TC 3-20.31-25

GUNNERY: BRADLEY FIGHTING VEHICLE, 25MM

JULY 2025

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Training Circular
No. 3-20.31-25

Headquarters
Department of the Army
Washington, DC, 23 July 2025

GUNNERY: BRADLEY FIGHTING VEHICLE, 25MM

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Preface

TC 3-20.31-25 provides the gunnery training plan for all prerequisite and live-fire training for the M2A3/M2A4, Bradley fighting vehicle (BFV). It includes all training events through crew qualification following the Integrated Weapons Training Strategy structure. It provides the necessary information to plan, prepare, execute, and assess each training event within the BFV training strategy.

The principal audience for TC 3-20.31-25 is all members of the profession of arms. Commanders and staffs of Army headquarters serving as joint task force or multinational headquarters should also refer to applicable joint or multinational doctrine concerning the range of military operations and joint or multinational forces. Trainers and educators throughout the Army will also use this publication.

Commanders, staffs, and subordinates ensure that their decisions and actions comply with applicable United States, international, and in some cases host-nation laws and regulations. Commanders at all levels ensure that their Soldiers operate in accordance with the law of war and the rules of engagement. (See FM 6-27 for legal compliance.)

This publication is not the proponent for any Army terms, and no joint or Army terms appear in the publication.

This publication applies to the Army's active component and reserve component unless otherwise stated. Users and readers of this publication are invited to submit recommendations that will improve its effectiveness.

The use of a trade or brand name does not constitute endorsement of any specific commercial product, commodity, service, or enterprise by the U.S. Army.

The proponent of TC 3-20.31-25 is the Maneuver Center of Excellence. The preparing agency is the Department of Tactics, Training, and Doctrine. Send comments and recommendations on DA Form 2028 (*Recommended Changes to Publications and Blank Forms*) to Commander, United States Army Maneuver Center of Excellence and Fort Benning, ATTN: ATZK-TDD (TC 3-20.31-25), Fort Benning, GA 31905-5410; by email to usarmy.benning.mcoe.mbx.doctrine@army.mil; or submit an electronic DA Form 2028.

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Introduction

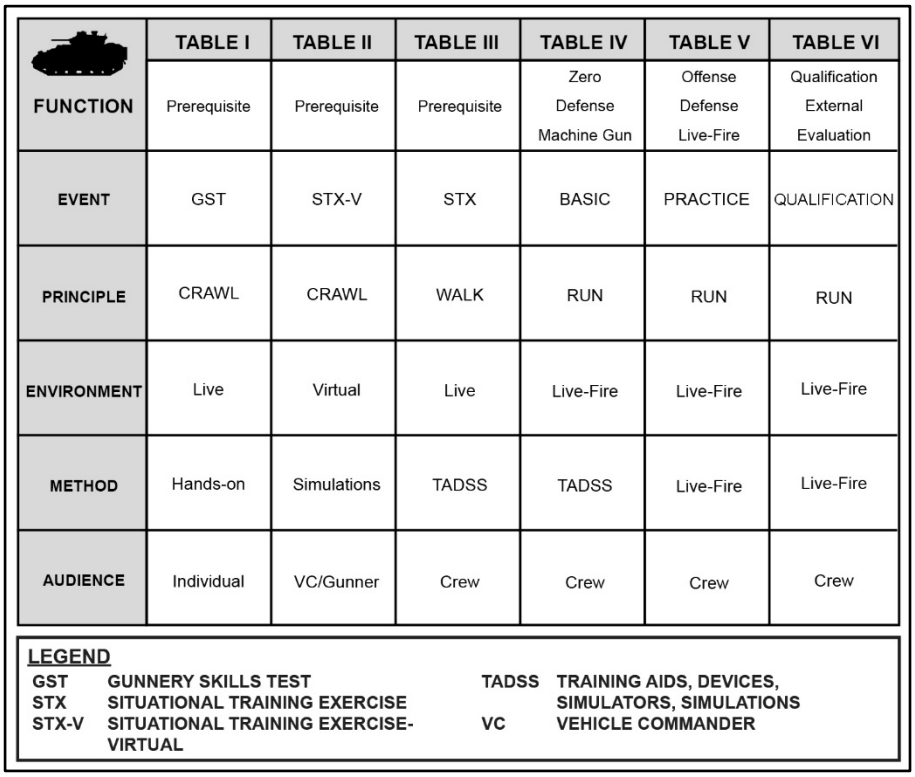
TC 3-20.31-25 provides the details of the integrated weapons training strategy structure specifically designed for U.S. Army Bradley fighting vehicles (BFVs). This training circular provides the training strategy for maneuver commanders to train, evaluate, and assess their unit's overall proficiency at home station. The BFV training strategy includes only the critical training events to build crew platform readiness using the integrated weapons training strategy's standard training structure.

The BFV training strategy maximizes the training aids, devices, simulators, and simulations (TADSS), and live-fire events capabilities in a systematic manner to increase and sustain Soldier and crew proficiency, effectiveness, and lethality. The training strategy is capability-based (Soldier, crew, ammunition, optics/sensors, and weapon system) and maximizes the training resources available across the force.

The BFV training strategy encompasses all critical training that builds a unit's ability to shoot, move, and communicate effectively and efficiently. Although units conduct other training as part of their training plan, the critical training path includes only those events that are conducted to ensure the maximum experience is achieved or gained by the trained Soldier and crew.

The BFV training strategy has six training events that culminate in their demonstration of proficiency during a live-fire qualification event. BFV training consists of all the training events required to provide the commander with an effective demonstration of crew capabilities, employment skill, and lethality to build unit readiness.

Units should maximize their time and resources by designing their BFV training plans such that crews train through proficiency to support the Infantry squad, section, platoon, and company, whether as an organic small unit, an attachment, or a cross-attachment. This level of synchronization will enable the unit to transition to advanced, higher echelon collective training seamlessly (see introductory figure 1 on page xvi for the structure of the BFV training strategy). The training strategy described within this publication follows the standard training structure found in TC 3-20.0 and synchronizes with the training principles found in FM 7-0.



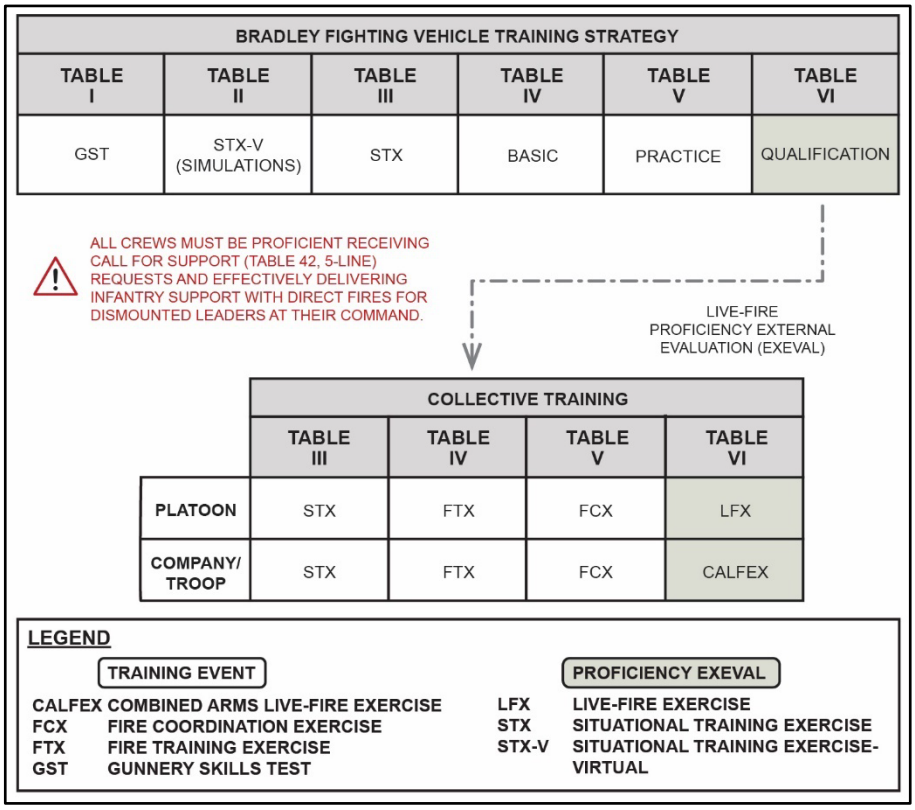
FUNCTION	TABLE I	TABLE II	TABLE III	TABLE IV	TABLE V	TABLE VI
	Prerequisite	Prerequisite	Prerequisite	Zero Defense Machine Gun	Offense Defense Live-Fire	Qualification External Evaluation
EVENT	GST	STX-V	STX	BASIC	PRACTICE	QUALIFICATION
PRINCIPLE	CRAWL	CRAWL	WALK	RUN	RUN	RUN
ENVIRONMENT	Live	Virtual	Live	Live-Fire	Live-Fire	Live-Fire
METHOD	Hands-on	Simulations	TADSS	TADSS	Live-Fire	Live-Fire
AUDIENCE	Individual	VC/Gunner	Crew	Crew	Crew	Crew

Introductory figure 1. Bradley fighting vehicle training strategy overview

BRADLEY FIGHTING VEHICLE TABLES

BFVs follow the standard six-table format of the integrated weapons training strategy through live-fire qualification (proficiency). The six BFV tables are (see introductory figure 2 for context)—

- Table I–Gunnery Skills Test (GST).
- Table II–Situational Training Exercise–Virtual (STX-V).
- Table III–Situational Training Exercise (STX).
- Table IV–Basic (with weapons alignment and zeroing).
- Table V–Practice.
- Table VI–Qualification.



Introductory figure 2. Bradley fighting vehicle tables with linkage to higher echelon collective training, example

TRAINING STRATEGY DESIGN

It is important for units to follow the training strategy as designed. BFVs are complex platforms with state-of-the-art fire control systems, ballistic computers, thermal optics, target hand-off capabilities, hunter/killer functionality, with a high level of mobility. The munitions employed are purpose-based and provide extended stand-off distances that directly impact crew survivability and mission accomplishment on the battlefield.

Engagements are designed to increase the speed of the crew's direct fire kill chain to defeat tactical dilemmas. All training and standards are based on achieving the desired effects against the tactical dilemma before those threats deliver lethal fires. Training to this standard requires a training model that instructs and evaluates the crew's ability to employ their platform, fire control system, optics, munitions, and redundant systems against the variety to target packages they are expected to defeat.

The training model identifies the general capabilities of the crew, system, optics, ammunition, most probably threat arrays, and battlefield conditions to determine the maximum number of engagements a trained crew should experience. The training model includes the maximum number of engagements possible based on the basic conditions:

- Day or night/limited visibility.
- Offense or defense operations.
- Precision or degraded engagement skills.
- Threat array.
  - Number of threats—one to four within presentation.
  - Posture of threats—stationary or moving.
  - Range band–close (less than 300 meters), mid (300 to 900 meters), long (900 to 1,600 meters) or extended (greater than 1,600 meters).
- Chemical environment.

Without considering the possible ammunition types and two separate firers, or the ability to engage simultaneous targets with multiple weapon systems, the training model baseline includes over 10,000 engagement possibilities. Within those engagements, approximately 1,920 engagements are designed for training within precision gunnery simulations per fiscal year by a crew. Simulations are a critical to the education and experience of the crew.

To augment the training strategy, the unit needs experienced subject matter experts, have trained and certified trainers, Master Gunner, instructor/operators, and vehicle crew evaluators. Providing training resources alone is not enough. Without certified trainers and leaders, units will struggle to achieve the fundamentals of tactical employment and have trouble achieving trained, qualified and lethal crews.

Training is comprehensive and should be focused on addressing cognitive skills (recognition of target signatures, identification of threat, classification and prioritization, understanding of fire control systems, optics, capabilities of ammunition), fine motor skills (tracking and manipulation), and instinctual reactions to situational stimuli (battle drills, conduct of fire responses, application of the direct fire kill chain) formed through correctly performing the tasks in repetition, on demand of the tactical situation.

ENGAGEMENTS IN THE TRAINING STRATEGY

The training strategy structure (see introductory figure 3) uses the general engagements presented to the crew. This example is the general model in use for BFV platforms.



BASIC TRAINING STRATEGY CONCEPT
CREW EXPERIENCE BY ENGAGEMENTS PRESENTED
ACTIVE COMPONENT (AC)

SIMULATIONS ENGAGEMENTS	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
4 HOURS PER MONTH 40 ENGAGEMENTS PER HOUR	160	160	160	160	160	160	160	160	160	160	160	160
TOTAL SIMULATION ENGAGEMENTS	1920											

Note: Crews are resourced 4 HOURS PER MONTH of simulations training. Crews can complete four scenarios per hour. Each scenario includes no less than 10 engagements. This results in 40 engagements per hour, or 160 engagements per resourced training session. Crews overall are resourced for approximately 1920 engagements per fiscal year as part of the training strategy.

LIVE FIRE	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
TABLE IV ZEROING	3						3					
TABLE IV DEFENSE	10						10					
TABLE V	10						10					
TABLE VI	10						10					
SECTION/PLATOON TABLE V/TABLE VI	7											
COMPANY/TROOP TABLE V/TABLE VI	7											
TOTAL LIVE FIRE ENGAGEMENTS	80											

Introduction figure 3. Training strategy structure based on crew experience by engagement

Those engagements provide the bulk of crew experience. Within those 1,920 engagements in simulation, they include a variety of the conditions based on their skill and ability to progress through the simulation's training model.

Simulations Provide 95 Percent of Crew Engagement Experience

Within simulations, with the varying number of engagements, and the varying number of targets presented, the training plan includes over 2,000 trigger squeezes for main gun engagements and an additional 1,000 for the coaxial machine gun. The primary armament trigger squeezes provided in simulation equate to approximately 20 years of live-fire ammunition authorizations per crew (77 target sets with 8 rounds of 25 millimeter [mm] ammunition authorized per year).

The live-fire training strategy includes 33 live-fire tasks per gunnery through crew qualification. For an active component crew, firing twice per year, and additional collective live-fire engagements, the total number of engagements presented for live-fire experience is approximate 80 engagements total.

FAILING TO TRAIN ENGAGEMENTS IMPACT READINESS

Units that fail to provide sufficient simulations training time for their crews and fail to execute the live-fire events to standard hinder their ability to tactically employ their platform. An example of common reductions in the training strategy across a fiscal year is shown for comparison (see introductory figure 4).



BASIC TRAINING STRATEGY CONCEPT
CREW EXPERIENCE BY ENGAGEMENTS PRESENTED
ACTIVE COMPONENT (AC)

SIMULATIONS ENGAGEMENTS	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
4 HOURS PER MONTH 40 ENGAGEMENTS PER HOUR		*80*			*80*	160	*40*				160	160
TOTAL SIMULATION ENGAGEMENTS	*680* OF 1920											
The unit reduces the amount of hours provided to the crews for a number of reasons. In this notional unit, they focus on simulations use generally right before the gunnery density only. This is shown in February, March, and April, and again in August and September.												

LIVE FIRE	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
TABLE IV ZEROING	3						3					
TABLE IV DEFENSE	*0*						*0*					
TABLE V	10						*6*					
TABLE VI	10						10					
SECTION/PLATOON TABLE V/TABLE VI	*5*											
COMPANY/TROOP TABLE V/TABLE VI	*0*											
TOTAL LIVE FIRE ENGAGEMENTS	*47* OF 80											
This unit is on a tight timeline to get out the door to a Combat Training Center rotation. The commander cuts Table IV defense from both gunnery densities to save range time. In the second gunnery density, again pressed for time, the unit completes a "modified" Table V. ***Note:*** There are no events called "modified" in any maneuver training strategy.												

Introductory figure 4. Negative impacts to crew experience based on reduced training

Units that have a robust simulations training plan and follow the training strategy provide 2,000 engagements to their crews. When units cannot provide the training to the crews per the training strategy, the impacts to the crew's experience can be described using the number of engagements fired.

Introductory figure 4 on page xxi shows the impacts from the training strategy's 2,000 engagement designed structure. Common instance in the unit's training calendar causes the crew's experience on engagements to drop to 727 engagements total.

A crew that loses over 60 percent of the training strategy's programmed engagement experience may provide a unit a qualified crew initially. Crews that are not provided the training resources by their unit will not fully develop their engagement skills and lethality. In subsequent live-fire events, crew evaluations will identify basic failures in the conduct of fire, reticle aim, fire control system management, and engagement techniques. Those training gaps will ultimately result in failed qualification attempts.

When units remove the training events from their training plan, including the use and management of simulations, the proficiency and lethality of the unit diminishes rapidly. In those instances, the commander loses qualified crews, unit readiness, and the flexibility to correct talent management or personnel turbulence issues rapidly.

CHAPTER STRUCTURE

Chapters 1 through 6 in this training circular provide an overview of the training event, the training event definition, the purpose, method, and end state of the training, and a guide to plan, prepare, execute, and assess each event. Chapter 7 details methods to manage the proficiency of the crew once they achieve proficiency.

CHAPTER 1–TABLE I, GUNNERY SKILLS TEST

Chapter 1 describes the training and evaluation requirements for each Soldier's GST. It includes required training tasks for crew protection such as roll-over drills, crew evacuation from all positions, and react to multiple types of vehicle fires. The chapter provides general information for the unit to plan, prepare, execute, and assess the event using the eight-step training model.

CHAPTER 2–TABLE II, SITUATIONAL TRAINING EXERCISE–VIRTUAL

Chapter 2 describes the section-level STX-V. The chapter includes the purpose, method, and end state of the event based on the simulation system's training model and the required gate to live-fire exercise. The chapter provides general information for the unit to plan, prepare, execute, and assess the event using the eight-step training model.

CHAPTER 3–TABLE III, SITUATIONAL TRAINING EXERCISE

Chapter 3 describes the section-level STX using various training aids, devices, simulators, and simulations and includes the purpose, method, and end state of the event based on the platform's capabilities and crew's tasks. The chapter provides general information for the unit to plan, prepare, and execute, the event using the eight-step training model. Chapter 3 provides required training tasks for crew protection such as berm drills (defilade to enfilade movements within defensive firing positions), roll-over drills, crew evacuation from all positions, and react to multiple types of vehicle fires.

CHAPTER 4–TABLE IV, BASIC

Chapter 4 describes the live-fire task requirements for zeroing the main gun and machine guns prior to conducting further live-fire training. It continues by defining the training

requirements for ten defensive live-fire engagements for the Bradley commander, gunner, or simultaneous execution against single and multiple stationary or moving threats.

CHAPTER 5–TABLE V, PRACTICE

Chapter 5 provides the detailed engagement requirements for the 10 live-fire engagements on the practice course of fire. It provides advanced and complex engagements built upon all previous training. The engagements are specifically designed to provide increased challenges to the crew using 3/4-scale targets at full range, complex target arrays, and high tempo changes to the fire control system to best prepare crews for their qualification event.

CHAPTER 6–TABLE VI, QUALIFICATION

Chapter 6 provides a description of the engagement requirements for live-fire qualification for Bradley crews. These engagements are designed to ensure the crew can effectively engage and defeat common threat arrays expected in a tactical environment while fighting from the defense or during offensive operations. This table provides the reporting requirements for the Bradley crew as part of the unit's readiness.

CHAPTER 7–QUALIFICATION STANDARDS

Chapter 7 provides a description of how commanders determine crew qualification (or proficiency) as part of the unit's readiness reporting. It provides a general overview for commanders making personnel manning, talent management, and crew assignment decisions that directly impact the qualifications of their organization.

APPENDIXES

The appendixes in this training circular provide a guide to units as they build their unit training plan. They provide specific information on—

- The recommended training munitions, pyrotechnics, and simulators to conduct each event.
- Alternate training method for training in austere environments or when appropriate or authorized simulation systems are not available.

APPENDIX A–AMMUNITION REQUIREMENTS

This appendix describes the recommended training ammunition, pyrotechnics, simulators, and other munitions that support the training strategy. Appendix A provides a detailed listing of munitions by weapon, system, or platform and includes various planning considerations.

APPENDIX B–TRACKING AND MANIPULATION BOARDS

Appendix B describes locally manufactured or acquired tracking boards used in austere environments or when authorized simulation systems are not available for training. It describes a means of completing Table II, Situational Training Exercise–Virtual, using legacy training methods. It provides an example exercise that will satisfy the training objectives of Table II in less that optimal conditions.

APPENDIX C–TABLE A-AUSTERE QUALIFICATION

Appendix C provides a description of the conditions that must be present for a unit to conduct an austere qualification. It lays out the scenario requirements units must adhere to when standard live-fire training facilities are not available, but units need to certify crews due to operating tempo/mission requirements.

APPENDIX D–TABLE B-BASIC SKILLS ENGAGEMENTS

Appendix D lays out the basic skills engagement table. It describes the engagement requirements for the unit to use to build basic crew skills prior to executing more advanced engagements. This table may also be used to retrain weaker crews prior to qualification.

APPENDIX E–TABLE C-COMPLEX ENGAGEMENTS

Appendix E describes the engagement requirements for the complex engagements table. This table is designed to further test the crew's ability and is intended for advanced crews only. This table consists of extremely challenging skills designed to test even the most proficient crews on all the capabilities of their platform. Complex engagements require special planning and safety considerations.

APPENDIX F–TABLE M-MISSILE QUALIFICATION

Appendix F describes the engagement requirements for the missile qualification table of crew training and qualification. These engagements are designed to demonstrate the crew's ability to engage and destroy threats with the BFV's tube launched, optically tracked, wire guided missile system. Table M, Missile Qualification, is not a required table, but commanders should conduct missile qualification if time and resources allow to maximize the proficiency of their BFV crews.

Chapter 1

Table I–Gunnery Skills Test

Understanding the weapons and weapon system platforms is instrumental in the development of the warrior skills trained in marksmanship and gunnery. The information taught and evaluated in the gunnery skills test (GST) for crew platforms teaches, tests, and evaluates the critical live-fire tasks that increase Soldiers' proficiency. The GST instructs Soldiers on how to maintain, operate, and correct malfunctions of the platform's weapons, as well as the procedures and performance measures required to place the vehicle in operation for live-fire event. It includes safety-specific tasks that reinforce the proper procedures in the event of an emergency on the vehicle.

TABLE I OVERVIEW

1-1. The crew platform, Table I, GST, is hands-on demonstration of proficiency and written evaluation of weaponry tasks, characteristics, capabilities, and vehicle safety related skills that serves as a prerequisite to any live-fire event. It verifies the Soldier's ability to perform critical tasks, has the basic understanding of combat identification, emergency procedures, and other vital skills to participate in live-fire training as part of a crew.

Live-fire Prerequisite

Table I is a prerequisite for any live-fire event, including zero procedures, sub-caliber, or any live-fire maintenance procedure.

Units must maintain the training records and results, for 12 months, or through the next testing event.

1-2. Training prior to Table I is a platoon and company troop responsibility. Table I, GST, is a test that serves as the commander's official record of training proficiency prior to entering a live-fire training density.

1-3. Units must complete Table I, GST, for record between as the training week/month minus (the number of weeks/months) until execution, (T-6) and the training execution (commencement day), (T-execution), or the week of training execution, (T-week) of the live-fire event. Units can include additional tasks they require to support the training program but cannot eliminate tasks for any weapon system. Table I resides within the BFV training strategy through crew qualification (see figure 1-1 on page 2).

CREW TABLE I	TABLE I	TABLE II	TABLE III	TABLE IV	TABLE V	TABLE VI
	CRAWL	*CRAWL*	*WALK*	*RUN*	*RUN*	*RUN*
	Live	Virtual	Live TADSS	Live-Fire	Live-Fire	Live-Fire
	GST	STX-V	STX	BASIC	PRACTICE	QUAL

Note: Table I, II, and III can be conducted in any order within the T-6 to T-X time frame. This provides flexibility when developing the unit training plan.

LEGEND

GST	**GUNNERY SKILLS TEST OR GUNNER'S/FIRE DIRECTION CENTER EXAM**	**T-**	**TRAINING WEEK/MONTH MINUS [THE NUMBER OF WEEKS/MONTHS TILL EXECUTION (X)]**
QUAL	**QUALIFICATION**	**TADSS**	**TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS**
STX	**SITUATIONAL TRAINING EXERCISE**		
STX-V	**SITUATIONAL TRAINING EXERCISE-VIRTUAL**		

Figure 1-1. Table I, Gunnery Skills Test

1-4. Commanders require all Soldiers to conduct the Table I, GST tasks from all crew positions. This allows Soldiers to change positions when required during training. This training strategy helps the commander to overcome such circumstances as crew changes or unforeseen absences of assigned Soldiers.

1-5. Evaluators not participating in live-fire tables must pass the GST task they are evaluating within the same standard as the crew members. Evaluators who are part of a firing crew must pass the remaining GST tasks pertaining to their platform prior to live-fire training. The unit's Master Gunner or designated noncommissioned officer in charge (NCOIC) must validate all evaluators.

TABLE I PURPOSE

1-6. The GST is a skills assessment and risk mitigation tool for the commander. It assists the commander in determining the safe and effective use of the platform, its weapons, identification of threats, and common ammunition by the crewmembers in the unit. Further, it identifies shortfalls and training gaps in those gunnery specific skills, which build crew proficiency and unit readiness.

TABLE I METHOD

1-7. Table I is a hands-on, performance-based evaluation of basic gunnery skills to the Army-standard of knowledge or skill. It utilizes experienced evaluators to educate, train, test, and retrain Soldiers to meet or exceed those standards.

TABLE I END STATE

1-8. Each Soldier assigned as a member of the crew has successfully demonstrated the skills and knowledge required to continue training on the platform through platform qualification. Commanders are confident in their Soldier's abilities in the position assigned.

1-9. The tasks evaluated in Table I provide the commander a means to certify the crew's basic weapons platform proficiency prior to live-fire training. It is a guide for identifying individual and crew weapons platform strengths and weaknesses on specific fundamentals. The commander and Master Gunner, when structuring the unit's crew training program, should use the results from the GST.

TASK, CONDITIONS, AND STANDARD FOR TABLE I

1-10. All personnel assigned to a vehicle crew, regardless of military occupational specialty (MOS), who intend to participate in any live-fire event, must pass Table 1, GST. For example, an Infantry squad member acting as a driver on a BFV must pass the tasks for that platform. To pass the GST, Soldiers must receive a GO on all tasks specific to the platform from which they will execute live-fire training (see figure 1-2). If a crew member has previously completed a GST task that is a crew level event, they are not required to repeat that event with a new crew if they are moved between the GST event and live fire. For example, a driver is driving for multiple crews, they are not required to repeat the crew level GST tasks with both crews

 TABLE I, GUNNERY SKILLS TEST (GST)	
TASK	Demonstrate proficiency on weapon or platform specific gunnery-and safety-related skills.
CONDITIONS	Given the following: • Fully mission capable equipment, weapons, optics, and vehicles for the position assigned. • A certified evaluator. • Test and evaluation criteria.
STANDARD	The crew must successfully pass GST using the evaluation standards between T-6 and T-execution of the combat training density.

LEGEND
T- TRAINING WEEK/MONTH MINUS [THE NUMBER OF WEEKS/MONTHS TILL EXECUTION (X)]

Figure 1-2. Table I, Gunnery skills test task, conditions, and standard

PLAN FOR TABLE I

1-11. This section details the resources needed for planning purposes. It includes the following general information on the following topics for consideration:

- Uniform—the minimum uniform requirements for the training event.
- Facilities—available facilities that support the training event.
- Training plan—the minimum tasks, execution guidelines or special instructions for the training event.
- Time and throughput—the estimated time required to complete the training event including throughput considerations for planning.
- Ammunition—any training munitions required to complete the training event.
  - This includes dummy, drilled, inert (DDI) items that require coordination.
  - This ammunition may have to be requested in the Total Ammunition Management Information System.
- Training aids, devices, simulators, and simulations (TADSS)—any available training aids that directly support or augment the training event.

1-12. Units may require coordination with installation support activities such as the training support center (TSC) for devices or training aids, or the ammunition supply point (ASP) for DDI items. Each installation's policies and procedures vary. Units should reference their supporting installation's training standard operating procedures (SOPs) or policies for detailed information.

1-13. Units may require updating their signature cards, hand receipts, or other documentation to ensure the required resources are on order, secured, or drawn in advance of the training event. Additionally, installations may require additional training to draw or utilize some of the TADSS. Sufficient time for those installation or unit specific training requirements should be included in the planning process.

1-14. The commander determines whether the GST is a diagnostic or a record test using the following considerations:

- A diagnostic GST identifies the unit's strengths and weaknesses.
  - A diagnostic GST also provides information for the direct-fire training program and assesses newly assigned personnel.
  - Although DA Pam 350-38 requires record testing of the GST twice yearly, diagnostic evaluations are scheduled quarterly to maintain proficiency.
- A record GST allows commanders to meet table prerequisites to certify proficiency of Soldiers before conducting any live-fire training.

TABLE I UNIFORM

1-15. Crews must be in the appropriate vehicle crewmember uniform or prescribed unit uniform and protective mask. Crews are not required to have any additional body armor or gear inside the crew shelter or on their vehicle when using the tracking and manipulation panels for testing. (See figure 1-3 for the minimum uniform training requirements for all simulations training, including the gate to live fire [GTLF].)

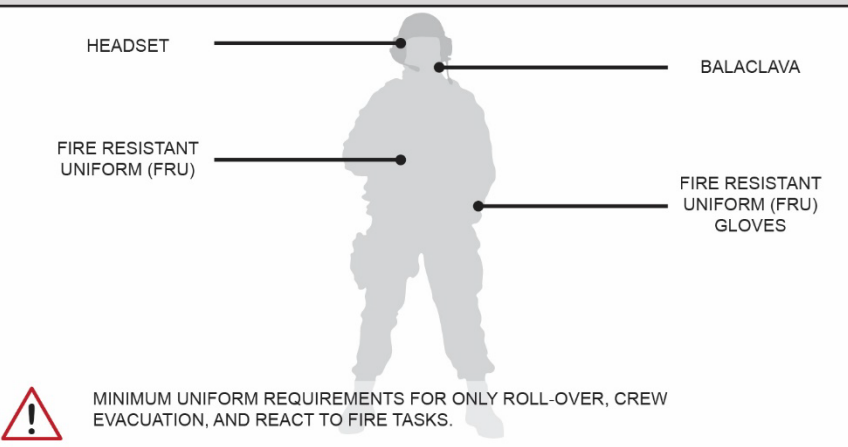


TABLE I, GUNNERY SKILLS TEST (GST) UNIFORM REQUIREMENTS

LEVEL	S SKULL	T TORSO	E EYES	E EARS	L LIMBS
MINIMUM REQUIRED	3	3	0	3	3
0	NONE	NONE	**NONE**	NONE	NONE
1	PATROL CAP	VEST	GOGGLES	SINGLE EAR PROTECTION	GLOVES
2	HELMET	VEST with PLATES	BALLISTIC	DOUBLE EAR PROTECTION	LEATHER GLOVES
3	**BALACLAVA**	**FRU**		**HEADSET**	**FRU GLOVES**
4		FRU and SPALL VEST			

Figure 1-3. Table I uniform requirements

TABLE I FACILITIES

1-16. Table I is conducted in the unit areas. Units will determine the amount of supporting equipment required to support the number of training stations used. An example of the facilities needed to complete Table I are (see figure 1-4)—

- Classroom—for testing vehicle and ammunition identification.
- Motor pool bay or company bay area with tables—for crew served weapons tasks.
- Motor pool or training area with boresight panels for the primary armament collective tasks.
- Motor pool vehicle line—for vehicle safety task, and primary armament loading and ammunition handler tasks.

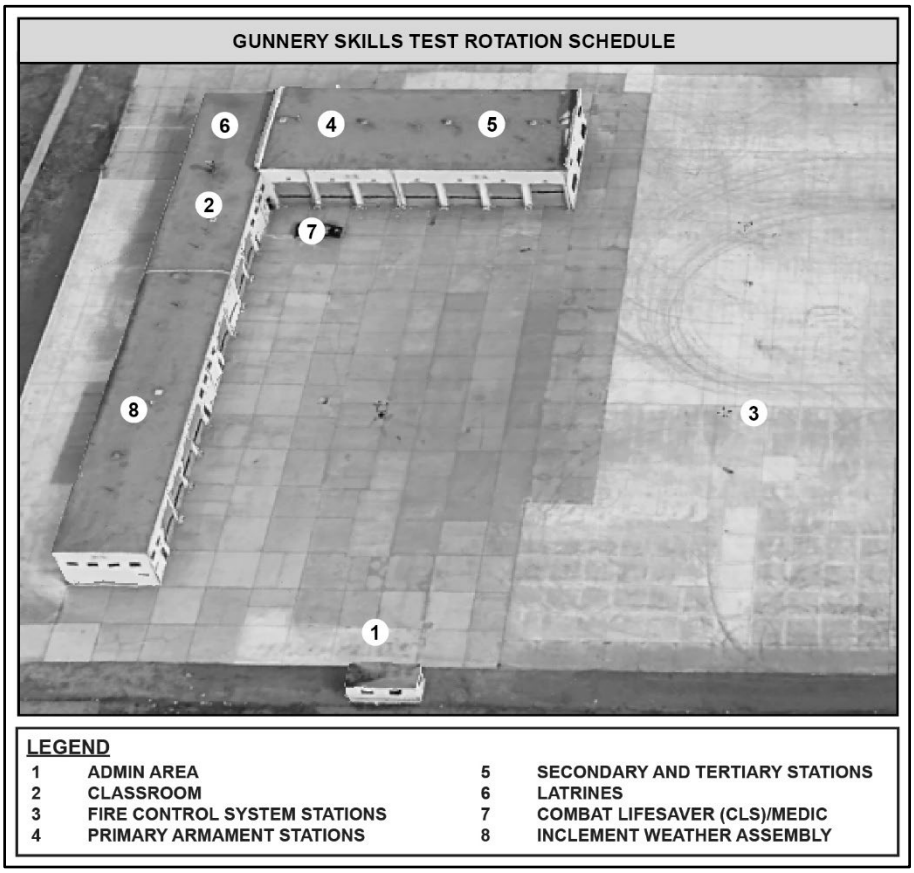


Figure 1-4. Motor pool layout, example

TABLE I TRAINING PLAN

1-17. Figure 1-5 shows the minimum tasks required for evaluation and successful completion of every crewmember prior to live fire. Units should maximize cross-training to provide additional flexibility for crew assignment and talent management. (See figure 1-5 for a description of the minimum tasks for training and evaluation for the BFV crews.)

