

## Joint Light Tactical Vehicle (JLTV) Family of Vehicles (FoV)



**General Purpose**



**Heavy Guns Carrier**



**Utility/Shelter Carrier**



**Close Combat Weapons Carrier**

### Executive Summary

- DOT&E approved the Annex to the Joint Light Tactical Vehicle (JLTV) Milestone C Test and Evaluation Master Plan (TEMP) in October 2017.
- The Army Test and Evaluation Command (ATEC) and Marine Corps Operational Test and Evaluation Agency (MCOTEA) plan to complete the LFT&E in accordance with the DOT&E-approved test plan by January 2018.
- In November 2017, the Army designated the Army test unit for the February 2018 Multi-Service Operational Test and Evaluation (MOT&E). This late decision affects ATEC's ability to work with the Army unit to develop operationally relevant missions and ensure that the unit is trained, equipped, and manned to execute these missions.
- The approved JLTV Milestone C (MS C) TEMP requires an amphibious ship during the MOT&E to support the assessment of the JLTV employment in amphibious operations. The Navy has not committed to providing an amphibious ship for the MOT&E affecting MCOTEA's ability to conduct the end-to-end amphibious operations during the MOT&E.
- In February 2018, ATEC and MCOTEA plan to conduct the JLTV MOT&E at Twenty-nine (29) Palms and Camp Pendleton in California. The results of the MOT&E will support a Full-Rate Production decision in 1QFY19.

### System

- The JLTV Family of Vehicles (FoV) is the partial replacement for the High Mobility Multi-purpose Wheeled Vehicle (HMMWV) fleet for the Marine Corps and Army. The Services intend JLTV to provide increased crew protection against IEDs and underbody attacks, improved mobility, and higher reliability than the HMMWV.
- The JLTV FoV consists of two vehicle categories: the JLTV Combat Tactical Vehicle, designed to seat four passengers, and the JLTV Combat Support Vehicle, designed to seat two passengers.
- The JLTV Combat Tactical Vehicle has a 3,500-pound payload and three mission package configurations:
  - Close Combat Weapons Carrier (CCWC) Vehicle
  - General Purpose Vehicle
  - Heavy Guns Carrier Vehicle
- The JLTV Combat Support Vehicle has a 5,100-pound payload and one mission package configuration:
  - Utility Prime Mover that can accept a shelter
- As a result of General Motor's decision to discontinue the JLTV engine used during Engineering Manufacturing Development, the JLTV program plans to field two vehicle

# FY17 ARMY PROGRAMS

versions: the JLTV A0 and A1. The JLTV A1 has a new Duramax engine that replaces the A0 engine.

- The Army plans to field approximately 47,099 JLTV A1 and 2,000 JLTV A0 vehicles.
- The Marine Corps plans to field approximately 9,091 JLTV A1 vehicles.
- JLTVs are equipped with two armor levels: the A-kit, or base vehicle, which the Services intend to employ in low threat environments, and the B-kit, an add-on armor kit, for additional force protection against enhanced small arms, fragmentation, and underbody threats.

## Mission

- Commanders employ military units equipped with JLTV as a light, tactical-wheeled vehicle to support all types of military operations. Airborne, air assault, amphibious, light, Stryker, and heavy forces use JLTVs as reconnaissance, maneuver, and maneuver sustainment platforms.
- Small ground combat units will employ JLTV in combat patrols, raids, long-range reconnaissance, and convoy escort.

