



PM Tactical Vehicles



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PRODUCT MANAGERS

- ◆ **Light Tactical Vehicles**
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- ◆ **Medium Tactical Vehicles**
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- ◆ **Armored Security Vehicle**
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- ◆ **Heavy Tactical Vehicles**
 - LTC Dave Shuler
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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



PM Light Tactical Vehicles

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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

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- ***Purpose: HMMWV Updates***
- ***Agenda:***
 - *Opportunities for Business*
 - *HMMWV Background*
 - *HMMWV Fleet Overview*
 - *HMMWV Evolution*
 - *HMMWV Production & Improvements*
 - *HMMWV Recap & Modernization*
 - *Tactical Trailer Production*



HMMWV Business Opportunities

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- **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*



HMMWV Program Background

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- **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



M1037 HMMWV SHELTER CARRIER



M1038 HMMWV SHELTER CARRIER



M1097 HMMWV CARGO CARRIER



M1097 HMMWV SHELTER CARRIER



M1097R1 HMMWV RECAP



M1035 HMMWV AMBULANCE 2 LITTER



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



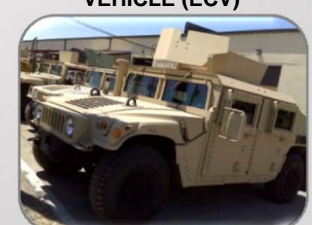
M1152 ENHANCED CARGO/TROOP CARRIER



M1165 ENHANCED COMMAND AND CONTROL CARRIER



M1167 ENHANCED TOW CARRIER



UAH RECAP



HMMWV Evolution

Block upgrades to increase payload and versatility

1984 – Present
Payload vs.
Performance
Tradeoffs



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.



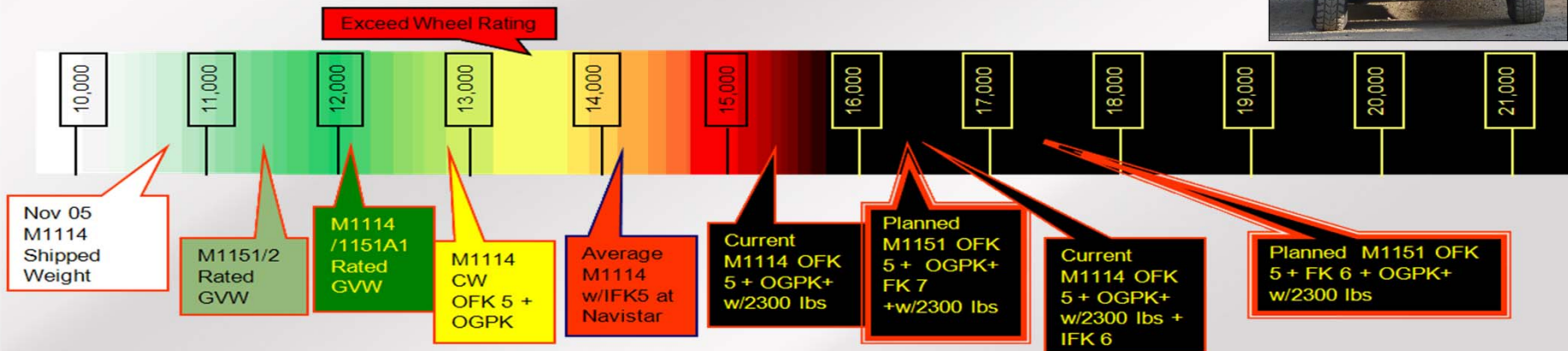
ECV (1993-Present)
6.5L Turbo Diesel Engine
Suspension Upgrade
Armor Capable
1,800 – 5,100 lb. Payload
GVW: 12,100 lb.
Current Op: >16,500 lb.



