PM Tactical Vehicles

MISSION

The lifecycle management of light, medium and heavy tactical vehicles & trailers enabling the Expeditionary Ground Force

OTHER SIGNIFICANT PROCUREMENT EFFORTS

◆ OEF Recovery systems
◆ Add-on-Armor/GPK

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PM Light Tactical Vehicles

The lifecycle management of light battlefield distribution systems enabling the Modular, Joint and Expeditionary Ground Forces.

Product Manager
Mr. Dennis Haag
Deputy PM: Patricia Grashik

MISSION
ACAT 1C

The lifecycle management of light battlefield distribution systems enabling the Modular, Joint and Expeditionary Ground Forces.
Purpose and Agenda

Purpose: HMMWV Updates

Agenda:
- Opportunities for Business
- HMMWV Background
- HMMWV Fleet Overview
- HMMWV Evolution
- HMMWV Production & Improvements
- HMMWV Recap & Modernization
- Tactical Trailer Production
Full & Open Competition on HMMWV UAH RECAP

- Approved to initiate RDT&E for improved survivability and restoration of performance
- Market Research data will be sought from Industry this month
- Goal is draft RFP release in April 2011; final RFP based upon CRA and Congressional budget.

Planned Competitive Prototyping

- Recommending 3 products selected and tested to evaluate best value.
- Contracts will be awarded with options for follow-on development.

Industry should focus on

- Crew Protection and Survivability
- Fire Suppression
- Armor Weight
- Maintaining Operational Capabilities
- HMMWV Engine Upgrade
ACAT 1C Program
Milestone C – 1983

Contract Status:
- Production Contract awarded Jul 10, for Other than Army Requirements
- We will reach the Army MTOE Requirement shortly (153,674 HMMWVs & 44,275 LTTs)
- Army requirements met Feb 11
HMMWV Fleet Overview

M966 HMMWV TOW CARRIER
M1025 HMMWV ARMAMENT CARRIER
M998 HMMWV CARGO TROOP CARRIER
M107 HMMWV SHELTER CARRIER
M1037 HMMWV SHELTER CARRIER
M1097 HMMWV CARGO CARRIER
M1097 HMMWV SHELTER CARRIER
M1097R1 HMMWV RECAP
M996 HMMWV AMBULANCE 2 LITTER
M997 HMMWV AMBULANCE 4 LITTER
M1113 HMMWV EXPANDED CAPACITY VEHICLE (ECV)
M1114 UP-ARMORED HMMWV (UAH)
M1151 ENHANCED ARMAMENT CARRIER
M1152 ENHANCED CARGO/TROOP CARRIER
M1165 ENHANCED COMMAND AND CONTROL CARRIER
M1167 ENHANCED TOW CARRIER
UAH RECAP

8 February 2011
HMMWV Evolution

A0 Series (1984-93)
- 6.2L Diesel Engine
- 3 Spd Transmission
- 2,500 – 3,632 lb. Payload
- GVW: 7,700 lb.

A1 Series (1991-95)
- Improved Driveline
- Improved Suspension
- 2,500 – 3,632 lb. Payload
- GVW: 10,000 lb.

A2 Series (1994-Present)
- 6.5L Diesel Engine
- 4 Spd Electronic Trans
- 3,520 - 4,400 lb. Payload
- GVW: 10,300 lb.

ECV (1993-Present)
- 6.5L Turbo Diesel Engine
- Suspension Upgrade
- Armor Capable
- 1,800 – 5,100 lb. Payload
- GVW: 12,100 lb.
- Current Op: >16,500 lb.

