Improving Styrker Gunnery Training

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With its riflemen, grenadiers, and SAW gunners, the Stryker brigade combat team (SBCT) rifle squad carries a significant amount of firepower to the battlefield. Two of its potentially most lethal weapons systems are the M2 machine gun or MK-19 grenade launcher, either of which can be mounted on the Stryker itself on a Remote Weapon System (RWS). The focus of a Stryker infantry battalion is the dismounted infantry squad, supported by the Stryker (FM 3-21.1, ch. 1-1). Direct fire support from the Stryker's M2 or MK-19 is a vital part of the dismounted attack, and accurate fire from the Stryker can be a devastating weapon when applied by a proficient gunner-vehicle commander (VC) team.

Mastery of RWS skills greatly increases the lethality of a SBCT rifle squad. In order to prepare our Stryker crews for combat, the 4th Battalion, 9th Infantry Regiment conducted Table VI and Table VII gunnery at the Yakima Training Center in Washington from August 14-24, 2006. Forty-two crews fired both day and night practice and qualification tables over the course of nine training days, with 31 crews meeting both the day and night qualification criteria. The modest qualification numbers, combined with the difficulty those 31 crews had in qualifying, indicates the need for a coherent, focused battalion gunnery program. In this article I will discuss some of the trainers' observations and conclusions, especially in regards to the lack of preparation for gunnery and the need for heavy emphasis on the Stryker Gunnery Skills Test (SGST). I will also list recommendations for improvements both to our own battalion's gunnery training program and to the training and evaluation guidelines listed in FM 3-22.3 (*Stryker Gunnery*), including revised gunnery tables that not only take into account the variances between M2 and MK-19 Strykers, but also better fit the contemporary operating environment in Iraq.

Pretraining and Prerequisites

To prepare vehicle crews, particularly gunners, for Stryker gunnery, FM 3-22.3 specifies numerous prerequisites that crews must complete before executing the gunnery tables. Crews must complete target acquisition practice, weapon mounting and dismounting, range card (handwritten and digital), and combat vehicle recognition before executing practice and qualification tables (FM 3-22.3, Chapters 9-9 and 9-10). The purpose of this training is to build proficiency at these fundamentals before putting a crew through gunnery evaluation. Unfortunately, our battalion was not able to meet the time-intensive prerequisites specified in FM 3-22.3. Battalion-resourced pre-gunnery training consisted of two M2 familiarization ranges, with a MK-19 range having to be cancelled due to training conflicts. Companies were instructed to have their crews complete the SGST (FM 3-22.3, App. C-3), which consisted of several PMI tasks such as assembly/disassembly, headspace and timing, etc.

The lack of pretraining for gunnery was clearly evident when crews executed the practice and qualification tables. Lack of familiarity with their weapons systems also impaired some crews' effectiveness when dealing with weapon malfunctions, especially MK-19 malfunctions. Experience demonstrated the need for rigorous application of SGST standards at the battalion level.

Planning

Chapter 10 of FM 3-22.3 specifies the requirements for Stryker gunnery practice and qualification tables. The FM requires that for a M2-equipped Stryker, at least one day and night target must be at a range of 600 meters or less, and one day and one night target must be at a range of 1,400 meters or more. MK-19-equipped Strykers must engage one target at 800 meters or less and one target at 1,500 meters or more. Targets are all exposed for 60 seconds, but Chapter 10 requires that Strykers have significantly less time to pull into a firing position and engage the target. The FM also specifies that one engagement by day and by night must be fired under NBC conditions, and one day engagement must be fired using only manual traverse. For ammunition, Chapter 10 allots 21 rounds per target for M2 Strykers, and 8 rounds per target for MK-19 Strykers. There were 23 total targets for all day and night tables, which meant that each vehicle was allotted 483 rounds of .50 caliber ammunition or 184 rounds of 40mm ammunition. M2 gunners received ammunition DODIC A557 (4+1 ball-tracer mix) and MK-19 gunners

received either B584 (TPT) or BA12 (TPT chalk).

When planning the gunnery tables, we followed the basic examples and guidelines found in FM 3-22.3. Also, we included an additional engagement condition under which the gunner simulated running out of ammunition, having to reload with engagement time running. Tables VI and VII each had five day engagements and four night engagements. All Table VI engagements were fired from stationary positions. Some Table VII engagements were fired from the quick halt. A matrix of the engagements can be found on the next page. In order to receive a "GO" on an engagement, M2 gunners had to hit each target presented in the engagement. MK-19 gunners had to either hit each target or hit within five meters of the target, simulating the five-meter bursting radius for a 40mm high explosive (HE) round. The impact was observed by the tower evaluators and graded accordingly. Crews had to score three out of five GOs for day Table VII and two out of four GOs for night Table VII to be considered a GO for Stryker gunnery.

Execution

Due to operations simultaneous with Stryker gunnery, we had a minimal range staff to execute gunnery. The officer-in-charge (OIC) and range safety officer (RSO) manned the tower and gave

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A Soldier with the 172nd Stryker Brigade Combat Team patrols Mosul, Iraq, in a Stryker in March 2006.

