

## Family of Medium Tactical Vehicles (FMTV)

### Executive Summary

- The Army conducted Limited User Testing of the Expansible Van and Load Handling System variants of the Family of Medium Tactical Vehicles (FMTV).
- The current production model is the basis for the redesigned cab that will be used for the armored cab version, which will be cut into the production line in 2007 pending results of testing. This new cab will be designed to accept add-on armor and a crew weapon station.

### System

- The following three FMTV variant systems were tested during the past fiscal year:
  - The Medium Tactical Vehicle Expansible Van: mounted on the Medium Tactical Vehicle 5-ton chassis to replace existing expansible vans in maintenance and command and control units; expanded volume of 1,450 cubic feet and a payload capacity up to 10,000 pounds
  - Medium Tactical Vehicle - Load Handling System: mounted on the Medium Tactical Vehicle Chassis; intended to replace Dolly systems in medical units; enables the crew to load and off-load 20-foot-long standard shelters/containers weighing 7.5 to 8.5 tons onto, or off of, trucks and their companion trailers
  - Medium Tactical Vehicle - Load Handling System Trailer: a companion trailer to the Medium Tactical Vehicle - Load Handling System; capable of hauling payloads identical to that of the truck
- The following nine systems are the remaining FMTV variants that have been tested previously:
  - Light Medium Tactical Vehicle Cargo
  - Light Medium Tactical Vehicle Van
  - Medium Tactical Vehicle Cargo
  - Medium Tactical Vehicle Long Wheel Base Cargo
  - Medium Tactical Vehicle Tractor
  - Medium Tactical Vehicle Wrecker
  - Medium Tactical Vehicle Dump Truck
  - Medium Tactical Vehicle Dump Variant
  - Cargo Trailers (Light Medium Tactical Vehicle and Medium Tactical Vehicle)

### Mission

The Army employs the FMTV as a multi-purpose transportation and unit mobility vehicle in combat, combat support, and combat



service support units. Missions for the units of the FMTV variants tested this year are described below.

- The Army plans to issue the Medium Tactical Vehicle - Load Handling System with its companion Load Handling System Trailer to combat support hospitals. The Load Handling System primarily carries standard shelters associated with the Army Medical Department Deployable Medical System (or Support) and refrigerated shelters of the blood support detachment. The medical units provide support by conducting strategic deployments, relocating units to new operating sites, establishing unit areas of operation, performing combat health support operations, defending assigned areas, and conducting strategic redeployments.
- The Army plans to issue the Expansible Van to medical logistics units, aviation maintenance units, and vehicle maintenance units (direct support and general support). These units will use the van as a mobile office at various echelons in a field environment to support deploying units.

### Activity

- A Limited User Test (LUT) on the Expansible Van was conducted at Fort Bragg, North Carolina, from March 27 - April 7, 2006.
- A LUT on the Load Handling System was conducted at Fort Campbell, Kentucky, from April 17 - 28, 2006.

# ARMY PROGRAMS

- Test planning continues for the LUT of the 10-ton Dump truck. In addition, test planning continues for the Long Term Armor Strategy as it applies to the FMTV.
- As part of the long-term armor strategy, the current production model is being used as the basis for the redesigned cab that will be used for the armored cab version. Pending results of the testing, it will be cut into the production line in 2007. This new cab will be designed to accept add-on armor and a crew weapon station.
- Load Handling System: The Load Handling System variant with trailer demonstrated that it was operationally effective in supporting the set up of a combat support hospital. Its reliability did not meet the requirement of 2,000 mean miles between operational mission failures in 868 miles of user testing, while it exceeded requirements in 60,000 miles of developmental testing. During the testing, there was a problem with the commercial Caterpillar engines used in all FMTV production. The problem was a result of software in the engine which would automatically slow the vehicle to 5 miles per hour (derate the engine) when it sensed an apparent low fuel pressure condition. This engine derating occurred in both developmental and operational testing when there was adequate fuel in the tank. Caterpillar has since corrected the problem with the software by making the default setting “Off” for this feature.

## Assessment

- Expansible Van: LUT exposed numerous deficiencies of design that would hamper operational use by soldiers (the Army is acting to correct many of these deficiencies before making a fielding decision). In 20,000 miles of developmental testing, the reliability requirement, 1,800 mean miles between operational mission failures, was exceeded. However, the reliability requirement was not met in 2,043 miles of user testing; the truck demonstrated 186 mean miles between failures. Some failure modes were not seen in developmental testing. Two of those were a direct result of not exercising the function of connecting the Expansible Van to an external generator in developmental testing.

## Recommendations

- Status of Previous Recommendations. There was no FY05 FMTV report.
- FY06 Recommendations. None.