RECAP
Payload: TBD
GVW: TBD



ECV = Expanded Capacity Vehicle





HMMWV Production

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- **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

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- **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



UAH HMMWV RECAP Modernization

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- **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*



HMMWV ECV RECAP – Modernization RFI/RFP Milestones

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- *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

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M1101/1102 Light Tactical Trailer (LTT)

- **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**



M200A1 Medium 2.5T Tactical Trailer

- **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**



M1061A1 Medium 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**



PM Medium Tactical Vehicles

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Product Manager

LTC Shane Fullmer

MISSION

ACAT IC

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



Mission Statement

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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



FMTV Program Overview

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	1	2	3	4											
RESEARCH, DEVELOPMENT, TEST & EVALUATION																																						
Technology Insertion																																						
PROCUREMENT																																						
OTC Contract																																						
BAE Closeout																																						
OMA																																						
SSTS																																						
RESET																																						

▲ Recap is a Decision Point

▲ RECAP



BAE Status

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- ***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***



Oshkosh Status

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- ***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

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- ***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

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Product Manager
LTC Paul Shuler
Deputy PM: George Schneller

MISSION

The Life Cycle Management of Heavy Tactical
Wheeled Vehicles Fleets



Agenda

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- *Heavy Tactical Vehicle Introduction*
- *Fleet Modernization*
- *Fleet Strategy*
- *Upcoming Competitive Procurements*



Heavy Tactical Vehicles 21 Products, 10 OEMs

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- 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



