

Armored Tactical Vehicles – Army

Executive Summary

- The Army has contracted for 18,418 Family of Medium Tactical Vehicles (FMTV).
- Emerging results of combined developmental/operational testing indicate that the FMTV vehicles provide comparable mission performance relative to fielded FMTVs. The transportation unit was effective at completing local and line-haul missions.
- The FMTV vehicles demonstrated required crew protection and improved crew protection to ballistic threats relative to fielded FMTVs based on LFT&E.
- DOT&E provided a High Mobility Multipurpose Wheeled Vehicle (HMMWV) Expanded Capacity Vehicle (ECV) Family of Vehicles (FoV) LFT&E report to Congress in February 2011.
- In 3QFY11, the Army initiated the HMMWV Modernized Expanded Capacity Vehicle (MECV) program.
- The Heavy Tactical Vehicle program selected a C-kit underbody protection design for Heavy Expanded Mobility Tactical Truck (HEMTT) A4 in March 2011 after completion of underbody testing of two C-Kit designs.



FMTV



HEMTT



HMMWV

System

FMTV

- The FMTV re-procurement is the fourth stage of FMTV evolution. These vehicles consist of light and medium variants intended to operate on- and off-road.
 - The Light Medium Tactical Vehicle (LMTV) transports a 5,000-pound payload and a 12,000-pound towed load.
 - The Medium Tactical Vehicle (MTV) transports a 10,000-pound payload and a 21,000-pound towed load.

HEMTT

- The HEMTT is a family of heavy tactical trucks that includes a load handling system, cargo, tanker, light equipment transporter, and wrecker vehicles.

HMMWV

- The HMMWV is a general purpose tactical wheeled vehicle with light and heavy variants.
 - The Light Variant includes the light utility, weapon carrier, and ambulance with a minimum payload of 2,600 pounds.
 - The Heavy Variant includes the heavy shelter carrier, light and heavy howitzer towing variant, and ambulance with a minimum payload of 4,550 pounds.

Mission

FMTV

- The Army employs the FMTV as multi-purpose transportation and unit mobility vehicles in maneuver, maneuver support, and sustainment units.

HEMTT

- The Army issues HEMTT to distribution companies and general supply sections of forward support companies

of brigade support battalions. These companies deploy units to a new theater of operations, relocate units to new operating sites, establish unit areas of operations, provide supply and transport support, recover vehicles, and redeploy units to home station.

HMMWV

- The HMMWV provides highly mobile light tactical wheeled transport for command and control, troop and light cargo, medical evacuation, and weapon platforms to division and below units. This vehicle is employed throughout the entire battlefield and operates in off-road and cross-country environments.

Major Contractors

FMTV & HEMTT

- Oshkosh Corporation – Oshkosh, Wisconsin

HMMWV

- AM General – South Bend, Indiana

ARMY PROGRAMS

Activity

FMTV

- As of September 2011, the Army has contracted with Oshkosh Corporation to produce 18,419 FMTV vehicles.
- The FMTV Re-buy LMTV and MTV Cargo trucks completed a Production Verification Test (PVT) in April 2011. The PVT is ongoing for the Wrecker Variant to ensure performance, reliability, and maintainability meet the requirements of the system.
- The Army Test and Evaluation Command (ATEC) completed the FMTV developmental/operational test in June 2011 at Aberdeen Proving Ground, Maryland, in accordance with the DOT&E-approved plan. The purpose of the test was to confirm that an FMTV-equipped unit can employ the new LMTV and MTV variants to support transportation missions.
- The FMTV Re-buy LMTV Cargo trucks completed Live Fire Testing (LFT) in January 2011. The purpose of the LFT was to confirm that the Oshkosh FMTV provides the required level of crew protection.

HEMTT

- In November 2010, the Army initiated the HEMTT A4 Rapid Initiative program to develop an underbody kit called the C-Kit for improved crew protection for the wrecker and Light Equipment Transporter (LET) variants.
- The Heavy Tactical Vehicle program selected a C-Kit underbody protection design for HEMTT A4 in March 2011 after completion of underbody testing of two C-Kit designs at Aberdeen Test Center, Aberdeen, Maryland. One hundred and nine new production vehicles have the C-Kit installed and began arriving in theater in June 2011. The program will install the remainder of the 289 C-Kits on existing theater HEMTT A4 assets.

HMMWV

- DOT&E provided a HMMWV ECV FoV LFT&E report to Congress in February 2011.
- In 3QFY11, the Army initiated the HMMWV MECV program. The MECV program focus is to improve the protection, performance, and payload of the HMMWV Up-Armored fleet.
- The Army approved the MECV competitive acquisition, test, and evaluation strategy in July 2011 to provide light tactical vehicles to Air Assault units. The Army continues preparation of the MECV Request for Proposal scheduled for 1QFY12.
- DOT&E approved the M997A3 HMMWV Ambulance Test and Evaluation Master Plan. Developmental testing is ongoing.
- The Army is procuring an additional 500 HMMWV ambulance variants for the Army National Guard in support of Homeland Security missions.

Assessment

FMTV

- During PVT, the LMTV Cargo variant demonstrated 8,002 Mean Miles Between Operational Mission Failure

(MMBOMF) exceeding its reliability requirement of 2,200 MMBOMF. The MTV Cargo variant demonstrated 6,669 MMBOMF, exceeding its reliability requirement of 2,000 MMBOMF.

- Emerging results of combined developmental/operational testing indicate that the FMTV Re-buy vehicles provide comparable mission performance relative to fielded FMTVs.
 - The transportation unit was effective at completing line- and local-haul missions.
 - Air conditioner failures were the one common failure mode experienced during both developmental/operational test and the PVT.
 - Several twist locks used to secure cargo to the Load Handling System failed.
 - Soldier maintainers accomplished all maintenance tasks on FMTV variants.
- The FMTV Re-buy vehicles demonstrated required crew protection and decreased crew vulnerability to ballistic threats based on LFT&E.

HEMTT

- The HEMTT A4 C-Kit is designed to work with the previously installed cab armor package known as the B-kit. The B-kit provides protection to the sides and roof of the cab. The C-Kit adds additional underbody armor, blast attenuating seats and floor mat, and upgraded steering gear.
- Based on LFT&E, the HEMTT A4 C-Kit decreases crew vulnerability to underbody threats. Testing indicates that protection levels up to some Mine Resistant Ambush Protected (MRAP) vehicle levels may be attainable.

HMMWV

- The HMMWV ECV FoV (in their respective armor configurations) decreases crew vulnerability to ballistic threats, based on LFT&E.
- Ballistic testing of early HMMWV Blast Mitigation System design indicates that achieving underbody protection equivalent to that provided by the MRAP All Terrain Vehicle (M-ATV) is feasible.

Recommendations

- Status of Previous Recommendations. The Army addressed all previous recommendations.
- FY11 Recommendations.

FMTV

1. The program should address heating, ventilation, and air conditioning failures and improve the reliability of Load Handling System twist lock failures prior to fielding FMTV.
2. The program should continue exploring additional protection against current underbody and under-wheel threats.

HMMWV

3. The program should develop the MECV Test and Evaluation Master Plan to ensure planning and resourcing of developmental, live fire, and operational testing is adequate.