 GUNNERY SKILLS TEST GROUPS			
IDENTIFICATION			
	COMBAT IDENTIFICATION	AMMUNITION IDENTIFICATION	
PRIMARY ARMAMENT			
M242 MAIN GUN CLEAR	M242 MAIN GUN REMOVE	M242 MAIN GUN DISASSEMBLE	M242 MAIN GUN INSTALL
M242 MAIN GUN INSTALL	M242 MAIN GUN REMOVE BOXES	M242 MAIN GUN LOAD/UNLOAD FEEDER	
SECONDARY ARMAMENT			
M240C REMOVE	M240C CLEAR	M240C DISASSEMBLE	M240C ASSEMBLE
M240C FUNCTION CHECK	M240C INSTALL	M240C LOAD	M240C IMMEDIATE ACTION
TERTIARY ARMAMENT			
TOW LOAD	TOW UNLOAD	TOW IMMEDIATE ACTION	TOW REMOVE MISFIRED TOW
FIRE CONTROL SYSTEM			
BORESIGHT			
FORCE PROTECTION			
EVACUATE CREW MEMBERS	REACT TO FIRE HAZARD	ROLL-OVER DRILLS	REQUEST MEDEVAC

LEGEND
MEDEVAC MEDICAL EVACUATION
TOW TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED

Figure 1-5. Table I, Gunnery skills test, task requirements

TABLE I TIME AND THROUGHPUT

1-18. Plan GSTs to maximize training time and resources. The training unit must fully understand all evaluation procedures and criteria. Units are responsible for training and certifying the evaluators prior to conducting Table I as part of the eight-step training model.

1-19. To properly evaluate GSTs, units must consider the following factors:

- Administrative requirements.
- Evaluator availability based on requirements and certifications.
- Test locations.
- Resource requirements.
- Time.
- Retraining.
- Retests.

1-20. Sufficient time is incorporated for training, testing, retraining, and retesting into the plan based on the projected number of Soldiers to evaluate. The goal when taking the GST is to demonstrate proficiency on key tasks (individual and crew) to execute safe and effective live-fire events.

1-21. During the GST process, the Master Gunner may combine tasks at a given station to increase throughput and maximize available training time. The tasks of clearing, disassembling, assembling, conducting a function check, and loading and unloading a weapon system is an example of combining individual tasks into a single station. Combining tasks provides flexibility to Master Gunners or NCOICs in the planning and execution of their GST.

1-22. Crews in their assigned positions complete all collective tasks. Units may evaluate additional crewmembers in gunner or vehicle commander (VC) positions after their testing in the assigned position are complete. This provides additional flexibility to the commander to manage available talent within the organization and prepare for back-up manning possibilities.

1-23. The test time calculations include administrative and testing time required for the task. When only one vehicle is used for a notional test, 28 minutes are required per Soldier to complete (see figure 1-6 for example). This includes the administrative and testing time for the task.



TEST TIME CALCULATIONS SINGLE VEHICLE	
STEP	**CALCULATION**
1	Multiply the total number of personnel to test by the total time to conduct the task (administration time + test time). 50 personnel x 28 minutes = 1,400 minutes
2	Divide total test time minutes by 60 to convert to hours. 1,400 minutes/60 minutes per hour = 23.3 hours
3	Convert .33 into minutes by multiplying by 60. .33 x 60 = 19.8 (.6 or higher, round up) (20 minutes)
4	It will take 50 personnel **23 hours and 20 minutes** to conduct testing of a task that requires 28 minutes if ***only one vehicle*** is available for testing. This requires 3 complete 8-hour training days to complete.

Figure 1-6. Test time calculation with one vehicle, example

1-24. Test time calculations include all the administrative and testing time required for the task. Figure 1-7 is an example for three testing vehicles used for the same task that requires 28 minutes per Soldier to complete. The example includes all the administrative and testing time for the task.



TEST TIME CALCULATIONS
MULTIPLE VEHICLES

STEP	CALCULATION
1	Multiply the total number of personnel to test by the total time to conduct the task (administration time + test time). 50 personnel x 28 minutes = 1,400 minutes (1 vehicle.)
2	Divide the total minutes of test time by the total number of vehicles used to test at that station. 1,400 minutes / 3 testing vehicles = 466.6 minutes each (.6 or higher, round up) 467 minutes for 3 testing vehicles
3	Divide the total minutes from the test time with three vehicles by 60 to convert to hours. 467 minutes / 60 minutes per hour = 7.78 hours
4	Convert the remainder after the whole number .78 into minutes by multiplying by 60 .78 hours x 60 minutes = 46.8 minutes (.6 or higher, round up) .78 hours = approximately 47 minutes.
5	It will take 50 personnel **7 hours and 47 minutes** to conduct testing of a task that is 28 minutes long if there are ***three testing vehicles*** available. Testing 50 personnel on this task with three testing vehicles can occur in one 8-hour training day.

Figure 1-7. Test time calculation with three vehicles, example

TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS–TABLE I

1-25. Table I will require the unit to secure various TADSS, as well as DDI training munitions for training and testing. (See figure 1-8 for a list of mandatory items for planning purposes.)

1-26. Units must coordinate with their installation or supporting ASP for the DDI training munitions. The unit should coordinate for long-term hand receipt of those items to support weapons training throughout the fiscal year, not just during Table I.



TABLE I, GUNNERY SKILLS TEST (GST)

TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS (TADSS) DRILLED, DUMMY, AND INERT (DDI) REQUIREMENTS

DODIC	NOMENCLATURE	REQUIREMENT PER COMPANY/TROOP	REMARKS
A159	CARTRIDGE, 7.62MM, DUMMY M172 (LINKED)	15	Primary DDI, linked.
AB47	CARTRIDGE, 7.62MM, SINGLE ROUND, M63A1, DDI	15	May not include links. Unit must secure links to create 5- or 10-round short belts to support the training tasks.
A967	CARTRIDGE, 25MM, LINKED M794 (DDI)	125	Primary DDI, linked.
	MISSILE SIMULATION ROUND, TOW	2	The missile simulation round (MSR) is used to train crews in all non-fire TOW-related tasks. It is a dummy TOW round casing. It is a nonexpendable major-end item that can be requisitioned through the supply system.

DEVICE	NOMENCLATURE
SP-1	BORESIGHT PANEL

Note: The requirement per company/troop is the minimum needed to facilitate ONE station for each task requiring DDI. Units should cross level as needed to maximize throughput.

See TC 25-8, *Training Ranges*, for construction dimensions if not available through the installation Training Support Center or comparable activity. Units should consider coordination with the installation Range Operations for possible local manufacturing or requisitioning.

LEGEND

DODIC	DEPARTMENT OF DEFENSE IDENTIFICATION CODE	TOW	TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED
MM	MILLIMETER	TC	TRAINING CIRCULAR

Figure 1-8. Table I, training aids, devices, simulators, and simulations requirements listing

PREPARE FOR TABLE I

1-27. The personnel, equipment, and material listed below are required for all tasks:

- Primary evaluator, staff sergeant or above, who is responsible for administering the overall test.
  - This is usually the Master Gunner or designated NCOIC.
  - This evaluator may occupy a test station.
- Station evaluator, sergeant or above (one per test station).
- Test site as required by tasks.
- Stopwatch (one per evaluator).
- Criterion scoring checklist (one per Soldier).
- TC 3-20.31-1 (one per station).
- Dummy rounds (as required).

Note. The test administrative guide lists additional items, if required, for each station. This can include items such as desks, chairs, clipboards, pencils, and applicable references.

DETERMINE RESOURCES

1-28. The Master Gunner or NCOIC must determine equipment and resources needed to support the test site and conduct the testing to standard. The condition section of each individual station contains the equipment requirements. Examples of additional support requirements are—

- Vehicles with drivers.
- Transportation to and from the test site.
- Tents for warm-up and briefings.
- Tables for scoring.
- Chairs.
- Medical support.
- Class I support.
- TADSS.
- TC 3-20.31-1 and applicable publications for each testing station.

1-29. Once the needed resources have been identified, they must coordinate the use of personnel and equipment. This coordination usually is made through the chain of command and supply sergeant or the company or battalion operations staff officer, and the logistics staff officer.

IDENTIFY THE TEST SITE

1-30. A test site is established to support the testing of all stations. Units should consider the number of Soldiers for evaluation to ensure the selected site supports the throughput required.

CONSTRUCT A TEST STATION DIAGRAM (FLOW CHART)

1-31. Design a test station diagram or flow chart prior to any test rehearsal (see figure 1-9). A diagram facilitates management and control of the test and aids in briefing Soldiers and evaluators. The diagram should include the following:

- Administrative area.
- Classrooms.
- Test stations.
- Retraining location.
- Movement schedule with direction of rotation, if applicable.
- Latrines.
- Aid station and warm-up tent, if available.

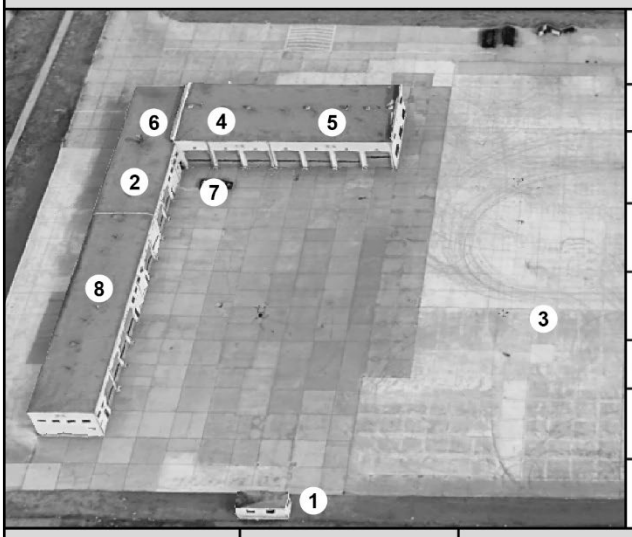
1-32. When developing a GST site, evaluators should pay particular attention to retraining vehicles and back-up vehicles.

1-33. Position retraining vehicles in such a way for use for any task requiring retraining or retesting, which is important when training, or testing boresight and zero. For example, if the personnel in the retraining vehicle cannot see the boresight panel or the vehicle is not at the correct distance, the retraining capability of that vehicle will not be effective.

1-34. Calculate back-up vehicles into the development of a GST site to address any critical failures of any primary vehicles dedicated to any task. In the event of a malfunction or catastrophic failure of a primary vehicle, the back-up vehicle is readily available to allow the GST to continue with limited loss of throughput.

1-35. In this example (see figure 1-9 for test station diagram example with test station groups), it provides a general timeline for execution at the company/troop level, rotating platoons through the test stations. This diagram is useful to brief the conduct of the event, noncommissioned officer briefing books for visitors, and in the administrative area.

GUNNERY SKILLS TEST ROTATION SCHEDULE



LEGEND

1	ADMIN AREA
2	CLASSROOM
3	FIRE CONTROL SYSTEM STATIONS
4	PRIMARY ARMAMENT STATIONS
5	SECONDARY AND TERTIARY STATIONS
6	LATRINES
7	COMBAT LIFESAVER (CLS)/MEDIC
8	INCLEMENT WEATHER ASSEMBLY

TIME	PLATOON	FUNCTIONAL SKILLS GROUP
0800-1000	ALL	IDENTIFICATION
1000-1200	1ST	PRIMARY ARMAMENT
	2ND	SECONDARY AND TERTIARY
	3RD	FIRE CONTROL SYSTEM
1300-1500	1ST	SECONDARY AND TERTIARY
	2ND	FIRE CONTROL SYSTEM
	3RD	PRIMARY ARMAMENT
1500-1700	1ST	FIRE CONTROL SYSTEM
	2ND	PRIMARY ARMAMENT
	3RD	SECONDARY AND TERTIARY
1700-1800	ALL	FORCE PROTECTION

Figure 1-9. Table I sample test station diagram

SELECT EVALUATORS

1-36. NCOICs should select evaluators as far in advance as possible. This gives the NCOIC time to train, to select the most qualified personnel available, and to coordinate with other units, if necessary. Early selections, in turn, allow evaluators time to prepare. If the NCOIC must draw on resources from outside their unit, they should request assistance from their company command group to make this coordination to ensure proper channel utilization for their request. After the evaluators have been selected, the NCOIC briefs them on their duties and responsibilities, the test schedule and location (using a flow chart or test station diagram), and the station they will be testing. The NCOIC must provide training and testing dates to certify the proficiency of the evaluators.

TEST EVALUATORS

1-37. Evaluators must be technically proficient in performing all tasks to standard. Typically, the GST occurs over multiple training days. Due to personnel requirements and availability issues, training, testing and certification of each evaluator on the specific GST station they are to evaluate occurs prior to the unit testing date. Each evaluator should test on all GST stations in case another evaluator becomes unavailable during testing time.

CONDUCT A REHEARSAL

1-38. Units must rehearse the test before administering it because of the size and scope. Units should conduct the rehearsal at the test site with all evaluators present. The NCOIC should check each station to make sure the evaluator is aware of their duties and responsibilities, the stations are set up correctly with all required equipment, support and test materials are on hand, and execution of each station is according to the test administrative guides.

1-39. The rehearsal day also may serve to train, test, and certify all evaluators, which also satisfies their live-fire GST prerequisite.

EXECUTE TABLE I

1-40. Before the Soldiers arrive, evaluators set up the equipment and materials needed at each station. The evaluator should have a crew roster by vehicle bumper number and position at their station to track the Soldiers. Evaluators provide the Soldiers with all the necessary materials and equipment as outlined in this chapter and in the test administrative guide for each station.

1-41. The evaluator must read the instructions for their assigned station exactly as written in the guide. The evaluator must use the criteria-scoring checklist provided for each task to evaluate each Soldier's performance to standard. Once testing is complete, the evaluator records the results on DA Form 7758 (*Gunnery Skills Test [(GST)] Individual Roll-up)* (see figure 1-10, page 19). As each Soldier finishes or the time limit is up, whichever occurs first, the evaluator checks the Soldier's performance as either GO or NO-GO, informs them of their performance on that task, and directs them to the next station or to retraining.

1-42. The company Master Gunner or designated NCOIC is responsible for completing DA Form 7758 and maintaining platoon and company roll-up information. They ensure that all collected roll-ups are submitted to the next higher headquarters.

1-43. Before testing, the NCOIC must make sure the stations are set up and all equipment and support requirements are available. The NCOIC also must brief the Soldiers on safety, rotational order, hours of testing, and location of the stations. Preferably, Soldiers should separate into small groups or crews and be assigned to initial test stations. During testing, the NCOIC will spot check each station to ensure the task standard and attendance rosters, with correctly annotated scorecards, are being maintained.

ASSESS TABLE I TRAINING EVENT

1-44. After action reviews (AARs), are the key to success in any training event, as well as improving the event for future iterations. There are two primary AARs for Table I, testing Soldier/crew AAR and the Table I execution AAR. Evaluators must conduct an AAR after the completion of each task for each Soldier or crew, and for the NCOIC of Table I upon completion of unit training. Without these immediate AARs, valuable lessons for the Soldier, crew, and unit can be lost.

SOLDIER INDIVIDUAL TASK AFTER ACTION REVIEWS

1-45. At the completion of each task, the evaluator will provide feedback to each Soldier on their performance at the station. Whether a Soldier passes or fails to complete a GST task, the evaluator should be prepared to offer guidance on how the Soldier can improve their skills.

TABLE I—EVENT AFTER ACTION REVIEW

1-46. The battalion or brigade Master Gunner, designated NCOIC, or operations sergeant major should conduct an AAR to help the NCOIC understand their actions and interactions during the conduct of the GST. The AAR should be conducted prior to any debrief to the unit commander and should consist of a discussion of the strengths and weaknesses of the training event. This allows the NCOIC to debrief the commander with accurate training results and recommendations to improve the testing process for future events.

1-47. The results of the GST provide the commander with additional quantifiable testing information to assess unit proficiency. Combined and integrate the GST results and AAR comments to improve future training, testing, or evaluation.

PREPARE THE DEBRIEF

1-48. Once the test is complete, the NCOIC prepares a debriefing on the GST results for the commander. Units retain this information for training records and maintain the information throughout the weapons training density. The NCOIC collects the Soldier's scorecards as soon as they complete testing and prior to anyone leaving the test site. The evaluators can provide additional information about a Soldier's test performance. After all data is collected, the NCOIC prepares a summary of results, interpreting information from test results to determine the strengths and weaknesses of the unit. This report will, at a minimum, contain the following data:

- A roster by duty position of each Soldier tested.
- The scores of each Soldier tested.
- The percentage of Soldiers passing the GST.
- Percentage of GOs per station.
- Percentage of NO-GOs per station.

CREW GUNNERY FOLDER RECORDS FOR TABLE I

1-49. Once testing is complete, the evaluator records the results on DA Form 7758 (see figure 1-10) and provides that form to the unit Master Gunner for the crew's gunnery folder. The form is retained for 12 months. The GST is a live-fire prerequisite, the roll-up information must be maintained by the unit Master Gunner, designated NCOIC, or operations staff officer representative for two consecutive gunneries.

GUNNERY SKILLS TEST (GST) INDIVIDUAL ROLL-UP
For use of this form see TC 3-20.31-1; the proponent agency is TRADOC.

1. NAME	2. RANK	3. POSITION
SGT Hernandez, Isabella S.	SGT	GUNNER
4. UNIT	**5. PLATOON**	**6. VEHICLE PLATFORM TYPE**
D CO, 1-99 CAV	1ST	BFV M2A4

7. TASK NUMBER	8. DATE: 15 AUG 23			9. DATE: 23 AUG 23			10. DATE		
	Score Go/ No-Go	Score Initials	Remarks	Score Go/ No-Go	Score Initials	Remarks	Score Go/ No-Go	Score Initials	Remarks
1. Ammunition Identification	GO	K							
2. Combat Identification	NO GO	K		GO	JW				
3. M242 C / R / D / A / I	GO	K							
4. Load / Unload M242 Ready Boxes / Feeder	GO	K							
5. M240C R/ C / D / FC / I	NO GO	K		GO	JW				
6. M240C Load / IA / Unload	GO	K							
7. TOW MISSILE Load / Unload	GO	K							
8. TOW MISSILE Fire / IA / Remove	GO	K							
9. Boresight	GO	K							
10. Evacuate Crewmember	GO	K							
11. React to Fire	GO	K							
12. Request MEDEVAC	GO	K							
13.									
14.									
15.									

SAMPLE

DA FORM 7758, SEP 2015 APD LC v1.00

Figure 1-10. DA Form 7758 (Gunnery Skills Test [GST] Individual Roll-up)

RECORD INDIVIDUAL TASK PERFORMANCE FOR TABLE I

1-50. Leaders track and train their Soldier's individual and collective tasks trained and evaluated using tools provided by the Army Training Network such as the small unit leader tool (SULT) and the digital job book (DJB). These systems interface directly with the Digital Training Management System (DTMS) to record training and evaluation results.

Note. Leaders must be granted access first by their commander or DTMS manager to enroll or assign their Soldiers the specific tasks from the individual critical task list (ICTL) that are trained and tested during the training event.

1-51. From within the SULT, the authorized leader is enabled to view, maintain, and update—

- Warrior tasks and battle drills.
- MOS-specific individual critical tasks.
- Unit-mandated training tasks.
- Supporting training and evaluation outlines (T&EOs) (access dependent on proponent distribution restrictions).

1-52. Leaders should update their Soldier's individual training records for training and evaluation of the following tasks, based on their assigned position. This is not an all-inclusive list of the trained and tested tasks for this event. Leaders should adjust based on the unit's additions to the event.

1-53. This ensures historical data is available throughout the Army force generation training cycle for the chain of command to assess strengths and weaknesses of crews and address these concerns in upcoming GST training. The most current GST records must accompany the unit or crew throughout the entire weapons training density.

UPDATING INDIVIDUAL TRAINING RECORDS–TABLE I

1-54. Leaders update their SULT application with the appropriate training and evaluation outcomes for their crew members. The lists provided show the touch points associated with completing Table I, GST (see figure 1-11 on pages 21 through page 23).



TABLE I
GUNNERY SKILLS TEST
INDIVIDUAL TASK TOUCH POINTS

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
071-024-0003	Unload the 25-mm High-Explosive Incendiary Tracer (HEI-T) Ammunition Can on a Bradley Fighting Vehicle (BFV)			
071-024-0004	Unload the 25-mm Armor-Piercing Sabot Discarding Tracer (APDS-T) Ammunition Can on a Bradley Fighting Vehicle (BFV)			
071-025-0040	Install the M21 Blank Firing Attachment (BFA) on the M240 Machine Gun	Yes	Yes	
071-025-0041	Remove the M21 Blank Firing Attachment (BFA) from the M240 Machine Gun	Yes	Yes	
071-300-0001	Conduct Troop Leading Procedures	Yes		
091-91M-1073	Maintain the 25-mm Gun System on the Bradley Fighting Vehicle	Yes	Yes	
171-122-1061	Maintain Property Accountability	Yes	Yes	Yes
171-123-1090	Perform Preventative Maintenance on Basic Issue Items (BII)		Yes	Yes
171-123-3001	Supervise Personnel Handling Ammunition	Yes		
171-131-2017	Identify Ammunition Container Markings	Yes	Yes	
171-131-2018	Identify the Components of Main Gun and Small Arms Ammunition	Yes	Yes	Yes
171-138-0015	Conduct Advanced Vehicle Identification	Yes	Yes	
171-138-0017	Identify Restricted and Suspended Ammunition	Yes	Yes	

LEGEND
mm MILLIMETER

Figure 1-11. Table I, GST, task touch points



TABLE I
GUNNERY SKILLS TEST
INDIVIDUAL TASK TOUCH POINTS

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-138-0022	Demonstrate Target Acquisition Methods	Yes	Yes	Yes
171-138-0028	Identify Combat Vehicles and Aircraft	Yes	Yes	Yes
171-300-0083	Enforce Rules of Engagement (ROE)	Yes		
171-309-0650	Inspect DA Form 5988-E or DA Form 2404	Yes	Yes	
171-924-0015	Perform Duties as a Vehicle Crew Evaluator (VCE)	Yes		
171-BFV-0001	Maintain the Hull on a Bradley Fighting Vehicle (BFV)	Yes	Yes	Yes
171-BFV-0002	Maintain the Turret on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0004	Drive a Bradley Fighting Vehicle (BFV)			Yes
171-BFV-0010	Slave Start an M2A3 Bradley Fighting Vehicle (BFV)			Yes
171-BFV-0016	Stow Ammunition on an Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0100	Install a M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0101	Perform a Function Check on the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0102	Load the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0103	Fire the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0104	Correct Malfunctions of the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	

Figure 1-11. Table I, GST, task touch points, continued



TABLE I
GUNNERY SKILLS TEST
INDIVIDUAL TASK TOUCH POINTS

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-BFV-0105	Unload the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0106	Remove a M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0201	Perform a Function Check on the 25mm Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0202	Load the the 25mm Gun Feeder on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0203	Load the 25mm High-Explosive (HE) Ammunition Can on a Bradley Fighting Vehicle (BFV)			
171-BFV-0204	Load the 25mm Armor-Piercing (AP) Ammunition Can on a Bradley Fighting Vehicle (BFV)			
171-BFV-0205	Fire the 25mm Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0206	Correct a Malfunction of the 25mm Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0209	Unload the the 25mm Gun on a Bradley Fighting Vehicle (BFV)			
171-BFV-0300	Load the TOW Missile Launcher on a Bradley Fighting Vehicle (BFV)			
171-BFV-0303	React to a Misfire of the TOW System on a Bradley Fighting Vehicle (BFV)			
171-BFV-0305	Unload the TOW Missile Launcher on a Bradley Fighting Vehicle (BFV)			
171-BFV-1100	Zero the Weapon Systems on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-COM-4079	Send a Situation Report (SITREP)	Yes	Yes	
171-COM-4080	Send a Spot Report (SPOTREP)	Yes	Yes	Yes

LEGEND
mm MILLIMETER
TOW TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED

Figure 1-11. Table I, GST, task touch points, continued

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Chapter 2

Table II–Situational Training Exercise–Virtual

Crew Platform, Table II, STX-V is a simulations-based demonstration of performance of employing the element to its primary capabilities. Table II itself is the culminating evaluation of the crew after completing the appropriate simulations training strategy within the simulation system itself. Table II is a replication (simulation) of the crew's live-fire qualification course. It provides a measured demonstration of performance prior to any live-fire event for the element.

Note. Simulations use following the simulation's training strategy is a key component to creating lethal crews. For most crew platforms, there are no less than 3,864 engagement variations, not including changes to ammunition type or special purpose exercises that crews must have the ability to complete successfully. By way of comparison, only 32 of those engagements are trained with live fire.

TABLE II OVERVIEW

2-1. The purpose of crew platform, Table II, STX-V, is to ensure the crew possesses the skills and experience necessary to execute live-fire events and exercises safely, which implies a functional understanding of the engagement process, fire commands, engagement techniques, and lethality. This is the culminating test of their abilities and skills on their platform in simulation after completing the appropriate simulations training plan.

Live-Fire Prerequisite

Table II is a prerequisite for any live-fire event, including zero procedures, sub-caliber, or any live-fire maintenance procedure. Units must maintain the training records and results, for the longer of 12 months, or through the next testing event.

2-2. Table II is completed after successful advancement in the approved simulation system's training model. Table II is the GTLF exercise within that training system which simulates the qualification course of fire. (See figure 2-1 on page 26 for how Table II is tied to the other training events within the crew training strategy.)

CREW TABLE II	TABLE I	TABLE II	TABLE III	TABLE IV	TABLE V	TABLE VI
	CRAWL	*CRAWL*	*WALK*	*RUN*	*RUN*	*RUN*
	Live	Virtual	Live TADSS	Live-Fire	Live-Fire	Live-Fire
	GST	STX-V	STX	BASIC	PRACTICE	QUAL

Note: Table I, II, and III can be conducted in any order within the T-6 to T-X time frame. This provides flexibility when developing the unit training plan.

LEGEND

GST	**GUNNERY SKILLS TEST OR GUNNER'S/FIRE DIRECTION CENTER EXAM**	**T-**	**TRAINING WEEK/MONTH MINUS [THE NUMBER OF WEEKS/MONTHS TILL EXECUTION (X)]**
QUAL	**QUALIFICATION**	**TADSS**	**TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS**
STX	**SITUATIONAL TRAINING EXERCISE**		
STX-V	**SITUATIONAL TRAINING EXERCISE-VIRTUAL**		

Figure 2-1. Table II, Situational Training Exercise–Virtual

TABLE II PURPOSE

2-3. Table II, STX-V, is a skills assessment and risk mitigation tool for the commander. It assists the commander in determining the safe and effective use of the platform, its weapons, identification of threats, and common ammunition by the crewmembers in the unit. Further, it identifies shortfalls and training gaps in those gunnery specific skills, which build crew proficiency and unit readiness.

TABLE II METHOD

2-4. Table II is a hands-on, performance-based evaluation of basic gunnery skills to the Army-standard of knowledge or skill in a simulator system (crew shelter). It utilizes experienced evaluators to educate, train, test, and retrain Soldiers to meet or exceed those standards.

TABLE II END STATE

2-5. The VC and gunner assigned as a crew have successfully demonstrated the skills and knowledge required to continue training on the platform through platform qualification. Commanders are confident in their Soldier's abilities in the position assigned.

2-6. The tasks evaluated in Table II provide the commander a means to certify the crew's basic weapons platform proficiency prior to live-fire training. It is used as a guide for identifying individual and crew weapons platform strengths and weaknesses on specific engagement techniques and employment of the vehicle's fire control system capabilities and enablers.

TASK, CONDITIONS, AND STANDARD FOR TABLE II

2-7. All crews must complete Table II, STX-V during T-6 to T-week of the upcoming live-fire training density. (See figure 2-2 for the task, conditions, and standard required for the crews.)

TABLE II SITUATIONAL TRAINING EXERCISE - VIRTUAL	
TASK	Engage and destroy stationary and moving targets from a stationary or moving vehicle in a simulated combat environment.
CONDITIONS	Given the following: • Operational simulator. • An instructor operator (I/O) that is a certified vehicle crew evaluator (VCE). • A prescribed gate to live-fire exercise, which includes an accurate replication of Table VI, *Qualification*.
STANDARD	The crew must successfully pass the GTLF exercise using the evaluation standards of TC 3-20.31 crew evaluation between T-6 and T-week.

LEGEND			
GTLF	GATE TO LIVE-FIRE	TC	TRAINING CIRCULAR
T-	TRAINING WEEK/MONTH MINUS [THE NUMBER OF WEEKS/MONTHS TILL EXECUTION (X)]		

Figure 2-2. Table II, Task, conditions, and standard

PLAN FOR TABLE II

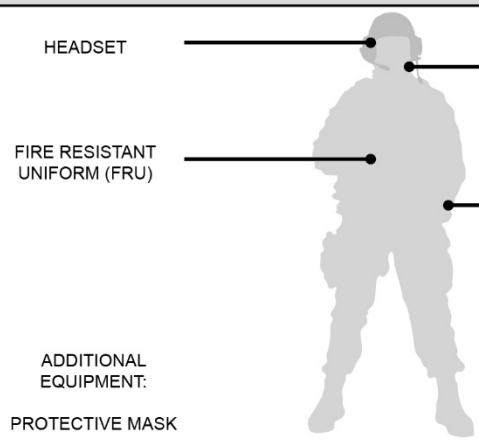
2-8. This section details the resources needed for planning purposes. It includes general information on the following topics for consideration:

- Uniform—the minimum uniform requirements for the training event.
- Facilities—available facilities that support the training event.
- Crew experience—units must consider their crew's experience (VC/gunner) when creating the plan for Table II.
  - The experience of the crew directly affects the throughput of the event.
  - The experience also drives the engagement scenarios development, when required.
- Training plan—the minimum tasks, sequence, and method of execution for the training event.
- Time and throughput—the estimated time required to complete the training event including throughput considerations for planning.
- Ammunition—any training munitions required to complete the training event, including DDI items that require coordination.
- TADSS—any available training aids that directly support or augment the training event.

TABLE II UNIFORM

2-9. Crews must be in the appropriate vehicle crewmember uniform or prescribed unit uniform and protective mask. Crews are not required to have any additional body armor or gear inside the crew shelter or on their vehicle when using the tracking and manipulation panels for testing. (See figure 2-3 for the minimum uniform training requirements for all simulations training, including the GTLF.)

TABLE II
SITUATIONAL TRAINING EXERCISE–VIRTUAL
UNIFORM REQUIREMENTS



LEVEL	S SKULL	T TORSO	E EYES	E EARS	L LIMBS
MINIMUM REQUIRED	3	3	0	3	3
0	NONE	NONE	**NONE**	NONE	NONE
1	PATROL CAP	VEST	GOGGLES	SINGLE EAR PROTECTION	GLOVES
2	HELMET	VEST with PLATES	BALLISTIC	DOUBLE EAR PROTECTION	LEATHER GLOVES
3	**BALACLAVA**	**FRU**		**HEADSET**	**FRU GLOVES**
4		FRU and SPALL VEST			

Figure 2-3. Table II uniform requirements

TABLE II FACILITIES

2-10. Conduct of Table II is either in the conduct of fire trainer or in a motor pool or training area utilizing tracking and manipulation boards (T&MBs). (See figure 2-4 for the primary and alternate facilities/methods to complete STX-V.)



AUTHORIZED SIMULATION SYSTEMS
BRADLEY FIGHTING VEHICLE

DEVICE	PRIMARY	ALTERNATE	REMARKS
GTS	X		System generated GTLF.
GfT		X	Master Gunner developed GTLF.
TRACKING AND MANIPULATION BOARDS		X	Master Gunner developed GTLF. Requires use of a comparable gunner's power control handle for turret movement in azimuth and elevation for engagements. Use of auxiliary controls are not required but should be used if available.

LEGEND
GTS GUNNERY TRAINING SYSTEM
GfT GAMES FOR TRAINING SYSTEMS
GTLF GATE TO LIVE-FIRE

Figure 2-4. Table II primary and alternate simulations systems

Simulations Requirements

2-11. If conducting Table II, GTLF virtually, the use of a precision gunnery trainer is required. This ensures that platform systems, weapons functionality, and ballistics are accurately represented to the crew to prevent crews from developing any poor habits that will affect lethality on their platform.

