Armored Multi-Purpose Vehicle (AMPV)

Armored Multi-Purpose Vehicle uses, clockwise from top left: General Purpose | Mission Command | Mortar Carrier | Medical Treatment with Shelter | Medical Evacuation

The Army completed full-up system-level (FUSL) live fire testing in May 2022 and an IOT&E in July 2022. DOT&E published a combined IOT&E and LFT&E report, with a classified annex, in January 2023, assessing the AMPV as operationally effective, suitable, and survivable against specified kinetic threats. The Army is implementing corrective actions in response to vulnerabilities and issues identified during operational and live fire testing and plans to validate the design improvements through developmental and live fire testing.

SYSTEM DESCRIPTION

The AMPV is a tracked, ground combat vehicle that supports casualty evacuation and treatment, command post operations, logistical resupply, and heavy mortar fire support to an Armored Brigade Combat Team (ABCT). There are five variants: General Purpose (GP), Mission Command (MCmd), Medical Treatment (MT), Medical Evacuation (ME), and Mortar Carrier (MC). The AMPV replaces the M113A3 Family of Vehicles (FoV), consisting of the M113A3 (GP and ME), M1064A3 (MC), M1068 (MCmd), and M577 (MT) variants, and addresses shortcomings in survivability, force protection (i.e., size, weight, power, and cooling), and the ability to incorporate future technologies, such as the Army Network.

MISSION

ABCTs will employ the AMPV to provide a more survivable and mobile platform than the legacy M113A3 FoV to accomplish required operational support missions across the range of military operations. ABCT units will use AMPVs to support casualty evacuation and treatment, command post operations, logistical resupply, and heavy mortar fire support.

PROGRAM

The AMPV is an Acquisition Category IC program under the major capability acquisition pathway. The full-rate production decision was made in July 2023. The Army is implementing corrective actions in response to vulnerabilities and issues identified during operational and live fire testing and plans to validate the design improvements through developmental and live fire testing.

The Army conducted a demonstration of the AMPV Modular Turreted Mortar System (MTMS) at the Maneuver Warfighter Conference in September 2024, to inform Army leadership on the feasibility of pursuing a future AMPV MTMS program of record.

» MAJOR CONTRACTOR

- BAE Systems – York, Pennsylvania

TEST ADEQUACY

The Army completed FUSL live fire testing in May 2022 and an IOT&E in July 2022. Testing was adequate, conducted in accordance with DOT&E-approved test plans, and observed by DOT&E personnel. DOT&E published a combined IOT&E and LFT&E report, with a classified annex, in January 2023.

The Army implemented hardware and software corrective actions to address system failure modes and cybersecurity vulnerabilities observed during IOT&E in July 2022. The developmental testing to verify these fixes is ongoing and will complete in December 2024 at Yuma Test Center, Arizona. The program office completed a software update and regression testing in August 2024 at Detroit Arsenal, Michigan to correct vulnerabilities identified during the 2022 adversarial assessment.

The Army is finalizing design changes to the Automatic Fire Extinguishing System (AFES) to fix the vulnerabilities observed in FUSL testing and AFES testing in FY22. The Army is planning AFES validation testing in 2QFY25 at Aberdeen Proving Ground, Maryland.

In the DOT&E combined IOT&E and LFT&E report published in January 2023, DOT&E recommended making the interior of the MCmd reconfigurable to better support crews conducting analog operations and developing a fire direction-specific variant to better facilitate crews' ability to conduct fire direction center operations. The Army currently is not pursuing initiatives to make the interior of the MCmd reconfigurable nor are they developing a fire direction-specific variant. However, the Army will continue to conduct post fielding assessments in these areas.

PERFORMANCE

» EFFECTIVENESS, SUITABILITY, AND SURVIVABILITY

DOT&E published a combined IOT&E and LFT&E report, with a classified annex, in January 2023 assessing the AMPV as operationally effective, suitable, and survivable against specified kinetic threats. The Army is working on design changes to the AFES, computer screens, and other sub-components to address the recommendations from the January 2023 report and the FY23 Annual Report.

As recommended in the FY23 DOT&E Annual Report, the Army implemented fixes on several deficiencies identified during the IOT&E, including improved mortar hatch spring, engine control software, access point seals, computer screen stability, and subsystem access. These fixes were verified through developmental and cybersecurity tests conducted in FY24.

DOT&E and ATEC will confirm the efficacy of these fixes in 1QFY25 on vehicles at Yuma and at the

Detroit Arsenal, and DOT&E will include an assessment in the FY25 Annual Report.

RECOMMENDATIONS

As discussed in the FY23 Annual Report, the Army should:

1. Consider initiatives to make the interior of the MCmd reconfigurable to better support crews conducting analog operations.
2. Consider developing a fire direction center-specific variant to better facilitate crews' ability to conduct fire direction center operations.
3. Continue to address the survivability recommendations provided in the classified annex to the combined IOT&E and LFT&E report.

Additionally, the Army should:

1. Finalize the AFES design changes and conduct validation testing.