

Stryker Mobile Gun System (MGS)

Executive Summary

- During the December 2010 Stryker Double-V Hull (DVH) Configuration Steering Board, the Army decided not to pursue full-rate production for the flat-bottom Stryker Mobile Gun System (MGS).
- The Army Test and Evaluation Command conducted Engineering Change Order Block III validation with Soldiers at a developmental test/operational test event in August 2011 to assess material fixes for six deficiencies.
- DOT&E assessed the program has mitigated (by either material fixes or changes to tactics, techniques, and procedures) 17 of the 23 deficiencies identified in the 2008 Secretary of Defense Report to Congress.

System

- The Stryker Family of Vehicles consists of two variants on a common vehicle platform: Infantry Carrier Vehicle and the MGS. There are eight configurations of the Infantry Carrier Vehicle variant.
- The MGS required a separate acquisition decision because the system needed additional development.
- The MGS mission equipment includes the following:
 - M68A2 105 mm cannon system with an ammunition handling system
 - Coaxial 7.62 mm machine gun and a secondary M2HB, .50-caliber machine gun
 - Full solution fire control system with two-axis stabilization
 - Low-profile turret meant to provide survivability against specified threat munitions
- The system integrates the Driver's Vision Enhancer and Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance components as government-furnished equipment.
- The MGS provides the three-man crew with varying levels of protection against small-arms, fragmenting artillery, mines, and rocket-propelled grenades (RPGs). Add-on slat armor (high hard steel arranged in a spaced array) provides RPG protection.



Mission

- The Stryker Brigade Combat Team uses the MGS to create openings in walls, destroy bunkers and machine gun nests, and defeat sniper positions and light armor threats. The primary weapon systems are designed to be effective against a range of threats up to T-62 tanks.
- The MGS operates as a three-vehicle platoon organic to the Stryker infantry company or as a single vehicle in support of a Stryker infantry platoon.

Major Contractor

General Dynamics Land Systems – Sterling Heights, Michigan

Activity

- During the December 2010 Stryker DVH Configuration Steering Board, the Army decided not to pursue full-rate production for the Stryker flat-bottom MGS. The Army determined it could not integrate the DVH design onto the MGS platform unless the Stryker Modernization program occurred to accommodate weight and power deficiencies.
- A total of 142 MGSs have been produced and fielded.
- The integration of Stryker Reactive Armor Tiles (SRAT) II on the MGS has not occurred due to problems with integration of armor tiles on the rear doors. Live fire cannot be completed until the Army defines how SRAT II will be applied to the rear doors.
- The Army, in coordination with DOT&E, submitted the fifth and sixth reports to Congress in December 2010 and

ARMY PROGRAMS

July 2011, updating the status of actions taken by the Army to correct or mitigate all Stryker MGS deficiencies, as directed in Section 115 of the FY09 Duncan Hunter National Defense Authorization Act.

- The Army Test and Evaluation Command conducted Engineering Change Order Block III validation with Soldiers at a developmental test/operational test event in August 2011 to assess material fixes for six deficiencies.
- The Army conducted testing in accordance with the DOT&E-approved Test and Evaluation Master Plan.

Assessment

- The MGS demonstrated Mission Equipment Package reliability during the August 2011 Reliability Gunnery. Overall, the program has mitigated (by either material fixes or changes to tactics, techniques, and procedures) 17 of the 23 deficiencies identified in the 2008 Secretary of Defense Report to Congress. Although all of the deficiencies the Army associates with the operational requirements document have been mitigated, DOT&E considers correction of two of the outstanding deficiencies – lack of gun pod protection and RPG protection – to be essential to ensure the operational effectiveness of the MGS in combat situations such as those that exist in the current theater of operations.
- In the 2007 Beyond Low-Rate Initial Production Report, DOT&E assessed the MGS as not operationally effective when operating in a degraded capacity. DOT&E assesses that the gun pod can be easily disabled, causing the MGS to operate in a degraded capacity, thereby making the MGS not operationally effective. Lack of adequate gun pod protection makes the MGS vulnerable to widely proliferated threats

including RPGs, which increases the likelihood of the MGS operating in a degraded capacity. The Army has no plans to improve gun pod protection.

- The C-130 Transportability Key Performance Parameter is a design constraint that limits MGS capabilities. Because of size and weight constraints for transporting equipment on the C-130, there is a limitation on the size and weight of the MGS. This limit results in several survivability deficiencies, including protection of the Commander's Weapon Station, protection of 105 mm ammunition, gun pod protection, and hydraulic circuit separation. These deficiencies will potentially be addressed as part of the Stryker Modernization Program, if this program moves forward.

Recommendations

- Status of Previous Recommendations. The Army addressed two recommendations from FY10. There have been delays due to SRAT II integration with the vehicle's rear doors and as a result, the remaining FY10 annual report recommendations have not yet been addressed by the program.
- FY11 Recommendations. As part of our coordination with the Army, as directed in Section 115 of the FY09 National Defense Authorization Act, DOT&E recommended that the Army:
 1. Finalize configuration for SRAT II and schedule live fire testing in order to validate the SRAT II design and configuration to provide long term RPG protection.
 2. Increase gun pod protection.
 3. Continue to provide a semi-annual report to Congress updating the status of corrections until the RPG protection deficiency is corrected.