Precision Gunnery Trainer

2-12. A precision gunnery trainer is a system, stand-alone or embedded, comprised of virtual environment and physical components which enables the crew to engage targets using all modes of their vehicle's fire control system. Ballistic solutions and effects, kinematic lead, stabilization, target handoff, target designation, sight capabilities, and limitations are all accurately represented in the system. The system must accurately represent the form, fit, and function of the crew area within the vehicle. It incorporates an AAR capability which allows the evaluator and crewmembers to see the placement of each round in relation to the target, its corresponding data, and their engagement score in accordance with (IAW) applicable platform manual. While the primary purpose of the system is to train the crew on the direct fire engagement process, the real feel of switches, levers, hand stations, sights, and the room available to maneuver inside the vehicle is a critical component of basic crew proficiency.

Collective Virtual Trainer

2-13. A virtual collective trainer is a system, comprised of multiple platforms or vehicles replicated within the virtual environment. The system should have the ability to replicate air, ground, and dismounted systems and soldiers. It is comprised of both physical and virtual components which accurately represent the equipment Soldiers and crewmembers operate with. The system must enable collective units to train shoot-move-communicate in a virtual battlespace that accurate represents their operating environment where the commander can evaluate their ability to complete tactical tasks to standard. It incorporates a recording and AAR capability to enable commanders to review, analyze, and evaluate the performance of their units. It must give commanders the ability to incorporate branches, drivers, and sequels into their mission execution. The system also must contain the ability for the leader to command and control their training units within the virtual environment.

2-14. There are several different types of virtual trainers. (See figure 2-5 on page 32 for the list of the capabilities for precision gunnery and collective virtual trainers.)

MINIMUM VIRTUAL TRAINER CAPABILITIES		
CAPABILITY	PRECISION GUNNERY TRAINER	COLLECTIVE TRAINER
Accurate ammo ballistics and effects	X	X
I/O Station with real time thru-sight view and scenario control	X	
System generated AAR	X	X
Gunnery specific AAR capability; engagement timing, scoring, crew cuts, scoresheet creation	X	
Presentation of engagements and degraded FCS modes IAW Crew Platform Qualification	X	
Scenario progression using crawl-walk-run methodology to build crewmember proficiency	X	
Fully functioning fire control system	X	X
Form/fit/function of fire control system related switches/buttons/levers, handles and crew positions	X	X
User specified ammunition combat load		X
Standard platform ammunition combat load	X	
Simulated ammunition reload times IAW Platform crew Qualification Gunnery Skills testing		X
Simulated own platform battle damage		X
Table-Top Configuration (if issued)	X	X
Integration of multiple vehicles (greater than one)		X
Driver station		X
Free range maneuver through the virtual environment		X

LEGEND

AAR AFTER ACTION REVIEW
FCS FIRE CONTROL SYSTEM
I/O INSTRUCTOR OPERATOR
IAW IN ACCORDANCE WITH

Figure 2-5. Virtual trainer capabilities

2-15. Any simulations trainer should present the crews with a logical progression of increasingly difficult scenarios and threat presentations. This progression should continuously build on basic crew engagement skills and techniques, eventually culminating in a GTLF qualification table that represents the platforms live-fire qualification scenario. (See figure 2-6 for the required progression matrix for precision gunnery trainers.)

PRECISION GUNNERY TRAINER EXERCISE PROGRESSION				
	THREAT PRESENTATION			
PLATFORM CONDITIONS	*SINGLE TARGET*	*MULTIPLE TARGETS*	*MULTIPLE TARGETS WITH DELAY*	*COMPLEX TARGETS WITH DELAY*
SINGLE WEAPON ***DEFENSE***	STA	STA/STA	STA/STA/ STA	STA/STA/ STA/STA
SINGLE WEAPON ***OFFENSE***	STA	STA/STA	STA/STA/ STA	STA/STA/ STA/STA
SINGLE WEAPON ***DEFENSE***	MOV	MOV/MOV	MOV/MOV/ MOV	MOV/MOV/ MOV/MOV
SINGLE WEAPON ***OFFENSE***	MOV	MOV/MOV	MOV/MOV/ MOV	MOV/MOV/ MOV/MOV
SINGLE WEAPON ***DEFENSE***		STA/MOV	STA/MOV/ STA	STA/MOV/ STA/MOV
SINGLE WEAPON ***OFFENSE***		STA/MOV	STA/MOV/ STA	STA/MOV/ STA/MOV
CHANGE OF WEAPON/AMMO ***DEFENSE***		STA/MOV	STA/MOV/ STA	STA/MOV/ STA/MOV
CHANGE OF WEAPON/AMMO ***OFFENSE***		STA/MOV	STA/MOV/ STA	STA/MOV/ STA/MOV
COMMANDER	STA	STA/MOV	STA/MOV/ MOV	STA/MOV/ STA/MOV
DEGRADED	STA	STA/MOV	STA/MOV/ MOV	STA/MOV/ STA/MOV

LEGEND
AMMO AMMUNITION **STA STATIONARY**
MOV MOVING

Figure 2-6. Precision gunnery trainer exercise progression

CREW EXPERIENCE

2-16. Units that develop scenarios on games for training systems must consider the level of experience of their training crews. Crews are evaluated on their experience by position and are identified in one of the categories noted in paragraphs 2-17 through 2-20.

New Crew

2-17. A crew where the VC/gunner is new to their position on the vehicle. New crews begin training in the simulations and gaming systems at the entry level to build crew coordination, engagement skills, and cohesion.

Turbulent Crew

2-18. A turbulent crew is where both the VC and gunner have previous experience in those positions but have not worked together as a crew. Assessment of these crews for proper placement within the simulation's training management system is required. Typically, the assessment shows they should begin training at the lowest common training scenario both the gunner and VC have successfully completed to maximize their training time. For crews using gaming systems, the unit must develop and execute scenarios that are more difficult for the crew. This ensures the crews remain challenged in the simulations and gaming system and continue to learn direct fire engagement techniques and procedures.

Experienced Crew

2-19. The VC/gunner previously qualified within the past 12 months. Crews using simulations complete the GTLF prior to executing any live-fire event. For crews using gaming systems, the unit should develop or utilize more challenging scenarios within the system to maintain crew proficiency in addition to completing the required GTLF.

Note. It is at the Master Gunner and commander's discretion to restart experienced crews in the simulation progression prior to executing the GTLF.

2-20. To increase crew experience during the execution of the training strategy, units must use certified vehicle crew evaluators (VCEs). Properly trained and certified VCEs are an asset to the commander. Performing duties as a VCE in any capacity builds the experience of the VCE as well. It exposes the VCE to dozens of engagements to review in-depth during the evaluation process that would normally require the VCE to fire.

TABLE II TRAINING PLAN

2-21. Table II, STX-V, is a simulations-based exercise that replicates the engagements of the Table VI, Qualification. Within a crew shelter simulator system, is a specific scenario set that replicates the training requirements and engagement skills of the qualification course of fire.

2-22. Successful completion of prescribed exercise or series of exercises in the simulator is mandatory as a prerequisite to firing live ammunition. These exercises evaluate the crew's proficiency employing its weapon system or platform against common threats, provide engagements under chemical, biological, radiological, or nuclear (CBRN) conditions, enhance, and evaluate crew coordination, evaluate crew drills, and hone the crew's engagement techniques.

System Generated Gate to Live-Fire Scenarios

2-23. The primary simulation system module automatically generates the scenario for Table II. The system provides the scenarios after successful completion of the simulations training strategy through the minimum training requirements for live fire. This is accomplished through the system's matrix movement rules, reticle aim requirements, and system management ratings by crew.

2-24. For units utilizing the games for training system, the simulations center will develop and build the scenario for the GTLF event. The unit should proof the scenario, provide appropriate administrative prompts, platoon fire commands for each engagement, and other scripts for the VCEs to follow. These should be similar to the live-fire Table VI event and will serve as a verification of those scripts prior live-fire training.

2-25. A guideline for creating day and night phase scenarios using these engagements (see figure 2-7 on page 36 for the minimum engagements for system-generated simulations or the baseline standard engagements for unit-created scenarios) can be found in TC 3-20.31.

TABLE II, SIMULATIONS GATE TO LIVE FIRE
SYSTEM GENERATED SCENARIO REQUIREMENTS

TASK	DESCRIPTION	POSTURE	FIRER	WEAPON	TARGET TYPE	TARGET POSTURE	RANGE	EM
20	VEHICLE COMMANDER	OFFENSE	VC	HE	L2T-FLK	MOV	1,400m	16
21	MACHINE GUN PURE	DEFENSE	GNR	COAX	E(3)FRT	STA	600m	9
			GNR	COAX	L2T-MOV	MOV	800m	11
22	MACHINE GUN PURE	OFFENSE	GNR	COAX	E(7)FRT	STA	400m	11
			GNR	COAX	L1T-FRT	STA	800m	13
			GNR	COAX	E(7)FRT	STA	800m	14
23	MAIN GUN PURE	DEFENSE	GNR	HE	L1T-FRT	STA	1,200m	9
			GNR	AP	M1T-FRT	STA	1,400m	9
24	MAIN GUN PURE	OFFENSE	GNR	HE	LIT-FRT	STA	1,200m	13
			GNR	AP	M1T-FRT	STA	2,000m	14
25	CHANGE OF WEAPON/ AMMUNITION	DEFENSE	GNR	COAX	E(7)FRT	STA	400m	7
			GNR	AP	M1T-FRT	STA	1,400m	9
			GNR	COAX	E(7)FRT	STA	600m	9
			GNR	AP	M1T-FLK	MOV	2,000m	12
26	CHANGE OF WEAPON/ AMMUNITION	OFFENSE	GNR	AP	M1T-FRT	STA	400m	9
			GNR	COAX	L2T-FRT	STA	800m	13
			GNR	COAX	E(7)FRT	STA	400m	9
			GNR	HE	L2T-FLK	MOV	1,600m	16
27	DEGRADED MANUAL	DEFENSE	GNR	COAX	E(7)FRT	STA	600m	9
28	DEGRADED AUXILIARY	OFFENSE	GNR	COAX	E(7)FRT	STA	400m	11
			GNR	AP	M1T-FLK	MOV	1,800m	15
29	SIMULTANEOUS	DEFENSE	GNR	COAX	E(3)FRT	STA	400m	7
			GNR	HE	L2T-FRT	STA	1,600m	10

LEGEND

AP	ARMOR PIERCING	HE	HIGH EXPLOSIVE
COAX	COAXIAL MACHINE GUN	m	METER
EM	ENGAGEMENT MODIFIER	MOV	MOVING
FLK	FLANK	STA	STATIONARY
FRT	FRONTAL	VC	VEHICLE COMMANDER
GNR	GUNNER		

Figure 2-7. Table II, STX-Virtual, gate to live-fire scenario

2-26. A guideline for creating day and night phase scenarios using these engagements (see figure 2-8 for the minimum engagements for the system-generated GTLF, missile, or the baseline standard engagements for unit-created scenarios) can be found in TC 3-20.31.

TABLE II-M, MISSILE SIMULATIONS GATE TO LIVE FIRE SYSTEM GENERATED SCENARIO REQUIREMENTS

TASK DESCRIPTION		POSTURE	FIRER	WEAPON	TARGET TYPE	TARGET POSTURE	RANGE	EM	Time of Flight
M20	VEHICLE COMMANDER	OFFENSE	VC	TOW	H1T-FRT	STA	2,000m	5	9
M21	SINGLE STATIONARY	DEFENSE	GNR	TOW	H1T-FRT	STA	1,600m	5	7
M22	MULTIPLE STATIONARY	OFFENSE	GNR	TOW	H1T-FRT	STA	2,000m	5	9
			GNR	TOW	H3T-FRT	STA	3,000m	8	15
M23	MULTIPLE STATIONARY WITH DELAY	DEFENSE	GNR	TOW	H1T-FRT	STA	1,400m	5	6
			GNR	TOW	H3T-FRT	STA	2,500m	8	11
			GNR	TOW	H1T-DEF	STA	3,500m	5	18
M24	SINGLE MOVING	OFFENSE	GNR	TOW	H1T-FLK	EVA	2,500m	8	11
M25	STATIONARY/ MOVING	DEFENSE	GNR	TOW	H1T-DEF	STA	1,500m	5	7
			GNR	TOW	M1T-FLK	EVA	3,000m	8	15
M26	STATIONARY/ MOVING WITH DELAY	OFFENSE	GNR	TOW	H3T-FRT	STA	1,200m	8	5
			GNR	TOW	H1T-FLK	EVA	2,400m	8	11
			GNR	TOW	H1T-DEF	STA	2,800m	5	14
M27	DEGRADED DVO	DEFENSE	GNR	TOW	H3T-FRT	STA	1,400m	8	6
			GNR	TOW	H1T-FRT	STA	2,200m	5	10
M28	DEGRADED DVO	OFFENSE	GNR	TOW	H1T-FRT	STA	1,200m	5	5
			GNR	TOW	H1T-FLK	EVA	2,500m	8	11
M29	COMPLEX MULTIPLE WITH DELAY	DEFENSE	GNR	TOW	H1T-DEF	STA	1,200m	5	5
			GNR	TOW	M1T-FLK	EVA	3,200m	8	16
			GNR	TOW	H3T-FRT	STA	2,000m	8	9
			GNR	TOW	H1T-FLK	EVA	4,000m	8	22

LEGEND

DEF	DEFENSE	GNR	GUNNER
DVO	DIRECT-VIEW OPTICS	m	METER
EM	ENGAGEMENT MODIFIER	STA	STATIONARY
EVA	EVASIVE	TOW	TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED
FLK	FLANK		
FRT	FRONTAL	VC	VEHICLE COMMANDER

Figure 2-8. Table II-M, STX-Virtual, gate to live-fire scenario, missile

Unit Developed Gate to Live-Fire Scenarios

2-27. Each of the scenarios developed must follow the engagement and scenario guidelines found in this manual and in TC 3-20.31. Each scenario provides five engagements for day (unlimited visibility) and five engagements for night (limited visibility). Units must focus on manipulation of the weapon's thermal optic and allow crews to use the thermal sensors during the day engagements. If the system can provide degraded modes of operation, a minimum of three engagements should focus on those skills.

2-28. There are environmental conditions, platform capabilities, and threat conditions that are replicated within simulation systems. Units building their own training plans within the simulation system must exercise each of the components listed to create a comprehensive training plan for their crews (see figure 2-9).

ENVIRONMENTAL CONDITIONS	PLATFORM CONDITIONS/ CAPABILITIES	THREAT CONDITIONS
VISIBILITY • *DAY* • *NIGHT* • *BATTLEFIELD*	POSTURE • *OFFENSE* • *DEFENSE*	TYPE • *DISMOUNT* • *FORTIFICATION* • *LIGHT ARMOR* • *MEDIUM ARMOR* • *ARMORED*
CHEMICAL	WEAPON SYSTEM • *PRIMARY* • *SECONDARY* • *TERTIARY*	RANGE TO TARGET • *SHORT RANGE* • *MEDIUM RANGE* • *LONG RANGE* • *BEYOND LINE OF SIGHT*
	FIRE CONTROL SYSTEM • *FULLY MISSION CAPABLE (FMC)* • *DEGRADED AUX* • *DEGRADED MANUAL*	POSTURE • *STATIONARY* • *MOVING* • *EVASIVE*
	AMMUNITION • *KINETIC ENERGY* • *CHEMICAL ENERGY* • *TOW*	THREAT COMPOSITION • *SINGLE* • *DOUBLE* • *THREE OR MORE*
	COMPLEX ENGAGEMENT • *CHANGE OF WEAPON* • *CHANGE OF AMMO*	

LEGEND

AUX AUXILIARY

TOW TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED

Figure 2-9. Simulation system conditions and capabilities replicated

2-29. When the simulation system does not provide a generated scenario for the GTLF, the unit Master Gunner is required to create the scenario based on the unit's upcoming Table VI, Qualification, scenario as the baseline (start point). Units should revise the engagements based on past performance and the experience level of the VC and gunner combinations within the formation. There are required ammunition mix parameters for the conduct of fire trainer situational awareness and conduct of fire tabletop trainer if a system generated tube launched, optically tracked, wire or wireless guided (TOW) missile progression is not available (see figure 2-10). This will be used to train the crews proficiency on TOW missile engagements prior to their Table M, Missile Qualification.

CONDUCT OF FIRE TRAINER EXERCISE PARAMETERS AMMUNITION MIX			
	PRELIMINARY	CREW	ADVANCED
TOW	10	10	25
7.62mm	20	20	25
AP	35	35	25
HE	35	35	25
TOTALS	100	100	100

LEGEND

AP	ARMOR PIERCING	TOW	TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED
HE	HIGH EXPLOSIVE		
mm	MILLIMETER		

Figure 2-10. Conduct of fire trainer exercise parameters, ammunition mix percentages

2-30. Figure 2-11 on page 40 provides an example of difficulty modifications that the unit Master Gunner can consider integrating into the unit-developed scenario based on the experience level of the crew. Units may utilize a different scenario for each crew's level of experience to ensure the training and evaluation pushes them to continuously challenge the crews with increased rigor, speed, and changing conditions.

UNIT DEVELOPED SCENARIO DIFFICULTY MODIFICATIONS TO ENGAGEMENTS BASED ON CREW EXPERIENCE			
ENGAGEMENT/TARGET CONDITIONS	**NEW**	**TURBULENT**	**EXPERIENCED**
Extended Range Primary Armament	X	X	X
Extended Range Machine Gun	X	X	X
Mid-Long Range TOW	X	X	X
Increased CBRN		X	X
Increased Offensive Engagements		X	X
Defilade and Turret Targets		X	X
Increased Degraded Conditions			X
Evasive Moving Targets			X
3/4 Scale Targets			X
Increased Troop, RPG and Sniper Targets			X

Note: These are guides for the Master Gunner developing scenarios within a capable simulations system. These should be altered based on past training performance, crewmember experience, and training trends within the organization.

LEGEND

CBRN	CHEMICAL, BIOLOGICAL, RADIOLOGICAL, OR NUCLEAR	TOW	TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED
RPG	ROCKET-PROPELLED GRENADE		

Figure 2-11. Scenario difficulty modifications by crew experience, example

Simulation System Instructor/Operators

2-31. Units are required to use certified instructor/operators on the simulation systems they plan on using. Those instructor/operators are required to receive the system training on their system. They must be certified VCEs as outlined in TC 3-20.31.

Instructor/Operators must be VCE Certified

A certified VCE or Master Gunner evaluates all simulations and games for training GTLF exercises. This reinforces the VCE training program, provides certified VCEs with additional practical application and experience, and ensures the crews receive accurate AARs comparable to those they should receive on the firing range.

2-32. Crews must successfully pass all scenarios according to the standards in TC 3-20.31. The unit's VCEs evaluate all crews IAW:

- TC 3-20.31.
- TC 3-20.31-043.

Crew Records

2-33. Units must maintain the training records for Table II, including the simulation system unit back-up and the DA Form 8265 (*Common Crew Score Sheet*) and DA Form 8265-1 (*Common Crew Roll-up*) for each crew completing their GTLF for 12 months. Some primary devices only provide a unit roll-up with summary of each crew's performance.

2-34. Where the simulation system does not generate the DA Form 8265 and DA Form 8265-1 forms as an automatic output, the instructor evaluators are responsible for completing those forms during the GTLF scenarios.

TIME AND THROUGHPUT–TABLE II

2-35. The standard simulations-use requirements for all crew platforms (see figure 2-12) are authorized by specific hours per month, based on the platform type, for simulator use at the rates shown.

	SIMULATION HOUR AUTHORIZATIONS PER CREW	
	ACTIVE COMPONENT (AC)	RESERVE COMPONENT (RC)
MONTHLY	4	2
QUARTERLY	12	6
Note: The simulation system hours authorized are designed to include sufficient time to move steadily through the training model within the system where each crew is presented the gate to live-fire (GTLF) exercise within 12-hours of training. Successful completion of the entire simulation system's training model through certification can be accomplished within the fiscal year (FY).		

Figure 2-12. Simulations use allocations by component

Note. DA Pam 350-38 specifies simulator training requirements and skills sustainment intervals for weapons and weapon system platforms.

2-36. When completing Table II's GTLF exercise, units should expect each crew requiring 2 hours to complete the training with AAR. This assumes the crew arrives to the training facility, receives the training and testing instructions, conducts any alignment procedures required of the simulation system, and a series of warm-up exercises prior to testing. This also includes the AAR at the completion of the training scenario by the instructor/operator or VCE. It does not include any retraining or retesting time.

TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS–TABLE II

2-37. Crewmembers conduct training prior to and for Table II using a simulator or gaming suite, as available. Use of these systems are to train the VC/gunner on individual and crew-coordination skills, engagement techniques, and target acquisition. When using games for training systems, the unit should request comparable gunner control handles to support additional form, fit, and function to the training and evaluation.

2-38. Units that do not have access to a primary or alternate simulation systems or are training in an austere environment, should complete training using T&MBs.

2-39. The design, layout, and function of the T&MBs are listed in appendix B. It includes a sample scenario for unit use or modification. Original files for the information on the T&MBs that can be modified by the unit can be downloaded from the Weapons and Gunnery milSuite page (see the references at the back of this manual).

2-40. Unit must create a memorandum for record stating the crew's completion of Table II with the unit created training plan using the T&MBs. This memorandum is approved by the battalion or squadron commander and is included in each crew's gunnery packet (see TC 3-20.31).

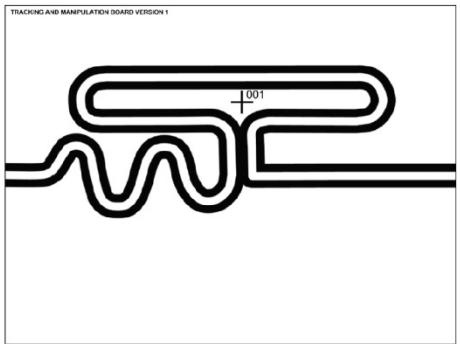
Austere Environment Training

T&MBs are used when no simulation system is available or accessible to the unit or the platform type. T&MBs are used at the range for concurrent training or in austere environments to support the unit training plan.

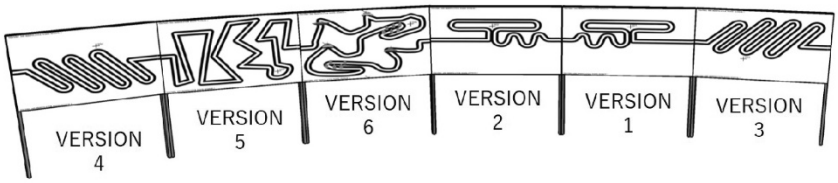
2-41. Within the various versions of the T&MB is an example as well as a sample layout for use (see figure 2-13).

TABLE II
SITUATIONAL TRAINING EXERCISE–VIRTUAL (STX-V)
TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS (TADSS)
AUSTERE ENVIRONMENTS

DEVICE	DESCRIPTION
T&MB-1	Tracking and Manipulation Board, version 1
T&MB-2	Tracking and Manipulation Board version 2
T&MB-3	Tracking and Manipulation Board, version 3
T&MB-4	Tracking and Manipulation Board, version 4
T&MB-5	Tracking and Manipulation Board, version 5
T&MB-6	Tracking and Manipulation Board, version 6



Example Tracking and Manipulation Board, version 1.



Example layout using all six versions of the Tracking and Manipulation Boards.

Note: See Appendix B for additional information on the tracking and manipulation boards, construction methods, options, and sample scenario.

Figure 2-13. Table II, Situational training exercise–virtual, training aids, devices, simulators, simulations for training in austere environments

PREPARE FOR TABLE II

2-42. Units execute the Table II, STX-V in one of two ways: with an authorized (primary or alternate) simulation system or tracking and manipulation panels. The primary trainer is the company commander with and assigned VCEs. Units evaluate the Table II event internally and require the company to coordinate for training of their VCEs.

2-43. The platoon leadership in coordination with the unit Master Gunner are responsible for training their crews on the conduct of fire, engagement techniques, and movement techniques.

2-44. Units provide the following to prepare the trainers:

- Commander training objectives.
- Evaluation firing order or window for completing Table II.
- Tasks for training and evaluation (when using tracking and manipulation panels).
- Risk assessment.
- Identification of supporting doctrinal publications for use as primary references.
- T&MBs, when required.

TRAIN THE TRAINER

2-45. Table II relies on gunner and VCs to be dual certified as instructor/operators of available simulator systems and VCEs.

2-46. Units schedule VCE training for their gunners and VCs. Each brigade combat team will establish policies and procedures to train, certify, and recertify their VCEs to ensure common instruction from the Army-standard vehicle crew evaluation exportable package.

2-47. Unit Master Gunners maintain a roster of certified VCEs for the unit. They manage the recertification, as appropriate, based on unit policies and processes. Master Gunners should cross train drivers on VCE tasks to support range operations on maneuver ranges.

2-48. Where simulator systems are available, the Master Gunner schedules instructor/operator courses for those systems. Units should maintain instructor/operator and VCE certifications current for all assigned gunners and VCs, including platoon leaders, the executive officer, and commander.

RECONNAISSANCE OF THE SITE–TABLE II

2-49. The Table II, STX-V uses an authorized simulation system. Units allow sufficient time scheduled to ensure all crews train, test, and retest as necessary within T-6 to T-execution training window. The crew shelter simulations systems, typically a battalion or brigade asset, will require coordination with battalion or brigade for use. Commanders schedule the training location as far in advance as practical following the installation's policies and procedures.

2-50. Once scheduled, the commander, Master Gunner, and platoon leaders conduct a reconnaissance of the training site to—

- Verify sufficient space is available to support training.
- Accomplish multiple iterations or rotations through the scenario with appropriate retraining opportunities.
- Ensure sufficient administrative areas are available to support group discussions, briefings, and AARs.
- Determine the tracking method of completed crews.
- Identify the process for completing the appropriate scorecards, crew roll-up, and platoon training records as required.

Tracking and Manipulation Boards

When an approved simulation system is not available or accessible, the unit will utilize the T&MBs. This will require a 25-meter by 25-meter area to set up the panels for the 60-degree frontal arc and allow for multiple vehicle use. See appendix B for detailed information on the T&MBs including their design, placement, layout, use, and a sample training scenario.

EXECUTE TABLE II

2-51. Before the Soldiers arrive, VCEs set up the equipment and materials needed for the evaluation of the GTLF. The evaluator should have a crew roster by vehicle bumper number and position at their station to track crews and provide daily status updates to the company.

SIMULATOR GATE TO LIVE-FIRE SCENARIO

2-52. The evaluator must read the instructions exactly as written in the guide within the system instructions or provided by the unit. Evaluators are not authorized to assist in any of the following crew functions during the evaluation:

- Target acquisition.
- Target detection.
- Subsequent target locations or intelligence.
- Driver movement techniques.
- Sensing of the rounds or machine gun bursts.

2-53. The evaluator must use the system generated or hard copy DA Form 8265 and DA Form 8265-1 to record each engagement and the overall scenario. These records are maintained in the crew's gunnery folder for 12 months. Units may also include the unit training roll-up as part of the training historical records.

TRACKING AND MANIPULATION BOARDS

2-54. Evaluators utilize the unit provided criteria scoring checklist for the ten steps of the tracking and manipulation panel exercise. The evaluators will use specified prompts and evaluators may not assist the crew to perform any function.

2-55. Once testing is complete, the evaluator records the results on a locally created roll-up form. As each Soldier finishes or the time limit is up, whichever occurs first, the evaluator checks the Soldier's performance as either GO or NO-GO, informs them of their performance on that task, and directs them to the next station or to retraining.

2-56. The company Master Gunner or designated NCOIC, is responsible for completing unit and maintaining platoon and company roll-up information ensuring the next higher headquarters is informed, if required.

ASSESS TABLE II TRAINING EVENT

2-57. At the completion of the Table II, the evaluator will provide an AAR. The evaluator follows the AAR guidelines to gunnery evaluation found in TC 3-20.31 and includes any insights or recommendations to improve crew performance.

SIMULATOR SYSTEM EVALUATION

2-58. When debriefing a crew in a simulation system, the evaluator must use the DA Form 8265 for each engagement. Evaluators may require 10 to 15 minutes to complete the score sheets prior to the AAR. Units may choose to rotate evaluators to maximize the time available in the simulator. Evaluators should include information on—

- Targets, posture, and range for each engagement.
- Target classification.
  - Most dangerous.
  - Dangerous.
  - Least dangerous.
- Time to acquire each target.
- Time to decide (issue the command of execution).
- Appropriate engagement technique.
- Reinforce gunner rules of lay.
  - Aim center of visible mass.
  - End in elevation.
  - Remember sight picture.
- Opening time on primary armament and machine gun targets.
- Closing time on machine gun targets.
- Subsequent rounds and direct fire adjustment techniques.
- Supplemental engagement commands and engagement techniques.
- Ammunition selection and switchology.
- Engagement techniques.
- Overall performance and areas of improvement.

TRACKING AND MANIPULATION BOARD EVALUATION

2-59. Evaluators of crews using the T&MBs should at a minimum include information on the following:

- Tasks for each step.
- Skills trained during each step.
- Time to complete the tracking.
- Penalty time for the tracking (when the reticle aim point leaves the tracking path).
- Switchology errors (when the gunner removed his or her head from the optic brow pad or incorrect positioning).
- Tracking rate or slew rate inconsistencies.
- Reinforcement of the rules of lay.
- Overall performance and areas of improvement.

CREW GUNNERY RECORDS FOLDER FOR TABLE II

2-60. Annotation of all notes from the Table II training is on the score sheets provided. VCs are required to confirm the information by signing DA Form 8265-1 or the locally produced score sheet when using the T&MBs.

RECORD INDIVIDUAL TASK PERFORMANCE FOR TABLE II

2-61. Leaders track and train their Soldier's individual and collective tasks trained and evaluated using tools provided by the ATN such as the SULT and the DJB. These systems interface directly with the DTMS to record training and evaluation results.

Note. Leaders must be granted access first by their commander or DTMS manager to enroll or assign their Soldiers the specific tasks from the ICTL that are trained and tested during the training event.

2-62. From within the SULT, the authorized leader is enabled to view, maintain, and update—

- Warrior tasks and battle drills.
- MOS-specific individual critical tasks.
- Unit-mandated training tasks.
- Supporting T&EOs (access dependent on proponent distribution restrictions).

2-63. Leaders should update their Soldier's individual training records for training and evaluation of the following tasks, based on their assigned position. This is not an all-inclusive list of the trained and tested tasks for this event. Leaders should adjust based on the unit's additions to the event.

2-64. This ensures historical data is available throughout the Army force generation training cycle for the chain of command to assess strengths and weaknesses of crews and address these concerns in upcoming GST training. The most current GST records must accompany the unit or crew throughout the entire weapons training density.

UPDATING INDIVIDUAL TRAINING RECORDS–TABLE II

2-65. Leaders update their SULT application with the appropriate training and evaluation outcomes for their crew members. The lists provided show the touch points associated with completing Table II, STX-V (see figure 2-14 on pages 50 and 51).



TABLE II,
SITUATIONAL TRAINING EXERCISE (STX)
INDIVIDUAL TASK TOUCH POINTS

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
031-503-1035	Protect Yourself from Chemical/Biological Contamination Using Your Assigned Protective Mask	Yes	Yes	Yes
071-300-0001	Conduct Troop Leading Procedures	Yes		
171-121-3009	Control Techniques of Movement	Yes		
171-121-4041	Conduct Combat Table Operations	Yes		
171-121-4051	Prepare a Situation Report (SITREP)	Yes		
171-122-1061	Maintain Property Accountability	Yes	Yes	Yes
171-123-1000	Occupy of a Vehicle Fighting Position	Yes		
171-123-1090	Perform Preventative Maintenance on Basic Issue Items (BII)		Yes	Yes
171-138-0015	Conduct Advanced Vehicle Identification	Yes	Yes	
171-138-0022	Demonstrate Target Acquisition Methods	Yes	Yes	Yes
171-138-0028	Identify Combat Vehicles and Aircraft	Yes	Yes	Yes
171-19K-2237	Conduct Alternative Range Determinations on an M1 Series Tank	Yes	Yes	
171-300-0083	Enforce Rules of Engagement (ROE)	Yes		
171-610-0002	Recognize Threat Tactics and Battlefield Organization	Yes	Yes	Yes

LEGEND
mm MILLIMETER
TOW TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED

Figure 2-14. Table II, Situational training exercise-virtual, task touch points



TABLE II,
SITUATIONAL TRAINING EXERCISE (STX)
INDIVIDUAL TASK TOUCH POINTS

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-924-0015	Perform Duties as a Vehicle Crew Evaluator (VCE)	Yes		
171-BFV-0004	Drive a Bradley Fighting Vehicle (BFV)			Yes
171-BFV-0205	Fire the 25mm Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0103	Fire the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0206	Correct a Malfunction of the 25mm Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0301	Fire the TOW Missile on a Bradley Fighting Vehicle (BFV)			
171-BFV-0303	React to a Misfire of the TOW System on a Bradley Fighting Vehicle (BFV)			
171-BFV-0401	Fire the Smoke Grenade Launcher on a Bradley Fighting Vehicle (BFV)			
171-BFV-1100	Zero the Weapon Systems on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-1200	Engage Targets using the Weapon Systems on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-3000	Direct Engagements from the Commander's Position on a Bradley Fighting Vehicle (BFV)	Yes		
171-COM-4079	Send a Situation Report (SITREP)	Yes	Yes	
171-COM-4080	Send a Spot Report (SPOTREP)	Yes	Yes	Yes

LEGEND
mm MILLIMETER
TOW TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED

Figure 2-14. Table II, Situational training exercise-virtual, task touch points, continued

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Chapter 3

Table III–Situational Training Exercise

Table III, STX, is a live environment, hands on training event using training aids and devices, and includes the use of blank ammunition, pyrotechnics, and BESs. The STX is a station-based event that consists of three distinct training and evaluation stations that contain various crew skills that progressively build crew proficiency. All events require both day and night execution. Table III, STX is designed to be conducted independently of the direct fire engagement event. Table III is conducted in a live environment in a training area with established training lanes (course of fire and protection tasks). It is the first training event where the crew is tactically operating their platform as a crew under varying conditions.

