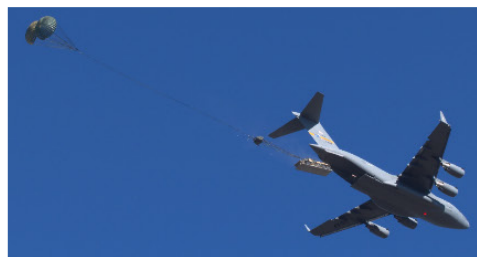
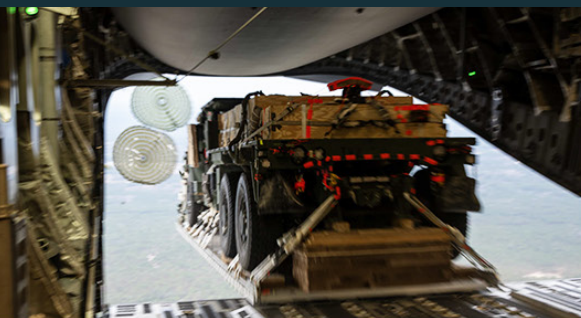


Family of Medium Tactical Vehicles A2 (FMTV A2)



Following the FOT&E conducted in April 2023, the Family of Medium Tactical Vehicles A2 (FMTV A2) manufacturer implemented vehicle design changes to improve reliability and maintainability based on issues identified in previous testing. In October 2023, DOT&E published a combined FOT&E and LFT&E report with classified annex. From November 2023 through June 2024, the Army conducted live fire and airdrop testing of the FMTV A2 Medium Tactical Vehicle (MTV) cargo truck Low Velocity Air Drop (LVAD) variant. DOT&E observed the live fire testing and assessed that the MTV cargo truck LVAD variant with armor demonstrates the same survivability as the baseline FMTV A2 trucks. DOT&E observed the LVAD events which the Army used to certify the FMTV A2 MTV cargo truck LVAD variant for airdrop from U.S. Air Force (USAF) C-17 and C-130 aircraft. The Army plans to complete the airdrop testing and certifications of the Light Medium Tactical Vehicle (LMTV) cargo truck LVAD and MTV dump truck LVAD variants by 2QFY25.

SYSTEM DESCRIPTION

The FMTV transports a wide variety of cargo, such as containers, pallets, flat racks, general supplies, personnel, and equipment, to and within tactical units, as well as resupply to forward areas. FMTVs are designed to operate worldwide on primary and secondary roads, trails, and cross-country terrain of all surface types in all weather conditions. During peacetime operations, the FMTV A2 is required to operate primarily on highways, consistent with commercial practices for trucks in this payload range.

FMTV variants are based on two common chassis with varied payloads and mission equipment. The trucks can be produced with or without the armored cab and operated with or without an underbody armor protection kit. Additional kits include a materiel handling crane and a self-recovery winch. The following variants are available on each FMTV chassis:

- LMTV chassis – a 3-ton cargo truck, a 2.5-ton van, and a 3-ton LVAD cargo truck.
- MTV chassis – an 8-ton cargo truck, an 8-ton cargo truck with an extended cargo bed, a tractor, an 8-ton LVAD cargo truck, an expansible van, a 7-ton LVAD dump truck, a wrecker, an 8.8-ton load handling system (LHS) truck, and a 10-ton dump truck.

LVAD variants have a non-armored collapsible cab that enables

transporting the vehicle on USAF C-130 and C-17 aircraft and airdropped to support airborne operations. Armor must be installed post-drop to achieve kinetic protection.

The Army further modifies these standard variants for specific missions. Currently, air defense units will use modified MTV cargo trucks to carry equipment for the Sentinel Radar and the Army Integrated Air and Missile Defense system. Earlier models of the FMTV were adapted to carry the Medium Extended Air Defense Systems and the High-Mobility Artillery Rocket System.

