

ASSAULT AMPHIBIOUS VEHICLE



Assault Amphibious Vehicle

Program Background

The Assault Amphibious Vehicle (AAV) was initially fielded in 1972 as the Landing Vehicle Tracked 7 (LVT7). It was subsequently renamed the AAV7 and upgraded to the AAV7A1 configuration in the late 1980s; and it was upgraded to the AAV7A1 RAM/RS (Reliability Availability Maintainability/Return to Standard) configuration between 1998 and 2007. The AAV, which continues to be the Marines' primary amphibious lift and armored personnel carrier, provides ship-to-shore-to-objective mobility as well as direct fire support with organic weapons. The AAV Family of Vehicles consists of the AAVP7A1 personnel variant, the AAVC7A1 command and control variant, and the AAVR7A1 recovery variant. The AAV is scheduled to remain in service until

at least 2035, requiring upgrades as a bridge to the planned Amphibious Combat Vehicle Phase 1 Increment 1.

Program Status

The AAV Survivability Upgrade Program entered the acquisition cycle at Milestone B during FY14 and began the engineering, manufacturing, and development phase. The program will improve force protection and platform survivability by integrating mature technologies into the AAV. These upgrades include belly and sponson armor, blast-mitigating seats, spall liners, and expected automotive and suspension upgrades. Currently slated for approximately 392 AAV personnel variants, the upgrades will provide Marine Corps operational

forces with four battalions of lift plus some additional support capabilities. The program's developmental testing is planned for FY16-17. Milestone C, authorizing entrance into the production and deployment phase, is scheduled for FY17, with an Initial Operating Capability slated for FY19.

Upcoming efforts will focus on numerous subsystems and components that will require technology refresh and/or upgrades; they include fuel tanks, fire suppression, radios and intercoms, suspension, and driver's display. The requirements of the AAV Survivability Upgrade Program and legacy sustainment may be met with non-developmental items and mature technology. The following areas, however, may offer opportunities where advanced technology could benefit the AAV.

AAV's Top Technical Issues

1. Survivability

Technologies that provide advances in ceramic and layered armor, blast seats, and spall liner to improve survivability and reduce weight would benefit the AAV Survivability Upgrade.

2. Weight/Buoyancy Management

Enhancing survivability will likely add weight to the AAV. Alternative lightweight, economical materials, along with design improvements to increase and protect buoyancy, would benefit the AAV Survivability Upgrade.

3. Sustainment/In-Service Engineering

The AAV is a 40-year-old platform that will remain in service for years to come. The day-to-day logistics, maintenance, and technical challenges of managing such a dated platform would be mitigated by advanced technology that increases reliability and reduces operation and maintenance support costs, which could include advances in weapon station technology (single and dual mount systems) that specifically address operation in an amphibious environment. Advances in diagnostics and modernized maintenance management would also benefit the AAV fleet.



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AAV Technical Issue #3 Sustainment/In-Service Engineering