OVERVIEW OF TABLE III

3-1. Table III verifies the crew's ability to complete effectively basic crew engagements using various platform capabilities, provides for day and night driver's training as part of the unit driver's training program, and ensures the crew demonstrates proficiency performing specific emergency procedures on their platform. It provides time for training and evaluation of these skills that are the foundation to all maneuver training focused on the ability to move, shoot, and communicate.

3-2. Units must complete Table III, STX, for record between T-6 and T-execution or T-week of the live-fire event. Units can include additional tasks they require to support the training program but cannot eliminate tasks for any weapon system.

Live-Fire Prerequisite

Table III is a prerequisite for any live-fire event, including zero procedures, sub-caliber or in-bore training, or any live-fire maintenance procedure. Units must maintain the training records and results, for 12 months, or through the next testing event.

3-3. Table III resides within the BFV training strategy through crew qualification (see figure 3-1). This is the first event with the crew operating the platform through a series of specific tasks that build experience with the platform, crew cohesion, and confidence in their platform and training. It includes a series of safety related tasks related to vehicle safety under various conditions.

CREW TABLE III	TABLE I	TABLE II	TABLE III	TABLE IV	TABLE V	TABLE VI
	CRAWL	*CRAWL*	***WALK***	*RUN*	*RUN*	*RUN*
	Live	Virtual	Live TADSS	Live-Fire	Live-Fire	Live-Fire
	GST	STX-V	STX	BASIC	PRACTICE	QUAL



Crews training in austere environments may not have access to the required training devices to meet the conditions of crew Table III. Units operating under these unusual conditions should consider the use of static targets or organic vehicles to provide the necessary targetry at distance.

Note: Table I, II, and III can be conducted in any order within the T-6 to T-X time frame. This provides flexibility when developing the unit training plan.

LEGEND

GST	GUNNERY SKILLS TEST OR GUNNER'S/FIRE DIRECTION CENTER EXAM	T-	TRAINING WEEK/MONTH MINUS [THE NUMBER OF WEEKS/MONTHS TILL EXECUTION (X)]
QUAL	QUALIFICATION	TADSS	TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS
STX	SITUATIONAL TRAINING EXERCISE		
STX-V	SITUATIONAL TRAINING EXERCISE-VIRTUAL		

Figure 3-1. Table III, Situational Training Exercise

3-4. If time and resources allow, units should also execute Table M, Missile Qualification, laid out in appendix F, with their Table III. Table M is designed to be executed concurrently with Crew Table III and will greatly increase crews' proficiency with the TOW missile system on their platform.

TABLE III PURPOSE

3-5. The STX event ensures the crew demonstrates critical crew task proficiency in a live environment. The crew executes basic fire and maneuver, integrates indirect and direct fires, conducts critical tasks, and completes various emergency vehicle tasks prior to conducting the more advanced tasks under live-fire conditions.

TABLE III METHOD

3-6. Crew STXs use training areas with multiple training lanes or phases that train crew collective movement and engagement techniques at a real-time, full tempo to build proficiency. Crew STXs use structured scenarios to replicate the basic engagement techniques using the capabilities of their platform. Crews also demonstrate proficiency at emergency procedures on their vehicle to build proficiency and confidence in their ability to react rapidly to various life-threatening situations while maneuvering their platform.

TABLE III END STATE

3-7. Crews demonstrate in a live environment their ability to execute basic and degraded engagement tasks and crew drills in support of decisive action operations. The commander sufficiently validated the unit's vehicle load plan and portions of the SOPs for casualty evacuation. Crews received sufficient day and night administrative and tactical movement that supports the unit driver's training program and use of primary and alternate battle positions, reverse slope defense positions, and other skills.

3-8. The commander is confident in the abilities of the subordinate leaders and elements to execute those trained tasks to standard on demand based on the tactical situation. Live-fire crew training to build experience, proficient, and lethal crews is complete.

TABLE III TASK, CONDITIONS, AND STANDARD

3-9. Units may add additional tasks to the STX as appropriate to meet the commander's intent, to correct previous training gaps, or to increase the training rigor. (See figure 3-2 for the task, conditions, and standard for Table III, STX.)



TABLE III SITUATIONAL TRAINING EXERCISE (STX)	
TASK	Engage and destroy stationary and moving targets placed in a tactical array, during day and limited visibility from a stationary or moving vehicle and require the use of laser-based training aids, devices, simulators, and simulations for all crews.
CONDITIONS	Given the following: • An operational platform with weapon or weapon system. • Appropriate laser-based training devices. • Authorized blank ammunition and pyrotechnics. • Certified vehicle crew evaluators (VCE). • Full scale or scaled targets to meet the scenario requirements.
STANDARD	The crew must: • Score a minimum of 700 of 1,000 points overall. • Score 70 points or more on all targets presented on 7 out of 10 engagements. • Qualify on at least one day and one limited visibility engagement. • Qualify on at least one TOW missile engagement. • Successfully pass using the evaluation standards between T-6 and T-week. • Successfully pass all Call-for/crew critical skills task.

LEGEND

T-	TRAINING WEEK/MONTH MINUS [THE NUMBER OF WEEKS/MONTHS TILL EXECUTION (X)]	TOW	TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED

Figure 3-2. Table III task, conditions, and standard

TOW Missile Requirement

Crews must pass one of the engagements containing a TOW missile target to be considered qualified on Table III, STX, and move on to any live-fire event.

PLAN FOR TABLE III

3-10. Table III, STX, is a live environment, hands on training event using training aids, devices, and simulators, and includes the use of blank ammunition, pyrotechnics, and BESs. STX is a station-based event that consists of a firing platoon, critical tasks platoon, and training support platoon.

3-11. This section details the resources needed for planning purposes. It includes general information on the following topics for consideration:

- Uniform—the minimum uniform requirements for the training event.
- Facilities—available facilities that support the training event.
- Training plan—the minimum tasks, general guidelines, and special instructions for the training event.
- Time and throughput—the estimated time required to complete the training event including throughput considerations for planning.
- Ammunition—any training munitions required to complete the training event. This includes DDI items that require coordination.
- TADSS—any available training aids that directly support or augment the training event.

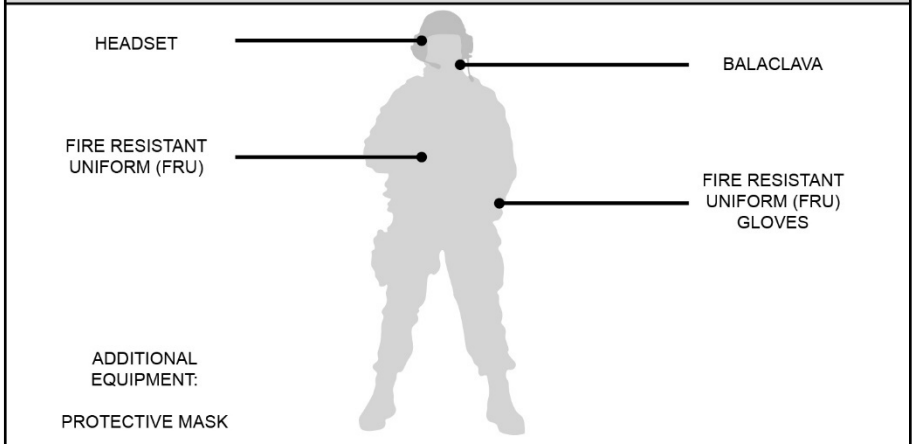
3-12. Table III is a mandatory prerequisite for any live-fire event, including zero procedures, sub-caliber or in-bore training event, or any live-fire maintenance procedure within the crew platform strategy. Units will complete Table III between T-6 and T-week to support the training events.

3-13. Units may require coordination with installation support activities such as the TSC for devices or training aids, or the ASP for DDI items. Each installation's policies and procedures vary. Units should reference their supporting installation's training SOPs or policies for detailed information.

TABLE III UNIFORM

3-14. Crews must be in the appropriate vehicle crewmember uniform or prescribed unit uniform and protective mask. Crews are not required to have any additional body armor, ballistic plates, or gear during the training event unless directed by the commander. (See figure 3-3 for the minimum uniform training requirements for all training, including the crew critical skills tasks.)

TABLE III
SITUATIONAL TRAINING EXERCISE
UNIFORM REQUIREMENTS



LEVEL	S SKULL	T TORSO	E EYES	E EARS	L LIMBS
MINIMUM REQUIRED	3	3	0	3	3
0	NONE	NONE	**NONE**	NONE	NONE
1	PATROL CAP	VEST	GOGGLES	SINGLE EAR PROTECTION	GLOVES
2	HELMET	VEST with PLATES	BALLISTIC	DOUBLE EAR PROTECTION	LEATHER GLOVES
3	**BALACLAVA**	**FRU**		**HEADSET**	**FRU GLOVES**
4		FRU and SPALL VEST			

Figure 3-3. Table III uniform requirements

TABLE III FACILITIES

3-15. The conduct of Table III events is set up for use in a training area. The training unit is responsible for establishing all targetry in the training area. Units coordinate with their supporting TSC and range support for all target lifter, target, thermalization, battery, BES, and other targetry requirements. (See figure 3-4 for the primary and alternate facilities authorized for Table III.)



TABLE III
SITUATIONAL TRAINING EXERCISE (STX)
AUTHORIZED FACILITIES

FACILITY		PURPOSE
Battle Area Complex	BAX	ALTERNATE
Digital Air Ground Integration Range	DAGIR	ALTERNATE
Digital/Multipurpose Range Complex	D/MPRC	ALTERNATE
Digital/Multipurpose Training Range	D/MPTR	**PRIMARY**
Scout/Reconnaissance Gunnery Complex	SRGC	ALTERNATE
Training Area	TA	**PRIMARY**

Figure 3-4. Table III recommended maneuver range facilities

TABLE III TRAINING PLAN

3-16. The Combined Arms Training Strategy provides resourcing for 2 days of training for this event per iteration. Units should maximize the use of the training resources available to conduct as much training, retraining, and cross training as possible during the time available. Table III, STX is designed to enable unit flexibility, allowing for the stations to be conducted in a round-robin manner (independently) or concurrently. (See figure 3-5 for an example layout for a round-robin event by platoon.)

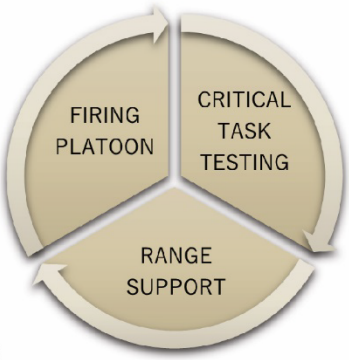
STATION	EVENT	CREWS/ SOLDIERS	ROTATION	THROUGHPUT SCHEDULE
1	Firing Platoon *Direct Fire Engagement*	4 Crews	3 hours	14 Crews/ 9 hours per day and night phase
2	Critical Tasks	4 Crews 4 Evaluators	3 hours	
3	Range Support *VCE and OC/T*	4 VCEs 10 Support	3 hours	

STATION 1
FIRING PLATOON
Direct Fire Engagement

- 2 Crews per rotation
- Hands-on training
- VCE from Range Support
- Driver training tasks incorporated in the training area

STATION 2
CRITICAL TASKS

- Vehicle Commander evaluated
- Call-For Tasks:
  - CASEVAC
  - MEDEVAC
  - Call-For Fire
  - Call-For Support
- Crew Critical Tasks
  - Evacuate Crew Member
  - React to Engine Fire
  - React to Turret Fire
  - React to Bustle Fire
  - Roll-Over Drills
- Tactical Driver's Training



STATION 3
RANGE SUPPORT
Direct Fire Engagements

- VCE for Firing Platoon
- OC/T for Call-For Tasks
- OC/T for Crew Critical Tasks

Note: Each station requires a platoon leader and platoon sergeant (or equivalent). VCEs must be certified or re-certified within T-6 of training event.

LEGEND

CASEVAC	CASUALTY EVACUATION
MEDEVAC	MEDICAL EVACUATION
OC/T	OBSERVER, COACH, TRAINERS
T-	TRAINING WEEK/MONTH MINUS [THE NUMBER OF WEEKS/MONTHS TILL EXECUTION (X)]
VCE	VEHICLE CREW EVALUATOR

Figure 3-5. Table III round-robin example

Firing Group

3-17. Performance of the direct fire engagements portion of the STX (firing group) is on the crew's vehicle. Table design is set up to train and evaluate the crew's ability to engage stationary or moving targets placed in a tactical array, during day and limited visibility conditions. Crews execute these tasks from the offense and defense.

3-18. The engagements may be full-scale or scaled, depending on the usable area within the training area. Figure 3-6 on page 63 lists the requirements for the 10 specific engagements. Crew's target acquisition skills and engagement techniques, using 3/4-scale targets, is challenged. See TC 25-8 for additional information on target dimensions for scaled ranges.

3-19. All engagements are evaluated using certified VCE's using DA Form 8265 and DA Form 8265-1 as the official record of training. Master Gunners must ensure the training records are included in each crew's gunnery packet.

3-20. The engagements listings are by capability type using the standard engagement naming structure listed in TC 3-20.31. It provides the requirements for each engagement, which are described in paragraphs 3-21 through 3-27.

Task Description–Table III

3-21. The task description includes both the engagement number (the table number plus engagement task) followed by the system capability trained.

Firing Vehicle Posture–Table III

3-22. The firing vehicle posture establishes the offense or defense condition for the engagement.

Firer–Table III

3-23. The firer column identifies which crewmember is to engage the target listed. Targets defeated by a different crewmember listed as the firer result in an auto-zero penalty, failing to adhere to course conditions.

Weapon (or Ammunition)–Table III

3-24. The weapon or ammunition column identifies the weapon (coaxial, or primary armament ammunition type) that is used to defeat the threat. Design of each engagement is for a specific weapon or ammunition type (primary armament) for use, which relates to the crew conduct of fire, optic selection, engagement techniques, or other unique implied tasks. Crews that fail to announce the appropriate weapon or ammunition, or appropriate selection for subsequent or supplemental engagements may be penalized IAW TC 3-20.31.

Target Type–Table III

3-25. The target type is the target required for the presentation, IAW TC 25-8.

Target Posture–Table III

3-26. The target posture establishes if the target is stationary, moving, or evasive for the engagement. See TC 3-20.31 for more information on target postures.

Range (to Target)–Table III

3-27. The required range (full scale or equivalent scaled range) from the firing vehicle to the target. For offensive engagements, this distance calculation is from the center of the movement box to the target. The range to target distance is provided in meters, and may be displayed as a whole number distance, (for example, 600). The target may be placed at the distance indicated, plus or minus 200 meters. For example, the target may be placed between 400 and 800 meters. No change to the engagement modifier (EM) is authorized.

Engagement Modifier–Table III

3-28. The EM is the time in seconds required to achieve 100 points against the listed threat. To defeat the threat successfully, the crew must achieve the kill standard against the target and have an overall engagement time of no more than the EM plus 20 seconds. See TC 3-20.31 for the evaluation, timing, and scoring procedures.

Missile Time of Flight–Table III

3-29. The missile time of flight section identifies the time of flight for the selected missile based on range to target. This time starts when the antitank weapons effect signature simulator (ATWESS), charge is fired (trigger squeeze plus 1 second built-in test) and ends when a live missile would arrive at the target location. This time is used by the target operator to trigger effects on target through means of a BES and lower the target presentation that has been properly engaged by the crew. During this time the firer of the missile must execute and maintain proper target tracking techniques as assessed by the VCE.

Scenario Requirements

3-30. Units may not deviate from any target type, target posture, range, and weapon system/ammunition type for Table III. Firing may be in any sequence that best supports their training area, flow-of the range, and time available.

3-31. The unit options and requirements are that the—

- Unit determines how many engagements are conducted during the day phase and night phase.
- Unit determines the sequence of the engagements.
- Unit determines which tasks are conducted during the day and night phase.
- Unit determines which engagements will include CBRN conditions. Units must select a minimum of one day and one night engagement conducted in a chemical environment.
- BESs are used as described in TC 3-20.31 for all vehicle target panel presentations.
- Target panels (all) are 3/4 scale at full range distances or scaled accordingly if using a scaled training range or training area.
- Unit may use F-type troop targets in lieu of E-type silhouettes to increase training for target detection, acquisition, and reticle aim.
- Units use available force-on-target training devices or TADSS.
  - Laser-based systems.
  - Laser-target interface devices (LTIDs).
  - Additional TADSS use are at the discretion of the unit commander.
- Safety tasks (all) must be conducted day and night.
- Call-for tasks (all) must be conducted day and night.
- One TOW missile engagement is conducted day and night.

3-32. Additional information concerning the engagements, the terms of reference, or the layout for each event's scenario can be found in TC 3-20.31. (See figure 3-6 for the engagements for the firing group.)

TABLE III, SITUATIONAL TRAINING EXERCISE ENGAGEMENT REQUIREMENTS

TASK DESCRIPTION		POSTURE	FIRER	WEAPON	TARGET TYPE	TARGET POSTURE	RANGE	EM/ToF
30	VEHICLE COMMANDER	DEFENSE	VC	COAX	E(7)FRT	STA	600m	9
			VC	AP	M1T-FLK	MOV	1,000m	10
31	MACHINE GUN PURE	OFFENSE	GNR	COAX	E(7)FRT	STA	400m	11
			GNR	COAX	E(7)FRT	STA	400m	11
32	MACHINE GUN PURE	DEFENSE	GNR	COAX	E(7)FRT	STA	400m	7
			GNR	COAX	L1T-FRT	STA	800m	9
			GNR	COAX	E(7)FRT	STA	800m	10
33	MAIN GUN PURE	OFFENSE	GNR	HE	L2T-FLK	MOV	1,600m	16
34	MAIN GUN PURE	DEFENSE	GNR	AP	M1T-FRT	STA	2,000m	10
			GNR	HE	L2T-FLK	MOV	1,000m	11
			GNR	AP	M1T-FRT	STA	1,600m	9
35	CHANGE OF WEAPON/ AMMUNITION	OFFENSE	GNR	AP	M1T-FRT	STA	1,600m	13
			GNR	COAX	E(7)FRT	STA	800m	14
			GNR	COAX	E(7)FRT	STA	800m	14
36	CHANGE OF WEAPON/ AMMUNITION	DEFENSE	GNR	HE	L1T-FRT	STA	1,000m	9
			GNR	COAX	E(7)FRT	STA	600m	9
			GNR	TOW	H1T-FRT	STA	2,200m	5/10
37	DEGRADED	OFFENSE	GNR	HE	L2T-FRT	STA	1,200m	13
			GNR	COAX	E(7)FRT	STA	600m	13
38	DEGRADED	DEFENSE	GNR	COAX	E(7)FRT	STA	600m	9
39	SIMULTANEOUS /MULTIPLE TARGETS	OFFENSE	GNR	AP	M1T-FRT	STA	1,000m	12
			GNR	COAX	E(7)FRT	STA	600m	13
			GNR	TOW	H1T-DEF	STA	2,800m	5/14

LEGEND

AP	ARMOR PIERCING
COAX	COAXIAL MACHINE GUN
DEF	DEFILADE
EM	ENGAGEMENT MODIFIER
FLK	FLANK
FRT	FRONTAL
GNR	GUNNER
HE	HIGH EXPLOSIVE
m	METER
MOV	MOVING
STA	STATIONARY
ToF	TIME OF FLIGHT
TOW	TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED
VC	VEHICLE COMMANDER

Figure 3-6. Table III, Situational Training Exercise, scenario requirements

CRITICAL TASK GROUP

3-33. Each crewmember will train and demonstrate proficiency on these tasks as part of Table III. The tasks are evaluated using the approved T&EOs for each task found on the ATN or Central Army Registry. (See figure 3-7 for the tasks listed in the critical task group.)

3-34. For all safety tasks, each Soldier must be in the appropriate uniform listed earlier in this chapter. Soldiers gain the experience evacuating a crewmember using integrated safety harnesses within their uniform as part of the training and evaluation.

3-35. Call for/crew critical skills tasks include the following tasks at a minimum. Preparatory training is the platoon sergeant's responsibility prior to the evaluation of each listed task in figure 3-7.



TABLE III
SITUATIONAL TRAINING EXERCISE
CRITICAL TASKS

SKILL SET	TASK[1]
SAFETY	React to Turret Fire
	React to Engine Fire
	React to Ammunition Compartment Fire
	Conduct Roll-Over Drill
	Evacuate Crewmember–Driver
	Evacuate Crewmember–Gunner
	Evacuate Crewmember–Vehicle Commander
	Evacuate Crewmember–Loader
COMMUNICATE[2]	Conduct a Fire Support Briefing (061-C01-1061)
	Request Medical Evacuation (081-COM-0101)
	Call for Support (uses ATP 3-09.32, Table 42)

Notes:
[1] Units may add any tasks to the list of safety tasks. Commanders should include digital messaging to reinforce those communication skills required for future collective training.
[2] Units use the performance measures for these communication tasks on the Army Training Network. Task numbers provided for reference.

LEGEND
ATP ARMY TRAINING PUBLICATION

Figure 3-7. Call-for and crew critical skills task requirements

3-36. Units are required to train and evaluate a notional call-for-support/call-for-close air support (attack aviation) in a notional manner. The purpose of this event is to train crews on their ability to serve as the weapon system contacted by a dismounted element. Following Table 42, (as shown in figure 3-8), the crews are evaluated using a notional dismounted leader calling for support.



CALL FOR SUPPORT
5-LINE REQUEST (TABLE 42)

LINE NUMBER/ ELEMENT	DISMOUNTED LEADER ***BLUE 3*** *(OBSERVER)*	FIRING VEHICLE (BFV) ***RED 4*** *(FIRING PLATFORM)*	REMARKS
LINE 1 OBSERVER/WARNING ORDER			
ALERT	**RED 4 THIS IS BLUE 3, HE REQUESTED, OVER**	**BLUE 3 THIS IS RED 4, SEND IT OVER**	Dismounted leader and Firing platform initiates Table 42 5-line brief as appropriate.
LINE 2–FRIENDLY LOCATION/MARK			
FRIENDLY LOCATION	**MY POSITION** GRID MB 1223 5668 **MARKED BY** VS 17 PANEL		Firing platform may not have visibility of the dismounted element during the engagement.
LINE 3–TARGET LOCATION			
TARGET LOCATION	**TARGET LOCATION** GRID MB 1225 5690		
LINE 4–TARGET DESCRIPTION/MARK			
TARGET DESCRIPTION	TWO STORY BUILDING EAST OF INTERSECTION, **MARKED BY** PURPLE SMOKE, OVER	IDENTIFIED PURPLE SMOKE OVER	Firing platform clears three reticle fields of view (FoV) to the left and right of the target aiming point ensuring No Friendly Forces are within the FoV.
LINE 5–REMARKS AND RESTRICTIONS			
METHOD	AREA FIRE SECOND FLOOR FORTIFICATION	GUN TARGET LINE CLEAR, SET, OVER	Dismounted leader identifies the METHOD as AREA FIRE and the Firing Platform confirms no friendly forces are within the hazard area of the gun-target-line.
CONTROLS	3 ROUNDS HE AT MY COMMAND…		Used to determine the number and type of munitions and coordinate the timing of the engagement when the Dismounted Leader is prepared to sense rounds.
COMMAND OF EXECUTION	FIRE	ON THE WAY… ROUNDS COMPLETE, OVER	
TERMINATION	ROUNDS COMPLETE, SHIFT FIRES RIGHT/LEFT, OVER	ROGER, SHIFT FIRES RIGHT/LEFT, OVER	Dismounts are free to move from covered position. Firing platform shifts fires as directed away from dismounted personnel and provide support by fire (SBF).

LEGEND
BFV **BRADLEY FIGHTING VEHICLE** **HE** **HIGH EXPLOSIVE**

Figure 3-8. Call-for support 5-line format, Table 42, example

RANGE SUPPORT

3-37. The range support group provides VCE teams to evaluate the firing platoon. This requires all gunners and above to certify or recertify as VCEs between T-6 and T-execution of the training event. (See figure 3-9 for the range support personnel general requirements.)

3-38. Certain units may require assistance evaluating the crew critical skills. The support platoon will assist with the appropriate observer-coach/trainer (OC/T) capabilities to the training platoon.

3-39. The range support group will provide work detail personnel as required to operate the range facility. This may include targetry replacement or repair, briefing noncommissioned officer, range, or training area access, and so on.

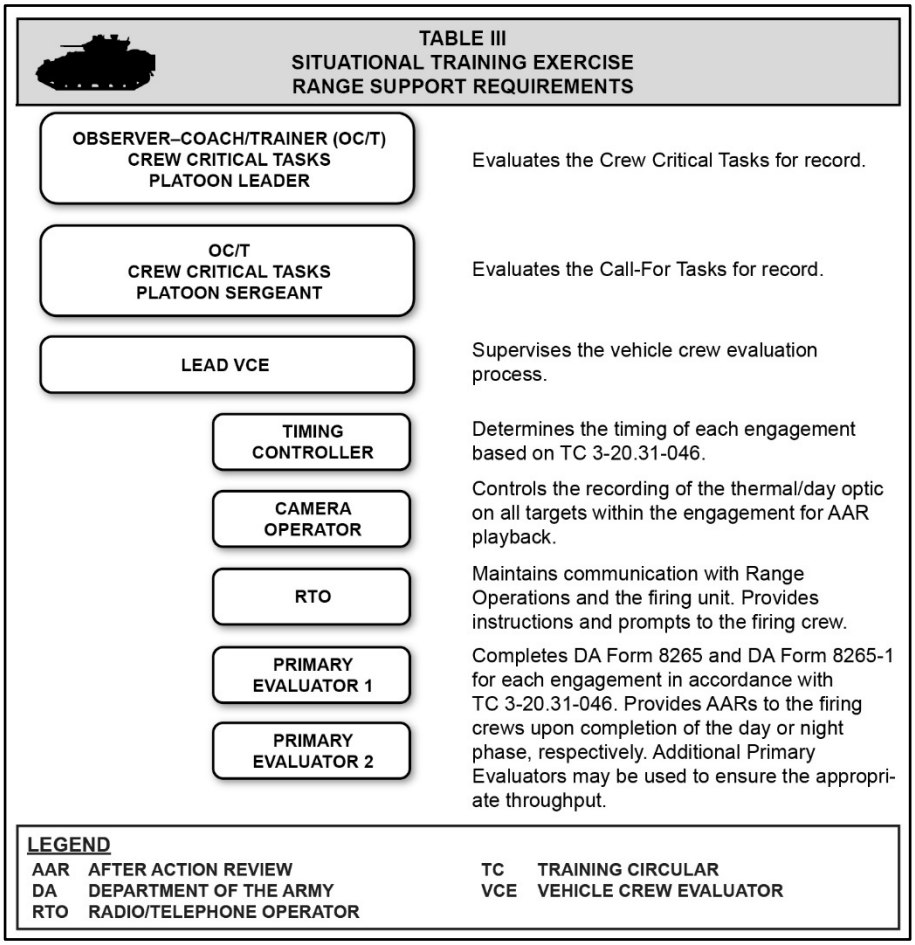


Figure 3-9. Range support personnel requirements, example

TIME AND THROUGHPUT–TABLE III

3-40. The throughput expectation of this table is 14 crews per day for two consecutive days. This allows for the appropriate amount of training, retraining, and cross training to provide the commander the fullest flexibility for crew management options and talent management opportunities prior to live fire. Depending on maintenance or other unforeseen issues, recommend incorporating an additional half training day to the schedule, although this not resourced as part of the Combined Arms Training Strategy. (See figure 3-10 for the expected throughput schedule based on the number of vehicles for firing and the unit's day/night engagement breakdown for the engagements.)

CREW PLATFORM WEAPON SYSTEM THROUGHPUT REQUIREMENTS

		NUMBER OF ENGAGEMENTS					
	DAY	**8**	**7**	**6**	**5**	**4**	
	NIGHT	**2**	**3**	**4**	**5**	**6**	
NUMBER OF CREWS	10	15.25	16.00	16.50	17.25	18.00	HOURS TO COMPLETE
	11	16.25	17.00	17.75	18.50	19.25	
	12	17.50	18.25	19.00	20.00	20.75	
	13	18.50	19.50	20.25	21.25	22.00	
	14	19.75	20.75	21.50	22.50	23.50	
	15	21.00	22.00	23.00	24.00	25.00	
	16	22.00	23.00	24.25	25.25	26.25	
	17	23.25	24.25	25.50	26.50	27.75	
	18	24.25	25.50	26.75	28.00	29.00	
	19	25.50	26.75	28.00	29.25	30.50	
	20	26.50	28.00	29.25	30.50	32.00	

Note: Overall time requirements are based on a single firing lane and include four hours of range maintenance down time (two blocks of two hours each). This is standard at most facilities. These calculations are for planning purposes only. Units that are more proficient in tower operations may have an increased throughput.

Any time shown exceeding 24 hours will not be possible in a single range day without unit action to conduct the range with a sense of urgency during preparation to fire tasks and execution of the table including tactical movement between engagements.

Figure 3-10. Table III throughput expectations

Note. Time requirements overall are based on a single firing lane and include 4 hours of target maintenance down time (two blocks of 2 hours each). These calculations are for planning purposes only. Units that are more proficient in tower operations may have an increased throughput. Conduct the critical task and call-for requirements (not shown) simultaneously with the more time-consuming engagement skills tasks.

AMMUNITION–TABLE III

3-41. The commander may choose to use the live training method for the STX proficiency course of fire using sub-caliber ammunition only after crews qualify during a device-based run first to demonstrate mastery of basic skills and safety principles. Upon qualification of Table III as a device-based event, the commander may refire the table with full-caliber or sub-caliber ammunition if the range and ammunition resourcing permit. (See figure 3-11 for the ammunition resourcing for Table III.)

TRAINING AMMUNITION REQUIREMENTS
TABLE III, SITUATIONAL TRAINING EXERCISE (STX)

DODIC	MUNITION TYPE	QUANTITY
A111	CTG, 7.62mm Blank M82/M82E1 LNKD	650
LA53	SIM, Pyrotechnic, Target Hit M35 (BES)	10
LA54	SIM, Pyrotechnic, Hostile Fire, M34 (BES)	10
LA77	SIM, Launching, Antitank Missile/Rocket M22	2

ADDITIONAL CERTIFICATIONS:



BES SYSTEMS



PYROTECHNICS

Certify junior leaders on the components, functioning, hazards, use, and troubleshooting of available Battle Effects Simulator (BES) systems.

Provides a working understanding of the components, functioning, emplacement, use, troubleshooting, and hazards when:

- Placing BES systems into operation.
- Synchronizing functioning.
- Installing BES cartridges
- Troubleshooting BES systems.
- Removing unused BES cartridges.
- Conducting safe operations of BES systems.

Note: Only blank ammunition authorized for use on Table III.

LEGEND

CTG	CARTRIDGE	LNKD	LINKED
DODIC	DEPARTMENT OF DEFENSE IDENTIFICATION CODE	mm	MILLIMETER
		SIM	SIMULATION

Figure 3-11. Table III ammunition authorizations

TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS–TABLE III

3-42. This course requires the use of laser based TADSS for all crews. Units with TADSS available must incorporate them and may not deviate from the TADSS requirement unless approved by the brigade commander in writing. Units should focus on training and reinforcing the skills in the direct fire kill chain on this table specifically with their thermal optics, day and night, to best prepare them for the follow-on training events. (Figure 3-12 shows the TADSS required, recommended, and optional for Table III.)



TABLE III
SITUATIONAL TRAINING EXERCISE (STX)
TRAINING AIDS, DEVICES, SIMULATORS,
AND SIMULATIONS (TADSS)
REQUIREMENTS

DEVICE	NOMENCLATURE	REMARKS
I-MILES CV-TESS	Instrumentable-Multiple Integrated Laser Engagement System, Combat Vehicle Tactical Engagement Simulations	REQUIRED
HITS	Home Station Instrumentation Training System	REQUIRED
LTID	Laser Target Interface Device	REQUIRED
CMU	Crew Module Unit/Integrated Player Unit	Recommended
CMUR	Crew Module Unit Recorder (Through-Sight Video)	Recommended
SP-1	BORESIGHT PANEL	Optional

LEGEND
SP-1 SPECIAL PANEL NUMBER ONE

Figure 3-12. Table III training aids, devices, simulators, and simulations requirements

Instrumentable–Multiple Integrated Laser Engagement System, CVTESS

3-43. The instrumentable-multiple integrated laser engagement system combat vehicle tactical engagement simulation system (I-MILES CVTESS) is a laser-based training device to for use on Abrams, Bradley, medium tank, and opposing forces tanks and fighting vehicles to provide real time casualty effects. I-MILES CVTESS is an evolutionary approach for replacing older systems with equipment that provides better training fidelity. It will reinforce crew duties, reward proper engagement techniques, and develop tactical maneuver skills of armor and mechanized infantry combined arms teams up to brigade level. It provides unit commanders an integrated training system in force-on-force and force-on-target training events at home station training areas through instrumented training. The system interfaces with instrumentation systems at combat training centers.

Laser Target Interface Device

3-44. For use with I-MILES CVTESS or other laser-based training systems when the unit is conducting force-on-target training, the LTIDs provides the appropriate hit recording at the target emplacement and when stimulated, signals the target lifting mechanism to record a hit. This is a required device on Table III.

