



# PM Light Tactical Vehicles

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## MISSION

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

### Product Manager

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### APMs

- HMMWV Production & Recap
  - ◆ **Patricia Grashik**
- M1151/1152/1165A1 Armor
  - ◆ **MAJ Carlos Lago**
- Trailers, FCS, HEAT, Ambulance, & AoA
  - ◆ **Laurie Austin**
- Integration
  - ◆ **MAJ Toy Frasier**

**Distribution A:** Approved for Public Release; distribution unlimited



# Purpose and Agenda

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● ***Purpose: To talk about where we've been, where we are and where we are going with in the context of "Reset Rebuild and Re-buy"***

● ***Agenda***

- *HMMWV Evolution*
- *The Weight Tape*
- *HMMWV RECAP*
- *HMMWV Production*
- *Light Tactical Trailer Production*
- *Challenges*



# HMMWV Evolution

Block upgrades to increase payload and versatility

**1984 – Present Payload vs. Performance Tradeoffs**



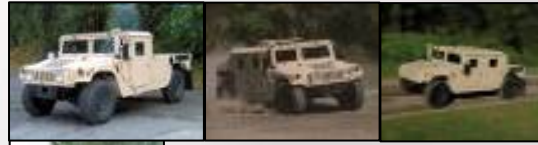
**A0 Series (1984-93)**  
 6.2L Diesel Engine  
 3 Spd Transmission  
 2,500 – 3,632 lb. Payload  
 GVW: 7,700 lb.



**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.



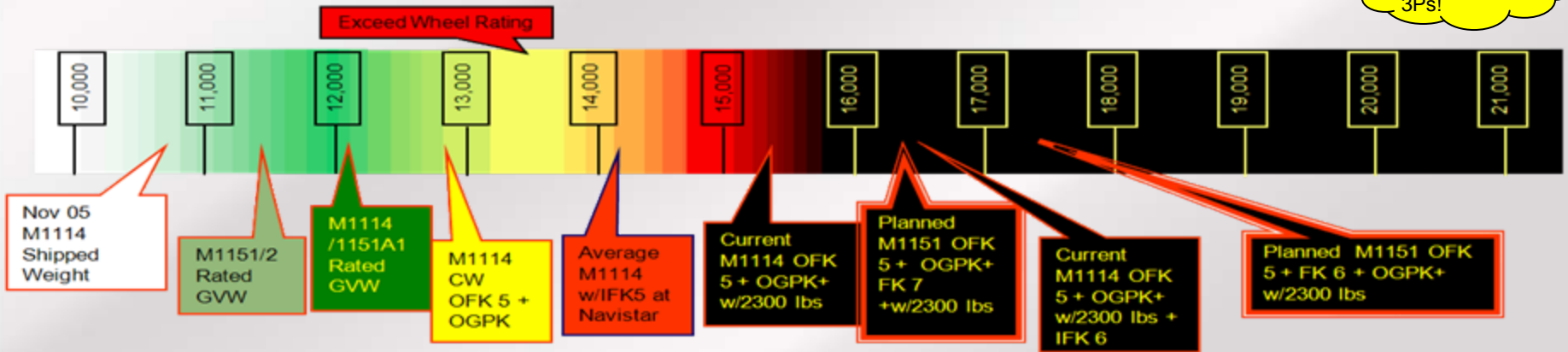
**ECV (1993-Present)**  
 6.5L Turbo Diesel Engine  
 Suspension Upgrade  
 Armor Capable  
 1,800 – 5,100 lb. Payload  
 GVW: 12,100 lb.  
 Current Op: >16,500 lb.

ECV = Expanded Capacity Vehicle



**ECV2 (2010-?)**  
 Improved 6.5L Turbo Diesel Eng  
 New Trans  
 Improved Suspension/Frame  
 Increased/Improved Armor Capability  
 1,800 – 4,550 lb. Payload \*  
 GVW: ~18,000 lb.

Final chance to buy-back 3Ps!



