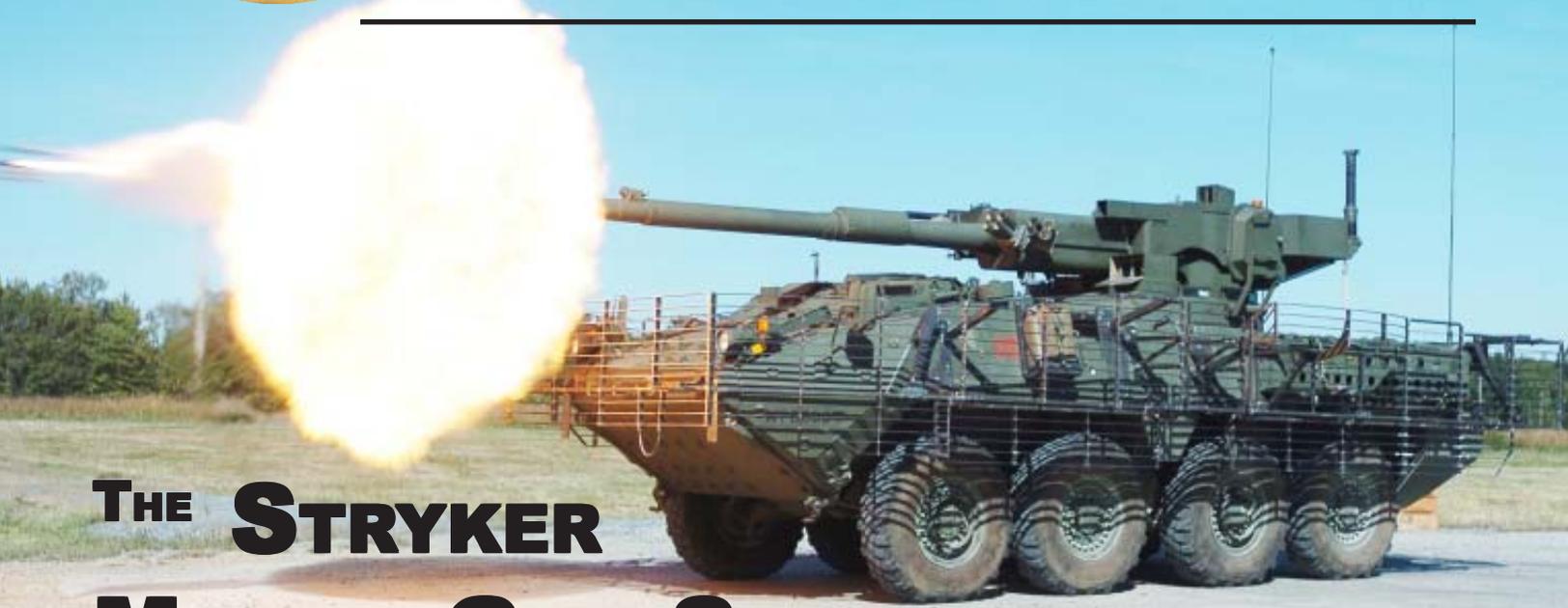




TSM STRYKER/BRADLEY CORNER



THE STRYKER MOBILE GUN SYSTEM

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The Stryker Mobile Gun System's (MGS) mission is to provide direct supporting fires to infantry squads during the assault. Its primary function is to destroy or suppress hardened enemy bunkers, machine gun and sniper positions, and to create infantry breach points in urban, restricted, and open rolling terrain. Additionally, in the self defense mode, the MGS provides limited anti-armor capabilities.

The purpose of this article is to provide the infantry leader an overview of MGS capabilities and the employment of the weapon system and training of its crews.

Overview

The MGS is a direct fire supporting weapon system mounted on a Stryker chassis. It has a crew of three: driver, gunner, and vehicle commander. This weapon system gives the infantry commander a rapid fire precision capability of a high caliber round, which is his personal sledgehammer.

The MGS can be fought as an organic platoon, with one MGS in support of an infantry platoon, or some other variation.

The MGS meets all the requirements of the Stryker fleet for mobility, survivability, and commonality of chassis repair parts.

Planning considerations

The Mobile Gun System has several unique characteristics that must be considered when employing it tactically. These include safety, security, and command and control considerations while

integrated with mounted and dismounted elements.

