

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

Executive Summary

- From November 2012 through August 2013, the Army conducted early ballistic testing of the Joint Light Tactical Vehicle (JLTV) designs.
 - These tests identified vulnerabilities in crew protection, which the contractors are addressing.
 - Early tests indicate that some of the threshold-level force protection Key Performance Parameters (KPPs) may be achievable but a full assessment of the results is not yet complete.
- In August 2013, the contractors delivered 22 full-up prototypes per contractor for developmental, live fire, and operational testing. The program plans to begin live fire testing in November 2013 and developmental/operational testing in April 2014.
- The government began automotive and Reliability, Availability, and Maintenance (RAM) testing in October 2013 at Aberdeen Test Center (ATC), Maryland, and Yuma Proving Ground, Arizona. The objective is to uncover failure modes, implement corrective actions, and assess whether the JLTV vehicles can meet the Mean Miles Between Operational Mission Failure requirement prior to the Milestone C decision. This testing will continue until June 2014.

System

- The JLTV Family of Vehicles (FoV) is the Marine Corps and Army partial replacement for the High Mobility Multi-purpose Wheeled Vehicle (HMMWV). The Services intend the JLTV to provide increased crew protection against IED 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 Vehicle
 - General Purpose Vehicle
 - Heavy Guns Carrier Vehicle
- The JLTV Combat Support Vehicle has a 5,100-pound payload and two mission package configurations:
 - Utility Prime Mover
 - Shelter Carrier
- The JLTV program is using a competitive prototype acquisition strategy. During the Engineering and Manufacturing Development phase, the program will test three contractors' FoVs.



AM General JLTV



**Lockheed Martin
Systems JLTV**



Oshkosh Corporation JLTV

Mission

- Military units will employ JLTV as a light tactical wheeled vehicle to support all types of military operations. JLTVs will be used by airborne, air assault, light, Stryker, and heavy forces as reconnaissance, maneuver, and maneuver sustainment platforms.
- Small ground combat units will employ JLTV in combat patrols, raids, long-range reconnaissance, and convoy escort.

ARMY PROGRAMS

Major Contractors

- AM General – South Bend, Indiana
- Lockheed Martin Corporation – Dallas, Texas
- Oshkosh Corporation – Oshkosh, Wisconsin

Activity

- The program conducted contractor Design Understanding Reviews (DURs) from December 2012 through January 2013. The DURs appraised each contractor's progress toward achieving threshold JLTV requirements and served as a means to identify technical challenges.
- In 2QFY13, the JLTV contractors conducted user reviews that provided JLTV contractors with Soldiers and Marines input and recommended modifications to the designs.
- In October 2012, the contractors delivered armor samples for live fire testing. The Army conducted testing of the armor samples from November 2012 through January 2013 at ATC. Due to sequestration, some armor sample testing will be postponed until the Production and Deployment phase.
- In January 2013, the contractors delivered ballistic cabs for live fire testing. A ballistic cab is an armored crew compartment mounted on a representative vehicle chassis intended to provide early insights into ballistic vulnerabilities. The Army conducted testing of the ballistic cabs from March through August 2013 at ATC.
- In August 2013, the contractors delivered 22 full-up prototypes per contractor for developmental, live fire, and operational testing.
- JLTV prototypes completed 500 miles of break-in RAM testing and 1,000 miles of shakedown testing. The break-in testing is performed by the contractor to verify basic vehicle functionality. The shakedown testing is intended to ensure workmanship and infant-mortality problems are discovered and addressed. The contractors used the results of these tests to correct vehicle build and quality concerns prior to government testing.
- The government began automotive testing on the JLTV vendor vehicles in October 2013 at ATC. The Army Test and Evaluation Command planned to start RAM testing of vendor vehicles in October 2013 at ATC and Yuma Proving Ground. This testing was delayed due to the Federal Government shutdown. The objective of the RAM testing is to uncover failure modes, implement corrective actions, and assess whether the vendor's vehicles can meet the Mean Miles Between Operational Mission Failure requirement prior to the

Milestone C decision. This testing is planned to continue until June 2014.

- The program began system-level live fire testing in November 2013. Eighteen ballistic test events will occur per contractor prior to the Milestone C decision. Due to sequestration, testing of the Automatic Fire Extinguisher Systems will be postponed until the Production and Deployment phase.
- The developmental/operational testing is planned to begin in April 2014.

Assessment

- Based on the DUR and user reviews, all three contractors will have challenges satisfying the payload requirements to carry vehicle occupants with mission essential equipment, weapons, and sustainment loads. Visibility from the crew compartment is limited for all vendor vehicles due to small rear windows, positioning of window panels, and seating arrangements.
- The planned reliability growth testing and corrective action periods provide limited time to identify and resolve failure modes prior to the Limited User Testing (LUT) planned for August 2014.
- Early live fire testing of the armor samples and ballistic cabs identified vulnerabilities in crew protection. Contractors made design changes as they deemed appropriate. The program will re-test all survivability design changes during system-level testing and the design changes will be incorporated on the prototype vehicles for the developmental/operational testing and the LUT.
- Early live fire test results indicate that the small arms, side- and underbody-detonated IED threshold-level force protection KPPs may be achievable. The system-level testing is required to make a final assessment of all threshold-level force protection KPPs.

Recommendations

- Status of Previous Recommendations. The Army has addressed all previous recommendations.
- FY13 Recommendations. None.