\* ECV2 payload definition changed to exclude BII and two soldiers



# HMMWV 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 (drivetrain and suspension upgrades)
  - extending economic useful life for 15 years
- **Up-armored HMMWVs (UAH) RECAP Pilot Program – Convert UAHs to current production configuration models with enhanced reliability components**
- **Executed at**
  - Red River Army Depot - 16,745 complete to date
  - Letterkenny Army Depot - 14,058 complete to date
  - Maine Military Authority - 1210 complete to date
- **Vehicle Hand-Offs Completed Total: 30,683**
- **Conduct UAH pilot at RRAD and LEAD 2QFY09**
- **Program funded until July 09**

Monthly average  
800 per month



M1097R1s at 10 Mtn Div



# HMMWV Production

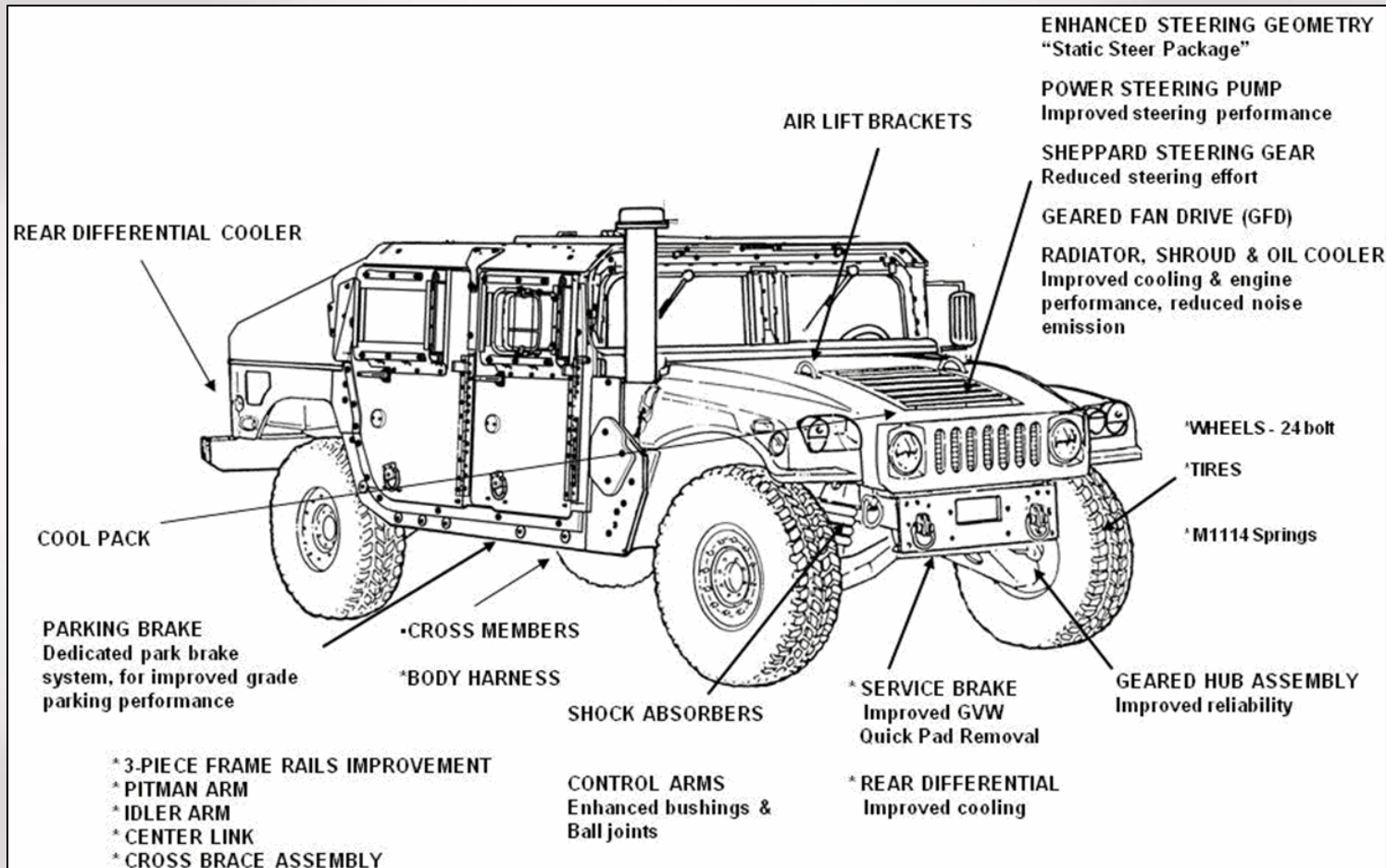
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- *Fielding to CONUS after SWA Requirement filled: ~14,000 fielded to date (CONUS)*
- *Production rate: 80/day average*
- *Introduction model: M1167 (TOW Variant)*
- *Reliability & Safety Enhancements, to include: Armor coverage, Load range E wheel/tire assembly, Electrical upgrades, Lightweight doors, Suspension upgrades, LED lights, Mending Plate improvements, Fire Suppression System upgrades.....*