Safety

Safety considerations with the Mobile Gun System are significantly above the general considerations of vehicle movement with troops. Dismounted Soldiers working in proximity to the MGS must be aware of its gun barrel blast area, critical hearing damage area, and back blast area from target impact. The firing of the MGS within an urban environment has the implications of overpressure from both the firing blast as well as the back blast, which can affect windows, exposed personnel, and loose debris. The immediate area behind the gun muzzle for a distance of 25 meters requires hearing protection to avoid rupturing of the ear drum. This safety consideration necessitates the communication of warnings to all friendly Soldiers in the area prior to firing the weapon system. The risk factors associated with each of these areas can be reduced through training and education. The most beneficial training method is to mark off the safety distances from the MGS and point of impact, then have the Soldiers see what the distances look like on the ground. Leaders should specify an identifiable location on the ground for limits of advance prior to use of the main gun.

To further complicate the safety considerations, the structure of buildings must be considered as you do not want to overmatch your target which could lead to complete demolition of the building structure, penetration of multiple buildings behind the target area,

or damage to structural integrity of a building thus denying or limiting friendly Soldiers' access to the target building. Although the effect of each type of round has not been characterized on every type of building, an effort is being planned to provide that data to field units in the future.

The MGS also has a significant range safety danger zone associated with its arsenal of rounds. Leaders must take those ranges into account prior to employment. For example, a gunner may choose to engage a sniper location in a building with a Sabot round. After that round impacts the sniper location, it has the potential to continue down range for up to an additional 9 kilometers. This impact will require the leader to assess the down range impact such as a town or friendly forces in that general direction.

SBCT leaders need to ensure that whenever possible, they integrate full graphic control measures into their operational plans. These include no-fire areas (NFAs), fire coordination lines (FCLs), and no maneuver areas between the MGS' planned firing positions and targets — keeping all friendly forces well clear of the MGS' muzzle-to-target line.

Security

The SBCT infantry company commander must plan for providing security for these valuable assets. When operating in an urban environment, the dead space must be observed by dismounted Soldiers. Security issues also point out the personal safety issues for infantrymen operating in close proximity to the MGS.

Command and Control

The MGS's primary role

is to provide support to assaulting infantry. As such, the MGS will frequently be attached in support of an infantry platoon. The maneuver leader will ensure his forces are prepared prior to ordering the MGS to fire. The maneuver force will also coordinate movement in formations and coordination of fires.

Observations from a development exercise that was conducted at Fort Benning in August 2005 resulted in the development of the following:

* Assault element observes impact and determines if additional rounds are required to form breach. The amount of debris and dust caused by the round exploding will take approximately 10 seconds to dissipate.

*Assault leader tells MGS to shift fires prior to conducting the assault. If mounted, the Infantry Carrier Vehicle (ICV) quickly reaches the breach site, Soldiers dismount and enter breach. Then the ICVs move beyond the objective to provide far side security. If it is a dismounted assault, the ICV provides suppressing fires as needed then moves to the far side for security on the assault leader's command.

*The MGS should have an additional sector of fire for the coaxial machine gun because main gun rounds should not be fired when Soldiers are in the gun line.

* A planning consideration prior to the assault is if a secondary breach site is required for another building to conduct the breaches sequentially or simultaneously with more than one MGS in support.

*Leaders should develop blast area overlays for operations planning to ensure unit safety.

Bunker engagements can be deliberately planned or occur hastily. In a deliberate attack, the MGS

should maximize the use of its sights. Following the engagement it will provide overwatch for maneuver elements based on mission requirements. If the engagement is hasty, the leader of the maneuver element will order the MGS forward to destroy the bunker based upon initial contact and spot reports. The MGS will destroy the bunker per procedure and provide overwatch while an infantry squad clears what remains of the bunker.

The MGS can operate in a MOUT environment as a complement to dismounted infantry by providing precision fires with its coax machine gun while the infantry provides local security and clears road intersections to protect the MGS flank. A single HEP-T round will subdue any enemy personnel in a building should the infantry come across a strongly held position.

The MGS also brings the capability to address snipers in multistory buildings. The coax machine gun can place precision fire. The main gun can fire a HEP-T round into the window or through an opening below the floor to destroy the enemy position from below. This same procedure can be employed to clear a roof top.