Home Station Instrumentation Training System

3-45. Units are encouraged to integrate the home station/Army mobile instrumentation training system (HITS). This system will allow for the highest fidelity AARs for the crew's engagements. The HITS provides exercise management, monitoring, and control. It includes the ability to provide training performance feedback through onsite AARs.

3-46. HITS is a transportable system able to enhance live training at home stations up to the battalion level. HITS provides instrumentation through automated tools for unit leaders and designated OC/Ts to give performance feedback to training units. AARs and take-home packages can provide training performance feedback. As part of voice communications, HITS accepts single-channel ground and airborne radio systems radio transmissions.

Crew Module Unit/Crew Module Unit Recorder–Table III

3-47. The crew module unit (CMU)/integrated player unit (IPU)/crew module unit recorder (CMUR) is an advanced eight channel audio/video recording device for combat vehicles. The CMU/IPU/CMUR can simultaneously record up to eight channels of video, one channel of audio, and has the capability to monitor dual 1,553 data busses. The CMU/IPU/CMUR is equipped with a Global Positioning System that captures the vehicle's position location information. The CMU/IPU is for use on a digital range complex whereas the CMUR does not require any external support. The CMUR has an integrated AAR suite and stores information on a solid-state drive. The AAR suite uploads the data from the solid-state drive allowing a full AAR presentation.

PREPARE FOR TABLE III

3-48. Units execute the crew STX in a variety of ways. Typically, each platoon conducts training independently prior to the crew STX event, either in the motor pool, simulator

system, or in a local training area. The primary trainers during the crew STX are the company commander with OC/Ts providing oversight and assistance as necessary.

TRAIN THE TRAINERS–TABLE III

3-49. The primary trainers during the crew STX are the company commander with OC/Ts providing oversight and assistance as necessary.

Note. Much like crew platform evaluators, the OC/Ts for any crew exercise provide exceptional training for the OC/T as a leader, second only to executing the task with their organization. Units should dedicate sufficient time to OC/T certification to leaders who can provide experienced mentorship, with the complete understanding that their OC/T task is also exceptional training for them.

3-50. Units provide the following to prepare the trainers:

- Commander's training objectives.
- Scenario and lane concept with crew tasks.
- Conduct of the range briefing for the training event.
- Review of T&EOs and evaluation process for all the tasks.
- Risk assessment.
- Identification of supporting doctrinal publications for use as primary references.
- TADSS, pyrotechnics, blanks, and BESs used during the training event (see appendix A for the training munitions requirements for the complete training strategy).

ENGAGEMENT TASK AND PURPOSE–TABLE III

3-51. The crews, leaders, and evaluators must understand the task and purpose of the engagements, the critical skills tasks, and how they are linked to their training. Each of the engagements should be reviewed to understand what they contain, the standards for each, and how they build from previous training and to the next event's engagements.

RECONNAISSANCE OF THE SITE–TABLE III

3-52. Commanders use an authorized training area or series of training areas for the Table III, STX. Commanders follow the installation's policies and procedures for scheduling the training location as far in advance as practical. Once commanders have established the method of training and evaluation, they should secure the training location and appropriate TADSS, equipment, or systems that enhance the training event.

3-53. Once scheduled, the commander, Master Gunner, platoon leaders, and platoon sergeants conduct a reconnaissance of the training areas to—

- Verify sufficient space is available to support the entire unit through multiple training lanes.
- Ensure multiple iterations or rotations through the scenario can be achieved with appropriate retraining opportunities.
- Ensure sufficient administrative areas are available to support group discussions, briefings, and AARs.

- Provide sand table or terrain board.
- Provide terrain board kits.
- Verify the training area can support the unit's training while in a chemical environment, based on the scenario design (protection).
- Verify casualty evacuation and medical evacuation notional capabilities in support of the training scenario; for which units mostly include only—
  - Frequency modulation (FM) reporting.
  - Request procedures for training purposes (sustainment).

ISSUE THE ORDER–TABLE III

3-54. Commanders can issue an operation order (OPORD), warning order (WARNORD), or use the training schedule as necessary. The WARNORD should include the appropriate tasks, required leaders, and equipment needed, as well as the unit's training timeline including walk-through, rehearsals, and AARs. WARNORDs for external organizations must include sufficient reaction time for the appropriate personnel and equipment needed.

3-55. The OPORD or WARNORD should include the list of tasks that commanders evaluate during the event, and the method of evaluation. Commanders should provide sufficient time for subordinate leaders to train the tasks and skills listed in the order. Commanders should ensure the appropriate training resources are available and accessible. Upon receipt, subordinate leaders that have SOPs for their organizations must ensure their procedures support and complement the higher headquarters publication.

REHEARSE–TABLE III

3-56. The unit uses all training resources, materials, and equipment available to conduct rehearsals of training events. During the rehearsal, commanders ensure their unit has sufficient time to train to the specified standard including AARs and retraining time. Commanders ensure their unit verifies optional scenarios that increase complexity when warranted.

3-57. Commanders use the rehearsal as an opportunity to verify the tasks selected for Table III are consistent with the commander's training guidance.

3-58. Units should rehearse the training event from start to finish, and confirm the following:

- The opposing forces understand the training scenarios.
- Sufficient space is available to provide appropriate distances for offensive engagements.
- Analog and digital systems are operational within the organization and to the higher headquarters regardless of their location.
- Additional OC/T training support packages are complete and provide for multiple iterations.
- Sufficient administrative areas are available.
- A review is performed of AAR capabilities.
- Methods and actions required to provide fire support (notional).

- Integration of attack aviation and close air support during the scenario (notional inclusion for call-for tasks).
- Location of retraining for crews is available as necessary.

3-59. Once the unit completes the walk-through and training rehearsal, the commander makes any necessary adjustments to the plan and issues fragmentary orders (FRAGORDs) as necessary.

EXECUTE TABLE III

3-60. Once the unit arrives at the training location, they should—

- Conduct a safety briefing for the training event.
- Provide a conduct of the range briefing to establish the sequence of events for the training day.
- Conduct sensitive item checks prior to executing training.
- Assign OC/Ts as appropriate.
- Issue the OPORD for the training mission.
- Execute the training scenario.

3-61. The training unit conducts informal AARs of each crew completing a phase of training within the training mission. During training, the assigned OC/T, executive officer, first sergeant (1SG), and Master Gunner review the subordinate unit's performance. They follow the unit SOP, prescribed tactics, techniques, and procedures (TTP), and the appropriate T&EOs, and review completed crew score sheets and roll-up documentation for clarity and completeness.

3-62. The unit's scenario sequence will vary based on the training area available, time, day/night mix of engagements, and determination of which day and night engagements include operating in a chemical environment. (See figure 3-13 on page 74 through figure 3-32 on page 93 for the task, conditions, and standards for each engagement sequentially.)

ENGAGEMENT 30

3-63. The VC engagement fired from the VC's position using the commander's hand station and primary optic (see figure 3-13 and figure 3-14). It trains and evaluates the VC's ability to engage and destroy multiple targets with multiple weapons (coaxial machine gun and main gun) from their position. This engagement can be conducted day or night.

30 

TABLE III, SITUATIONAL TRAINING EXERCISE (STX)

TASK TYPE:	VEHICLE COMMANDER	POSTURE:	DEFENSE

CONDITIONS	TARGET 1	TARGET 2	DELAY: TARGET 3	TARGET 4
				
FIRER	VC	VC		
WEAPON/AMMUNITION	COAX	AP		
TARGET	TROOPS	BMP		
TARGET TYPE	E(7)-FRT	M1T-FLK		
TARGET POSTURE	STATIONARY	MOVING		
RANGE TO TARGET	600m	1,000m		
ENGAGEMENT MODIFIER	9	10		

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
			
DEFENSE	DEFENSE	DEFENSE	OFFENSE
Foundation engagement with change of weapon system/ammunition. Reinforces all VC training in simulations.	Initial engagement under live-fire conditions. Building block for future live-fire training. All Table IV Engagements are DEFENSE.	Trains multiple target engagements under live-fire conditions. Specifically trains harder than the test. VC dual main gun targets.	Qualification engagement, single moving from the offense at medium range.

LEGEND

AP	ARMOR PIERCING	FRT	FRONTAL
BMP	BOYEVAYA MASHINA PYEKHOTY	m	METER
COAX	COAXIAL MACHINE GUN	VC	VEHICLE COMMANDER
FLK	FLANK		

Figure 3-13. Engagement 30 overview

30	TARGET 1	TARGET 2	TARGET 3	TARGET 4
VEHICLE COMMANDER DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS				
HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
SIMS	**SIMS**	**A111**	**LA54**	**LA53**
	8	50	1	1

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

YOUR GUNNER'S HAND STATION IS INOPERATIVE. CONTINUE TO FIGHT. CHECK YOUR MACHINE GUNS. INDEX AP. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	TROOPS AND MOVING PC
METHOD	
LOCATION	VICINITY _____ AND _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

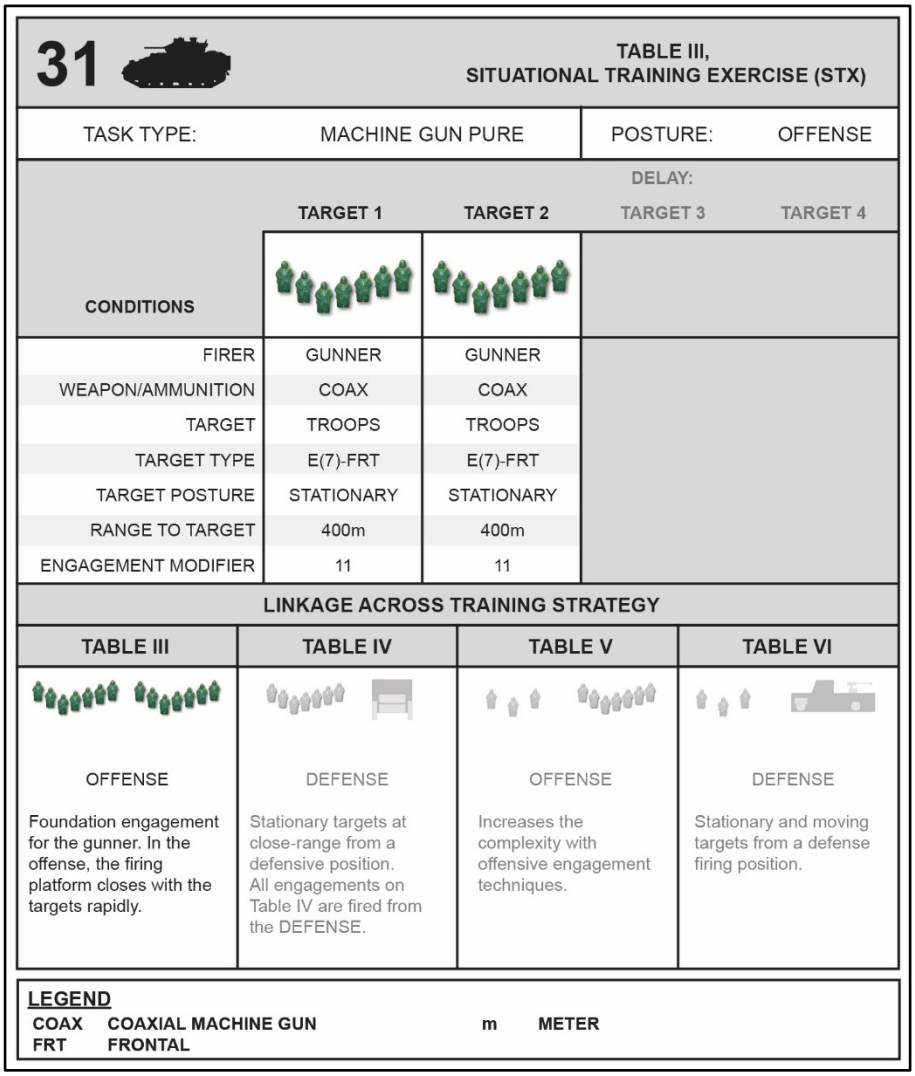
LEGEND

AP	**ARMOR PIERCING**	**PC**	**PERSONNEL CARRIER**
HE	**HIGH EXPLOSIVE**	**REDCON**	**READINESS CONDITION**
mm	**MILLIMETER**	**SIMS**	**SIMULATION**

Figure 3-14. Engagement 30 munitions and script worksheet

ENGAGEMENT 31

3-64. This is a machine gun pure engagement for the gunner. It trains target detection, acquisition, and machine gun engagement techniques on the offense (see figure 3-15 and figure 3-16). Range bands are close-range and require rapid acquisition and engagement.



31

TABLE III, SITUATIONAL TRAINING EXERCISE (STX)

TASK TYPE:	MACHINE GUN PURE	POSTURE:	OFFENSE

CONDITIONS	TARGET 1	TARGET 2	DELAY: TARGET 3	DELAY: TARGET 4
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	COAX	COAX		
TARGET	TROOPS	TROOPS		
TARGET TYPE	E(7)-FRT	E(7)-FRT		
TARGET POSTURE	STATIONARY	STATIONARY		
RANGE TO TARGET	400m	400m		
ENGAGEMENT MODIFIER	11	11		

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
OFFENSE	DEFENSE	OFFENSE	DEFENSE
Foundation engagement for the gunner. In the offense, the firing platform closes with the targets rapidly.	Stationary targets at close-range from a defensive position. All engagements on Table IV are fired from the DEFENSE.	Increases the complexity with offensive engagement techniques.	Stationary and moving targets from a defense firing position.

LEGEND

COAX	COAXIAL MACHINE GUN	m	METER
FRT	FRONTAL		

Figure 3-15. Engagement 31 overview

31	TARGET 1	TARGET 2	TARGET 3	TARGET 4
MACHINE GUN PURE OFFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS				
HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
SIMS	**SIMS**	**A111**	**LA54**	**LA53**
		100		

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR OFFENSIVE OPERATIONS. MOVE TO A SHORT HALT POSITION ALONG ROUTE _____

CHECK YOUR MACHINE GUN, REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	TROOPS
METHOD	
LOCATION	VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	BEGIN YOUR MOVEMENT, REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**REDCON**	**READINESS CONDITION**
HE	**HIGH EXPLOSIVE**	**SIMS**	**SIMULATION**
mm	**MILLIMETER**		

Figure 3-16. Engagement 31 munitions and script worksheet

ENGAGEMENT 32

3-65. From a defensive posture, the gunner engages multiple machine gun threats at mid to long range (see figure 3-17 and figure 3-18). This is a foundational engagement where it presents common threats as an Infantry support vehicle.

32 

TABLE III, SITUATIONAL TRAINING EXERCISE (STX)

TASK TYPE:	MACHINE GUN PURE	POSTURE:	DEFENSE

			DELAY:	25 SECONDS
	TARGET 1	TARGET 2	TARGET 3	TARGET 4
CONDITIONS				
FIRER	GUNNER	GUNNER	GUNNER	
WEAPON/AMMUNITION	COAX	COAX	COAX	
TARGET	TROOPS	TRUCK	TROOPS	
TARGET TYPE	E(7)-FRT	L1T-FRT	E(7)-FRT	
TARGET POSTURE	STATIONARY	STATIONARY	STATIONARY	
RANGE TO TARGET	400m	800m	800m	
ENGAGEMENT MODIFIER	7	9	10	

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
			
DEFENSE	DEFENSE	DEFENSE	OFFENSE
Multiple short-range coax engagements from the defense using TADSS.	Short range and long range coax threats. All engagements on Table IV are fired from the DEFENSE.	Multiple machine gun targets at mid-range for the coax.	Firing on the move, troops and truck at close and mid-range. CAUTION–initial troop presentation is 300m.

LEGEND

COAX	COAXIAL MACHINE GUN	m	METER
FRT	FRONTAL	TADSS	TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS

Figure 3-17. Engagement 32 overview

32	TARGET 1	TARGET 2	TARGET 3	TARGET 4
MACHINE GUN PURE DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS				
HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
SIMS	**SIMS**	**A111**	**LA54**	**LA53**
		150	1	1

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

CHECK YOUR MACHINE GUN, REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	COAX
TARGET DESCRIPTION	TROOPS AND TRUCK
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**REDCON**	**READINESS CONDITION**
HE	**HIGH EXPLOSIVE**	**SIMS**	**SIMULATION**
mm	**MILLIMETER**		

Figure 3-18. Engagement 32 munitions and script worksheet

ENGAGEMENT 33

3-66. Fired from the offense, this is a basic skills engagement for the gunner to engage a single moving target (see figure 3-19 and figure 3-20). It builds on the skills from the simulation's training model and requires the gunner to utilize proper tracking and main gun engagement techniques.

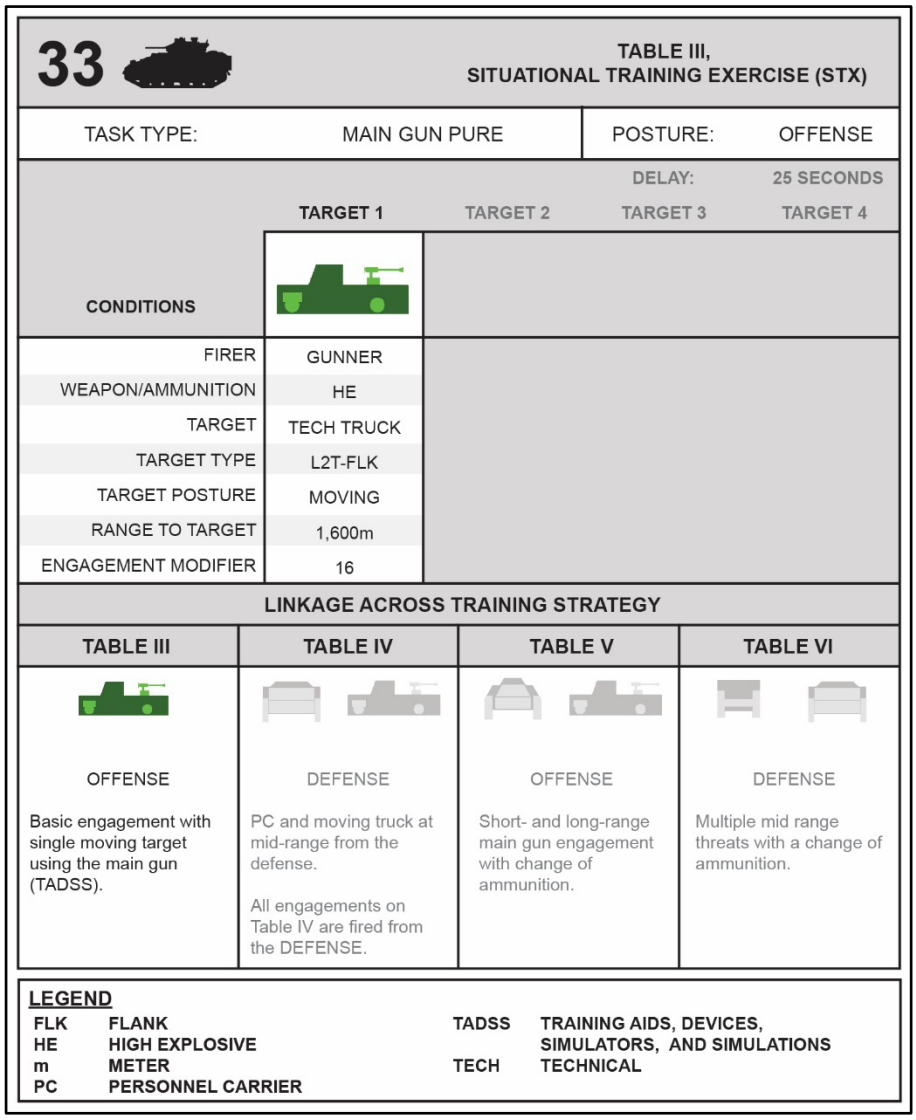


Figure 3-19. Engagement 33 overview worksheet

33	TARGET 1	TARGET 2	TARGET 3	TARGET 4
MAIN GUN PURE OFFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS				
HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
SIMS	**SIMS**	**A111**	**LA54**	**LA53**
8			1	1

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR OFFENSIVE OPERATIONS. MOVE TO A SHORT HALT POSITION ALONG ROUTE _____

INDEX HE, REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	TRUCK MOVING INTO SECTOR
METHOD	
LOCATION	VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	BEGIN YOUR MOVEMENT, REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**REDCON**	**READINESS CONDITION**
HE	**HIGH EXPLOSIVE**	**SIMS**	**SIMULATION**
mm	**MILLIMETER**		

Figure 3-20. Engagement 33 munitions and script worksheet

ENGAGEMENT 34

3-67. A main gun pure engagement fired from the defense; this engagement challenges the crew with a third target on delay (see figure 3-21 and figure 3-22).

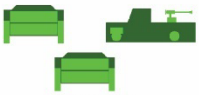
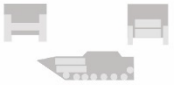
34 

TABLE III, SITUATIONAL TRAINING EXERCISE (STX)

TASK TYPE:	MAIN GUN PURE	POSTURE:	DEFENSE

			DELAY:	25 SECONDS
	TARGET 1	TARGET 2	TARGET 3	TARGET 4
CONDITIONS				
FIRER	GUNNER	GUNNER	GUNNER	
WEAPON/AMMUNITION	AP	HE	AP	
TARGET	BMP	TECH TRUCK	BMP	
TARGET TYPE	M1T-FRT	L2T-FLK	M1T-FRT	
TARGET POSTURE	STATIONARY	MOVING	STATIONARY	
RANGE TO TARGET	2,000m	1,000m	1,600m	
ENGAGEMENT MODIFIER	10	11	9	

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
 DEFENSE	 DEFENSE	 DEFENSE	 OFFENSE
Main gun change of ammunition from AP to HE.	Moving PC at mid-range and long range HE target. All engagements on Table IV are fired from the DEFENSE.	Multiple station and moving threats at medium range.	Multiple long range main gun engagement while on the move.

LEGEND

AP	ARMOR PIERCING	HE	HIGH EXPLOSIVE
BMP	BOYEVAYA MASHINA PYEKHOTY	m	METER
FLK	FLANK	PC	PERSONNEL CARRIER
FRT	FRONTAL	TECH	TECHNICAL

Figure 3-21. Engagement 34 overview

34	TARGET 1	TARGET 2	TARGET 3	TARGET 4
MAIN GUN PURE DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
SIMS	**SIMS**	**A111**	**LA54**	**LA53**
8	16		3	3

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

INDEX AP, REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	TRUCK AND PC WITH LIGHT ARMOR SUPPORT
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____ AND _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**PC**	**PERSONNEL CARRIER**
HE	**HIGH EXPLOSIVE**	**REDCON**	**READINESS CONDITION**
mm	**MILLIMETER**	**SIMS**	**SIMULATION**

Figure 3-22. Engagement 34 munitions and script worksheet

ENGAGEMENT 35

3-68. This engagement challenges the crew with multiple targets and changes to the weapon or ammunition indexed (see figure 3-23 and figure 3-24). These changes within the engagement at a high tempo are prone to switchology errors by the crew.

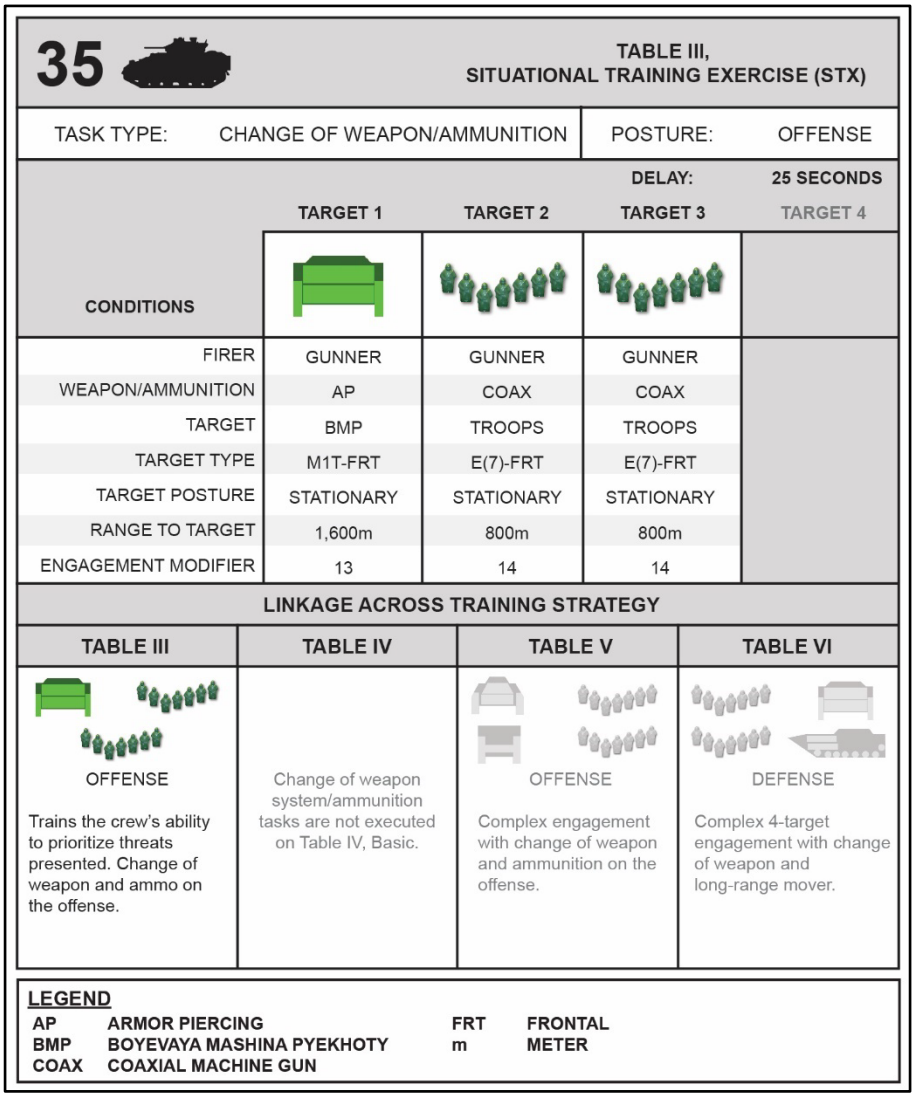


Figure 3-23. Engagement 35 overview

35	TARGET 1	TARGET 2	TARGET 3	TARGET 4
CHANGE OF WEAPON/ AMMUNITION OFFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
SIMS	**SIMS**	**A111**	**LA54**	**LA53**
	8	100	1	1

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR OFFENSIVE OPERATIONS. MOVE TO A SHORT HALT POSITION ALONG ROUTE _____

INDEX AP, CHECK YOUR MACHINE GUN. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	PC AND TROOPS IN SECTOR WITH TROOP SUPPORT
METHOD	
LOCATION	VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	BEGIN YOUR MOVEMENT, REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**PC**	**PERSONNEL CARRIER**
HE	**HIGH EXPLOSIVE**	**REDCON**	**READINESS CONDITION**
mm	**MILLIMETER**	**SIMS**	**SIMULATION**

Figure 3-24. Engagement 35 munitions and script worksheet

ENGAGEMENT 36

3-69. This is the second change of weapon and ammunition engagement for the training event (see figure 3-25 and figure 3-26). This engagement is fired from the defense which allows better target acquisition and engagement planning as part of the conduct of fire for the crew. This engagement contains a TOW missile target, requiring the crew to demonstrate their proficiency with all three weapon systems on the BFV.

36

TABLE III, SITUATIONAL TRAINING EXERCISE (STX)

TASK TYPE:	CHANGE OF WEAPON/AMMUNITION	POSTURE:	DEFENSE

CONDITIONS	TARGET 1	TARGET 2	DELAY: TARGET 3	25 SECONDS TARGET 4
FIRER	GUNNER	GUNNER	GUNNER	
WEAPON/AMMUNITION	HE	COAX	MISSILE	
TARGET	TRUCK	TROOPS	TANK	
TARGET TYPE	L1T-FRT	E(7)-FRT	H1T-FRT	
TARGET POSTURE	STATIONARY	STATIONARY	STATIONARY	
RANGE TO TARGET	1,000m	600m	2,200m	
ENGAGEMENT MODIFIER	9	9	5	
TIME OF FLIGHT			10	

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
DEFENSE Change of weapon system from the defense with long range missile target. Baseline engagement skills with high probability threat array.	Change of weapon system/ammunition tasks are not executed on Table IV, Basic.	DEFENSE Change of weapon system for delay presentation in the defense.	OFFENSE Change of weapon system and ammunition. Complex engagement with long range HE target.

LEGEND

COAX	COAXIAL MACHINE GUN	HE	HIGH EXPLOSIVE
FRT	FRONTAL	m	METER

Figure 3-25. Engagement 36 overview

36	TARGET 1	TARGET 2	TARGET 3	TARGET 4
CHANGE OF WEAPON/ AMMUNITION DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	TOW	7.62mm	HOSTILE FIRE	STEEL ON STEEL
SIMS	**SIMS**	**LA77**	**A111**	**LA54**	**LA53**
8		1	50	2	2

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

INDEX HE, CHECK YOUR MACHINE GUN, REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	TRUCK AND TROOPS WITH TANK SUPPORT
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____AND_____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**SIMS**	**SIMULATION**
HE	**HIGH EXPLOSIVE**	**TOW**	**TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED**
mm	**MILLIMETER**		
REDCON	**READINESS CONDITION**		
RPG	**ROCKET-PROPELLED GRENADE**		

Figure 3-26. Engagement 36 munitions and script worksheet

ENGAGEMENT 37

3-70. A degraded engagement for the gunner to apply their auxiliary (AUX) sight and apply the appropriate ballistic reticle for a mid-range coaxial and main gun threat (see figure 3-27 and figure 3-28). This requires the gunner to apply the appropriate ballistic reticle offsets to effectively engage and defeat the threat presented. Note that using TADSS may require the evaluator to announce target as the laser-based devices will not be aligned for the engagement.

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TABLE III, SITUATIONAL TRAINING EXERCISE (STX)

TASK TYPE:	DEGRADED AUX	POSTURE:	OFFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1 	TARGET 2 	TARGET 3	TARGET 4
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	HE	COAX		
TARGET	TRUCK	TROOPS		
TARGET TYPE	L2T-FRT	E(7)-FRT		
TARGET POSTURE	STATIONARY	STATIONARY		
RANGE TO TARGET	1,200m	600m		
ENGAGEMENT MODIFIER	13	13		

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
			
OFFENSE	DEFENSE	OFFENSE	DEFENSE
Degraded AUX HE and coax engagement teaching use of auxiliary optics and ballistic reticles.	Degraded AUX, multiple mid range threats from the defense. All engagements on Table IV are fired from the DEFENSE.	Degraded AUX engagement with change of weapon/ ammunition from short range coax to long range AP.	Degraded MANUAL long-range machine-gun engagement.

LEGEND

AP	ARMOR PIERCING	FRT	FRONTAL
AUX	AUXILIARY SIGHT	HE	HIGH EXPLOSIVE
COAX	COAXIAL MACHINE GUN	m	METER

Figure 3-27. Engagement 37 overview

37	TARGET 1	TARGET 2	TARGET 3	TARGET 4
DEGRADED AUX OFFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS				
HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
SIMS	**SIMS**	**A111**	**LA54**	**LA53**
8		50	1	1

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR OFFENSIVE OPERATIONS. YOUR IBAS IS INOP, READY YOUR AUX SIGHT
MOVE TO A SHORT HALT POSITION ALONG ROUTE _____

INDEX HE, CHECK YOUR MACHINE GUN. REPORT REDCON ONE, OVER

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	TRUCK AND TROOPS IN SECTOR
METHOD	
LOCATION	VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	BEGIN YOUR MOVEMENT, REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**INOP**	**INOPERABLE**
AUX	**AUXILIARY SIGHT**	**mm**	**MILLIMETER**
HE	**HIGH EXPLOSIVE**	**REDCON**	**READINESS CONDITION**
IBAS	**IMPROVED BRADLEY ACQUISITION SYSTEM**	**SIMS**	**SIMULATION**

Figure 3-28. Engagement 37 munitions and script worksheet

ENGAGEMENT 38

3-71. This degraded engagement challenges the crew with a simulated degradation of turret drive power and a single mid-range coaxial threat (see figure 3-29 and figure 3-30). This forces the gunner to scan, identify, and engage the threat while using the manual traverse and elevation handwheels and trigger.

38 

TABLE III, SITUATIONAL TRAINING EXERCISE (STX)

TASK TYPE:	DEGRADED MANUAL	POSTURE:	DEFENSE

			DELAY:	25 SECONDS
	TARGET 1	TARGET 2	TARGET 3	TARGET 4
CONDITIONS				
FIRER	GUNNER			
WEAPON/AMMUNITION	COAX			
TARGET	TROOPS			
TARGET TYPE	E(7)-FRT			
TARGET POSTURE	STATIONARY			
RANGE TO TARGET	600m			
ENGAGEMENT MODIFIER	9			

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
			
DEFENSE	DEFENSE	DEFENSE	OFFENSE
Degraded MANUAL engagement, medium range machine gun.	Degraded MANUAL, stationary targets at mid range. All engagements on Table IV are fired from the DEFENSE.	Degraded MANUAL change of weapon and ammunition from the defense.	Degraded AUX coax and long-range mover. Target detection and acquisition difficulty.