HEMTTA4



PLSA1



M915A5

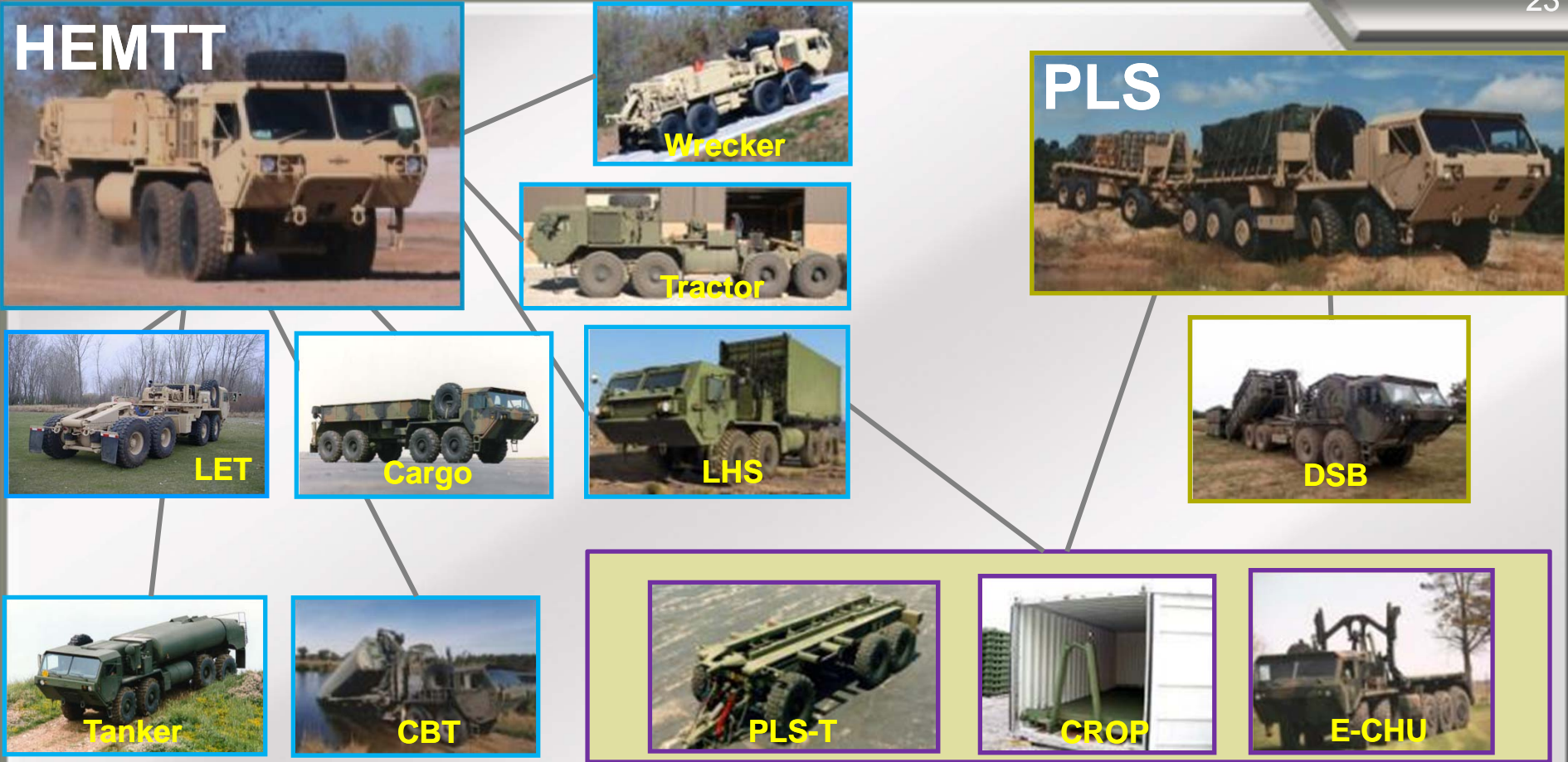
HET

“GO HEAVY and GO Home!”

8 February 2011



HTV Fleet Overview Tactical Systems



- 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

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

“GO HEAVY and GO Home!”



Line Haul Systems

M915A5



Payload capacity: M871A3
22.5 Tons



M872A4
Payload capacity:
34 tons



M967A2 Tanker
Series of 5K-Gal



M969A3 Tanker



Series of
5K-Gal

M916



M870A3

40-Ton Semi-Trailer



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 M871 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.

- Unit Resupply
- Unit Mobility
- Ammunition Resupply
- Fuel Resupply



HTV Fleet Overview

Special Mission Systems

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- 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

