

Stryker Double-V Hull (DVH)

Executive Summary

- The Army rapidly developed, tested, and fielded the Stryker Double-V Hull (DVH) in response to needs from commanders in Operation Enduring Freedom (OEF) regarding Stryker force protection/survivability shortfalls against underbody IEDs and blast threats. Testing and analysis confirm that the Stryker DVH configurations improve Stryker vehicle protection against IEDs; the details are classified.
- All configurations of the Stryker DVH are operationally effective for deployment into Afghanistan.
- All configurations of the Stryker DVH are operationally suitable.
- DOT&E published six classified reports on FY12 activity for the following variants: the Stryker DVH Commander's Vehicle (CVV), Infantry Carrier Vehicle – Scout (ICVV-S), Mortar Carrier Vehicle (MCCV), Medical Evacuation Vehicle (MEVV), Engineer Squad Vehicle (ESVV), and Anti-Tank Guided Missile Vehicle (ATVV).
- The Army Test and Evaluation Command (ATEC) continues to develop the System Evaluation Plan in support of testing for Stryker DVH worldwide fielding.

System

- The Stryker DVH Infantry Carrier Vehicle (ICVV) is the base variant for seven additional DVH configurations:
 - Anti-Tank Guided Missile Vehicle (ATVV)
 - Commander's Vehicle (CVV)
 - Engineer Squad Vehicle (ESVV)
 - Fire Support Vehicle (FSVV)
 - Mortar Carrier Vehicle (MCCV)
 - Medical Evacuation Vehicle (MEVV)
 - ICVV-Scout (ICVV-S)
- The ICVV-S is a new configuration to permit internal stowage of the Long-Range Advance Scout Surveillance System.
- The DVH configuration consists of a redesigned lower hull, energy attenuating seats, and an up-armored driver station. An upgraded suspension and driveline are incorporated because of the additional weight.
- At this time, the Army does not plan to purchase Stryker DVH versions of the Stryker Reconnaissance Vehicle; Mobile Gun System; or the Nuclear, Biological, Chemical Reconnaissance Vehicle.

Mission

- Combatant Commanders employ a DVH-equipped Stryker Brigade Combat Team (SBCT) as a decisive action combat force that conducts operations (offensive, defensive, stability, and defense support of civil authorities) against conventional or unconventional enemy forces in all types of terrain and climate conditions. In addition, it operates across the range



XM1256 Infantry Carrier Vehicle



XM1257 Engineer Squad Vehicle



XM1255 Commanders Vehicle



XM1256 Infantry Carrier Vehicle - Scout



XM1251 Fire Support Vehicle



XM1254 Anti-Tank Guided Missile Vehicle



XM1252 Mortar Carrier Vehicle



XM1253 Medical Evacuation Vehicle

- of military operations (major operations and campaigns, crisis response and limited contingency operations, military engagement, security cooperation, and deterrence).
- The DVH-equipped SBCT has the same mission profile as a non DVH-equipped SBCT. The Army intends to use the DVH as Theater Provided Equipment in Afghanistan, and provide the Army with a long-term worldwide capability to simultaneously deploy SBCTs into a non-permissive environment.
- The Army intends for the Stryker DVH to provide improved survivability against IEDs and blast threats, beyond the protection provided by current flat-bottom Stryker vehicles with OEF kits.

Major Contractor

General Dynamics Land Systems – Sterling Heights, Michigan

ARMY PROGRAMS

Activity

- The Army executed all live fire and operational testing in accordance with DOT&E-approved test plans.
- The Army executed multiple series of full-up system-level live fire events against the following DVH versions: ESVV, CVV, MCVV, MEVV, ATVV, and ICVV-S. The purpose of the follow-on DVH LFT&E program was to compare each DVH configuration's IED protection to existing OEF-kitted Stryker vehicles, as well as to identify any configuration-unique vulnerabilities to underbody IED and blast threats.
- ATEC completed developmental, operational, and live fire testing of the following Stryker DVH variants: ICVV-S, CVV, FSVV, MCVV, MEVV, and ATVV through 3QFY12 to characterize any degradation to reliability, availability, maintainability, and cross-country mobility, and compare DVH performance to the Strykers currently used in OEF. ATEC conducted operational testing of the MCVV at Yuma Proving Ground, Arizona, and integrated testing of the MEVV at Aberdeen Proving Ground, Maryland.
- DOT&E published classified reports on the CVV, ICVV-S, MCVV, MEVV, ESVV, and ATVV variants on FY12 activity.
- The Army corrected suitability shortfalls with the driver's station identified during the initial ICVV operational test through an initiative called the Driver's Station Enhancement II (DSE II). The Army executed suitability and survivability testing of the DSE II March to July 2012 at Fort Lewis, Washington; Aberdeen Proving Ground, Maryland; and Yuma Proving Ground, Arizona.
- ATEC continues to develop the System Evaluation Plan to support testing measures for worldwide use of Stryker DVH.

Assessment

- Stryker DVH systems were rapidly developed, tested, and fielded in response to needs from commanders in OEF. Testing and analysis confirm that DVH systems improve Stryker vehicle protection against IEDs. The details can be found in the classified DOT&E LFT&E report on the CVV (January 2012) and Operational Assessment/LFT&E reports for ICVV-S (January 2012), MCVV (May 2012), and MEVV (July 2012).
- All configurations of the Stryker DVH are operationally effective for deployment into Afghanistan. There were no significant differences between the Strykers currently used in OEF and DVH Strykers regarding mobility and the ability of units equipped with the two types of vehicles to accomplish the mission.
- All configurations of the Stryker DVH are operationally suitable to include the driver's station. The Stryker DVH demonstrated better reliability and maintainability than the OEF variant.

Recommendations

- Status of Previous Recommendations. The Army addressed the previous recommendations.
- FY12 Recommendations. None.