Payload vs. Performance Tradeoffs

Block upgrades to increase payload and versatility

ECV = Expanded Capacity Vehicle

RECAP
- Payload: TBD
- GVW: TBD

Nov 05
M1151
Shipped Weight

M1114/1161A1
Rated
GVW

M1114
CW
OFK 5 +
OGPK

Average
M1114
w/IFK6 at
Navistar

Current
M1151 OFK
5 + OGPK+
FK 7
+w2300 lbs

Planned
M1151 OFK
5 + FK 6 + OGPK+
w2300 lbs +
IFK 6

THE ARMY TRUCK TEAM ~ “You Call, We Haul”
HMMWV Production

- Total Produced: ~170K (US Army only)/over 250K worldwide
- Production rate: 46/day average
- Reliability & Safety Enhancements, include: Armor coverage, Electrical upgrades, Lightweight doors, Suspension upgrades, LED lights, Fire Suppression System, and Engine Repower
- HMMWV Ambulance: Partnering with RIA
- Currently buying “Other than Army” systems
HMMWV Unarmored and UAH RECAP

Program Intent: Extend useful life of fleet at fraction of new production cost

Current Program (Since FY04) – Convert early models to M1097R1 and M1025R1 models respectively providing:
- Models Eligible: M998/A1, M1025/A1, M1026/A1, M1037, M1038/A1, M1097/A1
- more payload capacity (drive-train and suspension upgrades)
- extending economic useful life by 15 years

Pilot Program (FY10) – Convert UAH models below SN 300000 to latest production configuration

Executed at
- Red River Army Depot - 24,491 complete to date
- Letterkenny Army Depot - 20,232 complete to date
- Maine Military Authority - 1,676 complete to date

Total Recap Vehicles Produced – 46,399; Fielded – 45,481

HMMWV RECAP funded production ends FY10/FY11 – future funding unknown
- MMA June 10
- LEAD Dec 10
- RRAD Jan 11

M1097R1s at 10 Mtn Div
Competitive UAH HMMWV RECAP Modernization Program planned for FY11 and beyond

- Recommended alternative approach to recapitalization to maintain and improve the UAH
- Approval Received 15 December to initiate fund reprogramming in FY11
- Requirements workshop held 11 ~ 12 January with USMC
- Moving ahead with program decision documents and acquisition plans
- Market Research requesting ROM cost and technical input to be released by end of February or first of March
  - Revised specifications will be released with Market Survey
• Initial Request For Information (RFI) Released - 8 Jan 10
• RFI update with Automotive – Tank Purchase Description (ATPD) and Survivability Specification (classified) - 15 Jan 10
• RFI Closed - 25 May 10
• DRAFT and Final Requests for Proposal delayed awaiting funds and approvals
• Assessing proposed technologies that are in development and test
Tactical Trailer Production

- General Purpose Cargo Trailer, paired with HMMWV
- Over 45,742 LTTs fielded to date
- New production contracts awarded in Aug 08 (2 Contractor awards)
- Production: 500 / month combined

M1101/1102 Light Tactical Trailer (LTT)

- General Purpose Chassis Trailer for Mounted Generator Apps
- Current Contract: IDIQ, with last Delivery in Jan 12
- New Contract: Full & Open Competition, SBA, IDIQ, with tentative award 1QFY12, for 5300 trailers over 5 years
- FUE: 1QFY13

M200A1 Medium 2.5T Tactical Trailer

- General Purpose Flatbed Trailer for Mounted Generator Apps
- Last Contract: May 89, w/ last delivery May 97
- New Contract: Full & Open Competition, SBA, IDIQ, with tentative award 1QFY12, for 500 trailers over 5 years
- FUE: 1QFY13

M1061A1 Medium 5T Tactical Trailer
MISSION

The life cycle management of medium tactical wheeled vehicles enabling the modular, joint, expeditionary force.
FMTV Fleet Overview

- M1078 2.5 Ton LMTV Cargo
- M1083 5 Ton MTV Standard Cargo
- M1084 5 Ton MTV Standard Cargo w/MHE
- M1148 LHS Truck
- M1087 5 Ton MTV Exp Van
- M1088 5 Ton MTV Tractor
- M1089 8.5 Ton MTV Wrecker
- M1095 5 Ton MTV Trailer
- M1157 10 Ton MTV Dump
- LSAC
- HIMARS

- 17 Truck Variants in 2 1/2 & 5 Ton Payload Class
- Expanded Application of FMTV Platform to Support Army Emerging Requirements
  - HIMARS, LHS, 10-Ton Dump, MEADS
- Three Truck Variants Air Drop Certified
- Reduced Parts & Service Support Requirements
- Companion Trailers Double Hauling Capacity
- 65% of AAO are Cargo Variants