LEGEND

AUX	AUXILIARY SIGHT	FRT	FRONTAL
COAX	COAXIAL MACHINE GUN	m	METER

Figure 3-29. Engagement 38 overview

38	TARGET 1	TARGET 2	TARGET 3	TARGET 4
DEGRADED MANUAL DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS				
HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
SIMS	SIMS	A111	LA54	LA53
		50		

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

YOUR TURRET DRIVE SYSTEM IS OUT, SWITCH TO MANUAL. CHECK YOUR MACHINE GUN. PREPARE FOR DEGRADED OPERATIONS AND REPORT REDCON ONE.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	COAX
TARGET DESCRIPTION	TRUCK
METHOD	
LOCATION	VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**REDCON**	**READINESS CONDITION**
HE	**HIGH EXPLOSIVE**	**SIMS**	**SIMULATION**
mm	**MILLIMETER**		

Figure 3-30. Engagement 38 munitions and script worksheet

ENGAGEMENT 39

3-72. Engagement 39 is an offensive engagement requiring the crew to execute a change of weapon system and ammunition between all weapon systems on the vehicle (see figure 3-31 and figure 3-32). The crew will come to a short halt before the end of the maneuver box to engage with the TOW missile. This reinforces critical crew coordination skills within the BFV. If TOW-on-the-move equipped, and range constraints will allow, the maneuver box should be long enough for the crew to fire their TOW missile while on the offense without coming to a halt.

39

TABLE III, SITUATIONAL TRAINING EXERCISE (STX)

TASK TYPE:	SIMULTANEOUS/MULTIPLE TARGETS	POSTURE:	OFFENSE

			DELAY:	25 SECONDS
CONDITIONS	TARGET 1	TARGET 2	TARGET 3	TARGET 4
FIRER	GUNNER	GUNNER	GUNNER	
WEAPON/AMMUNITION	AP	COAX	MISSILE	
TARGET	BMP	TROOPS	TANK	
TARGET TYPE	M1T-FRT	E(7)-FRT	H1T-DEF	
TARGET POSTURE	STATIONARY	STATIONARY	STATIONARY	
RANGE TO TARGET	1,000m	600m	2,800m	
ENGAGEMENT MODIFIER	12	13	5	
TIME OF FLIGHT			14	

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
OFFENSE	DEFENSE	OFFENSE	DEFENSE
Change of weapon and ammunition at varying ranges. Long range missile target presentation fired from short halt if not equipped with TOTM.	Multiple mid to long range troop targets. All engagements on Table IV are fired from the DEFENSE.	Change of weapon system with long-range moving target.	Change of weapon system, RPG team with long range HE target.

LEGEND

AP	ARMOR PIERCING	HE	HIGH EXPLOSIVE
BMP	BOYEVAYA MASHINA PYEKHOTY	m	METER
COAX	COAXIAL MACHINE GUN	RPG	ROCKET-PROPELLED GRENADE
DEF	DEFILADE	TOTM	TOW ON THE MOVE
FRT	FRONTAL		

Figure 3-31. Engagement 39 overview

39	TARGET 1	TARGET 2	TARGET 3	TARGET 4
SIMULTANEOUS/ MULTIPLE TARGETS OFFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS					
HE	AP	TOW	7.62mm	HOSTILE FIRE	STEEL ON STEEL
SIMS	**SIMS**	**LA77**	**A111**	**LA54**	**LA53**
	8	1	50	2	2

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR OFFENSIVE OPERATIONS. MOVE TO A SHORT HALT POSITION ALONG ROUTE _____

INDEX AP, CHECK YOUR MACHINE GUN. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	PC AND TROOPS IN SECTOR WITH TANK SUPPORT
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____ AND _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	BEGIN YOUR MOVEMENT, REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**SIMS**	**SIMULATION**
HE	**HIGH EXPLOSIVE**	**TOW**	**TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED**
mm	**MILLIMETER**		
PC	**PERSONNEL CARRIER**		
REDCON	**READINESS CONDITION**		

Figure 3-32. Engagement 39 munitions and script worksheet

ASSESS TABLE III TRAINING EVENT

3-73. The intent of STXs is to train the crews within the organization on the appropriate conduct of fire skills, various crew critical skills, and emergency procedures across two training days. Proper evaluation and assessment of crew performance is key to improving individual and crew skills prior to moving to the live-fire events.

3-74. Units can maximize their AARs and assessments of training by fully integrating CVTESS, HITS, LTIDs, and CMU/IPU/CMUR systems in the training event. These systems used together provide a near-digital range facility capability at the company and battalion level.

FIRING GROUP AFTER ACTION REVIEWS–TABLE III

3-75. For the firing group, each crew is given an AAR at the completion of the day phase and night phase by a qualified VCE. Use DA Form 8265-1 to record and track the results of each crew's performance on each engagement at the completion of each phase. Tracking crew and platoon statistics on each engagement allow the unit leadership to identify areas for improvement.

Note. VCEs must be certified or recertified as described in TC 3-20.31. Performing the duties as a VCE during the conduct of Table III, STX is a significant part of building experience and knowledge of those gunners and VCs without firing.

3-76. Units should track the various firing information from the score sheets to identify where in the conduct of fire crews and the overall unit should apply additional training effort. Some of those indicators are—

- Target acquisition, detection, and identification.
- Time to fire.
- Time to kill.
- Opening and closing times for machine gun engagements.
- Gunner lay errors.
- Scanning techniques.
- Engagement techniques.
- Conduct of fire issues.
- Penalties by type.
- Missile tracking technique.

3-77. Each crew should receive a formal AAR following the guidelines found in TC 3-20.31. Each evaluator should use DA Form 8265 and DA Form 8265-1 as the basis for their evaluation, identifying the firing occasional information from the score sheet timelines. The evaluator and VC each review and sign the DA Form 8265-1.

CRITICAL SKILLS TASK AFTER ACTION REVIEWS–TABLE III

3-78. OC/Ts should provide clear and articulate comments and insight about the positive and negative actions of the crews they observed. OC/Ts should use the T&EOs to guide them through the evaluation process and use the doctrinal publications to support their comments.

3-79. The OC/T and unit leadership should review the T&EOs and training notes and observations to determine which tasks require additional attention through the remainder of the training density.

3-80. The OC/T should share the overall performance of the unit, including the observations, with the entire training unit. This allows the subordinate units to learn from other unit's best practices, procedures, and tactics, and at times from their shortcomings or mistakes. The commander should identify crews within the organization that demonstrate superior performance.

3-81. At the completion of this portion of crew Table III, STX, commanders, executive officers, and 1SGs should gain insight to where their unit's SOPs are working and where they need additional attention. If time is available, commanders should update and provide those changes or revisions to the unit prior to executing any live-fire event. Of particular interest is the drivers' training program, vehicle load plans, stowage of individual tactical gear, crew evacuation procedures, and medical evacuation procedures.

RETRAIN–TABLE III

3-82. The unit Master Gunner maintains the unit roll-up by engagement. A subcategorized roll-up by platoons provides the commander a snapshot of training trends, strengths, and weaknesses. The Master Gunner should not only identify crews that did not achieve a passing standard, but also crews that struggled on specific engagement tasks. Once done, the unit can establish and conduct the appropriate focused retraining followed by a subsequent evaluation.

3-83. All crews must successfully complete the course of fire based on the standards for the engagements listed earlier in this chapter. No crew may proceed to Table IV or any other live-fire event, including zeroing, or sub-caliber events until they have achieved the minimum standard on Table III.

3-84. Platoon sergeants and platoon leaders should identify crews that require additional training on the various crew critical skills. Although the evaluation may be completed, units should integrate sustainment training into their unit training plans, particularly when environmental conditions change, movement during limited visibility is required, or planning or expecting tactical movement through restricted or rugged terrain.

DRIVER'S TRAINING–TABLE III

3-85. Leaders should determine the number of miles driven during the day and night phases for their assigned drivers. This information should be recorded, including the miles driven, miles driven with the enhanced viewer, and any tactical (off-road) miles driven.

CREW GUNNERY FOLDER RECORDS FOR TABLE III

3-86. Once testing is complete, the Master Gunner records the results of all training completed in the crew gunnery folder. The records must be maintained for a minimum of 12 months.

RECORD INDIVIDUAL TASK PERFORMANCE–TABLE III

3-87. Leaders track and train their Soldier's individual and collective tasks trained and evaluated using tools provided by the ATN such as the SULT and the DJB. These systems interface directly with the DTMS to record training and evaluation results.

Note. Leaders must be granted access first by their commander or DTMS manager to enroll or assign their Soldiers the specific tasks from the ICTL that are trained and tested during the training event.

3-88. From within the SULT, the authorized leader is enabled to view, maintain, and update—

- Warrior tasks and battle drills.
- MOS-specific individual critical tasks.
- Unit-mandated training tasks.
- Supporting T&EOs (access dependent on proponent distribution restrictions).

3-89. Leaders should update their Soldier's individual training records for training and evaluation of the following tasks, based on their assigned position. This is not an all-inclusive list of the trained and tested tasks for this event. Leaders should adjust based on the unit's additions to the event.

UPDATING INDIVIDUAL TRAINING RECORDS–TABLE III

3-90. Leaders update their SULT application with the appropriate training and evaluation outcomes for their crewmembers. The lists (see figure 3-33 on pages 97 through page 102) provided show the touch points associated with completing Table III, STX.



TABLE III,
SITUATIONAL TRAINING EXERCISE (STX)
INDIVIDUAL TASK TOUCH POINTS

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
031-503-1035	Protect Yourself from Chemical/Biological Contamination Using Your Assigned Protective Mask	Yes	Yes	Yes
071-025-0040	Install the M21 Blank Firing Attachment (BFA) on the M240 Machine Gun	Yes	Yes	
071-025-0041	Remove the M21 Blank Firing Attachment (BFA) from the M240 Machine Gun	Yes	Yes	
091-91M-1073	Maintain the 25mm Gun System on the Bradley Fighting Vehicle	Yes	Yes	
171-091-1023	Conduct Vehicle Resupply	Yes		
171-121-3009	Control Techniques of Movement	Yes		
171-121-4017	Supervise Tank Platoon Formations and Drills	Yes		
171-121-4021	Plan Range Operations	Yes		
171-121-4028	Plan Occupation of a Battle Position	Yes		
171-121-4030	Conduct Vehicle Tactical Navigation	Yes		
171-121-4041	Conduct Combat Table Operations	Yes		
171-121-4051	Prepare a Situation Report (SITREP)	Yes		
171-121-4057	Perform Techniques of Movement	Yes		

LEGEND
mm MILLIMETER

Figure 3-33. Table III, Situational Training Exercise, task touch points



TABLE III,
SITUATIONAL TRAINING EXERCISE (STX), CONTINUED
INDIVIDUAL TASK TOUCH POINTS

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-121-4062	Issue an Oral Operation Order (OPORD)-Fragmentary Order (FRAGORD)	Yes		
171-121-4064	Prepare Logistical Status (LOGSTAT) Reports	Yes		
171-121-4065	Direct Vehicle Tactical Movement	Yes		
171-121-4067	Execute Platoon Precombat Operations	Yes		
171-122-1061	Maintain Property Accountability	Yes	Yes	Yes
171-123-1000	Occupy of a Vehicle Fighting Position	Yes		
171-123-1023	Maintain Operator's Part of Equipment Record Folder		Yes	Yes
171-123-1090	Perform Preventative Maintenance on Basic Issue Items (BII)		Yes	Yes
171-123-3001	Supervise Personnel Handling Ammunition	Yes		
171-123-4020	Perform Operator Maintenance on Global Positioning System (GPS)		Yes	Yes
171-131-2017	Identify Ammunition Container Markings	Yes	Yes	
171-131-2018	Identify the Components of Main Gun and Small Arms Ammunition	Yes	Yes	
171-136-0002	Mount Combat Identification Panels (CIPs) on a Bradley Fighting Vehicle (BFV)	Yes	Yes	Yes
171-138-0009	Troubleshoot Operational Malfunctions on Multiple Integrated Laser Engagement System (MILES)	Yes	Yes	
171-138-0015	Conduct Advanced Vehicle Identification	Yes	Yes	

Figure 3-33. Table III, Situational Training Exercise, task touch points, continued



TABLE III,
SITUATIONAL TRAINING EXERCISE (STX), CONTINUED
INDIVIDUAL TASK TOUCH POINTS

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-138-0017	Identify Restricted and Suspended Ammunition	Yes	Yes	
171-138-0021	Conduct Individual Weapon and Crew Served Ranges	Yes	Yes	
171-138-0022	Demonstrate Target Acquisition Methods	Yes	Yes	Yes
171-138-0028	Identify Combat Vehicles and Aircraft	Yes	Yes	Yes
171-151-0009	Maintain the AN/VAS-5B Driver's Vision Enhancer (DVE)			Yes
171-19K-2237	Conduct Alternative Range Determinations on an M1 Series Tank	Yes	Yes	
171-300-0083	Enforce Rules of Engagement (ROE)	Yes		
171-309-0650	Inspect DA Form 5988-E or DA Form 2404	Yes	Yes	
171-610-0001	Perform a Map Reconnaissance	Yes	Yes	Yes
171-610-0002	Recognize Threat Tactics and Battlefield Organization	Yes	Yes	Yes
171-620-0123	Employ Common Operational Terms and Graphics	Yes		
171-905-0002	Install Multiple Integrated Laser Engagement System (MILES) on Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-924-0015	Perform Duties as a Vehicle Crew Evaluator (VCE)	Yes		
171-928-0002	Remove Crew Module Unit Recorder (CMUR) the on an M1-Series Tank	Yes	Yes	

LEGEND
DA DEPARTMENT OF THE ARMY

Figure 3-33. Table III, Situational Training Exercise, task touch points, continued



TABLE III,
SITUATIONAL TRAINING EXERCISE (STX), CONTINUED
INDIVIDUAL TASK TOUCH POINTS

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-928-0003	Install the Thru-Sight Video-Recorder (TSV-R) Subsystem of the Thru-Sight Video (TSV) System on a Bradley Fighting Vehicle (BFV)	Yes	Yes	Yes
171-928-0005	Install the Crew Module Unit Recorder (CMUR) on a Stryker Mobile Gun System (MGS)	Yes	Yes	Yes
171-928-0009	Perform Pre-Operational Set-Up Procedures for the Thru-Sight Video-Recorder (TSV-R) Subsystem of the Thru-Sight Video (TSV) System	Yes		
171-928-0010	Operate the Crew Modular Unit Recorder (CMUR)	Yes	Yes	
171-928-0011	Perform Preventive Maintenance Checks & Services (PMCS) on the Thru-Sight Video (TSV) System	Yes	Yes	
171-928-0012	Troubleshoot the Thru-Sight Video (TSV) System	Yes	Yes	
171-928-0013	Conduct an After Action Review Using the Thru-Sight Video (TSV) System	Yes		
171-BFV-0001	Maintain the Hull on a Bradley Fighting Vehicle (BFV)	Yes	Yes	Yes
171-BFV-0002	Maintain the Turret on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0004	Drive a Bradley Fighting Vehicle (BFV)			Yes
171-BFV-0010	Slave Start an M2A3 Bradley Fighting Vehicle (BFV)			Yes
171-BFV-0012	Operate the Chemical, Biological, Radiological and Nuclear (CBRN) System on a Bradley Fighting Vehicle (BFV)	Yes	Yes	Yes
171-BFV-0013	Operate the Driver's Vision Enhancer-Wide (DVE-W) on the M2A4 Bradley Fighting Vehicle (BFV)			Yes
171-BFV-0016	Stow Ammunition on an Bradley Fighting Vehicle (BFV)	Yes	Yes	

Figure 3-33. Table III, Situational Training Exercise, task touch points, continued



TABLE III,
SITUATIONAL TRAINING EXERCISE (STX), CONTINUED
INDIVIDUAL TASK TOUCH POINTS

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-BFV-0100	Install a M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0101	Perform a Function Check on the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0102	Load the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0103	Fire the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0104	Correct Malfunctions of the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0105	Unload the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0106	Remove a M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0201	Perform a Function Check on the 25mm Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0205	Fire the 25mm Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0206	Correct a Malfunction of the 25mm Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0400	Load the Smoke Grenade Launchers on a Bradley Fighting Vehicle (BFV)			
171-BFV-0403	Unload the Smoke Grenade Launchers on a Bradley Fighting Vehicle (BFV)			
171-BFV-1000	Boresight the Weapon Systems on a Bradley Fighting Vehicle (BFV)	Yes	Yes	Yes

LEGEND
mm MILLIMETER

Figure 3-33. Table III, Situational Training Exercise, task touch points, continued



TABLE III,
SITUATIONAL TRAINING EXERCISE (STX), CONTINUED
INDIVIDUAL TASK TOUCH POINTS

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-BFV-1100	Zero the Weapon Systems on Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-1200	Engage Targets using the Weapon Systems on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-3000	Direct Engagements from the Commander's Position on a Bradley Fighting Vehicle (BFV)	Yes		
171-COM-4079	Send a Situation Report (SITREP)	Yes	Yes	
171-COM-4080	Send a Spot Report (SPOTREP)	Yes	Yes	Yes

Figure 3-33. Table III, Situational Training Exercise, task touch points, continued

Chapter 4
Table IV–Basic

Table IV, Basic, is designed to train basic skills at a reduced tempo to enable proper leader and Soldier execution of those basic crew skills. This table builds upon those skills trained and tested during Tables I, II, and III. It is a combination of primary armament zero and machine gun zero. For select crew platform types with a commander's weapon station or independent viewer (commander's independent thermal viewer, for example) a course of fire using full-caliber training ammunition on an authorized live-fire facility, as described in the respective crew platform's appendix.

The design of Table IV is to train and evaluate the crew's ability to engage single and multiple stationary or moving targets placed in a tactical array, during the day or night, with an operational or simulated degraded fire control system, as applicable. Crews execute these tasks from the defense using full-caliber ammunition for zero and tactical engagements.

TABLE IV OVERVIEW

4-1. Table IV provides crews the ability to align their fire control system, screen or zero their ammunition by type, and complete basic main gun and machine gun engagement skills from a defensive firing position. There are two task sets to Table IV, Basic:

- Zeroing.
- Defensive engagements.

4-2. Completion of zeroing procedures must occur successfully before Table IV, Basic. This is to ensure the fire control system aligns correctly, and the ammunition can hit the target as expected ballistically. The defensive engagements are day or night engagements depending on the unit's plan.

4-3. Figure 4-1 shows where Table IV, Basic, resides within the BFV training strategy through crew qualification. This is the first event with the crew operating the platform under live-fire conditions. This course of fire includes zeroing as part of the training event (see figure 4-1).

CREW TABLE IV	TABLE I	TABLE II	TABLE III	TABLE IV	TABLE V	TABLE VI
	CRAWL	*CRAWL*	*WALK*	***RUN***	*RUN*	*RUN*
	Live	Virtual	Live TADSS	Live-Fire	Live-Fire	Live-Fire
	GST	STX-V	STX	BASIC	PRACTICE	QUAL

Platforms that require alignment, zeroing, confirmation of point of aim (PoA)/point of impact (PoI) or other critical tasks must complete Table IV prior to conducting any other live-fire event with the weapon.

LEGEND

GST	GUNNERY SKILLS TEST OR GUNNER'S/FIRE DIRECTION CENTER EXAM	STX-V	SITUATIONAL TRAINING EXERCISE-VIRTUAL
QUAL	QUALIFICATION	TADSS	TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS
STX	SITUATIONAL TRAINING EXERCISE		

Figure 4-1. Table IV, Basic

Note. Table IV, Practice, may be executed day or night. Engagement split is determined by the unit based on time and resources available.

TABLE IV PURPOSE

4-4. Table IV, Basic, is a skills assessment and risk mitigation tool for the commander. It assists the commander in determining the safe and effective use of the platform, its weapons, identification of threats and common ammunition by the crewmembers in the unit. Further, it identifies shortfalls and training gaps in those gunnery specific skills, which build crew proficiency and unit readiness.

TABLE IV METHOD

4-5. Table IV is a hands-on, performance-based evaluation of basic gunnery skills to the Army-standard of knowledge or skill in a live-fire environment. It utilizes experienced evaluators to educate, train, test, and retrain Soldiers to meet or exceed those standards.

TABLE IV END STATE

4-6. The VC/gunner assigned as the crew have successfully demonstrated the skills and knowledge required to continue training on the platform through platform qualification. Commanders are confident in their Soldier's abilities in the position assigned.

4-7. The tasks evaluated in Table IV provide the commander a means to verify the crew's basic weapons platform proficiency prior to further live-fire training. It is a guide for the commander to identify individual and crew weapons platform strengths and weaknesses on specific engagement techniques and employment of the vehicle's fire control system capabilities and enablers. The commander and Master Gunner use the results from Table IV, Basic to structure the unit's crew training program.

TABLE IV TASK, CONDITIONS, AND STANDARD

4-8. The two portions of Table IV, Basic, have their own unique set of task, conditions, and standards. Task presentation is sequential for clarity.

Zeroing Optics and Fire Control System

4-9. This portion of Table IV is to ensure the vehicle and crew can accurately align the platform's optics, and that the platform's fire control system is calculating an accurate ballistic solution for primary armament and coaxial machine gun engagements. Further, this ensures each sub-system of the fire control system is functioning properly after all non-firing preparation to fire checks are complete. (The action, conditions, and standards for Table IV, Basic, zeroing is provided in figure 4-2 on page 106.)

Army Standard Zero Distance, 25mm

The Army standard for zero of the 25-mm, M242 chain gun has been changed to 600 meters, utilizing the standard target number 7 panel. This provides the crew a target panel with the correct dimensions based on round dispersion and reference lines to allow precise reticle alignment between the target acquisition system (TAS)/direct view optic (DVO) with the gun reticle selected, and AUX sights.



TABLE IV
BASIC, ZEROING

TASK	Conduct the primary armament zero and machine gun zero.
CONDITIONS	Given the following: • A fully operational platform with weapon or weapon system, and with the following procedures successfully completed: • Vehicle that has been completed preventative maintenance checks and services. • All special gunnery checks complete. • Bore sighting with all weapons/systems completed to standard. • Authorized full-caliber training ammunition. • Appropriate coax zero panel at 800 meters +/- 10 meters. • Appropriate ST-7 panel 600 meters +/- 10 meters. • All prerequisites to live fire for the crew platform met.
STANDARD	The crew must: • Successfully complete 25mm and coaxial machine gun zeroing procedures IAW the technical manual.

LEGEND

IAW	**IN ACCORDANCE WITH**	**ST**	**STANDARD TARGET**
mm	**MILLIMETER**		

Figure 4-2. Table IV, Basic, Zeroing–task, conditions, and standards

Note. Due to the requirement of using the DVO if equipped and AUX sight alignment, zeroing must be conducted during daylight conditions.

Defensive Engagement Requirement

4-10. Completion of zeroing procedure must occur successfully before conducting Table IV, Basic. Vehicles that fail to zero may not progress to any live-fire table including the defensive engagements. (The task, conditions, and standard for Table IV, Basic, defensive engagements, are in figure 4-3.)



TABLE IV BASIC, DEFENSIVE ENGAGEMENTS	
TASK	Engage and destroy stationary and moving targets placed in a tactical array, during the day or night using day and thermal channels from a defensive firing position on an Bradley fighting vehicle using full-caliber ammunition.
CONDITIONS	Given the following: • An operational platform with weapon or weapon systems. • Allotted ammunition. • Certified vehicle crew evaluators. • 3/4 scale targets. • All prerequisites to live fire for the crew platform achieved.
STANDARD	The crew must: • Score a minimum of 700 of 1,000 points overall. • Score 70 points or more on all targets presented on 7 out of the 10 engagements.

Figure 4-3. Table IV, Basic, task, conditions, and standards

Note. If any individual target score on an engagement is less than 70 points, the engagement is unqualified, regardless of overall engagement score.

4-11. Crews should perform Table IV, Basic, defensive engagements, on the crew's vehicle. It is designed to train and evaluate the crew's ability to engage single and multiple stationary and moving targets placed in a tactical array, during the day or night, with a fully operational or simulated degraded fire control system, as depicted in the task, conditions, and standard for each engagement. Crews execute these tasks from the defense once zeroing is complete.

4-12. Crews may execute this table using TADSS only when ammunition is unavailable or to conduct retraining after live-fire training is complete. Units should use 3/4-scale targets at full range for all scenarios but may consider using full-scale based on the unit's level of expertise. The Master Gunner may consider using F-type silhouettes rather than E-type silhouettes within the rocket propelled grenade and troop target sets. (See TC 25-8 for more information.)

PLAN FOR TABLE IV

4-13. Table IV, Basic, is a live environment, live-fire event that uses large- and small-caliber ammunition. It will require the use of appended training aids, devices, and simulators, and the use of BESs during the defensive engagements.

4-14. Table IV is a live-fire event that consists of two task sets: zeroing and defensive engagements. Each set requires particular attention during planning to ensure the unit has the appropriate support on the range(s).

4-15. This section details the resources needed for planning purposes. It includes general information on the following topics for consideration:

- Uniform—the minimum uniform requirements for the training event.
- Facilities—available facilities that support the training event.
- Standard targets—specifically used for zeroing procedures for the main gun and machine guns, these targets are required to conduct Table IV.
- Training plan—the minimum tasks, general guidelines, and special instructions for the training event.
- Time and throughput—the estimated time required to complete the training event including throughput considerations for planning.
- Ammunition—any training munitions required to complete the training event. This includes DDI items that require coordination.
- TADSS—any available training aids that directly support or augment the training event.

4-16. Table IV is a critical live-fire event. Failing to conduct the zeroing procedures for the platform accurately will cripple any follow-on live-fire event outcomes. Units can separate the zeroing procedures for the main gun and small arms from the defensive engagements to maximize throughput.

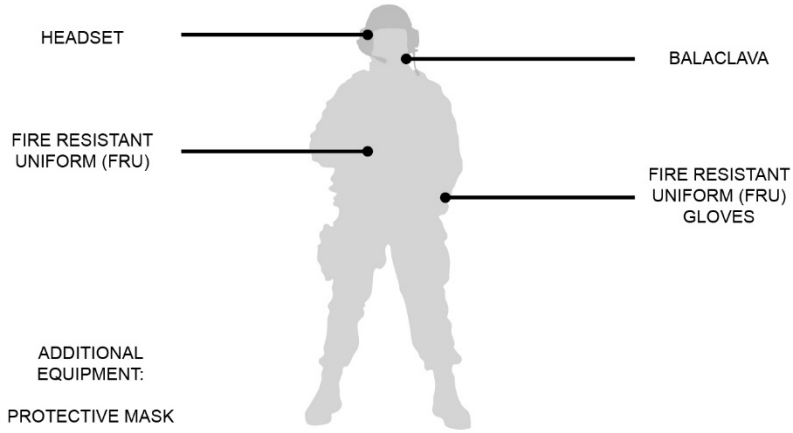
4-17. Units may require coordination with installation support activities such as range operations for specific targetry requirements for zeroing. Each installation’s policies and procedures vary. Units should reference their supporting installation’s training SOPs or policies for detailed information.

TABLE IV UNIFORM

4-18. Crews must be in the appropriate vehicle crewmember uniform or prescribed unit uniform and protective mask. Crews are not required to have any additional body armor, ballistic plates, or gear during the training event unless directed by the commander. (See figure 4-4 for the minimum uniform training requirements for this event.)



TABLE IV, BASIC UNIFORM REQUIREMENTS



LEVEL	S SKULL	T TORSO	E EYES	E EARS	L LIMBS
MINIMUM REQUIRED	3	4	1	3	3
0	NONE	NONE	NONE	NONE	NONE
1	PATROL CAP	VEST	**GOGGLES**	SINGLE EAR PROTECTION	GLOVES
2	HELMET	VEST with PLATES	BALLISTIC	DOUBLE EAR PROTECTION	LEATHER GLOVES
3	**BALACLAVA**	FRU		**HEADSET**	**FRU GLOVES**
4		**FRU and SPALL VEST**			

Figure 4-4. Table IV uniform requirements

TABLE IV FACILITIES

4-19. Table IV requires the use of a stationary gunnery range or better that allows live fire for small- and medium-caliber ammunition. No course road is necessary; however, moving armor targets are required. All tasks are from a stationary firing position. To maximize throughput, units may elect to use multiple range facilities; one for zeroing procedures, and another for the defensive engagements that require single and multiple stationary and moving targetry. (See figure 4-5 for the maneuver range facilities recommended as primary and alternate facilities.)



TABLE IV
BASIC
AUTHORIZED FACILITIES

FACILITY		TABLE IV, BASIC
Battle Area Complex	BAX	ALTERNATE
Digital Air Ground Integration Range	DAGIR	ALTERNATE
Digital/Multipurpose Range Complex	D/MPRC	ALTERNATE
Digital/Multipurpose Training Range	D/MPTR	**PRIMARY**
Scout/Reconnaissance Gunnery Complex	SRGC	ALTERNATE
Stationary Gunnery Range	STAGR	**ZERO ONLY**

Note: Units will require two training days per company to complete Table IV to standard with re-training and cross-training. Units may use two separate facilities to complete Table IV. The Stationary Gunnery Range may not have the required targetry to complete Table IV at all installations. Units must coordinate with their supporting range operations for the specific capabilities provided.

Figure 4-5. Table IV recommended maneuver range facilities

TABLE IV RANGE SUPPORT

4-20. The range support group provides VCE teams to evaluate the course of fire. This requires all gunners and above to certify or recertify as VCEs between T-6 and T-execution of the training event.

4-21. The range support personnel general requirements include the most common support required for crew platform live-fire events (see figure 4-6). In the event the unit utilizes multiple facilities to complete the zero and defensive engagements, appropriate adjustments should be made to this general structure.

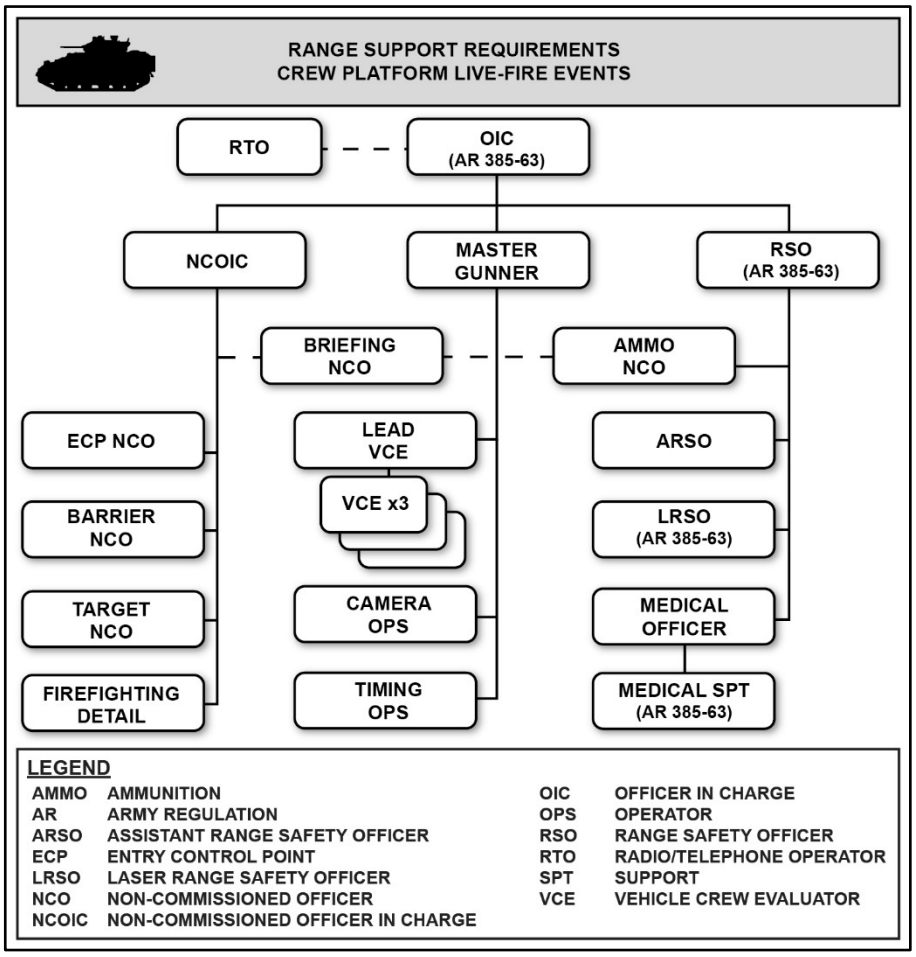


Figure 4-6. Table IV range support personnel requirements, example

TABLE IV TRAINING PLAN

4-22. Table IV is unique within the training strategy in that it completes two separate requirements for the crews on a live-fire facility or facilities. The training tasks are—

- Zeroing.
- Defensive engagements.

4-23. Some installations will offer or require the use of two separate facilities to complete Table IV. One specific to zeroing and another facility for the stationary defensive engagements. Having multiple ranges is helpful to ensure sufficient time is available for those vehicles having difficulty zeroing their weapons. (An example conduct of the range flow is in figure 4-7.) Units should consider requesting additional VCE support to maximize range time and prep-to-fire checks and boresighting procedures before first round down range.



