

Army Tactical Wheeled Vehicles



GM Defense Infantry Squad Vehicle (ISV)



Oshkosh / Flyer Infantry Squad Vehicle (ISV)



SAIC / Polaris Infantry Squad Vehicle (ISV)



Family of Medium Tactical Vehicles (FMTV) Cargo

Executive Summary

- In August 2019, the Infantry Squad Vehicle (ISV) program selected three vendors to participate in prototype testing, based on evaluation of Requests for Prototype Proposals (RPPs) and results of vehicle sample tests.
- The ISV Milestone C decision and down-select to a single contractor is planned for 3QFY20.
- In August 2019, the Army began the DOT&E-approved LFT&E program designed to demonstrate the survivability of the Family of Medium Tactical Vehicles (FMTV) A2 and its occupants against mines and IEDs threats.
- The FMTV program delayed the start of FMTV A2 Production Verification Test (PVT) because the contractor was required to address and fix production design deficiencies.

System

ISV

- The ISV is the program of record for the Army Ground Mobility Vehicle. The ISV provides mobility on the battlefield for a nine-soldier light Infantry Squad with their associated equipment. The vehicle has a payload requirement of 3,200 pounds to support the Infantry Squad conducting 72-hour operations.
- The ISV has a maximum vehicle curb weight of 5,000 pounds to meet the requirement for external transport by the UH-60. The vehicle is required to be external and internal transportable by a CH-47 helicopter and airdropped by C-17 and C-130 aircraft.

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FMTV

- The FMTV A2 is a set of hardware and software improvements to the FMTV A1 trucks designed to expand the capabilities of the FMTV. These upgrades include: adjustable suspension system, increased payload, electronic stability control, and an underbody protection kit. The FMTV A2 Family of Vehicles (FoV) consists of the following light and medium variants that operate on- and off-road.
 - The Light Medium Tactical Vehicle (LMTV) transports a 6,000-pound payload and a 12,000-pound towed load.
 - The Medium Tactical Vehicle (MTV) transports a 16,000-pound payload and a 21,000-pound towed load.

Mission

ISV

- Infantry Brigade Combat Team commanders employ the ISV to provide mobility and logistics support capability to conduct engagement, security, deterrence, and decisive-action missions. Airborne and air assault Brigade Combat Teams employ the ISV during austere and offset entry operations to provide rapid cross-country mobility to conduct initial entry and offensive operations.

FMTV

- The Army employs the FMTV FoV to provide multi-purpose transportation in maneuver, maneuver support, and sustainment units. Transportation units conduct line and local haul missions carrying cargo and soldiers with the LMTV and MTV Cargo variants and associated trailers. Medical units employ the MTV – Load Handling System to transport, load, and off-load medical containers. Maintenance units use the MTV wrecker to conduct recovery operations of light- and medium-wheeled vehicles. Engineering units employ the MTV Dump Truck to haul and dump material.

Major Contractors

ISV

- Oshkosh/Flyer Defense – Oshkosh, Wisconsin
- Science Applications International Corp (SAIC)/Polaris Government and Defense – Reston, Virginia
- General Motors Defense – Detroit, Michigan

FMTV

- Oshkosh Corporation – Oshkosh, Wisconsin

Activity

ISV

- The ISV program began in 2QFY17. DOT&E placed the ISV program under oversight for OT&E in June 2017. This is the first annual report for the program.
- In June 2019, the program conducted a Soldier Touchpoint 1 event at Fort Bragg, North Carolina, with five vendors' ISVs to obtain soldier and crew feedback on design, operations, and ease of ingress/egress. The program used the feedback along with performance data to assess user acceptability of the five vendors' proposals as part of the ISV Other Transaction Authority RPP.
- In August 2019, the program selected three vendors' ISVs to participate in prototype testing based on evaluation of RPPs and results of vehicle sample tests.
 - Oshkosh/Flyer Defense
 - SAIC/Polaris
 - General Motors Defense
- The program intends to use prototype developmental testing and a second Soldier Touchpoint event to inform an ISV Production Request for Proposal and Source Selection Board activities to down select to a single contractor ISV in 3QFY20.
- In November 2019, the Army Test and Evaluation Command (ATEC) began ISV prototype developmental testing at Aberdeen Proving Ground, Maryland. The objective of the testing is to demonstrate that the vendors' ISVs can meet selected Key Performance Parameters and System Attributes.

- The program is developing a Test and Evaluation Master Plan (TEMP) to reflect the test and evaluation activities for a Milestone C decision, production, and deployment phase of the program.
- The Milestone C Low-Rate Production decision is planned for 3QFY20.

FMTV

- In FY19, the program began development of an FMTV A2 TEMP Annex to outline the PVT and FOT&E for the FMTV A2 FoV. The program plans to submit the FMTV A2 TEMP Annex for DOT&E approval in February 2020.
- The program developed a separate LFT&E Strategy for FMTV A2 FOV. DOT&E approved the LFT&E strategy in February 2019.
- In August 2019, the Army began the FMTV A2 LFT&E program consisting of five tests intended to assess the performance of the new underbody kit as a function of mine/IED charge and engagement location.
- In September 2019, ATEC began performance and reliability testing on the FMTV A2 variants to verify compliance to the FMTV A2 performance specification. This testing, at Aberdeen Proving Ground, Maryland, will accumulate 179,000 miles on three FMTV A2 vehicles in both armored and unarmored configurations to assess whether the variants can meet their Mean Miles Between Operational Mission Failures (MMBOMF) requirement.

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Depending on the FMTV variant, the reliability requirement varies between 5,000 to 6,500 MMBOMF.

- ATEC plans to conduct the FMTV A2 FOT&E in 4QFY21 at Yuma Proving Ground, Arizona.

Assessment

ISV

- The Soldier Touchpoint 1 provided soldier assessment of loading mission-essential equipment in the vehicle, suitability of the location of weapons mounts, casualty evacuation, and squads driving the vehicle over a 26-mile trail. The event focused on soldiers completing tasks rather than an ISV-equipped squad accomplishing missions.
- DOT&E recommends the ISV developmental testing and Soldier Touchpoint 2 include reliability testing of the three vendors' vehicles and demonstrate the ISV capabilities to support small unit mission accomplishment prior to the Milestone C and down-select decision.

FMTV

- The FMTV A2 LFT&E program is ongoing and the preliminary assessment of the first tests demonstrated the expected performance of the underbody kit.

- The program has taken considerable action to require the vendor to fix production design deficiencies with the FMTV suspension and heat exchange systems. These design problems delayed the planned start of PVT by approximately 6 months.
- The program slipped the FOT&E from 1QFY21 to 3QFY21 to ensure the performance and reliability testing and logistics products are completed before the start of the FOT&E.

Recommendation

1. The ISV program should perform reliability testing of vendor's ISV prior to Milestone C. The Soldier Touchpoint 2 event in January 2020 should include a small unit conducting end-to-end operational missions.

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