- Unit Resupply
- Unit Mobility
- Ammunition Resupply
- Weapons Platform
- Troop Transport

THE ARMY TRUCK TEAM ~ “You Call, We Haul”
FMTV Program Overview

8 February 2011

FY11 FY12 FY13 FY14 FY15 FY16 FY17
1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4

RESEARCH, DEVELOPMENT, TEST & EVALUATION

Technology Insertion

PROCUREMENT

OTC Contract

BAE Closeout

Re-buy Deliveries

Follow-on Production

OMA

RECAP

SSTS

RESET

Recap is a Decision Point

THE ARMY TRUCK TEAM – “You Call, We Haul”
Effectively closing out a long and productive relationship
Completing production on 4th Production Contract (BAE) in Jun 11
Less than 3K vehicles left to produce, accept, or ship
Finalizing engineering and field support efforts
Successively establishing a long and productive relationship

Protest Resolved

Completing First Article Test (except wrecker)
- First Production Vehicle Inspection
- Component First Article Test
- Production Verification Test
- Live Fire

First Fielding of Oshkosh FMTV to Wisconsin ANG

13,258 trucks / 4,804 trailers on order
Summary

- **17 FMTV Variants (2.5 & 5 ton payload class)**
- **Companion trailers capable of doubling payload.**
- **Current Challenges**
  - Soldier Survivability
  - Fuel Economy
  - Improved Reliability at the Component Level (same form, fit, and function)
PM Heavy Tactical Vehicle

The Life Cycle Management of Heavy Tactical Wheeled Vehicles Fleets

Product Manager
LTC Paul Shuler
Deputy PM: George Schneller

“GO HEAVY and GO Home!”
Agenda

- Heavy Tactical Vehicle Introduction
- Fleet Modernization
- Fleet Strategy
- Upcoming Competitive Procurements
Heavy Tactical Vehicles
21 Products, 10 OEMs

- M977 – Heavy Expanded Mobility Tactical Truck (HEMTT) Cargo
- M985 – HEMTT Cargo w/MHC
- M978 – HEMTT Tanker, 2500 gal
- M983 – HEMTT Tractor
- M983LET – HEMTT LET Tractor
- M984 – HEMTT Wrecker
- M1120 – HEMTT LHS
- HEMTT A4 – LTAS + Improved Performance

HEMTT RECAP

- HEMTT A3 – Electric Hybrid Tech Demonstrator
- M1074 – Palletized Load System (PLS) w/MHC
- M1075 – PLS Truck
- M1076 – PLS Trailer
- PLS A1 – LTAS and Improved Performance
- M1070 – Heavy Equipment Transporter System (HETS)
- M1000 – HETS Semi-trailer
- HETS A1– Improved Performance
- M1142 – Tactical Firefighting Truck (TFFT)
- M1158 – HEMTT-based Water Tender (HEWATT)
- M3/M3 A1 – Container Roll On/Off Platform (CROP)
- Container Handling Unit (CHU)
- M1, M1077/M1077 A1 – Flat rack
- M915 Line Haul Tractor
- M915 A5 – LTAS + Improved Performance
- M916 – Light Equipment Transporter (LET)
- M917 – 20 Ton Dump

Fifth Wheel Towing Device (FWTD)
- M870 A3 – 40 ton Low Boy Trailer
- M871 A3 – 22.5 ton Flatbed Trailer
- M872 A4 – 34 ton Flatbed Trailer
- M989 A1 – HEMAT
- M967 A2 – 5000 Gal Bulkhaul Tanker
- M969 A3 – 5000 Gal Fuel Dispensing Tanker

AOR
- Armor / C-Kit for Recovery Vehicles
- Interim Stryker Recovery System
- External Fire Suppression

“GO HEAVY and GO Home!”

