no additional cost a $5.2M customer benefit
  • Red River Army Depot - Bradley Power-train
    ✓ Reduced man-hours from 56.5 to 32.5 per unit
    ✓ Increased output from 2 units to 6 units per day
    ✓ Reduced lead time from 7 days to 3 days per unit
  • Rock Island Arsenal – Jt. Manufacturing & Technology Center - Shop Equipment Contact Maintenance (SECM)
    ✓ Reduced flow time from 82 to 41 days
    ✓ Reduced work in process from 40 to 15 units
    ✓ Cost Savings/Avoidance of $4.9M
  • Red River Army Depot - Heavy Expanded Mobility Tactical Truck (HEMTT)
    ✓ Productivity improved from 1530 hrs/vehicle to 1011 hrs/vehicle
    ✓ Increased output from 2 vehicles/wk to 2 vehicles per day
    ✓ Decreased lead time from 120 days to 30 days
  • Rock Island Arsenal – Jt. Manufacturing & Technology Center - Shop Equipment Contact Maintenance (SECM)
    ✓ Reduced flow time from 82 to 41 days
    ✓ Reduced work in process from 40 to 15 units
    ✓ Cost Savings/Avoidance of $4.9M
  • Anniston Army Depot - Field Artillery Ammunition Support Vehicle (FAASV)
    ✓ Increased total units produced from 52 to 88
    ✓ Decreased overtime hours per unit from 99.4 hrs to 59.52 hrs
    ✓ Decreased direct labor hours per unit from 341 hrs to 294 hrs
  • Aviation Center Logistics Command AMCOM – Ft. Rucker - TH-67 Creek C20J Engines
    ✓ Reduced cycle lead time from 294 to 213 hrs.
    ✓ Reduced shop backlog from 30 engines to 0
    ✓ Reduced engine faults from 105 to 72
  • Letterkenny Army Depot - Power Generators
    ✓ Increased output from 118/mo to 500/mo
    ✓ Labor Savings since April 2006 is 83,349 man hours and $2.9M
  • Red River Army Depot - H-60 Pavehawk
    ✓ Reduced Turn Around Time from 180 to 109 days
    ✓ Reduced average direct labor hrs by 3,324/aircraft
    ✓ Reduced the per unit loss from $490K to $133K
  • Anniston Army Depot - M1 Abrams Turbine Engines
    ✓ Reduced assembly time from 364 to 232 min.
    ✓ Consistent 100% on-time delivery
    ✓ Cost savings of $18.4M
  • ISO 9001: Quality Management Systems – Requirements
    - Corpus Christi Army Depot
    - Lone Star Army Ammunition Plant
    - Letterkenny Army Depot
    - McAlester Army Ammunition Plant
    - Sierra Army Depot
    - Milan Army Ammunition Plant
    - Tobyhanna Army Depot
    - Radford Army Ammunition Plant
    - Toole Army Depot
    - Riverbank Army Ammunition Plant
    - Red River Army Depot
    - Scranton Army Ammunition Plant
    - Anniston Army Depot
    - Rock Island Arsenal – Joint Manufacturing
    - Crane Army Ammunition Activity & Technology Center
    - Hawthorne Army Ammunition Plant
    - Watervliet Arsenal
    - Holston Army Ammunition Plant
    - Pine Bluff Arsenal
    - Iowa Army Ammunition Plant
    - Kansas Army Ammunition Plant
    - Letterkenny Munitions Center
    - Lake City Army Ammunition Plant
  • ISO 14001: Environmental Management Systems – Requirements with Guidance for Use
    - Corpus Christi Army Depot
    - Tobyhanna Army Depot
    - Iowa Army Ammunition Plant
    - Milan Army Ammunition Plant
    - Riverbank Army Ammunition Plant
    - Scranton Army Ammunition Plant
    - Radford Army Ammunition Plant
  • AS 9100: International Aerospace Quality Systems Standards
    - Corpus Christi Army Depot
    - Letterkenny Army Depot
    - Iowa Army Ammunition Plant
    - Radford Army Ammunition Plant

UNCLASSIFIED