



Petty Officer 2nd Class Katrina Beeler, USN

ADVANCED GUNNERY FOR THE HBCT

**SERGEANT FIRST CLASS
WILLIAM SIMONS**

One of the primary efforts of Field Manual 3-20.21 was to ensure that the emphasis for gunnery was placed on the advanced tables; to do so involved creating a paradigm shift in the table methodology. Therefore, the crew gunnery tables are only the first half of gunnery (Tables I-VI) while collective gunnery tables are the second (Tables VII-XII). Though crew qualification is important in training on the direct fire engagement process using DIDEA (detect, identify, decide, engage, assess), the collective tables are where company, battalion, and brigade commanders make their true assessments for combat readiness and expound on the DIDEA process using fire control and distribution.

Those reading FM 3-20.21 may immediately recognize a few changes in the gunnery manual. Throughout the new manual, there is an inherent flexibility for the commander to train for his unit's anticipated COE. In the development of FM 3-20.21, the gunnery doctrine team from both the Armor and Infantry Centers removed all task prescription from the gunnery manual and established only minimum proficiency levels (MPLs) to maintain the critical skill requirements and to have a standard evaluation method so every weapon system platform (tank, Bradley, high-mobility multipurpose wheeled vehicle [HMMWV], and even heavy expanded mobility tactical truck [HEMTT]) in the HBCT will be evaluated in the same manner for both crew and collective gunnery. In advanced gunnery, there are no longer a minimum number of specific collective tasks that units must execute, which mainly affected units other than infantry. However, the constants between the manuals are resource constraints. Advanced tables must be designed using the same frequency and ammunition allocations from DA Pamphlet 350-38. This article will discuss the methodology of advanced gunnery for the heavy brigade combat team (HBCT) to include the advanced gunnery concept, table resources, table design and development, and evaluations.

Advanced Gunnery Concept

Advanced gunnery training measures a maneuver element's proficiency in executing specified platoon missions in accordance with the commander's guidance and intent. Although missions are outlined differently for both infantry and armor platoons in their respective Army Training and Evaluation Program (ARTEP) Mission Training Plans (MTPs), Chapter 11 of FM 3-20.21 does not prohibit training managers of units to establish common collective tables for both infantry and armor units, if that is desired by commanders. Moreover, as will be further discussed, it encourages commanders to train with mixed formations (for example: a one tank, one Bradley, and one rifle squad-mixed section or a two tank, two Bradley, and two rifle squad-mixed platoon.) When mixed sections and platoons are executing an advanced gunnery table, the ARTEP MTP used is specific to the branch of the senior leader for the maneuver element. If that happens to be an armor lieutenant for a platoon table, the armor MTP would be used for the platoon assessment; however, the infantry training and evaluation outlines (T&EOs) are still used as supporting tasks for the rifle squads.

Too often advanced gunnery tables are designed with one, two, or more missions and are supported with several ARTEP MTP collective tasks that train every platoon in the battalion using the same table design with the same number and type of T&EOs. There are generally two problems with that design. First, there is never enough time to train on everything, and it is important for commands to choose the mission that specific platoons will fight in a combat theater and an appropriate number of collective tasks that support the mission. Second, advanced gunnery does not need to be a one-size-fits-all event. Though it is understandable that the latter technique is used to manage range time and resources, it assumes all 12 platoons have a common battle task or that the table is designed to train a single high payoff battle task.

In the development of FM 3-20.21, the premise behind advanced gunnery was to allow commanders the flexibility to tailor the tables to the unit's anticipated contemporary operational environment (COE) and to conduct the table exercising task-organized formations. The intent behind this methodology is not to create an all-encompassing table, but for units to create tables around a specific mission with a manageable number of collective tasks.

What is important in advanced gunnery is that in a single gunnery density, it does not have to be a one-size-fits-all density or collective table. Well-designed collective tables should replicate a unit's anticipated COE; additionally, they are interactive to the platoon leadership's decisions, demonstrate a cause and effect result for the leadership based on their decisions, and are executed as a multi-echelon and combined arms event. This means that for each table developed, the construction of the table should have notional maneuver units and radio traffic incorporated to train the next higher level of leadership. For example, a platoon table can be designed to where the company is the decisive effort in a meeting engagement. A notional platoon would find and fix the enemy force while the firing platoon would maneuver and finish the enemy. Additionally, units should incorporate other combined arms battalion (CAB) and HBCT assets into collective gunnery tables to maximize already constrained resources with accelerated deployment schedules and decreasing calendar space in today's training environment. This is also in keeping with the new modularity structure of the HBCTs. One effective method is to marry similar collective tables and tasks from mortar, scout, engineer, field artillery, and/or even aviation tables and incorporate them into Tables IX or XII.