8 February 2011
HTV Fleet Overview
Tactical Systems

HEMTT
- HEMTT (7 Variants), PLS (3 variants), PLS-Trailer
- Heavy Capacity Hauling (HEMTT 11.5 Ton, PLS 16 Ton)
- Inherent Container Handling/Transport
- Short Modular Base

PLS
- Unit Mobility
- Ammunition Resupply
- Fuel Resupply
- Recovery Systems

8 February 2011
Line Haul Systems

The M915A3 line haul truck tractor is used primarily to transport the 22½ ton and 34 ton flatbeds, the M1062 7.5K-gallon, and the M967A2/M969A3, 5K-gallon semi-trailers. The M671 is a 22 ½ ton capable tactical, dual purpose semitrailer that transports break bulk cargo and 20 ft. ISO containers. The M872 is a 34 ton capable local line haul of break bulk and 20 ft. ISO containers. The M916A3 Light Equipment Transporter is used primarily to tow the 40 ton M870 lowbed semitrailer. The M870A3 trailer is a low-bed trailer used by Combat Engineer units to transport Engineer Construction Equipment (ECE) and associated materials suitable for transport.

“GO HEAVY and GO Home!”
HTV Fleet Overview
Special Mission Systems

M1070 HETS

M1142 TFFT

M1000 HETS Trailer

M1158 HEWATT

• HETS is a capable prime mover for the Army’s M1 main battle tank
• TFFT offers the mobility of the HEMTT, a crew of 6, and a 1,000 gal water pump fire fighting system.
• HEWATT provides water tender capabilities (2,500 gal) and limited stand alone fire fighting capabilities

“GO HEAVY and GO Home!”

Heavy Unit Mobility
Firefighting Platform
Water Resupply

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## Overall Fleet Acquisition Strategy

<table>
<thead>
<tr>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
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<table>
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<tr>
<th>HEMTT</th>
<th>PROD A4</th>
<th>RECAP</th>
<th>End Prod</th>
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<tr>
<td>FY11</td>
<td>Last Prod A0 DEC09</td>
<td>New Prod A1</td>
<td>End Prod</td>
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<tr>
<td>PLS</td>
<td>OER</td>
<td>TC/MR</td>
<td>FUE</td>
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<tr>
<td>M915 Line Haul</td>
<td>PROD A5</td>
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<tr>
<td>M1070 Tractor</td>
<td>M1000 Trailer</td>
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<tr>
<td>M1070 Tractor</td>
<td>M1000 Trailer</td>
<td>End Prod</td>
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</table>

“GO HEAVY and GO Home!”

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Today’s HEMTT Fleet

Basic HEMTT
- AoA Cab
- 8V92 MUI Engine
- HT 740 Transmission
- Hendrickson Suspension

HEMTT A2
- AoA Cab
- 8V92 DDEC IV Engine
- Allison Electronic Transmission
- Corrosion Protection Upgrades

1985 - 2001
A0/A1 Basic: 5,275

2002 - 2007
A2 Model: 7394

HEMTT A4
- B-Kit Ready
- Integrated under Cab Protection (A Cab)
- 500HP CAT C-15
- ABS & Traction Control
- Air Ride Suspension
- Updated Electrical System
- Common Cab/B-Kit with PLS A1
- Allows Survivability Growth to meet LTPS Standards

2008
A4 Model: 5,830

13,000+ Trucks not Armor Ready

“GO HEAVY and GO Home!”
8 February 2011
"GO HEAVY and GO Home!"

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Established in 2001 by the VSCA directive to lower O&S costs of HEMTT fleet with emphasis on integrating affordable technology upgrades.

- Upgrades fleet to B-Kit Ready model for added crew protection.
- Inducts old, worn out HEMTT’s and produces a new vehicle with the same configuration as new production at less cost.