There are multiple ways to communicate with an MGS crew in MOUT operations. Although FM communication is primary, the driver can monitor the movement and hand and arm signals of the dismounted element ahead of him.

Since coordination between mounted and dismounted forces is difficult, dismounted infantry without any means of communicating with the MGS crew should stay clear of the MGS due to its limited field of view close to the vehicle. Planning for MOUT movement requires the evaluation of routes due to the vehicle turning radius and main gun rotation.

General observations and planning factors

■ FM communications should always be the primary form of communication with the MGS.

■ Street width can greatly affect the operation of the MGS main gun.

MGS Ammunition

The commander designates the ammunition mixture for the MGS based on METT-TC (mission, enemy, terrain, troops,



time, civilians) considerations. The following is a description of the types of rounds available for the MGS and their effects.

HEAT-T round — used primarily against lightly armored vehicles (secondary armor), field fortifications, and personnel.

HEP-T round — is used against field fortifications, bunkers, buildings, crew-served weapon emplacements and troops, where blast, concussion and fragmentation are desired with secondary armor defeating capabilities. It will be the primary round for creating infantry breach points.

Sabot round — used as the primary armor defeating round against tanks and tank-like targets.

Canister round — primarily used in an antipersonnel role against troops in the open.

Training Suggestions

Breach Point Aiming — The current way to create a breach point in a building requires the MGS to fire rounds in pattern based on distances and offsets between rounds. For developing that skill, the crew should practice moving the aim point. To do this, the crew will need three or more circles cut out of cardboard or other durable material that are 30 inches in diameter and have a crosshair drawn center of the circle. This exercise requires the gunner and an assistant at the building location. The gunner will take aim on the building and direct the assistant to place one of the circles on the wall centered on the gun sight reticle. The gunner will next move the aim point based on the offset and again the assistant will position a circle centered on the reticle. After three aim points have been attached to the building, evaluation can be made as to proper positioning of the shot group. The intent is to practice making breach points from various distances and to validate proper aiming offsets. Offsets will differ based on gun distances from the breach site. The table above is an aim point offset table found in the MGS Platoon FM 3-21.151. Gun crews should develop their own matrices for breach offset points for various distances to improve

MGS Breach Aiming Point			
Distance	1st Hole	2nd Hole	3rd Hole
200 meters	2 mils from outer edge	.5 mil from top of first hole	2 mils left or right from center line of first hole

their engagement speed. MGS crews should also scan the targeted breaching wall with their thermal sights, looking for thin weak points in the structure and avoiding fires into adjoining interior and possible load-bearing walls. This will help the gunner where to place his round to create the effect that the maneuver commander intended.

Coordination Between Gunner, Driver, and Vehicle Commander — Gunners and drivers need to work efficiently together while maneuvering in a MOUT environment. A critical skill is the rapid engagement of a target after moving from a covered and concealed position. The gunner must position the gun tube in the direction of the enemy while the driver pulls the vehicle forward. Additionally, the driver should try to slightly turn in the direction of the enemy for increased survivability. Following the gun firing, retrograde to the covered position must also be practiced as the two events will need to happen very quickly, without damaging the vehicle’s gun tube by ramming it against any covering structures.

Movement With Infantry — Familiarity of MGS crews and dismounted infantry is critical. It is recommended that habitual support relationships between specific MGS gun crews and specific SBCT rifle platoons be formed to develop coordination and teamwork. In collective training, it is important that at the infantry platoon level the MGS be incorporated into the training plan, specifically for breach operations, MOUT training, and movement techniques.

MGS Way Ahead

The full rate production decision is scheduled to be made in late July of 2007 following the IOTE.

Additional information on the Mobile Gun System can be attained through the SBCT Transformation Portal at www.sbct.army.mil.

The following are the current manuals available regarding the MGS:

- The Mobile Gun Platoon*, FM 3-20.151;
- Mission Training Plan for the MGS Platoon*, ARTEP 1797F-11-MTP;
- Stryker Brigade Combat Team Infantry Company*, FM 3-21.11;
- MGS Gunnery*, FM 3-20.13.

In addition to these manuals, the TRADOC System Manager will continue to provide lessons learned and additional information of the system’s evolution to the user community.

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MGS Training Aids