- Heavy Unit Mobility
- Firefighting Platform
- Water Resupply

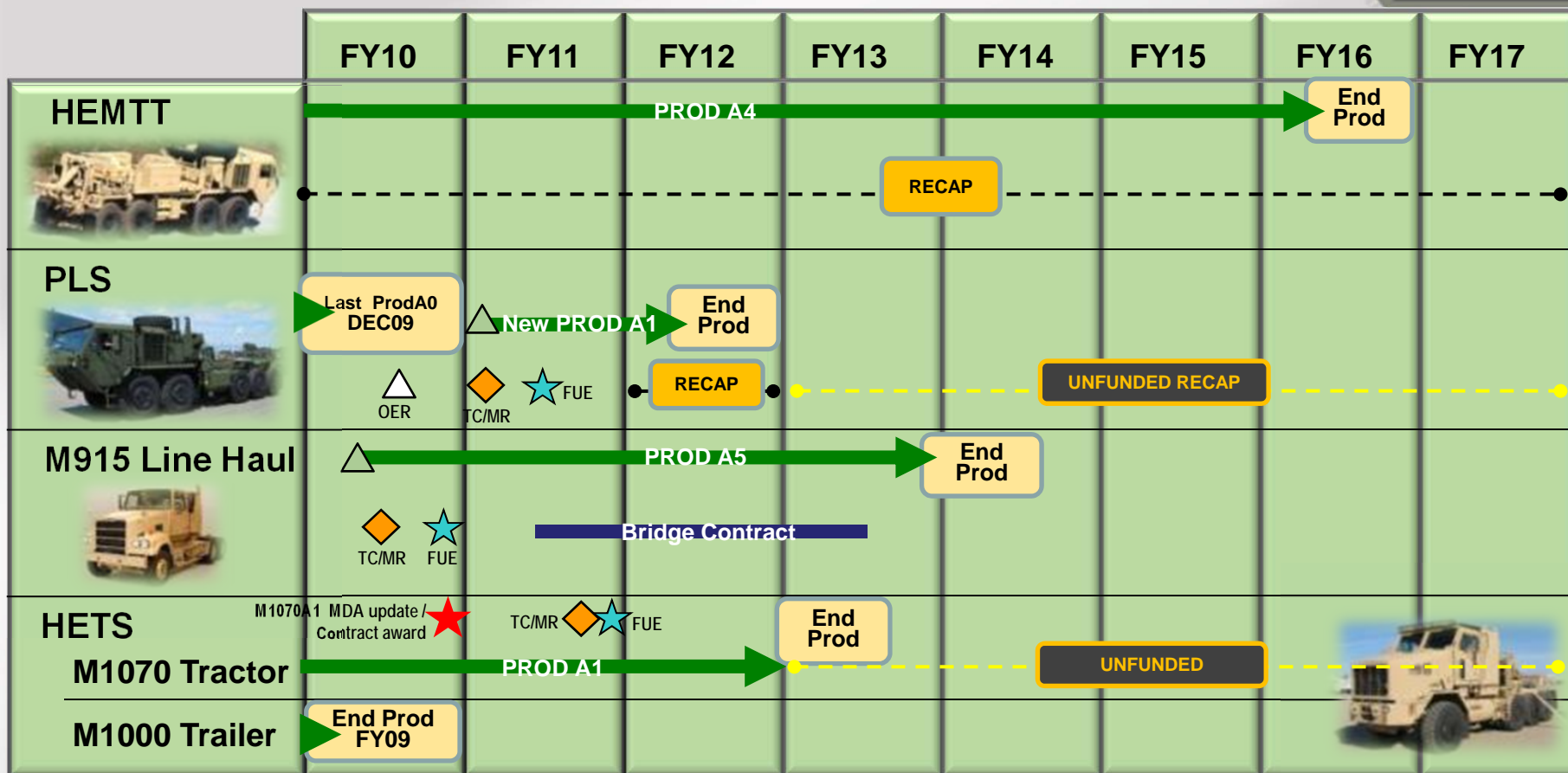
"GO HEAVY and GO Home!"

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Overall Fleet Acquisition Strategy

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Today's HEMTT Fleet

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13,000+ Trucks *not* Armor Ready