The FMTV A2 also includes three types of companion FMTV trailers: an LMTV trailer, an MTV trailer, and an LHS trailer. The FMTV trailers were not redesigned or modified for use with the FMTV A2. The MTV tractor pulls all standard Army semi-trailers up to the 40-

ton class, including the low-bed construction equipment transport, flatbed cargo, and fuel tank semitrailers.

The FMTV A2 is an integration of commercially based components and a continuation of the same capabilities and interfaces available with the existing FMTV fleet. The design incorporates a set of hardware and software improvements, upgrades to expand truck capabilities, and includes:

- Increased cargo-carrying capacity. Earlier models of the LMTV and MTV trucks carried a maximum cargo load of 2.5 and 5 tons, respectively.
- Improved mobility from increased engine horsepower, an adjustable suspension system, and higher wheel capacity.
- Upgraded vehicle data bus with a simplified electrical system that supports improved



LMTV cargo truck conducting a resupply mission during the FOT&E at Fort Bliss, Texas

diagnostic and troubleshooting capabilities and future upgrades.

- Increased electrical power capacity to support current operations and provide growth potential for future upgrades.
- Enhanced vehicle safety with Electronic Stability Control incorporated into the anti-lock braking system.
- Augmented crew survivability with the armor protection of the FMTV A1P2 and a new underbody armor protection kit.

MISSION

The Army employs the FMTV to provide multi-purpose transportation and mobility in maneuver, maneuver support, and sustainment units. Transportation and supply units conduct line and local haul missions carrying cargo, soldiers, and equipment with the LMTV and MTV cargo trucks and their associated LMTV and MTV trailers. Medical units employ the MTV LHS and FMTV LHS trailer to transport, load, and offload shipping containers with unit equipment. Maintenance units use the MTV wrecker to recover all immobile light- and medium-wheeled vehicles, including all FMTV variants. Engineering units employ the MTV dump truck to haul and dump construction material during quarry operations. Airborne units use the LVAD MTV cargo truck, LVAD MTV dump truck, and LVAD LMTV cargo truck variants to move soldiers, equipment, supplies, and construction materials during

airborne operations, aerial resupply, and airfield repair operations.

PROGRAM

The FMTV A2 is an Acquisition Category IC program. DOT&E approved the Army's operational test plan for the FOT&E for all variants except the three LVAD vehicles in March 2023 and published a combined FOT&E and LFT&E report with classified annex in October 2023, assessing its operational effectiveness, suitability, and survivability.

During FY24, the FMTV A2 LVAD cab, which is identical across all three LVAD trucks, underwent live fire testing, which included underbody and side improvised explosive device threats and exploitation testing. DOT&E will publish a classified LFT&E report with the results of this testing in 2QFY25.

The FMTV LVAD MTV cargo truck airdrop testing was conducted from November 2023 through

August 2024. The airdrop testing of the FMTV A2 LVAD MTV cargo truck observed by DOT&E during FY24 confirmed our previous assessment that the FMTV A2 is operationally effective and suitable. The FMTV A2 LVAD LMTV cargo truck and MTV dump truck airdrops are scheduled to begin in 1QFY25 and completed in 2QFY25.

Testing will support a full materiel release decision in 3QFY26. In accordance with the DOT&E-approved TEMP for the FMTV A2 program, only the test plan for the LFT&E of the LVAD variants required DOT&E's approval.

The Army will procure 2,691 FMTV A2s on the current base contract, which expires in February 2025. The Army plans on a 3-year extension contract expiring in FY28 with a planned, competitive, follow-on contract starting production in FY28 for quantities yet to be determined based on Army objectives. To date, Oshkosh has produced 1087 FMTV A2s. Unit fielding will start in 1QFY25 and continue through FY41 and



FMTV A2 MTV Cargo Truck
Low-Velocity Air Drop Variant

beyond, until the Army Acquisition Objective is complete. The Army is still determining the exact quantities of each variant, but it is expected that the LMTV and MTV cargo trucks will be procured in the greatest quantities.

