

Light Armored Vehicle – Anti-Tank Modernization (LAV-ATM)

Executive Summary

- From January 12 through March 4, 2015, the Marine Corps Operational Test & Evaluation Activity (MCOTEA) conducted an operational assessment (OA) for the Light Armored Vehicle Anti-Tank Modernization (LAV-ATM) using two pre-Milestone C LAV-ATM prototypes in accordance with a DOT&E-approved test plan. Operational Marines from 1st Marine Division participated in the OA.
- The LAV-ATM demonstrated a turret reliability of 0.95, exceeding the requirement of 0.9 and an operational availability of 0.965 exceeding the requirement of 0.85. Because of the short duration of the OA, it cannot be concluded with statistical confidence that the reliability requirement has been met.
- The LAV-ATM met its classified probability of hit requirements.



System

- The LAV Family of Vehicles shares a common-base platform configuration and consists of seven variants.
- The LAV-ATM variant fires tube-launched, optically-tracked, wire-guided anti-armor missiles.
- The eight-wheeled LAVs have armor to protect units from some small arms, light machine gun fire, and artillery projectile fragments.
- LAVs are capable of operating on primary roads, trails, and cross-country terrain.
- LAVs have a limited swim capability for maneuvering waterways and river crossings.

Mission

Marine Corps commanders will use Light Armored Reconnaissance (LAR) battalions equipped with LAV-ATM

vehicles to conduct reconnaissance, security, economy of force operations, and limited offensive or defensive operations.

- During offensive operations, the Marine Corps will employ the LAV-ATM to provide anti-armor fires that support maneuvering LAR companies and platoons.
- During defensive operations, the Marine Corps will use the LAV-ATM to provide LAR companies and platoons with long-range, stand-off anti-armor fires, and observation in all climate conditions and periods of limited visibility.

Major Contractor

Raytheon – McKinney, Texas

Activity

- From January 12 through March 4, 2015, MCOTEA conducted an OA for the LAV-ATM at the Marine Corps Air Ground Combat Center, Twentynine Palms, California, using two pre-Milestone C LAV-ATM prototypes. Operational Marines from 1st Marine Division participated in the OA. Testing was conducted in accordance with a DOT&E-approved test plan.
- The OA consisted of a training phase, a weapon systems comparison test, and a field firing test.
 - The training phase included a 40-hour new equipment training period for operators and maintainers.

- The weapon systems comparison test phase included four 48-hour operational mission profiles. Mission routes covered desert terrain that included ravines, washouts, hills, rocks, and soft sand. In each operational mission profile, each platoon conducted eight missions, divided between offense and defense and between day and night.
- The field firing test phase of LAV-ATM consisted of 44 live tube-launched, optically-tracked, wire-guided missile firings on an instrumented range and tactical movements conducted between missile firings to create operational stresses on the crews and system.

Assessment

- During the OA, the LAV-ATM's second generation, forward-looking infrared thermal sight demonstrated the following capabilities:
 - Enabled gunners to acquire targets at greater ranges
 - Provided an eye-safe laser range finder
 - Provided automatic boresighting
 - Aided the gunner in target tracking
 - Incorporated an embedded training capability
- The LAV-ATM can maneuver with its turret raised, providing a capability to detect and acquire targets on the move and engage targets more quickly than the current LAV-AT that takes two minutes to raise its turret. However, due to test limitations including the lack of the capability to conduct real-time casualty assessment, the OA did not provide results actually demonstrating the operational benefit of this improvement.
- The new vehicle commander's sight provides the vehicle commander with the same imagery seen by the gunner to improve target detection, acquisition, recognition, and identification and to increase the vehicle commander's

situational awareness. Again, test limitations precluded demonstrating the actual operational benefit of this improvement.

- The LAV-ATM demonstrated a turret reliability of 0.95, exceeding the requirement of 0.9 and an operational availability of 0.965, exceeding the requirement of 0.85. Because of the short duration of the OA it cannot be concluded with statistical confidence that the reliability requirement has been met.
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Recommendations

- Status of Previous Recommendations. This is the first annual report for this program.
- FY15 Recommendation.
 1. The Marine Corps should field the instrumentation capabilities, including real-time casualty assessment, necessary to conduct useful realistic operational testing of new combat vehicles and upgrades to existing vehicles.