Units that already know their area of responsibility (AOR) in a theater of combat and have conducted an initial military decision-making process (MDMP) should design their advanced gunnery tables to replicate it. CAB and squadron commanders, their

Advanced Gunnery Training Ammunition Resources		
Table	Frequency	Recommended Use
Table IX	2 (1x LFX)	96 AP each section 97 HE each section 200 7.62mm each section
	(1x Device)	MILES
Table XII	2 (1x LFX)	96 AP each section 97 HE each section 200 7.62mm each section
	(1x Device)	MILES
Rifle squads will use their current programmed allocation for platoon/company LFX.		

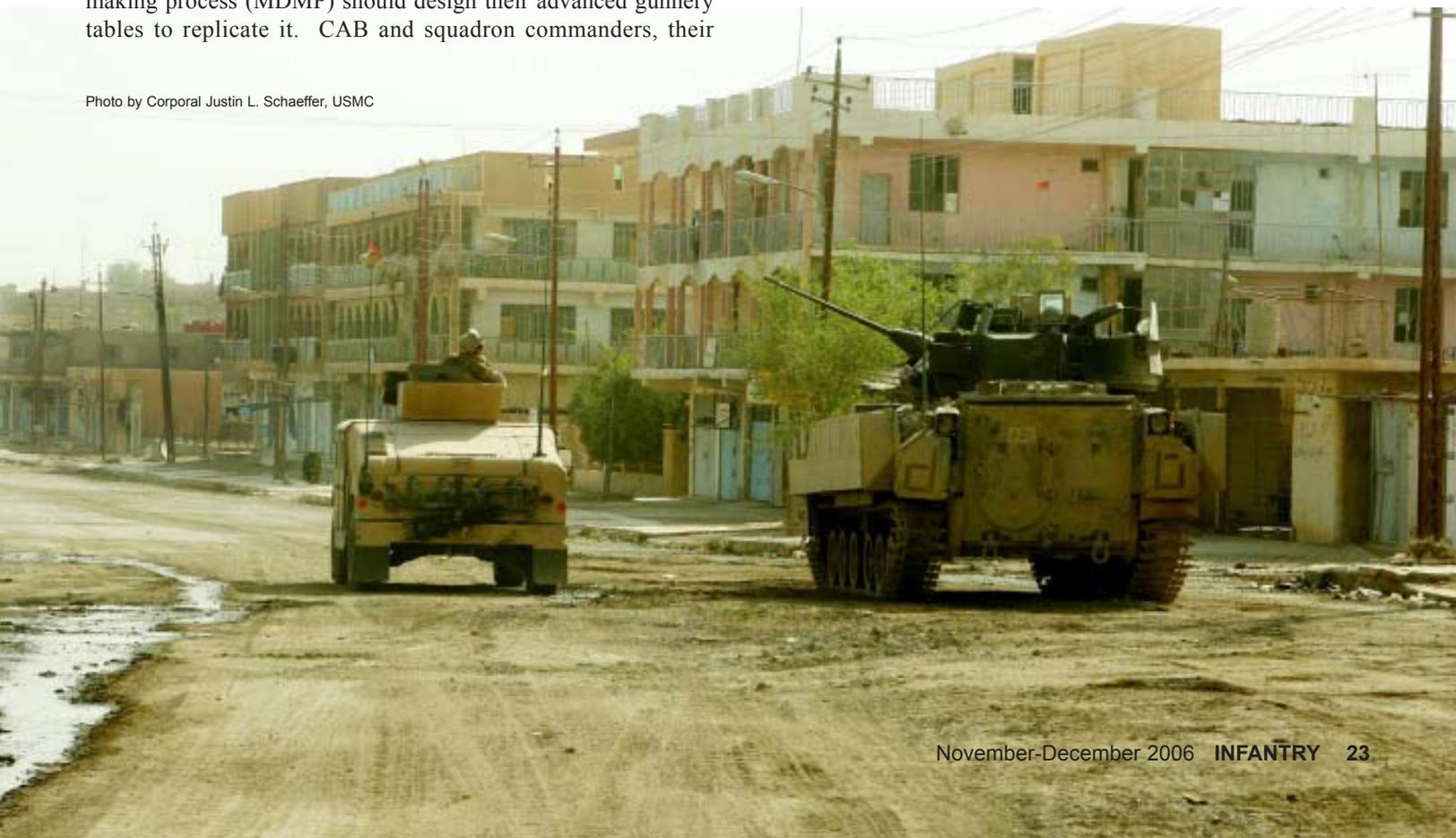
operations and intelligence officers, and master gunners should design the training environment and organize in the formations that they will fight. For example, units deploying with a mission to secure main supply routes and logistical convoys may wish to develop their advanced gunnery tables with mixed platoons (two Bradleys and two tanks) while escorting their distribution platoon incorporating both long and short range targets in both desert and urban terrain.