TABLE IV
BASIC
CONDUCT OF THE RANGE FLOW

	TASK	REMARKS
1	Zeroing	Completion of zero is required prior to any live fire engagements for evaluation.
2	Defensive Engagements	The order of firing of the defensive engagements is a commander's and Master Gunners decision. Commanders may elect to fire some engagements at night

Figure 4-7. Table IV conduct of the range flow example

Zero Procedures

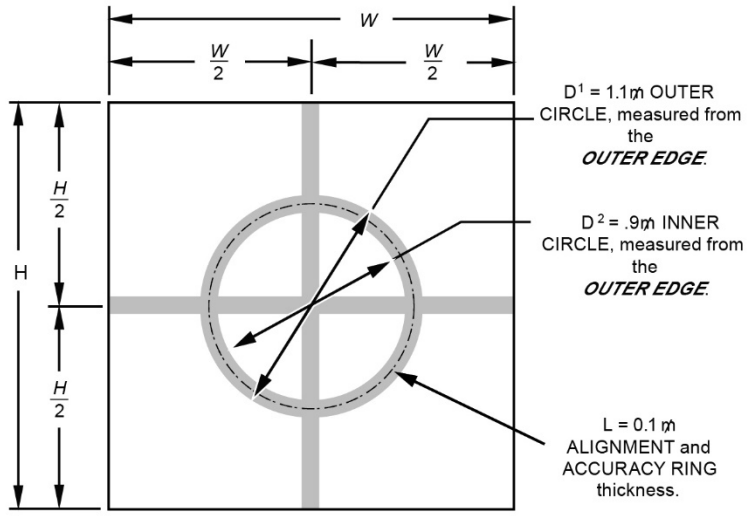
4-24. Conduct of the zero is on a live-fire facility that can support primary armament as well as small arms surface danger zones. Crews will follow the procedures outlined in this manual.

4-25. Once complete with the zeroing process for the 25-mm M242 chain gun, the crew then confirms zero with the coaxial machine gun. Crews follow the procedures outlined in this chapter (See figures 4-14 on page 125 through figure 4-27 on page 138.)

Standard Targets

4-26. The standard target number 7 dimensional information for unit reference is provided (see figure 4-8). Additional information can be found in TC 25-8.

STANDARD TARGET NUMBER 7 (ST-7), 25mm ZERO



RANGE	OUTER D^1 1.1 mils	INNER D^2 .9 mils	LINE WIDTH L 0.1 mils	MINIMUM PANEL SIZE H, W 2.0 mils
2,000m	220cm	180cm	20cm	400cm
1,800m	198cm	162cm	18cm	360cm
1,600m	176cm	144cm	16cm	320cm
1,500m	165cm	135cm	15cm	300cm
1,400m	154cm	126cm	14cm	280cm
1,200m	132cm	108cm	12cm	240cm
1,000m	110cm	90cm	10cm	200cm
800m	88cm	72cm	8cm	160cm
600m	66cm	54cm	6cm	120cm

LEGEND

cm	CENTIMETER	mm	MILLIMETER
D	DIAMETER	mils (m)	MILLIRADIAN
H	HEIGHT	W	WIDTH
m	METER		

Figure 4-8. Standard target number7 panel, 25-mm zero, example

4-27. Once complete with zeroing for the 25-mm cannon, the crew confirms the zero for the coaxial mounted machine gun. Crews follow the procedures outline in the vehicle's technical manual and in the steps listed on the commander's tactical display. (Figure 4-9 shows the target array most commonly used for coaxial zero.)

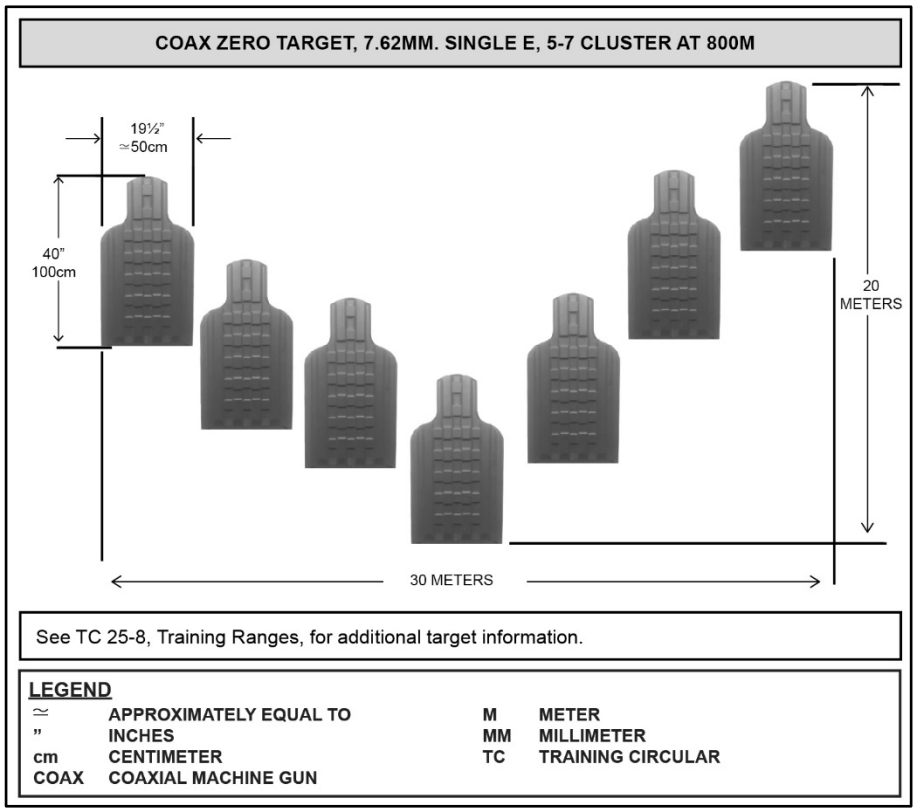


Figure 4-9. Troop set, E-type target array, example

Table IV Scenario Requirements

4-28. This table is designed to train and evaluate the crew's ability to engage stationary or moving targets placed in a tactical array, from the defense, during day or limited visibility conditions.

4-29. All engagements are evaluated using certified VCE's using DA Form 8265 and DA Form 8265-1 as the official record of training. Master Gunners must ensure the training records are included in each crew's gunnery packet (see TC 3-20.31).

4-30. The engagements listings are by capability type using the standard engagement naming structure listed in TC 3-20.31. It provides the requirements for each engagement, described in paragraphs 4-31 through 4-38.

Task Description–Table IV

4-31. The task description includes both the engagement number (the table number plus engagement task) followed by the system capability trained. The use of a letter, for example, 41(A) denotes an additional engagement for that task.

Firing Vehicle Posture–Table IV

4-32. The firing vehicle posture establishes the offense or defense condition for the engagement.

Firer–Table IV

4-33. The firer column identifies which crewmember is to engage the target listed. Targets defeated by a different crewmember listed as the firer result in an auto-zero penalty, failing to adhere to course conditions.

Weapon (or Ammunition)–Table IV

4-34. Identifies the weapon (coaxial, or primary armament ammunition type) that is used to defeat the threat. Design of each engagement is for a specific weapon or ammunition type (primary armament) for use, which relates to the crew conduct of fire, optic selection, engagement techniques, or other unique implied tasks. Crews that fail to announce the appropriate weapon or ammunition, or appropriate selection for subsequent or supplemental engagements may be penalized IAW TC 3-20.31.

Target Type–Table IV

4-35. The target type is required for the presentation, IAW TC 25-8.

Target Posture–Table IV

4-36. The target posture establishes if the target is stationary, moving, or evasive for the engagement. See TC 3-20.31 for more information on target postures.

Range (to Target)–Table IV

4-37. The required range (full scale or equivalent scaled range) from the firing vehicle to the target. For offensive engagements, this distance calculation is from the center of the movement box to the target. The range to target distance is provided in meters (for example, 600). The target may be placed at the distance indicated, plus or minus 200 meters. For example, if the range to target listed is 600 meters, the target may be placed between 400 and 800 meters. No change to the EM is authorized.

Engagement Modifier–Table IV

4-38. The EM is the time in seconds required to achieve 100 points against the listed threat. To defeat the threat successfully, the crew must achieve the kill standard against the target and have an overall engagement time of no more than the EM plus 20 seconds. See TC 3-20.31 for the evaluation, timing, and scoring procedures.

Engagements

4-39. Units are not allowed to deviate from any target type, target posture, range, and weapon system/ammunition type for Table IV, Basic, defensive-only engagements. (See figure 4-10 for the breakdown of what target type, target posture, range and weapon system/ammunition type used for each task number.)

TABLE IV, BASIC
ENGAGEMENT REQUIREMENTS

TASK	DESCRIPTION	POSTURE	FIRER	WEAPON	TARGET TYPE	TARGET POSTURE	RANGE	EM
40	VEHICLE COMMANDER	DEFENSE	VC	COAX	L1T-FRT	STA	600m	8
			VC	AP	M1T-FRT	STA	1,800m	9
41A	MACHINE GUN PURE	DEFENSE	GNR	COAX	E(7)FRT	STA	200m	7
			GNR	COAX	L1T-FRT	STA	600m	8
41B	MACHINE GUN PURE	DEFENSE	GNR	COAX	E(7)FRT	STA	400m	7
			GNR	COAX	L2T-FLK	MOV	600m	10
42A	MACHINE GUN PURE	DEFENSE	GNR	COAX	L2T-FRT	STA	200m	6
			GNR	COAX	E(7)FRT	STA	800m	10
42B	MACHINE GUN PURE	DEFENSE	GNR	COAX	E(3)FRT	STA	400m	7
			GNR	COAX	E(7)FRT	STA	800m	10
43	MAIN GUN PURE	DEFENSE	GNR	AP	M1T-FRT	STA	1,400m	9
			GNR	HE	L2T-FLK	MOV	1,200m	11
44	MAIN GUN PURE	DEFENSE	GNR	AP	M1T-FLK	MOV	1,200m	10
			GNR	HE	L2T-FRT	STA	1,600m	10
47	DEGRADED AUX	DEFENSE	GNR	COAX	E(7)FRT	STA	600m	9
			GNR	HE	L2T-FRT	STA	1400m	10
48	DEGRADED MANUAL	DEFENSE	GNR	COAX	E(7)FRT	STA	400m	7
			GNR	COAX	L1T-FRT	STA	800m	9
49	SIMULTANEOUS /MULTIPLE TARGET	DEFENSE	GNR	COAX	E(7)FRT	STA	600m	9
			GNR	COAX	L2T-FLK	MOV	800m	11
			GNR	COAX	E(7)FRT	STA	400m	7
			GNR	COAX	L2T-FRT	STA	800m	9

LEGEND

AP	ARMOR PIERCING	GNR	GUNNER
AUX	AUXILIARY SIGHT	HE	HIGH EXPLOSIVE
COAX	COAXIAL MACHINE GUN	m	METER
EM	ENGAGEMENT MODIFIER	MOV	MOVING
FLK	FLANK	STA	STATIONARY
FRT	FRONTAL	VC	VEHICLE COMMANDER

Figure 4-10. Table IV, Basic, defensive engagements scenario requirements

TIME AND THROUGHPUT–TABLE IV

4-40. The throughput expectation of this table is 14 crews per day. Depending on maintenance or other unforeseen issues, recommend incorporating an additional half training day to the schedule. (See figure 4-11 for the expected throughput schedule based on the number of vehicles for firing and the unit's day/night engagement breakdown for the engagements.)

CREW PLATFORM WEAPON SYSTEM THROUGHPUT REQUIREMENTS

		NUMBER OF ENGAGEMENTS					
	DAY	8	7	6	5	4	
	NIGHT	2	3	4	5	6	
NUMBER OF CREWS	10	15.25	16.00	16.50	17.25	18.00	HOURS TO COMPLETE
	11	16.25	17.00	17.75	18.50	19.25	
	12	17.50	18.25	19.00	20.00	20.75	
	13	18.50	19.50	20.25	21.25	22.00	
	14	19.75	20.75	21.50	22.50	23.50	
	15	21.00	22.00	23.00	24.00	25.00	
	16	22.00	23.00	24.25	25.25	26.25	
	17	23.25	24.25	25.50	26.50	27.75	
	18	24.25	25.50	26.75	28.00	29.00	
	19	25.50	26.75	28.00	29.25	30.50	
	20	26.50	28.00	29.25	30.50	32.00	

Note: Overall time requirements are based on a single firing lane and include four hours of range maintenance down time (two blocks of two hours each). This is standard at most facilities. These calculations are for planning purposes only. Units that are more proficient in tower operations may have an increased throughput.

Any time shown exceeding 24 hours will not be possible in a single range day without unit action to conduct the range with a sense of urgency during preparation to fire tasks and execution of the table including tactical movement between engagements.

Figure 4-11. Table IV throughput expectations

Note. Time requirements overall are based on a single firing point and include 4 hours of range maintenance down time (two blocks of 2 hours each). This is standard at most facilities. These calculations are for planning purposes only. Units that are more proficient in tower operations and have additional VCE support may have an increased throughput.

AMMUNITION–TABLE IV

4-41. Units are required to include the BESs as part of the Army-standard target presentations during training. (See figure 4-12 for the ammunition requirements for zeroing and conduct of Table IV, Basic.)



TRAINING AMMUNITION REQUIREMENTS
TABLE IV, BASIC

DODIC	MUNITION TYPE	QUANTITY
A940	CTG, 25mm M910 TPDS-T	32
A976	CTG, 25mm M793 TP-T	24
AB86	CTG, 7.62mm 4 ball M80/1 TRCR M62 LNKD	850
LA53	SIM, target hit XM35 (BES)–Steel-on-Steel	13
LA54	SIM, EXP DET XM34 (BES)–Hostile Fire Simulator	13

ADDITIONAL CERTIFICATIONS:



BES SYSTEMS



PYROTECHNICS

Certify junior leaders on the components, functioning, hazards, use, and troubleshooting of available Battle Effects Simulator (BES) systems.

Provides a working understanding of the components, functioning, emplacement, use, troubleshooting, and hazards when:

- Placing BES systems into operation.
- Synchronizing functioning.
- Installing BES cartridges
- Troubleshooting BES systems.
- Removing unused BES cartridges.
- Conducting safe operations of BES systems.

Note: Includes zero ammunition for the coax and 25mm. Zeroing requirements for the machine gun is 50 rounds, 4:1 link per type.

LEGEND

CTG	CARTRIDGE	SIM	SIMULATOR
DODIC	DEPARTMENT OF DEFENSE IDENTIFICATION CODE	TPDS-T	TARGET PRACTICE DISCARDING SABOT-TRACER
EXP DET	EXPLOSIVE DETONATION	TP-T	TARGET PRACTICE-TRACER
LNKD	LINKED	TRCR	TRACER
mm	MILLIMETER		

Figure 4-12. Table IV ammunition requirements

TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS–TABLE IV

4-42. This course requires the use of the CMU (some installations may refer to this device as an IPU) for all crews. The CMU is available on the digital range facility scheduled (if equipped). Coordination with the scheduled range facility manager will determine unit responsibilities for installation, troubleshooting, maintenance, and use of the devices ahead of the training day(s). If the range does not have a CMU available, unit may draw the CMUR from the TADSS warehouse. The CMUR differs from the CMU in that it stores all run data on a solid-state drive on the vehicle, for use with the provided AAR suite in the CMUR kit.

4-43. The brigade commander must approve authorization for deviation from this requirement if TADSS are unavailable in writing. Units should focus on training and reinforcing the skills in the direct fire kill chain on this table specifically with their thermal optics, day and night to best prepare them for the follow-on training events. (See figure 4-13 for the TADSS required or recommended for Table IV.)



TABLE IV
BASIC
TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS (TADSS) REQUIREMENTS

DEVICE	NOMENCLATURE	REMARKS
CMU	Crew Module Unit/Integrated Player Unit	REQUIRED
CMUR	Crew Module Unit Recorder (Thru-Sight Video)	
SP-1	Boresight Panel	

LEGEND
SP-1 SPECIAL PANEL NUMBER ONE

Figure 4-13. Table IV training aids, devices, simulators, and simulations requirements

PREPARE FOR TABLE IV

4-44. Units must coordinate for the appropriate training facility, equipment, targetry, training munitions, TADSS (if desired), and pyrotechnics to support Table IV. During the preparation phase, the unit should ensure the proofing team, VCE's, and other personnel receive training to standard to support their role as evaluators and trainers. This includes range officers in charge, range safety officers, and ammunition handlers.

TRAIN THE TRAINERS–TABLE IV

4-45. Typically, units have certified each VC and most gunners as VCEs prior to entering the live-fire density. Units must have certified evaluators to ensure the training objectives for the training table are set and to provide effective AARs to each crew. Table IV also requires experienced VCs to serve as the proofing team for the zero.

Vehicle Crew Evaluators–Table IV

4-46. A trained and certified VCE team must be available to support prior to live fire to evaluate a gunnery density correctly. Once certification is completed, the unit must ensure sufficient VCEs are available to support the live-fire event. Evaluations of crew gunnery always come from outside the firing platoon element, and for qualification purposes, VCEs external to the battalion are required.

4-47. Depending on the size of the weapons training density (make-up gunnery, platoon, company, or battalion) and the type of range facility used, the number of evaluators may vary. Having the correct number and type of evaluators per firing range maximizes the unit's throughput of firing vehicles on the range, reduce range down time, and provide for the highest quality evaluations.

Proofing Team

4-48. The unit Master Gunner provides training to the proofing team's members on the following topics at a minimum:

- Preparation to fire checks.
- Special gunnery checks.
- M1 gunner's quadrant.
- Zero procedures.
- Determination of mean point of impact.
- DA Form 2408-4 (*Weapon Record Data*).
- Fire control system overview.

4-49. These overview classes are required to ensure the Master Gunner has sufficient support during the zero, particularly with conduct of the range and procedures.

4-50. Units provide the following to prepare the trainers:

- Commander's training objectives.
- Conduct of the range briefing for the training event.
- Scenario and lane concept with crew tasks for training.
- Risk assessment.
- TADSS, pyrotechnics, blanks, and BESs used during the training event (see appendix A for the training munitions requirements for the complete training strategy).

Reconnaissance of the Site–Table IV

4-51. Commanders use an authorized training facility for Table IV, Basic. Units may elect to use two separate training facilities to support all the Table IV tasks efficiently. Commanders follow the installation's policies and procedures for formally scheduling the training location as far in advance as practical. See TC 3-20.31 for more in-depth information concerning range operations at the unit level.

4-52. Once scheduled, the commander, Master Gunner, platoon leaders, and platoon sergeants conduct a reconnaissance of the training areas to—

- Verify sufficient space is available to support the entire unit through multiple training lanes.
- Ensure multiple iterations or rotations through the scenario are achievable with appropriate retraining opportunities.
- Ensure sufficient administrative areas are available to support group discussions, briefings, and AARs.
- Provide sand table or terrain board.
- Identify the ASP.
- Determine the conduct of the range or the flow of training to maximize the live-fire range time.
- Identify the range operating system and verify the training scenarios have been properly loaded.
- Schedule proofing of the range, based on the higher headquarters OPORD.

ISSUE THE ORDER–TABLE IV

4-53. Commanders can issue an OPORD, WARNORD, or use the training schedule as necessary. The WARNORD should include the appropriate tasks, required leaders, and equipment needed, as well as the unit's training timeline including walk-through, rehearsals, and AARs. WARNORDs for external organizations must include sufficient reaction time for the appropriate personnel and equipment needed.

REHEARSE–TABLE IV

4-54. The unit uses all training resources, materials, and equipment available to conduct rehearsals of training events. During the rehearsal, commanders ensure their unit has sufficient time to train to the specified standard including AARs and retraining time. Commanders ensure their unit verifies optional scenarios that increase complexity when warranted.

4-55. Units should rehearse the training event from start to finish, and confirm the following:

- The VCEs and proofing team understand the training scenarios and tasks.
- Sufficient space is available to provide appropriate distances for engagements ranges and target dispersion.
- Analog and digital systems are operational within the organization and to the higher headquarters regardless of their location.
- Additional crew training packages (DA Form 8265, DA Form 8265-1, and appropriate zero documentation) are complete and provide for multiple iterations.
- Sufficient administrative areas are available.

- Review of AAR capabilities and use of thru-sight video systems is encouraged to increase the fidelity and quality of the AARs.
- Location of retraining is established for crews as necessary.
- Accessibility to crew simulator systems, plumb and synchronization ramps, tracking and manipulation panels, and additional boresighting locations are available.

4-56. Once the unit completes the walk-through and training rehearsal, the commander makes any necessary adjustments to the plan and issues FRAGORDs as necessary.

EXECUTE TABLE IV

4-57. Once the unit arrives at the training location, they should—

- Conduct a safety briefing for the training event.
- Provide a conduct of the range briefing to establish the sequence of events for the training day.
- Conduct sensitive item checks prior to executing training.
- Assign OC/Ts as appropriate.
- Issue the OPORD for the training mission.
- Execute the training scenario.
- Install any TADSS as required.

4-58. The training unit conducts informal AARs of each crew completing a phase of training within the training mission. During training, the assigned OC/T, executive officer, 1SG, and Master Gunner review the subordinate unit's performance. They follow the unit SOP, prescribed TTP, and the appropriate T&EOs, and review completed crew score sheets and roll-up documentation for clarity and completeness.

ZEROING–EXECUTION OF TABLE IV

Meteorological Parameters

Prior to any boresighting or zeroing procedures crews should ensure their meteorological parameters have been updated based on current weather conditions. Reference applicable vehicle variant technical manual for specific information regarding these procedures.

4-59. Once crews have completed their prep-to-fire checks, boresighting, and other alignment procedures, they conduct the zero procedures. The Master Gunner is responsible for controlling the firing order, vehicle movement, and procedures for zeroing from the vehicle technical manual and this chapter.

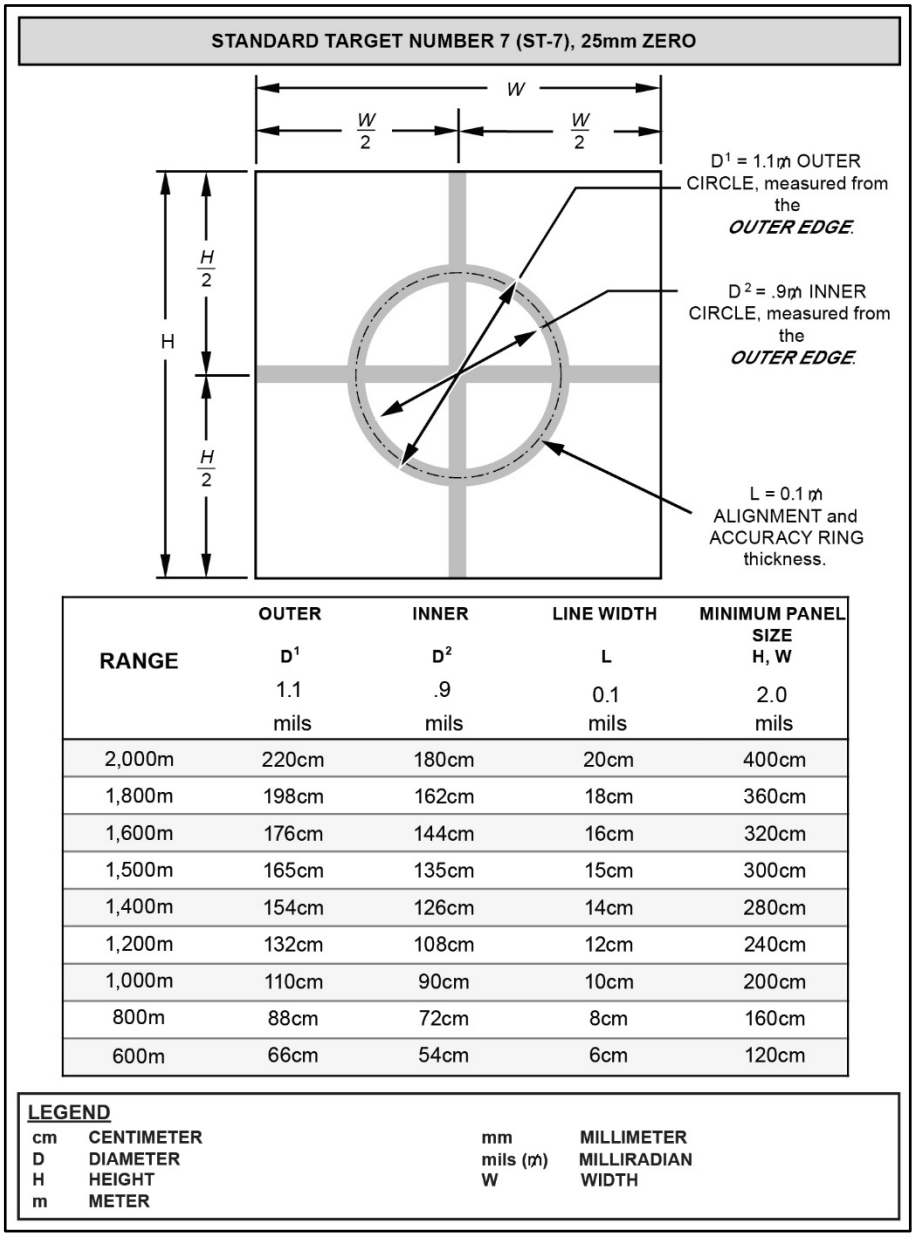
4-60. The proofing team will check any crew that fails the zero process. The unit Master Gunner and maintenance chief will determine the most probable cause for the zero failure and take appropriate measures to correct the deficiencies, whether mechanical, ammunition specific, or crew induced.

4-61. Once the crew is complete with zero for all primary armament ammunition types, the crew completes coaxial machine gun zero. Typically, the VC/gunner is responsible

for the conduct of the machine gun zeroing process after receiving clearance to fire from the tower.

4-62. As the crew completes the zeroing process and is prepared to conduct the engagements phase, based on the conduct of the range, the crew will move to the designated holding area (firing order) and await instructions to proceed.

4-63. Zeroing the 25-mm is conducted using M910, target-practice, discarding sabot with tracer ammunition, more commonly known as TPDS-T ammunition, in single shot mode, using a standard target number 7 panel at 600 meters (see figure 4-14 for an example of standard target number 7, 25-mm zero). This provides the crew with a point of reference close enough to clearly identify the point of round impacts and provides accurate references to precisely align the TAS gun reticle, through the DVO if equipped, and AUX sight reticles.



RANGE	OUTER D^1 1.1 mils	INNER D^2 .9 mils	LINE WIDTH L 0.1 mils	MINIMUM PANEL SIZE H, W 2.0 mils
2,000m	220cm	180cm	20cm	400cm
1,800m	198cm	162cm	18cm	360cm
1,600m	176cm	144cm	16cm	320cm
1,500m	165cm	135cm	15cm	300cm
1,400m	154cm	126cm	14cm	280cm
1,200m	132cm	108cm	12cm	240cm
1,000m	110cm	90cm	10cm	200cm
800m	88cm	72cm	8cm	160cm
600m	66cm	54cm	6cm	120cm

LEGEND

cm	CENTIMETER	mm	MILLIMETER
D	DIAMETER	mils (mil)	MILLIRADIAN
H	HEIGHT	W	WIDTH
m	METER		

Figure 4-14. Standard target number 7, 25-mm zero, example

4-64. Proper sight alignment and aimpoint for the BFV DVO with the gun reticle selected is demonstrated (see figure 4-15).

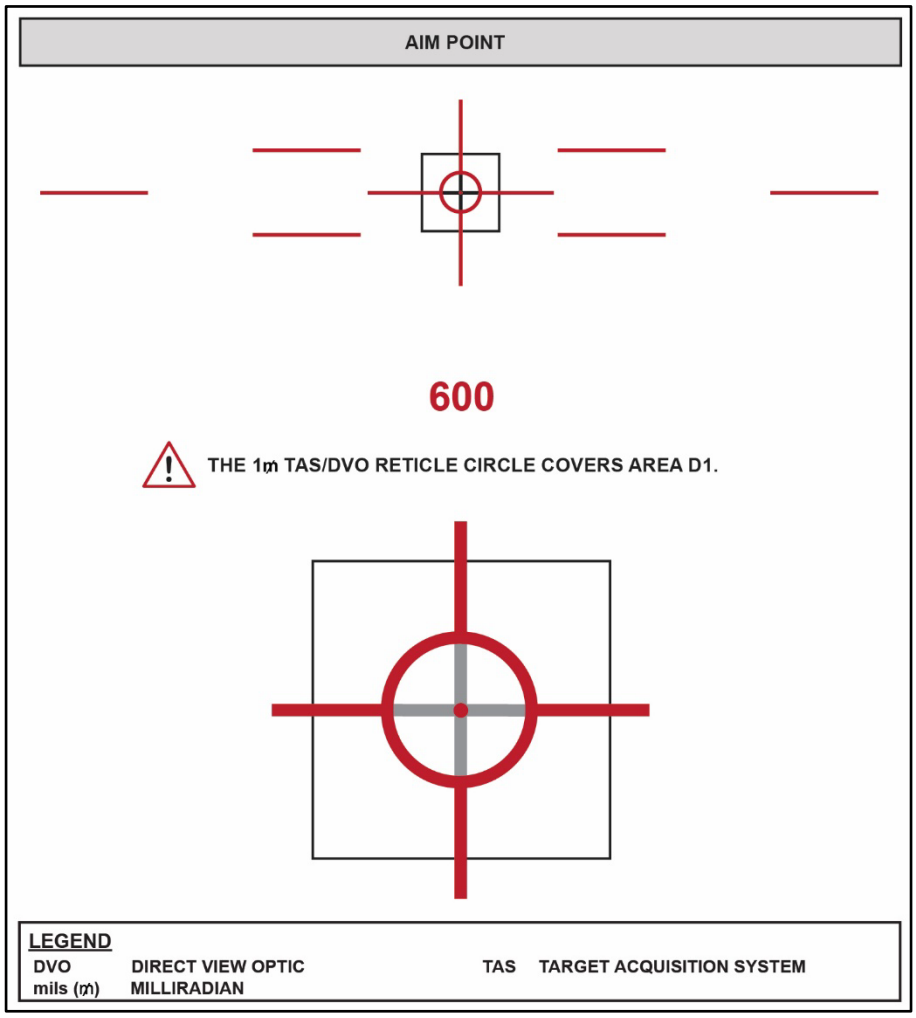


Figure 4-15. Proper aimpoint for 25-mm zero with gun reticle, example

4-65. The VC enters into the ZERO TAS & AUX SIGHT TO 25MM GUN menu on the commander's tactical display. (Figure 4-16 provides an example of the commander's tactical display menu screen.)

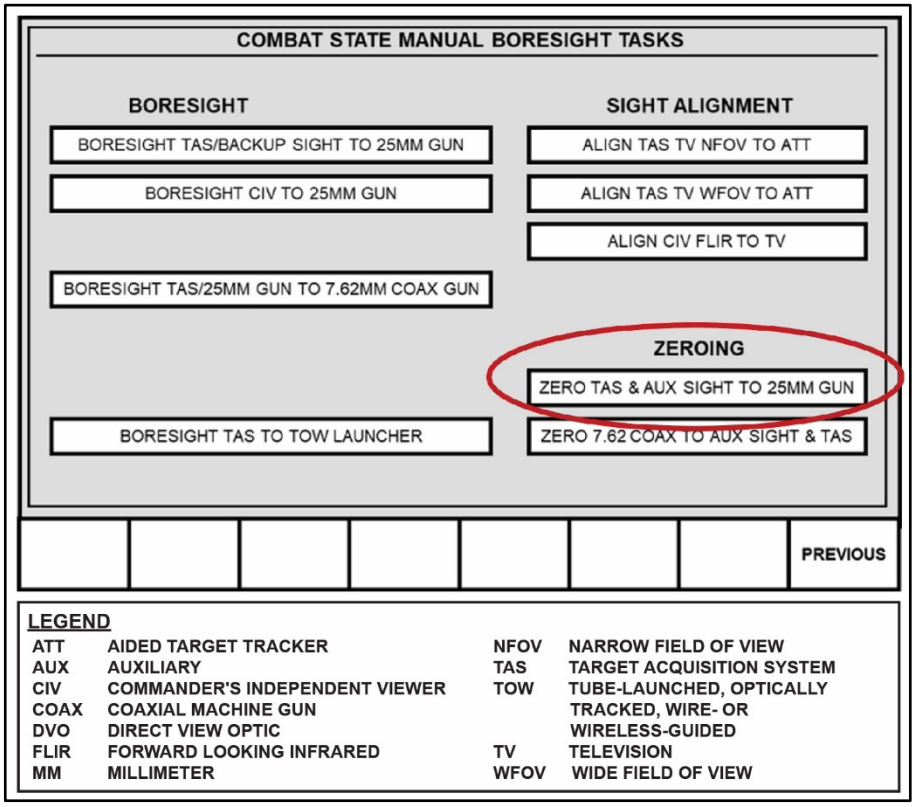


Figure 4-16. Zero target acquisition system and auxiliary sight to 25-mm gun, example

4-66. Once the commander has entered the zero procedures in the commander's tactical display, and the following conditions are met, the crew performs the following steps to complete the zero process (see figure 4-17 on page 128 to figure 4-27 on page 138):

- Null the system.
- Align TAS if required by the improved Bradley acquisition system message.
- Open sight shield doors.
- Place turret drive system in manual mode (gun elevation and traverse in manual, TOW elevation in POWER).
- Perform the following functional checks on the 25-mm gun system:
  - Ensuring manual sear retractor is disengaged.
  - Ensuring the straight drive shaft to the feeder is locked in place.
  - Ensuring the feed and eject chutes are connected.
  - Dry cycling the 25-mm gun twice in HE (high explosive) and twice in AP (armor piercing [in power mode]).
- Identify zero target panel through the TAS/DVO and correct range to target is indexed with the laser range finder or manually indexed using the gunners sight control panel (range to target should be 600 meters plus or minus 10 meters).

