Program Manager
Advanced Amphibious Assault

Expeditionary Warfare Conference
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Col Kirk Mullins, Deputy Program Manager ACV 1.1
# ACV 1.1 Key Requirements

## Requirements Summary

- **Protection:**
  - MRAP level protection against under-vehicle & roadside IED
  - Maneuver for 5 miles to egress kill zone following ballistic attack

- **Transportability:** Two ACVs on a Ship-to-Shore Connector (SSC)

- **Maneuverability:**
  - Land: Must meet expeditionary mission profile (70% off-road)
  - Water: Sea worthy maneuver from shore-to-shore (3 nm)

- **Payload:** 3 crew, 10 Infantry PAX, 2 DoS, Combat Essential Equipment

- **Availability:** Operational: 81%

- **Energy:** Will not increase the refueling frequency above the AAVP7

## Mission
- **General Support Lift / Protected Land and Water Mobility**

## Dimensions
- Foot print similar to AAV
- Weight: ~66,000 lbs GVW

## Weapon
- Single mount RWS that can be equipped with a MK-19 AGL or M2 HMG

## Fire control
- Modern, Stabilized Day / Night Optics

## Capacity
- 10 Infantry Marines + 3 Marine Crewmen

## Range
- 300 - 400 miles

## Speed
- Land mobility effective with MAGTF Maneuver TF/ 5 knots in 2ft significant wave height seas

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**Acquisition Status:** MS B (17 Nov 15)

**Acquisition Objective:** 204

**IOC/FOC:** 2020/2022 (Projected)

**Comments:** Acquisition Objective will provide lift for two Infantry Battalions (Active Component)
ACV Phasing Overview

- **392 AAV SUP/SII**
  - 4xBN Lift

- **Legacy AAV**
  - 666 C/R/P
  - 4xBN Lift
  - ~180

- **ACV 1.2**
  - 486 C/R/P
  - 76 C/R
  - ~410

- **ACV 1.3 (Wheeled)**
  - 490
  - P/C/R Variants
  - ~700

- **HWS Capability Development Exploration**

- **ACV 2.0 (HWS Tracked or Wheeled)**

Legend:
- ▼ = Planned Initial Operating Capability
- ♦ = Planned Full Operating Capability
- ▼ = Divestiture
- ★ = 1.2 CDD Development JROC Staffing
- ★ = Assess ACV 1.1 Water Mobility
- ★ = HWS Decision

Years:
- 2014
- 2015
- 2016
- 2017
- 2018
- 2019
- 2020
- 2021
- 2022
- 2023
- 2024
- 2025
- 2026
- 2027
- 2028
- 2029
- 2030
- 2031
- 2032
- 2033
- 2034
- 2035
- 2036
- 2037
- 2038
- 2039
- 2040

Vehicle Models:
- ACV 1.3 (Wheeled)
- ACV 1.2
- ACV 1.1
- Legacy AAV
- AAV SUP/SII
- HWS Capability Development Exploration
- ACV 2.0 (HWS Tracked or Wheeled)
**AAV Survivability Upgrade Program**

**Objective:**
The Assault Amphibious Vehicle (AAV) Survivability Upgrade is an ACAT III program initiated to increase AAV7A1 force protection while maintaining required land and water mobility performance. This upgrade is derived from the need for an operationally effective amphibious armored personnel carrier capability bridge until the future amphibious portfolio of vehicles reaches full operational capability.

**Acquisition Status:** Engineering Manufacturing Development

**Acquisition Objective:** 392

- 392 AAVs out of a fleet of 964

**IOC/FOC:** 2019/2023 (Projected)

**Approximate Unit Cost:** $1.65M (FY12$)

**Comments:**
- Prototypes delivered/testing began 2Q FY16
- MSC planned for 3Q FY17
- AAO will support MEU deployments and globally source lift for 4 infantry battalions and 2 RLT command elements to support a 2 MEB FEO

**Fuel Tank Upgrade**
- Added External Tank(s)
- Day Tank

**Force Protection**
- Spall Liner
- Direct Fire Protection

**Prime Vendor:** SAIC

**IED Protection**
- Underbelly Protection
- Sponson/Lower Sidewall Protection
- Blast Mitigating Seats

**Performance Upgrades**
- Powertrain
- Marine Drive Train
- Suspension

**End Result – Improved protected mobility to extend the operational effectiveness of the system in the 2030s**
Vehicle Overview – Exterior

Performance Improvements
- Underbody protection
- Water speed: ~7 knots in 1’ SWH
- Reserve buoyancy: 21%
- Top land speed: 42.5 mph
- 17 Embarked Marines
- GVW ~72,000 lbs.

Upgraded suspension improves ride quality with ~80% commonality with RAM/RS suspension, increases load capacity, and raises the hull by 3 inches to improve survivability
Vehicle Overview – Interior

**Force Protection**
- Internal lower hull armor
- Integrated underbody keel protection and deck

**Blast Energy Mitigating Seats**
(3 Crew + 17 Marines)

**Upgraded VT 903**
(675hp engine)

- New transmission
- New Power Take-Off (PTO)

**Bonded spall liner**

*Force protection modifications increased force protection against under-vehicle attack*