Table Resources

To underscore, FM 3-20.21 was developed using DA Pamphlet 350-38. Listed in the table above are the proposed changes that will be briefed at the March Standards in Training Commission (STRAC) Council of Colonels.

Throughout FM 3-20.21 the virtual, constructive, and live

Photo by Corporal Justin L. Schaeffer, USMC



methodology has been used to maximize training resources. Unfortunately, the Close Combat Tactical Trainer (CCTT) does not afford units the ability to train advanced gunnery techniques in a virtual environment or fully incorporate rifle squads. As a result of these inadequacies, the CCTT may not be implemented into the mechanized infantry platoon training strategy for advanced gunnery until advancements are made to provide a solution with accurate weapons and visual effects for the Bradley Fighting Vehicle and have a near-full incorporation of rifle squads. Therefore, the devices of choice for advanced gunnery (in order) are precision gunnery systems (PGS) (until PGS has been completely phased out of the inventory), sub-caliber in-bore like devices, Multiple Integrated Laser Engagement System (MILES), and least preferably dry. Commanders and training managers should note that Army-wide budgetary constraints have ceased funding for the life-cycle maintenance of PGS as of 1 Oct 07.

Tables VII, VIII, X, and XI can be executed on gunnery ranges; however, these tables are best trained in local or maneuver training areas using PGS or MILES. One possible solution for training on live-fire ranges is to use sub-caliber devices, much like those used by the armor community. Although they are not currently fielded or yet authorized with ammunition by DA Pamphlet 350-38, the Stryker/Bradley Proponent Office is researching the possible inclusion of a sub-caliber device into the training strategy as PGS is discontinued. Feedback from the field is needed on this issue. Though these tables may be dry-fired if sufficient training devices or sub-caliber and/or blank munitions are not available, it is the least preferred method and is discouraged. It is noteworthy that armor units make effective use of in-bore devices in both preliminary and advanced gunnery. When operating with armor units, every attempt should be made to use like devices in order to minimize resource requirements and to standardize evaluations. Tables become resource intensive when mixing sub-caliber and MILES, as two sets of targets must be emplaced. There is also an increased possibility of unnecessarily

damage to the device equipment.

Though Tables VII and XI can model their qualification events, to include all collective and mission essential task list (METL) tasks for the anticipated operational environment, these tables can also be used to train identified in-theater supplementary/contingency tasks that sections or platoons may perform such as a Table XI (convoy security) versus a Table XII (raid).

Table Design and Development

Outlined below is the new table layout for advanced gunnery.

<p>Advanced Gunnery Tables: Chapter 11</p> <p>Table VII - Section Proficiency Exercise Table VIII - Section Practice Table IX - Section Qualification Table X - Platoon Proficiency Exercise Table XI - Platoon Practice Table XII - Platoon Qualification</p>
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Table VII (section proficiency exercise) has the crews and squads collectively fire and maneuver, for the first time, as a section. The objective is to develop proficiency working as an integrated section. Sections should initially execute Table VII as pure sections though subsequent iterations of Table VII may be executed as mixed or combined arms sections based on task organization and the commander's guidance and intent. The section should practice the fire control and distribution techniques it will use as a platoon. This table is device-based utilizing training devices such as PGS, sub-caliber devices, or MILES.

Table VIII (section practice) prepares the section for qualification. The objective is to enhance the skills developed in Table VII in preparation for the section for Table IX. As with all advanced gunnery tables, the sections should initially execute Table VIII

as pure sections though subsequent iterations of Table VIII may be executed as mixed or combined arms sections based on task organization and the commander's intent. Table VIII can be executed on the same range as Table IX using PGS (if equipped), in-bore devices (if equipped), or MILES. Again, this table can be run dry, though it is the least preferred method.

Table IX, (section qualification), which is an MPL for the mechanized infantry, evaluates the section's ability to execute collective tasks in a tactical live-fire environment. Collective task evaluations provide an accurate assessment for company commanders to measure the section's combat proficiency. All elements within the section are integrated and are evaluated on their ability to fight as a cohesive maneuver force.