Dependent upon availability of core “seed”

Converts A0 / A2 to B-Kit capable A4

“GO HEAVY and GO Home!”
Today’s M1075 PLS Fleet

Basic PLS
- AoA
- 500 HP 8V92 DDEC III/IV
- CLT 755 Transmission
- Hendrickson Suspension
- Air Transportable on C141, C5, C17

1994 - 2010

PLS A1
- B-Kit Ready
- 600 HP CAT C-15
- Independent Front Suspension
- Updated Electrical System
- ABS & Traction Control
- Common Cab / B-Kit with HEMTT A4
- Allows Survivability Growth to meet LTPS Standards

2011

PLS RECAP Way Ahead
- PLS basic inducted, returned as PLS A1
- RECAP < Cost of New Production w/Tech Insertion
- Currently funded FY10-12 only
- Funding required FY13-17 for 1,294 Trucks to modernize the fleet through RECAP

Fleet Modernization

"GO HEAVY and GO Home!"
**Today’s HETS Fleet**

**Basic HETS**
- 8V92 DDEC I/II/IV Engine
- CLT 754 Transmission
- Hendrickson Suspension
- Air Transportable on C141, C5, C17

1994 - 2002

**HETS A1**
- Modern Powertrain
- Upgraded Front Suspension
- Updated Electrical System
- ABS & Traction Control
- Production Climate Control
- Chassis Capacity for Protection Growth to LTAS Standards
- Maintenance Enhancements to Trailer

2008 - 2011

**Required System Improvements**

*GO HEAVY and GO Home!*

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<tr>
<th></th>
<th>M1070</th>
<th>M1070A1</th>
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<tr>
<td>Engine</td>
<td>500 hp Detroit Diesel 8V92TA</td>
<td>700 hp CAT C-18</td>
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<td>Transmission</td>
<td>Allison CLT-754</td>
<td>Allison 4800SP</td>
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<tr>
<td>Transfer Case</td>
<td>Oshkosh 55000, Two Speed</td>
<td>Oshkosh 30000, Single Speed</td>
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<td>Axle, Front</td>
<td>21,500 lbs</td>
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<tr>
<td>Axle, Rear</td>
<td>23,680 lbs</td>
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<td>Steering</td>
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<td>Wheels</td>
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<td>Air Conditioning</td>
<td>A/C Kit available</td>
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<td>Electrical</td>
<td>12 &amp; 24 -volt</td>
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<tr>
<td>Alternator</td>
<td>145 amp</td>
<td>400 amp</td>
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<tr>
<td>ABS</td>
<td>No</td>
<td>Yes</td>
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</tbody>
</table>
Today’s M915 Line Haul Fleet

M915 A0
- AM General
- CAT13 Speed semi-automatic transmission
- Cummins Big Cam 1 engine

1978-81

M915 A1
- AM General
- Allison fully automatic transmission
- Cummins Big Cam 3 engine

1981-85

M915 A2
- Freightliner
- ABS system

1989-99

M915 A3
- Freightliner
- Electronically controlled Detroit Diesel Series 60 engine,
  Allison World transmission,
  Freightliner’s ‘TufTrac’ off-road suspension,
  Air Conditioning
  collision warning system

1999-2009

M915 A4
- Retrofit Program with Freightliner/Nat’l Guard
- Enhances A0-A2’s with A3 system upgrades

1999 - 2008

M915 A5
- 500 HP DD-CE 6V53 engine
- Extended Cab 10” wider 34” deeper
- A-Cab / B-kit design
- 20K Front axle increase/rear suspension increase for armor weight
- 7 Auxiliary power connections
- Air tap added to allow air tool use
- VORAD collision avoidance system
- Dual 60 gal. tanks adding range
- LED lighting

2009

Better, B-Kit Capable Truck

“GO HEAVY and GO Home!”

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PM HTV Competitive Contract Overview

- **FY2011**
  - External Fire Suppression Kits
  - M870A4
  - Flat Racks

- **FY2013**
  - E-CHU
Take Aways

- Heavy Tactical Vehicles at or near FY17 MTOE
- Recapitalization is path forward for HEMTT and PLS
- M915A5 limited procurement through FY12
- M870A4 competitive contract late 3rd Qtr FY11
PM’s Last Word

**TWO CUSTOMERS**

THE WARFIGHTER + THE TAXPAYER

WE MUST ENSURE OUTSTANDING EQUIPMENT GOES TO THE WARFIGHTER
PM Tactical Vehicles

Questions?