ADVANCED AMPHIBIOUS ASSAULT VEHICLE

37th Annual Gun & Ammunition Symposium & Exhibition
April 15-18, 2002
Past: AAV
- WWII Doctrine
- No Standoff Distance for ATF
- Slow Speed Amphibious Assault
- 1960’s Technology
- Limited Survivability

Future: AAAV
- Defense Stand-off Space for Amphibious Task Force
- Operational Reach - Land and Water Maneuver
- Seamless Maneuver OMFTS/STOM
- Precision Lethality
- Survivable on 21st Century Battlefield
- Enhanced C4I

New System Validation:
- Three AOA’s/COEA’s
- Comprehensive Whole Systems Trade Study

Identified Deficiencies:
- Tactical Mobility
- Close Combat
- Command & Control
- Survivability

Leap Ahead to 21st Century Technology
MISSION & KEY PERFORMANCE PARAMETERS

AAAV MISSION

- Provide High Speed Transport of Embarked Marine Infantry From Ships Located Beyond the Horizon to Inland Objectives
- Provide Armor Protected Land Mobility and Direct Fire Support During Combat Operations

AAAV KEY PERFORMANCE CRITERIA

<table>
<thead>
<tr>
<th>Objective</th>
<th>Threshold</th>
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<tbody>
<tr>
<td>High Water Speed</td>
<td>25 knots</td>
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<tr>
<td>20 knots (SS 3)</td>
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<tr>
<td>Forward Speed</td>
<td>72 kph</td>
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<tr>
<td>69 kph</td>
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<tr>
<td>Armor Protection</td>
<td>30mm @ 1000m</td>
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<tr>
<td>14.5mm @ 300m</td>
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<tr>
<td>Firepower</td>
<td>2000 m</td>
</tr>
<tr>
<td>1500 m (Max Eff Range)</td>
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<tr>
<td>Reliability</td>
<td>95 Hours</td>
</tr>
<tr>
<td>70 Hours (MTBOMF)</td>
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<tr>
<td>Carrying Capacity</td>
<td>18 Marines</td>
</tr>
<tr>
<td>17 Marines</td>
<td></td>
</tr>
<tr>
<td>Interoperability</td>
<td>100% Top Level IERs</td>
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<tr>
<td>100% Top Level Critical IERs</td>
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PROTOTYPE #1 TESTING
STATUS

• P1 has 1,866 hours of testing, primarily in High Water Speed Mode

The High Water Speed KPP was demonstrated in April 2000

• Ongoing Developmental Testing Is Characterizing the Hydrodynamic Performance Envelope, And Optimizing Performance and Handling Characteristics

Accomplishments:

- Max Speed = 38 Knots
- Max Planing Weight
  35,684 kg @ 22 Kts
  (78,600 lbs)
- Transition Mode
  Fully Characterized

SDD Bow
PROTOTYPE #2 TESTING
STATUS

- P2 Has 3,031 Miles of Land Mode Testing
- Developmental Testing at ATC / 29 Palms has Characterized Land Performance Parameters.
- 08 April 2002, completed Firepower Comparative Testing
• P3 Has 309 Miles of Land Mode and Firepower Testing

• To Date, P3 Has Been Used for the Following Tests:
  – Logistics Demonstration
  – Maintenance/Operator Training for EOA Marines
  – Mk46 System Checkout and Dial-in of Primary and Coax Weapons Systems at Eglin AFB
  – CAX Support

• While at 29 Palms in Support of EOA, the P3 Prototype Was Also Conducting the Following Developmental Tests:
  – Engine Cooling System Evaluation (Hot Weather)
  – Vehicle Acceleration
  – Environmental Control System Evaluation

• P3 Returned to Woodbridge to be Refurbished and Prepared for Water Mode Testing at Camp Pendleton, CA
**Domestic Customers**
- Deliveries for LPD-17

**Potential Domestic Customers**
- DDG-51
- CVN(X)
- DDX Blue team CIGS
- JCC(X)
- USCG “Deep Water”

**Potential International Customers**
- UK Type 45 Destroyer
- Japan Navy and Coast Guard
• **Mk 44 30/40mm Automatic Gun**
  
  – US Army
    
    • Future Combat System
    • Bradley Upgrade
    • IAV
  
  – H60 Seahawk Helicopter Anti-Mine Mission (RAMICS)
  
  – NATO Use: Norway, Switzerland, Finland
  
  – Under Evaluation: UK, Germany, Austria, Taiwan, South Korea, Spain, Singapore
30/40mm Technology

• Long Rod Status
• H/E Status
• Super 40 Development

Super 40mm Projectile
Additional Propellant

Overall Length
Base Diameter
SDD TESTING

• Developmental Testing
  – Land and Water Mobility, Firepower
  – Reliability Testing

• Operational Testing (Before IOT&E)
  – Land Mobility Operational Assessment (FY01)
  – Comparative Firepower Operational Assessment (FY02)
  – Amphibious Operations Operational Assessment (FY02)
  – Validating LRIP Entrance Criteria (FY04)
  – SDD Operational Assessment (FY04)
  – Cold Weather Operational Assessment (FY05)

• Operational Testing
  – Full Up System Live Fire (FY05)
  – IOT&E (FY06)