Table X (platoon proficiency course) introduces sections and squads to fire and maneuver as a platoon. The objective is to develop proficiency working as an integrated platoon. Platoons will initially execute Table X as pure platoons, though subsequent iterations of Table X may be executed as mixed or combined arms platoons based on task organization and the commander's intent. In Table X, the platoon begins to hone its standard operating procedures and practice the fire control and distribution techniques it will use during qualification and in combat. Though this table is device-based utilizing training devices such as PGS and/or MILES, the same holds true as in earlier tables. FM 3-20.21 will outline the amount of ammunition needed if sub-caliber devices are being used. This table may be dry-fired if sufficient training devices and/or sub-caliber and/or blank ammunition are not available. Even though this table is a precursor to Table XII (platoon qualification), it does not necessarily have to model the qualification table but can include supporting or contingent missions that are anticipated in future operational environments.

Table XI (platoon practice) prepares the platoon for qualification. The objective is to enhance the skills developed in Table X in preparation for Table XII. Platoons should initially execute Table XI as

Commanders and training managers should note that Army-wide budgetary constraints have ceased funding for the life-cycle maintenance of PGS as of 1 Oct 07.

pure platoons though subsequent conduct of Table XI may be executed as mixed or combined arms platoons based on task organization and the commander's intent.

Table XII (platoon qualification) assists the CAB commander in evaluating his platoon's ability to execute collective tasks in a tactical live-fire environment. Table XII evaluates every weapon system platform in the HBCT against one evaluation standard. During the execution of Table XII, mounted (tank and Bradley) and rifle squads are integrated and evaluated on their ability to fight as a cohesive platoon. To underscore, collective tables should replicate a unit's anticipated COE, be interactive to the platoon leadership's decisions that demonstrate a cause and effect result, and be executed as a multi-echelon and combined arms event. This saves precious training hours by pairing like collective events within Table XIs.

Evaluating Gunnery

All weapon system platforms in an HBCT will be assessed utilizing the training and evaluation outlines that support the mission being conducted. The senior evaluator will assess the overall performance of the section or platoon as either trained (T), needs practice (P), or untrained (U) using the collective task scoring model. The greatest change in advanced gunnery scoring is how scoring is tabulated. First, there is no mathematical solution to the scoring process. Second, the gunnery score is tied to the task standard of each firing T&EO. This means that gunnery is much like an additional line in the T&EO task standards. The platoon must kill, capture, or force the withdrawal of the enemy, which forces attrition to a point of combat ineffectiveness. Therefore, in a T&EO the gunnery standard MPL that should be met is half of the enemy force killed, which results in no less than a needs practice or "P" for the firing element. Lastly, using the overall T&EO assessment and the overall gunnery assessment, the senior evaluator is able to assign an overall table assessment.

Summary

Advanced gunnery from Table VII through the combined arms live-fire exercise (CALFEX) are commander's tables. Though crew qualification is important in training the direct fire engagement process using DIDEA, the collective tables are where company, battalion, and brigade commanders make their true assessments for combat readiness and expound on the DIDEA process using fire control and distribution. The advanced gunnery



Sergeant Matthew Acosta

Soldiers from the 3rd Infantry Division patrol an area of Iraq in June 2005.

tables should be tailored to the unit's anticipated COE and should be exercised with its task-organized formations. Additionally, the collective tables should be designed so they are interactive to the platoon leadership's decisions, which demonstrates a cause and effect result for the leadership based on its decisions, and be executed as a multi-echelon and combined arms event. Moreover, to maximize already constrained resources with accelerated deployment schedules and decreasing calendar space in today's training environment, and in keeping with the new modularity structure of the HBCTs, units should incorporate other CAB and HBCT assets into collective gunnery tables by pairing like tables to be fired on one range simultaneously as a single event. Finally, all weapon system platforms in an HBCT that are conducting advanced gunnery will be assessed utilizing the collective scoring model.

We encourage commanders, master gunners, and training managers to read the coordinating draft of FM 3-20.21 and ask them to contact the Stryker/Bradley Proponent Office with recommendations for the gunnery manual. For more information, contact the author at (706) 544-6201 or william.f.simons@us.army.mil.

Sergeant First Class William Simons is the BFV doctrine and systems lead for the S/BPO and will serve as chief of the S/BPO beginning February 2007. He has served for 19 years in the Army and is a combat veteran; his previous assignments include serving as a squad leader, section leader, platoon sergeant, and battalion master gunner. He is a graduate of the BFV Master Gunner Course, the Battle Staff NCO Course, the Advanced NCO Course and holds a bachelor's degree in Management with a minor in Political Science and is nearing completion of a master's degree in Public Administration.