TABLE VI DAY

EVENT	CONDITION	TYPE	DISTANCE(M)
Engagement 1	Normal	Troops	700
Engagement 2	Normal	Truck	1100
Engagement 3	Manual	Troops Bunker	500
Engagement 4	Normal	Truck	1400
Engagement 5	NBC	Bunker	1200

TABLE VI NIGHT

EVENT	CONDITION	TYPE	DISTANCE(M)
Engagement 1	Normal	Bunker	500
Engagement 2	Normal	Troops	900
Engagement 3	Normal	Truck	1100
Engagement 4	NBC	Truck	1400

TABLE VII DAY

EVENT	CONDITION	TYPE	DISTANCE(M)
Engagement 1	Normal Quick Halt	Troops	400
Engagement 2	NBC	Truck	1500
Engagement 3	Manual	Troops Bunker	750 900
Engagement 4	Normal Quick Halt	Troops Truck	1150 1300
Engagement 5	Normal	Troops Bunker	1000 1000

TABLE VII DAY

EVENT	CONDITION	TYPE	DISTANCE(M)
Engagement 1	Normal Quick Halt	Troops	800
Engagement 2	NBC	Truck	900
Engagement 3	Normal Quick Halt	Truck	1100
Engagement 4	Normal	Bunker	1000

incoming crews the range orientation and safety brief prior to execution; they also gave crews their radio prompts during the gunnery tables. Three evaluators (all 19K staff sergeants — selected due to their extensive gunnery experience) took turns watching the execution of the lanes on the range tower's FLIR (forward looking infrared), recording the scores, and giving the completed crews their after action reviews (AARs) after each table. We had four safeties (19K sergeants — also selected for their gunnery experience) who rode in each vehicle as it executed the tables, both to ensure crews followed all safety procedures and to observe crews' engagement methods and offer advice during AARs. Two Strykers executed each table simultaneously, with four to six Strykers firing daily. At the beginning of each engagement, the OIC would give a radio prompt to the vehicle commander, which would read as follows:

"C22 this is Tower, you have enemy troops in your sector to the right of TRP 2; engage and report, out."

The VC and gunner would then begin scanning, with engagement time beginning when the target became exposed.

There were several difficulties that we encountered while executing gunnery. First, when weapons systems had malfunctions, we had a mechanic from our battalion's combat repair team who was at the range and tasked with weapons repair. When conducting future gunnery training, we will also ensure that we have ample maintenance assets on-hand to correct any malfunctions that occur due to the heavy firing that weapons endure during gunnery. Rigorous application of the SGST would also help alleviate malfunction-related hindrances by allowing some malfunctions to be corrected by operator immediate action.

Almost every crew had to recycle through the ammunition supply point (ASP) for additional ammunition after completing the day tables, using almost twice the amount of ammunition allotted. Some of the less-experienced gunners used entire boxes of ammunition just to zero their weapon systems. For both M2 and MK-19 Stryker crews, the allotment of ammunition should be increased significantly, with amount of rounds per target varying based on the type of target, the range to target, and conditions under which the crews are firing. Recommended adjustments to ammunition allocations can be found in the table above.

There were few problems with the ammunition itself. DODIC A557 (.50 cal 4+1) created an excellent thermal and visual signature for gunners and VCs to use to adjust their fire onto target. BA12 (40mm chalk) created an excellent visual signature by day, but at night its impacts could be observed only by the range tower's

RECOMMENDED AMMUNITION ADJUSTMENTS

AMMO TYPE	BASE ALLOTMENT	200-600m	600-1000m	1000-1400m	CONDITION	TARGET TYPE
.50 cal	16	+0	+6	+10	NBC: +4 Manual: +8	Troops: +4 Vehicle: +0
40mm	12	+0	+4	+8	NBC: +4 Manual: +6	Troops: +0 Vehicle: +4

FLIR, making it almost impossible for gunners to adjust their fire. B584 (40mm TPT) created a far better signature at night.

The tables themselves also required some adjustments during execution. One of the adjustments was the reshuffling of the manual engagements to the end of each table. Also, we found that the ammo-change condition proved to be of limited value. Due to a higher than expected rate of ammunition consumption, many gunners had to change ammunition boxes without being prompted to do so, making the artificial condition redundant.

For future gunnery training I would create two separate tables for MK-19 and M2-equipped Strykers. The ranges and types of targets presented during the tables need to correspond to the contemporary operating environment that most of the crews will experience when deployed. The majority of engagements in theater by Stryker units occur at short range against insurgent infantry in urban environments. Examples of possible revised gunnery tables can be found to the right.

CONCLUSIONS

The battalion's gunnery tables yielded excellent training and good lessons learned for all who participated. If executed in accordance with FM 3-22.3, Stryker gunnery requires weeks of well-planned and focused training on fundamentals such as target acquisition, RWS zeroing, and adjusting fire onto target. However, most of the Stryker crews had done little more than an M2 range prior to executing gunnery, and some had done no prior training at all. If it had not been necessary to devote the bulk of the training time to preparing for the other training events, Stryker crews could have gained greater proficiency in gunnery fundamentals; proficiency that would have paid great dividends during the gunnery tables and in combat.

M2 TABLE VII

EVENT	CONDITION	TYPE	DISTANCE(M)
Engagement 1	Normal Quick Halt	Troops	400
Engagement 2	NBC	Truck	300
Engagement 3	Normal Quick Halt	Troops Bunker	600 400
Engagement 4	Normal	Troops Troops	900 500
Engagement 5	Manual	Troops Bunker	200 300

MK-19 TABLE VII

EVENT	CONDITION	TYPE	DISTANCE(M)
Engagement 1	Normal Quick Halt	Troops	800
Engagement 2	NBC	Troops	300
Engagement 3	Normal Quick Halt	Troops Bunker	600 400
Engagement 4	Normal	Troops Troops	500 200
Engagement 5	Manual	Troops	200

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Editor's Note: This is an abridged version of the original article. The article contains many tactics, techniques and procedures (TTPs) and other matters of value to our readers, but since *Infantry* is an unclassified, open-source publication that reaches 50 other nations and their armed forces, these are matters best discussed only among ourselves and participating allies. Readers interested in the complete article can contact the magazine staff at (706) 545-2350 or e-mail: michelle.rowan@us.army.mil.