# Reliability Enhancements Vehicle (REV)





# ECV2 – Rebalancing the 3P's

Electrical

- New Power Management System (Solid State)
- New J1939 Multiplex Gauges
- Electronic Accelerator Pedal
- New Instrument Panel
- Embedded Diagnostics
- Under Hood Batteries
- 12V Dual Power Points
- Electronic High Idle
- New Head Lights
- LED Lighting
- Allison TCM
- New ECM

Chassis

- ABS/ATC
- New Suspension
- 18,000 lbs GVW
- Higher Capacity Drive Train
- Improved Services Brakes (4 Piston Caliper)
- New Tire/Wheel Assembly (22.5" Rim / 40" Tire)
- New Frame (3 pc – pending patent application) Welded

Body & Cab

- Compatible with Current HMMWV Systems
- Increased Cab Space (14+ Cu Ft)
- Integral Armor (Armor Ready)
- Armor Kit
- FSS

Options

- Electric Winch (18,000 lb)
- Deep Water Fording
- New HVAC System
- Stability Control\*
- CTIS



Powertrain

- New Exhaust
- Charge Air Cooler
- High Capacity T-case
- RER Quick Disconnects
- New Air Induction System
- New Transmission (Allison)
- GEP Optimizer 6500 Turbo Engine
- High Capacity Power Steering Pump
- New Engine Cooling System (Vertical Mount)

\* P3I Item



# Light Tactical Trailer Production

- **Over 15,000 LTTs fielded to date**
- **New production contracts awarded in Aug 08 (2 Contractors)**
- **Production rate: 1600/month max**
- **Re-buying to fill requirements**



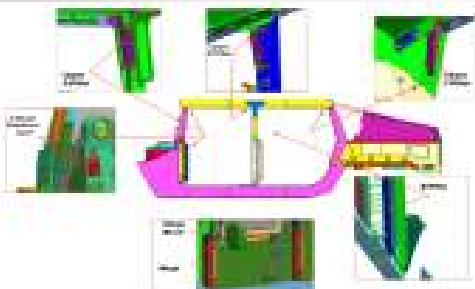




# LTV Challenges

## Global War on Terrorism Support

- **Frag Kit #6**
- **Frag Kit #7**
- **Fire Suppression System Upgrades**





# LTV Challenges Supplier Quality

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## **Communication, Communication, Communication**

- **Every Part: IMPORTANT**
- **Requirements**
  - Question requirements that may not make sense
  - Do NOT deviate – A Soldier's mission or life may depend on it
- **Goal - Improve Supplier Quality**
  - Participated in AM General Supplier Symposium Jul 08
  - Participate with AM General in high risk-supplier visits
  - Conduct periodic meetings with contractor/DCMA
  - Assigned Gov't QA Specialist to focus on OEM's supplier quality assurance
  - Using lessons-learned from supplier issues to focus Gov't and OEM efforts

*Example: Welding Issues*

  - Conducting increase weld audits; Result: Major rewrite of procedure
  - Conducted Gov't in-house basic welding class



# LTV Challenges (continued)

## Other Challenges

- Armored Ambulance
- FCS Spin Out 1
- Configuration Management