Basic HEMTT

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

1985 - 2001

A0/A1 Basic: 5,275



HEMTT A2

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

2002 - 2007

A2 Model: 7394



HEMTT A4

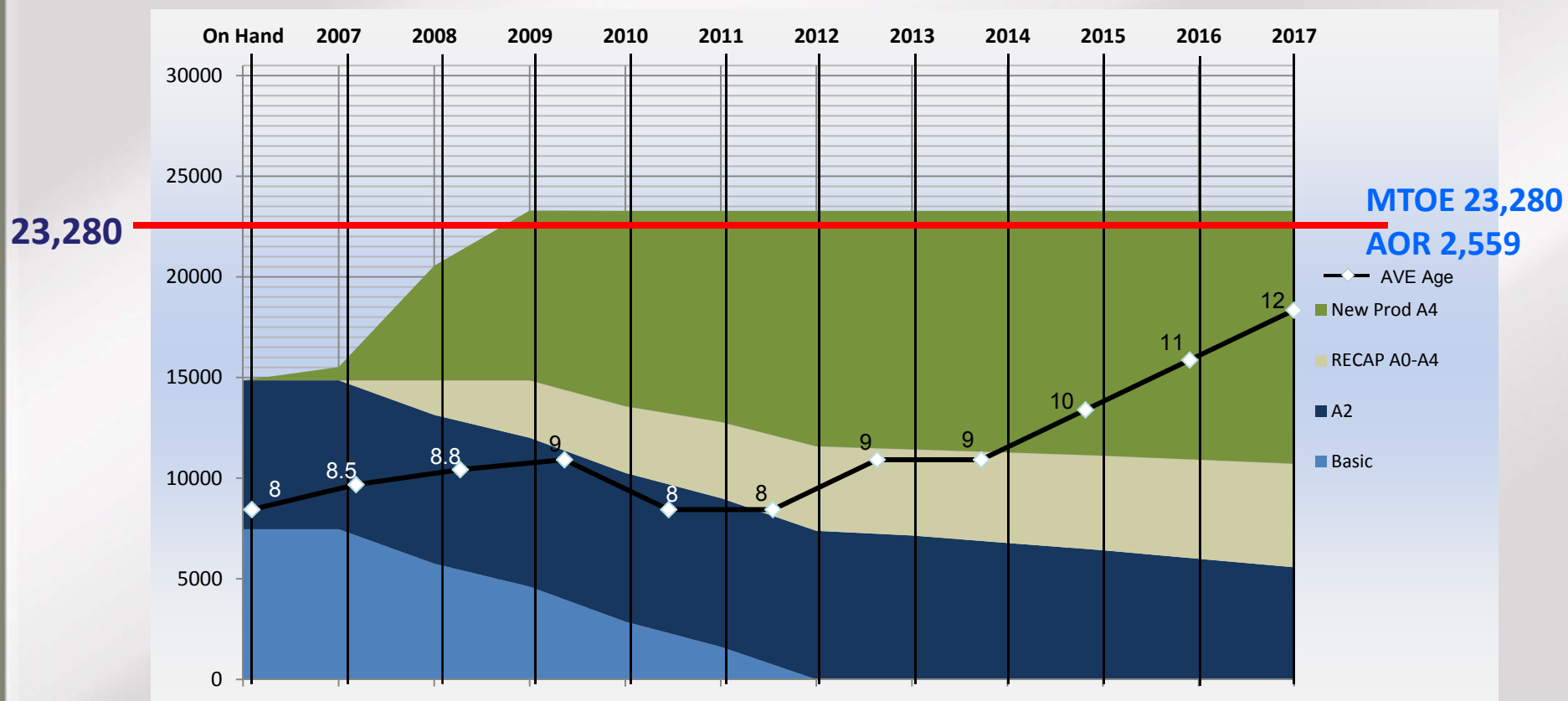
- B-Kit Ready
- Integrated under Cab Protection (A Cab)
- 500HP CAT C-15
- ABS & Traction Control
- Air Ride Suspension
- Updated Electrical System
- Common Cab/B-Kit with PLS A1
- Allows Survivability Growth to meet LTPS Standards

2008 →

A4 Model: 5,830



HEMTT FY07-FY17





B-Kit Ready Fleet Through HEMTT RECAP

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Core Truck in Teardown



After RECAP - B-Kit Ready!

- 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



Today's M1075 PLS Fleet

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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**

2011 →

Fleet Modernization



Today's HETS Fleet

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Basic HETS

- 8V92 DDEC III/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



	M1070	M1070A1
Engine	500 hp Detroit Diesel 8V92TA	700 hp CAT C-18
Transmission	Allison CLT-754	Allison 4800SP
Transfer Case	Oshkosh 55000, Two Speed	Oshkosh 30000, Single Speed
Axle, Front	21,500 lbs	32,000 lbs
Axle, Rear	23,680 lbs	25,000 lbs
Steering	Shepard hydraulic front gear	Dual front gears
Wheels	11,500 lbs rated	16,000 lb rated
Air Conditioning	A/C Kit available	A/C
Electrical	12 & 24 -volt	24-volt
Alternator	145 amp	400 amp
ABS	No	Yes

Required System Improvements



Today's M915 Line Haul Fleet



A0

M915 A0

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

1978-81



A1

M915 A1

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

1981-85



A2

M915 A2

- Freightliner
- ABS system

1989-99



A3

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



A4

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



PM HTV Competitive Contract Overview

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

- **FY2013**
 - E-CHU



Take Aways

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- **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

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TWO CUSTOMERS

THE WARFIGHTER + THE TAXPAYER

**WE MUST ENSURE OUTSTANDING
EQUIPMENT GOES TO THE WARFIGHTER**



"GO HEAVY and GO Home!"

8 February 2011



PM Tactical Vehicles

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Questions?