## Major Contractor

Oshkosh Corporation – Oshkosh, Wisconsin

## Activity

- ATEC began Production Qualification Test (PQT) and Reliability Qualification Test (RQT) in January 2017 on the JLTV A0. The purpose of PQT was to ensure that the JLTV performance, reliability, weapon integration, and transportability met the requirements outlined in the JLTV Capability Production Document. ATEC completed the majority of JLTV A0 PQT and RQT events by December 2017.
  - PQT and RQT at the Cold Regions Test Center conducted in Fort Greeley, Alaska, assessed the JLTV A0 performance and reliability in extreme cold-weather environments.
  - RQT at Aberdeen Proving Ground (APG), Maryland, and Yuma Proving Ground (YPG), Arizona, accumulated over 96,000 combined miles to assess the A0 vehicle reliability.
  - Transportability testing consisted of helicopter sling load, internal air transport, and rail transport for transportability certification.
- DOT&E approved the Annex to the JLTV Milestone C TEMP in October 2017.
- Tube-launched, Optically tracked, Wire-guided (TOW) integration testing of the JLTV CCWC is ongoing at Redstone Test Center, Alabama.
- Low Velocity Air Drop testing began at Fort Bragg, North Carolina in November 2017.
- ATEC and MCOTEA plan to complete the LFT&E at APG in accordance with the DOT&E-approved test plan by January 2018.
  - Full-up system-level live fire testing evaluated crew survivability and vehicle performance against mine and IED threats, overhead artillery, rocket-propelled grenades, and homemade explosives.
  - Ballistic cab testing characterized the explosively formed penetrator armor kit.
  - Exploitation testing on the JLTV Combat Support Vehicle evaluated the survivability of the JLTV against small arms and fragments.
- The program conducted performance, reliability, and cybersecurity testing on the JLTV A1 from September through December 2017 at APG, YPG, and the Electronic Proving Ground (EPG) at Fort Huachuca, Arizona.
  - Reliability testing at APG and YPG accumulated over 24,000 miles to assess the Mean Miles Between Operational Mission Failures (MMBOMF) requirement.
  - Automotive performance testing at APG assessed critical automotive and mobility requirements.
  - A Cooperative Vulnerability and Penetration Assessment at EPG supported the development of a mitigation plan to reduce vulnerabilities and improve cybersecurity.
- In December 2017, the program conducted the JLTV Maritime Prepositioned Force Shipboard Evaluation at Charleston, South Carolina. The assessment provided the program with information regarding the capability to embark, maneuver, stow, and disembark from decks on Military Sealift Command vessels.
- ATEC and MCOTEA plan to conduct the JLTV MOT&E at 29 Palms and Camp Pendleton in February 2018. The results of the MOT&E will support a Full-Rate Production decision in 1QFY19. In November 2017, the Army designated the test unit that will participate in the MOT&E.
- The approved JLTV MS C TEMP requires an amphibious ship at MOT&E to support the end-to-end test of the JLTV employment in amphibious operations. The Navy has not committed an amphibious ship to support the Marines conducting amphibious operations during MOT&E.

## Assessment

- The Army's late selection of an Army test unit for the February 2018 MOT&E affects ATEC's ability to develop operationally relevant missions and ensure that the unit is trained, equipped, and manned to execute these missions.
- Results from PQT of the JLTV A0 and A1 variants indicate the vehicle is meeting automotive performance requirements.
- During extreme cold weather testing, the Army crew equipped with the JLTV experienced improved mobility and ride quality relative to the HMMWV over snow-covered terrain. The vehicle heating system warmed the cab quickly. Soldiers installed tire chains and changed tires with no problems.
- Initial analysis of ongoing reliability testing indicates that the JLTV A1 and A0 variants are meeting the reliability requirement of 2,400 MMBOMF.

# FY17 ARMY PROGRAMS

- Based on Weapons Integration Testing, the JLTV CCWC has restricted firing zones to avoid vehicle damage and ensure crew safety after TOW mission firings. DOT&E will assess the operational impact of the CCWC firing restriction during the MOT&E.
- The combat payload is expected to exceed 3,500 for the HGC and CCWC mission packages, which will result in the rear axle of the JLTV to be overloaded.
- Analysis is ongoing to assess the impact of cybersecurity deficiencies with respect to operationally relevant threats and their effect on JLTV survivability.
- Preliminary analysis of full-up system-level live fire testing did not reveal any unexpected vulnerabilities.
- DOT&E plans to complete detailed survivability analysis in FY18, to include results of modeling and simulation on the performance of the JLTV against the threshold force protection requirements and other operationally relevant threats. This analysis will support DOT&E's classified JLTV LFT&E report.

## **Recommendations**

- Status of Previous Recommendations. The Army has made progress addressing the previous FY15 recommendations.
- FY17 Recommendations. None.

# FY17 ARMY PROGRAMS