» MAJOR CONTRACTOR

- Oshkosh Defense, LLC – Oshkosh, Wisconsin

TEST ADEQUACY

Following the FOT&E conducted in April 2023, the Army has implemented modification work orders to correct deficiencies identified in previous testing, which included exchanging fuel-sending units, adding an additional oil passage in the wheel ends to aid in lubrication and heat dissipation, and rerouting wiring harnesses and hoses to avoid abrasion. Oshkosh is developing an engineering change proposal to fix the accuracy of the fuel level sending unit.

From November 2023 through February 2024, the Army Test and Evaluation Command conducted airdrop testing of the FMTV A2 MTV cargo truck LVAD variant at Fort Liberty, North Carolina, to collect the required data to certify airdrop from for the USAF C-17 and C-130 aircraft. Since the airdrops are developmental testing, the Army provided the test plan to DOT&E for awareness prior to conducting these tests. DOT&E observed the airdrop tests completed in FY24.



*Live Fire Test of the FMTV A2 MTV Cargo Truck
Low-Velocity Air Drop Variant*

From December 2023 through June 2024, the Army conducted LFT&E to confirm the LVAD cab did not degrade force protection and vehicle survivability against the expected kinetic threats. Specifically, the Army conducted ballistic exploitation of the LVAD cab against small arm threats, side improvised explosive devices, and one under-vehicle blast mine test of the MTV LVAD cargo truck. The Army executed the LFT&E at Aberdeen Proving Ground, Maryland, in accordance with DOT&E-approved test plans. DOT&E observed these tests, which were adequate to assess the LVAD vehicle's survivability. DOT&E will publish a classified LFT&E report with the results of this testing in 2QFY25 to support the full materiel release decision.

PERFORMANCE

» EFFECTIVENESS AND SUITABILITY

In FY24, the Army demonstrated the FMTV A2 MTV LVAD cargo

truck variant could be successfully airdropped from the USAF C-17 and C-130 aircraft with no major vehicle damage. The Army's airdrop certification of the FMTV A2 MTV cargo truck LVAD variant consisted of a tie-down and suspension provision testing and Simulated Airdrop Impact Testing at Fort Liberty, North Carolina to demonstrate the vehicle's rigging procedures for airdrop. The FMTV A2 MTV cargo truck LVAD variant successfully completed these tests and was cleared for airdrop testing from an aircraft in November 2023.

The Army conducted three airdrop events for the FMTV A2 MTV cargo truck LVAD variant in December 2023 (USAF C-17), January 2024 (USAF C-130), and February 2024 (USAF C-17). All three drops were successful, and no major vehicle damage occurred. After each airdrop, soldiers drove the FMTV A2 MTV cargo truck LVAD variant 30 miles over paved and unpaved terrain to demonstrate its availability to immediately support airborne operations. Then the vehicles were placed in an aircraft hangar overnight to determine if

the airdrop and subsequent vehicle operations caused any leaks and to inspect for damages. The Army plans to certify the LMTV LVAD cargo truck and MTV dump trucks for airdrop from C-17 and C-130 aircraft by 2QFY25.

» **SURVIVABILITY**

The armored FMTV A2 LVAD cab and MTV cargo truck demonstrated the same survivability to kinetic threats as the non-LVAD armored FMTV A2 vehicles. The FMTV A2 vehicle's protection, to include the LVAD variants, against the expected kinetic threats remains unchanged.

RECOMMENDATIONS

The Army should:

1. Continue to address DOT&E's recommendations from the FY23 Annual Report and the October 2023 combined FOT&E and LFT&E report for the FMTV A2.
2. Complete the remaining LVAD events required to certify the FMTV A2 LVAD LMTV cargo and LVAD MTV dump truck variants for airdrop by USAF C-17 and C-130 aircraft.