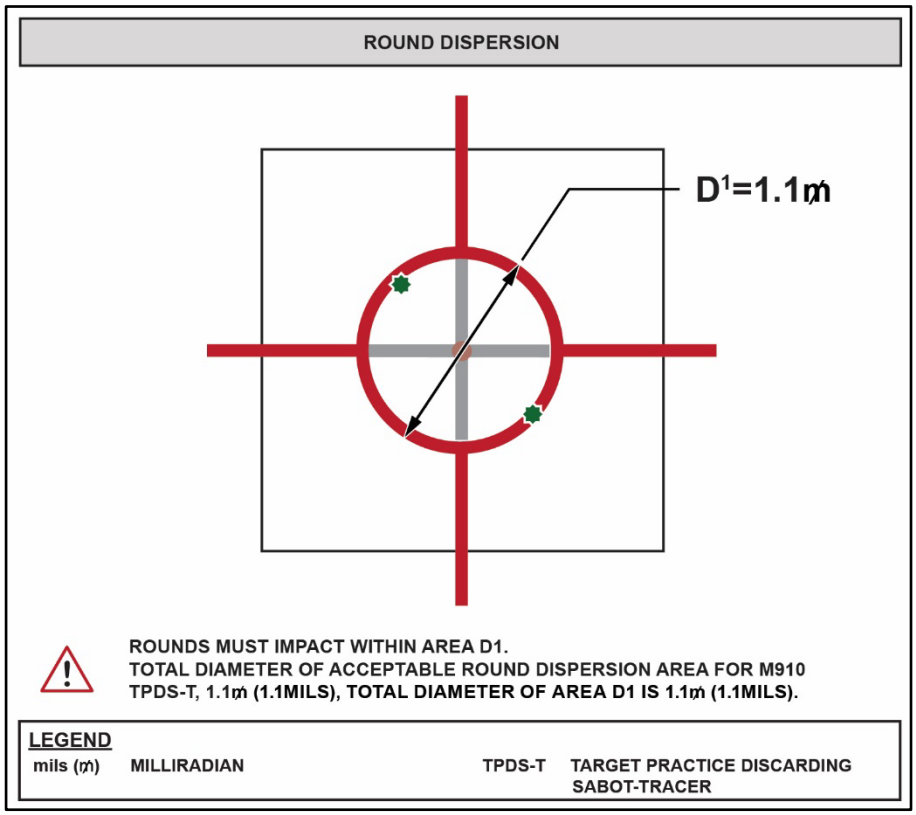
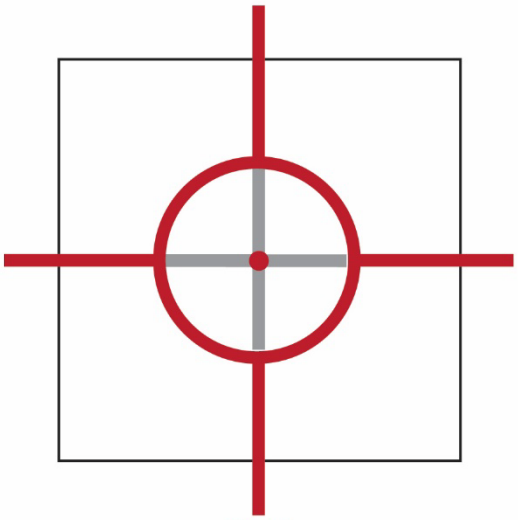


Figure 4-17. Acceptable round dispersion

CENTER TAS/DVO ON TARGET



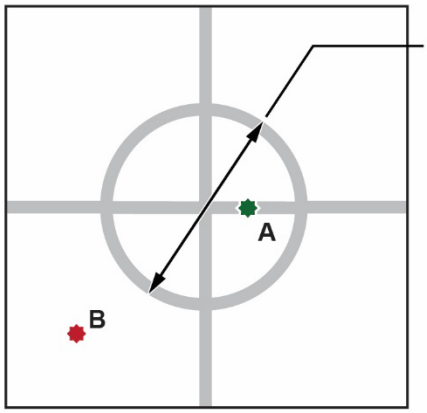
STEP	ACTION
1	Using the direct view optic, in high magnification, center the TAS reticle on the target using the traverse and elevation handwheels.
2	Range target using the LRF, or manually index 600m (or appropriate range to target if not using panel at 600m).
3	Cycle “ghost round”.

LEGEND

DVO	DIRECT VIEW OPTIC	m	METER
LRF	LASER RANGE FINDER	TAS	TARGET ACQUISITION SYSTEM

Figure 4-18. Center target acquisition system/direct view optic on target

SINGLE ROUND



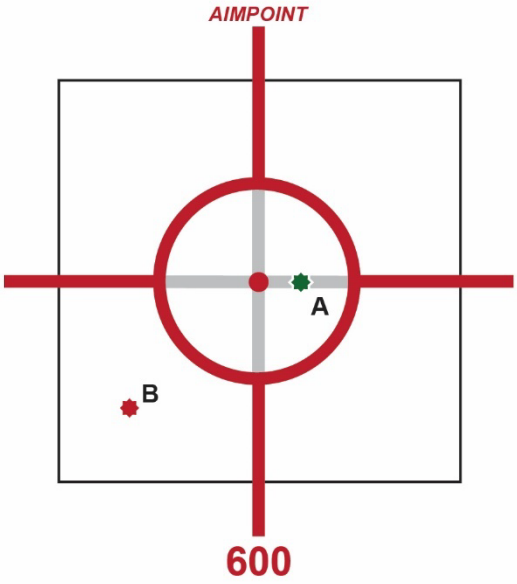
600

STEP	ACTION
4	Fire one round, vehicle commander observes impact of round. If round is within area D1 (impact A), skip to step 10. If round is outside of area D1, (impact B) continue with step 5.

LEGEND
mils (m) MILLIRADIAN

Figure 4-19. Single round

SINGLE ROUND, CONTINUED



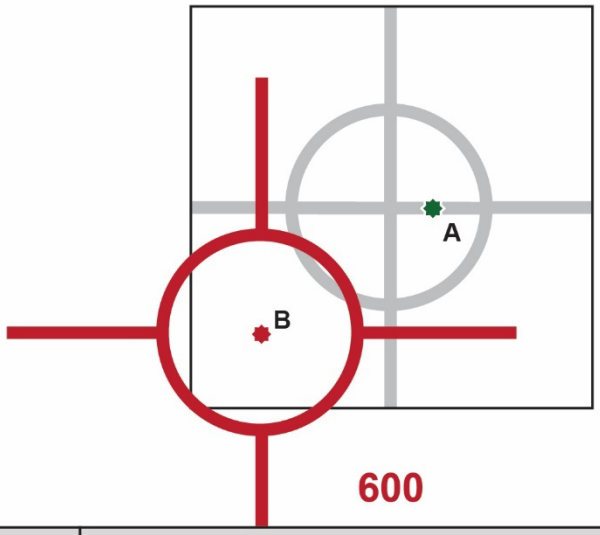
STEP	ACTION
5	Ensure TAS reticle is still aligned with target, and press “AIMPOINT” on CTD.

LEGEND
CTD COMMANDER’S TACTICAL DISPLAY
TAS TARGET ACQUISITION SYSTEM

Figure 4-20. Single round (continued)

SINGLE ROUND, CONTINUED

CALCULATE-SAVE



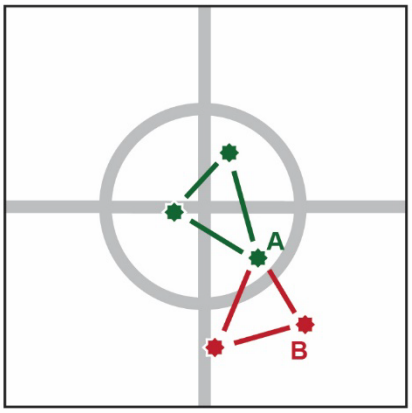
STEP	ACTION
6	Using the ***GUNNERS OR COMMANDERS HAND STATION***, center the TAS/DVO reticle on the point of impact.
7	Press "CALCULATE" on CTD, reticle should jump to point of aim, and then back to point of impact. Press "SAVE" on CTD.
8	Re-center TAS/DVO reticle on target using the TRAVERSE AND ELEVATION HANDWHEELS.
9	Fire one round at target, if round does not impact within area D1, notify unit MG and re-boresight IAW TM. If round impacts within area D1, continue to step 10.

LEGEND

CTD	COMMANDER'S TACTICAL DISPLAY	MG	MASTER GUNNER
DVO	DIRECT VIEW OPTIC	TAS	TARGET ACQUISITION SYSTEM
IAW	IN ACCORDANCE WITH	TM	TRAINING MANUAL

Figure 4-21. Single round (continued)

MEAN POINT OF IMPACT (MPI)



600

STEP	ACTION
10	Fire two rounds to create a three-shot group with the previous round fired. (Step 4 or step 9) Commander observes round impacts.
11	If the mean point of impact is within area D1 (**Group A**), continue to zero Auxiliary sight to 25mm, if the mean point of impact is outside area D1, continue to step 12, (**Group B**).
12	Verify the TAS/DVO reticle is still centered on the target, press “AIMPOINT” on the CTD.

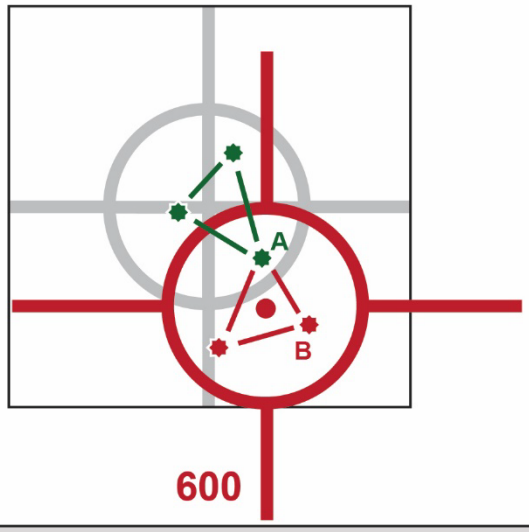
LEGEND

CTD	COMMANDER’S TACTICAL DISPLAY	mm	MILLIMETER
DVO	DIRECT VIEW OPTIC	TAS	TARGET ACQUISITION SYSTEM

Figure 4-22. Mean point of impact

MEAN POINT OF IMPACT (MPI), CONTINUED

CALCULATE-SAVE



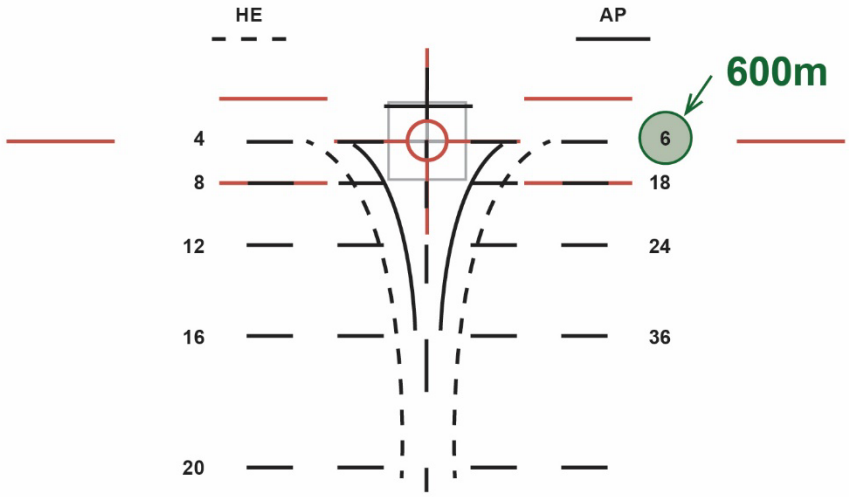
STEP	ACTION
13	Using the GUNNERS OR COMMANDERS STATION. Align the TAS/DVO reticle with the commanders estimated MEAN POINT OF IMPACT.
14	Press “CALCULATE” on the CTD, once the reticle has returned to the mean point of impact, press “SAVE” on the CTD.
15	Using the TRAVERSE AND ELEVATION HANDWHEELS, align the TAS/DVO reticle on the center of the target.
16	Fire three rounds while the commander observes round impacts. If rounds impact within Area D1, continue to zero auxiliary sight to 25mm. If any of the rounds are outside area D1, repeat steps 12-15, then move on to zero auxiliary sight to 25mm, no further rounds are authorized for zeroing TAS to 25mm.

LEGEND

CTD	COMMANDER’S TACTICAL DISPLAY	mm	MILLIMETER
DVO	DIRECT VIEW OPTIC	TAS	TARGET ACQUISITION SYSTEM

Figure 4-23. Mean point of impact (continued)

ZERO AUX SIGHT TO 25mm



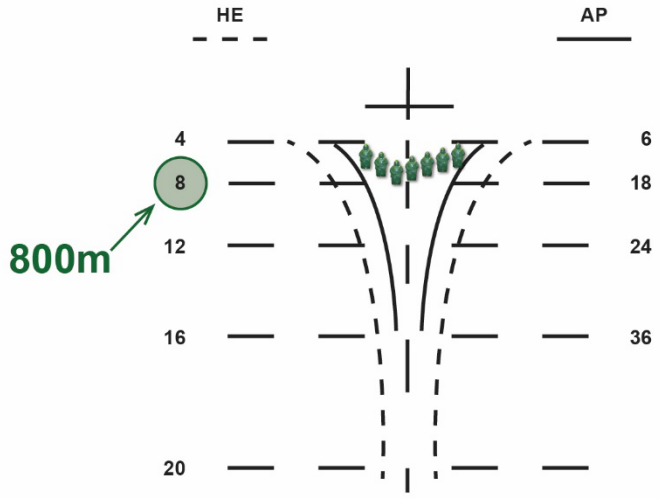
STEP	ACTION
1	Ensure TAS/DVO reticle is still aligned with zero target.
2	Check that backup sights reticle center vertical line aligns with the target. If adjustment is needed, using a screwdriver, loosen horizontal adjustment lock screw and turn adjustment screw.
3	If the 600m range line on the AUX reticle is not aligned with the horizontal center line of the target, adjust as needed. Using a wrench and socket, loosen the locknut on elevation lever and adjust thumbscrews until the AUX reticle is aligned as shown above.
4	Verify that TAS and AUX sight reticle are both aligned with the target, fire one confirmation round at the zero target. If round does not strike within area X, notify Master Gunner.

LEGEND

AP	ARMOR PIERCING	m	METER
AUX	AUXILIARY SIGHT	mm	MILLIMETER
DVO	DIRECT VIEW OPTIC	TAS	TARGET ACQUISITION SYSTEM
HE	HIGH EXPLOSIVE		

Figure 4-24. Zero auxiliary sight to 25 millimeters

ZERO COAX TO AUX SIGHT



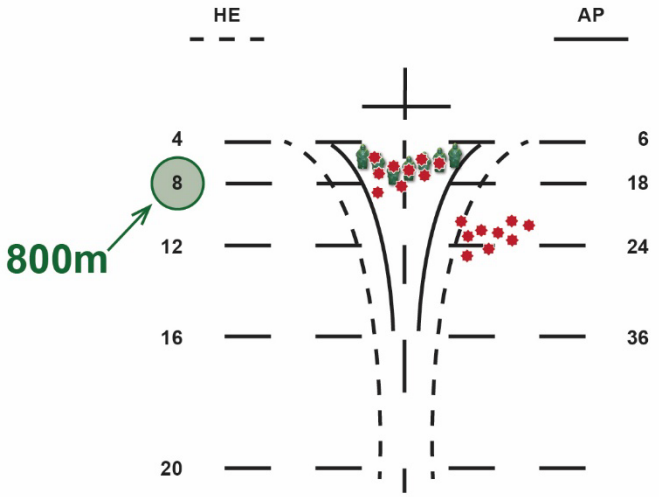
STEP	ACTION
1	Manually index the range to target using the gunners sight control panel. Ensure the correct range is displayed in the DVO/TAS.
2	Using the traverse and elevation handwheels, center the AUX reticle on the target. Use the HE range line for the range displayed in the DVO, as shown above.

LEGEND

AP	ARMOR PIERCING	HE	HIGH EXPLOSIVE
AUX	AUXILIARY SIGHT	m	METER
COAX	COAXIAL MACHINE GUN	TAS	TARGET ACQUISITION SYSTEM
DVO	DIRECT VIEW OPTIC		

Figure 4-25. Zero coaxial machine gun to auxiliary sight

ZERO COAX TO AUX SIGHT



MAKE ALL ADJUSTMENTS USING THE COAX AZ AND EL KNOBS ONLY.
***DO NOT* ADJUST THE AUX SIGHT.**

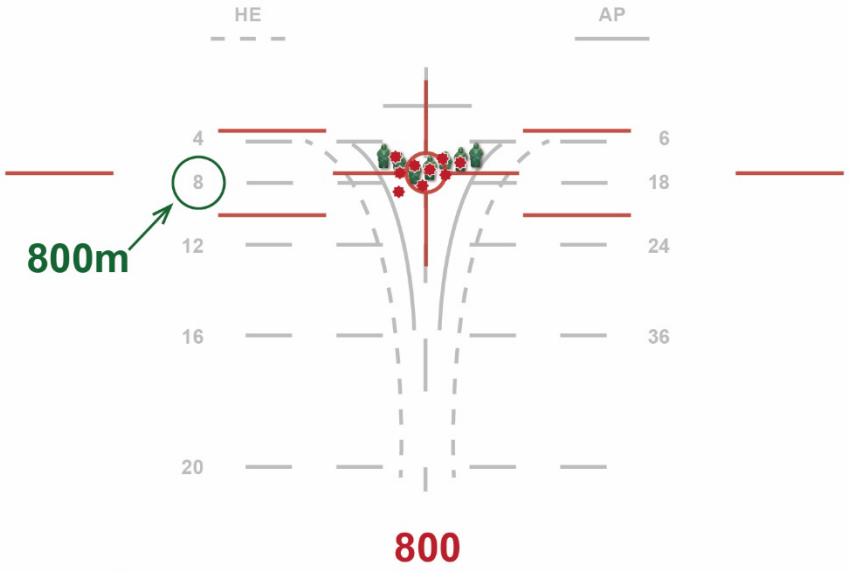
STEP	ACTION
3	While the commander observes the round impact, fire one burst of 10-15 rounds with the COAX machine gun.
4	Open the coax access doors and manually move the COAX AZ and EL knobs to adjust the strike of the rounds to center mass of the coax target.
5	Repeat steps 3-4, until the COAX has been zeroed to the AUX sight, if it is not completed in three bursts, notify the Master Gunner.

LEGEND

AP	ARMOR PIERCING	EL	ELEVATION
AUX	AUXILIARY SIGHT	HE	HIGH EXPLOSIVE
AZ	AZIMUTH	m	METER
COAX	COAXIAL MACHINE GUN		

Figure 4-26. Zero coaxial machine gun to auxiliary sight (continued)

ZERO TAS TO COAX



STEP	ACTION
1	Ensure that the AUX reticle still aligns with the zero target, re-aim as needed using the traverse and elevation handwheels.
2	Press AIMPOINT on the CTD.
3	Using the gunners or commanders hand station, center the TAS/DVO reticle on the point of round impact.
4	Press CALCULATE on the CTD, once the TAS/DVO reticle has jumped back to new point of aim, press SAVE to keep the values.
5	Ensure both the TAS and AUX reticles are aligned with the target, and fire one confirmation burst with the COAX machine gun while the commander verifies round impact.

LEGEND

AP	ARMOR PIERCING	DVO	DIRECT VIEW OPTIC
AUX	AUXILIARY SIGHT	HE	HIGH EXPLOSIVE
COAX	COAXIAL MACHINE GUN	m	METER
CTD	COMMANDER'S TACTICAL DISPLAY	TAS	TARGET ACQUISITION SYSTEM

Figure 4-27. Zero coaxial machine gun to auxiliary sight (continued)

4-67. Once complete with the zero process, the commander exits out of the zero menu in the commander's tactical display, puts the turret drive system back into power mode, and prepares for follow on instructions from the tower.

DEFENSIVE ENGAGEMENTS

4-68. As the tower is prepared to conduct the defensive engagements, they will control the movement of all vehicles in the firing order. The tower will direct the crew to the appropriate defensive firing position and await further instructions.

4-69. Once set, the tower directs the crew to test fire their machine guns, move to a red status, and report when set. As the crew completes the test firing, they report set to the tower. As the conduct of the range allows, the tower directs the crew to conduct the engagements for evaluation. Units must enforce the appropriate firing position within the battle positions to reinforce their proper tactical use (see figure 4-28).

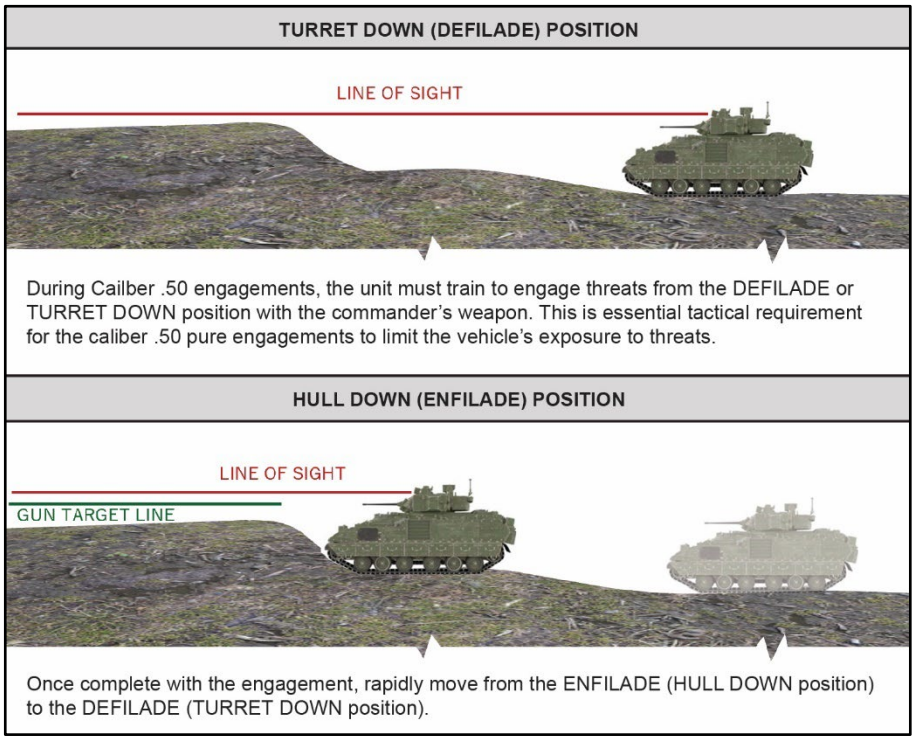
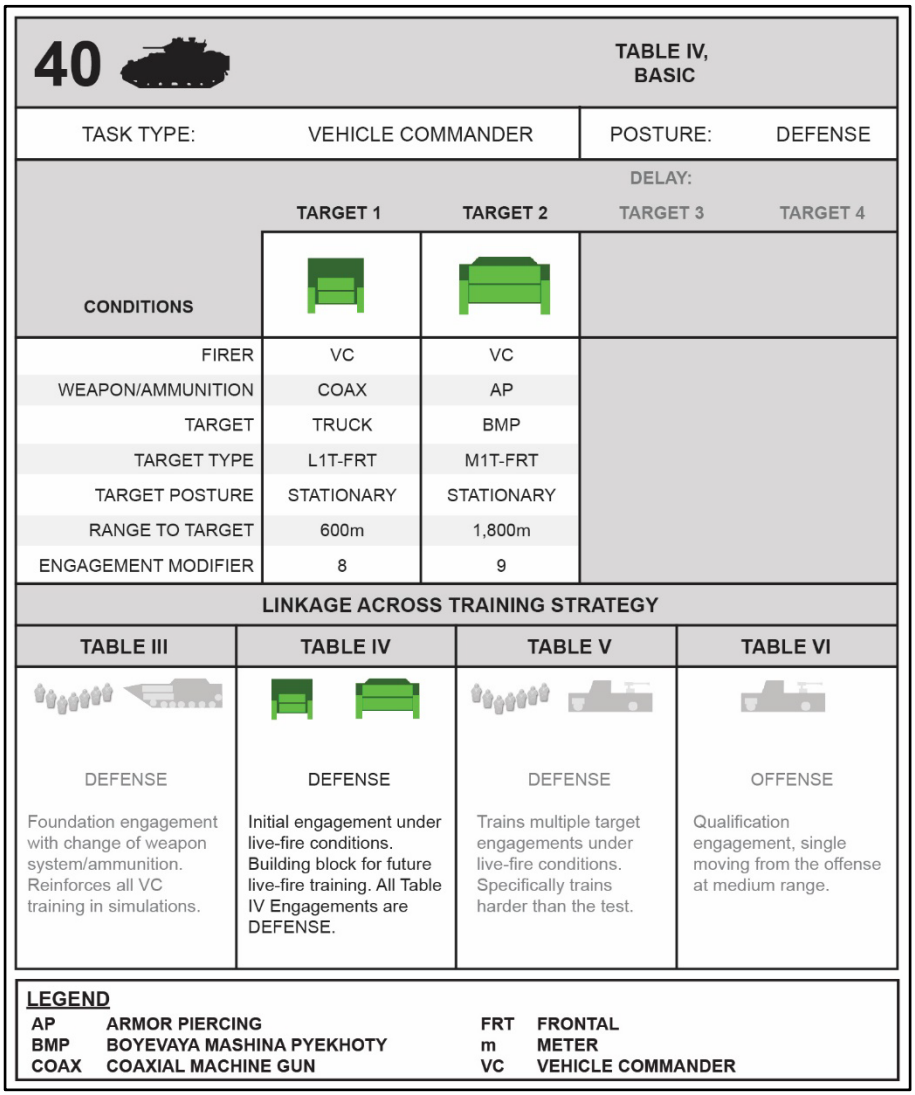


Figure 4-28. Using defensive battle positions, example

ENGAGEMENT 40

4-70. The VC engagement fired from the VC's position using the commander's hand station in the defense (see figure 4-29 and figure 4-30).



40 TABLE IV, BASIC

TASK TYPE:	VEHICLE COMMANDER	POSTURE:	DEFENSE

CONDITIONS	TARGET 1	TARGET 2	DELAY: TARGET 3	TARGET 4
FIRER	VC	VC		
WEAPON/AMMUNITION	COAX	AP		
TARGET	TRUCK	BMP		
TARGET TYPE	L1T-FRT	M1T-FRT		
TARGET POSTURE	STATIONARY	STATIONARY		
RANGE TO TARGET	600m	1,800m		
ENGAGEMENT MODIFIER	8	9		

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
DEFENSE	DEFENSE	DEFENSE	OFFENSE
Foundation engagement with change of weapon system/ammunition. Reinforces all VC training in simulations.	Initial engagement under live-fire conditions. Building block for future live-fire training. All Table IV Engagements are DEFENSE.	Trains multiple target engagements under live-fire conditions. Specifically trains harder than the test.	Qualification engagement, single moving from the offense at medium range.

LEGEND

AP	ARMOR PIERCING	FRT	FRONTAL
BMP	BOYEVAYA MASHINA PYEKHOTY	m	METER
COAX	COAXIAL MACHINE GUN	VC	VEHICLE COMMANDER

Figure 4-29. Engagement 40 overview

40	TARGET 1	TARGET 2	TARGET 3	TARGET 4
VEHICLE COMMANDER DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS				
HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
	8	50	2	2

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

YOUR GUNNER'S HAND STATION IS INOPERATIVE. CONTINUE TO FIGHT. CHECK YOUR MACHINE GUNS. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	TRUCK AND LIGHT ARMOR IN SECTION
METHOD	
LOCATION	VICINITY _____ AND _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**mm**	**MILLIMETER**
HE	**HIGH EXPLOSIVE**	**REDCON**	**READINESS CONDITION**

Figure 4-30. Engagement 40 ammunition and script worksheet

ENGAGEMENT 41A

4-71. This is a machine gun pure engagement for the gunner. It trains target detection, acquisition, and machine gun engagement techniques from the defense (see figure 4-31 and figure 4-32). Range bands are short- to mid-range. Crews must tactically use the battle position and build stability in their forward and rearward movements.

41A 

TABLE IV, BASIC

TASK TYPE:	MACHINE GUN PURE	POSTURE:	DEFENSE

CONDITIONS	TARGET 1	TARGET 2	DELAY: TARGET 3	DELAY: TARGET 4
				
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	COAX	COAX		
TARGET	TROOPS	TRUCK		
TARGET TYPE	E(7)-FRT	L1T-FRT		
TARGET POSTURE	STATIONARY	STATIONARY		
RANGE TO TARGET	200m	600m		
ENGAGEMENT MODIFIER	7	8		

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
			
OFFENSE	DEFENSE	OFFENSE	DEFENSE
Foundation engagement for the gunner. In the offense, the firing platform closes with the targets rapidly.	Stationary targets at close-range from a defensive position. All engagements on Table IV are fired from the DEFENSE.	Increases the complexity with offensive engagement techniques.	Stationary and moving targets from a defense firing position.

LEGEND

COAX	COAXIAL MACHINE GUN	m	METER
FRT	FRONTAL		

Figure 4-31. Engagement 41A overview

41A	TARGET 1	TARGET 2	TARGET 3	TARGET 4
MACHINE GUN PURE DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS				
HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	A940	AB86	LA54	LA53
		100	2	2

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

CHECK YOUR MACHINE GUNS. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	COAX
TARGET DESCRIPTION	TROOPS AND TRUCK IN SECTOR
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____ AND _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**mm**	**MILLIMETER**
COAX	**COAXIAL MACHINE GUN**	**REDCON**	**READINESS CONDITION**
HE	**HIGH EXPLOSIVE**		

Figure 4-32. Engagement 41A ammunition and script worksheet

ENGAGEMENT 41B

4-72. From a defensive posture, the gunner engages multiple machine gun threats at mid-range (see figure 4-33 and figure 4-34). This engagement introduces the gunner to machine gun engagement techniques against stationary and moving threats while utilizing the battle position.

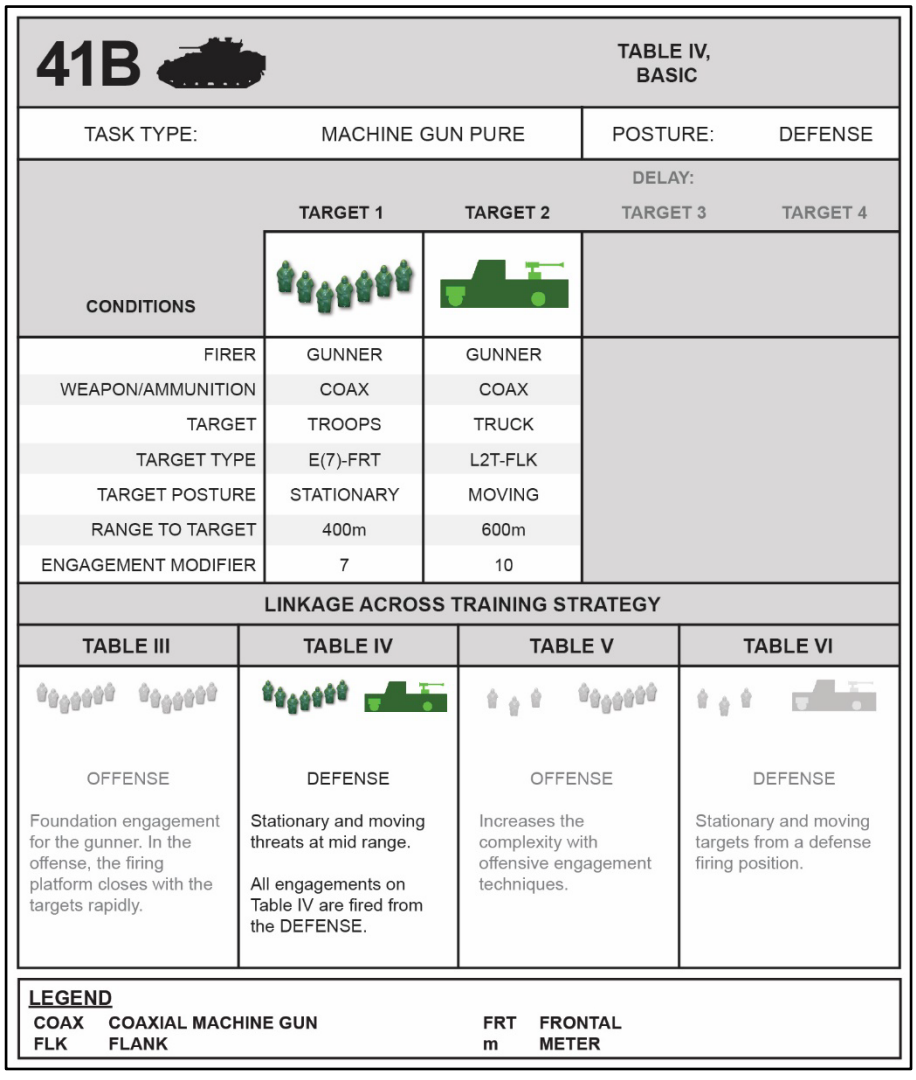


Figure 4-33. Engagement 41B overview

41B	TARGET 1	TARGET 2	TARGET 3	TARGET 4
MACHINE GUN PURE DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS				
HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	A940	AB86	LA54	LA53
		100	1	1

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

CHECK YOUR MACHINE GUN. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	TROOPS WITH TRUCK MOVING INTO SECTOR
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**mm**	**MILLIMETER**
COAX	**COAXIAL MACHINE GUN**	**REDCON**	**READINESS CONDITION**
HE	**HIGH EXPLOSIVE**		

Figure 4-34. Engagement 41B ammunition and script worksheet

ENGAGEMENT 42A

4-73. This engagement introducers the gunner to stationary near and far machine gun threats to develop scanning techniques (see figure 4-35 and figure 4-36).

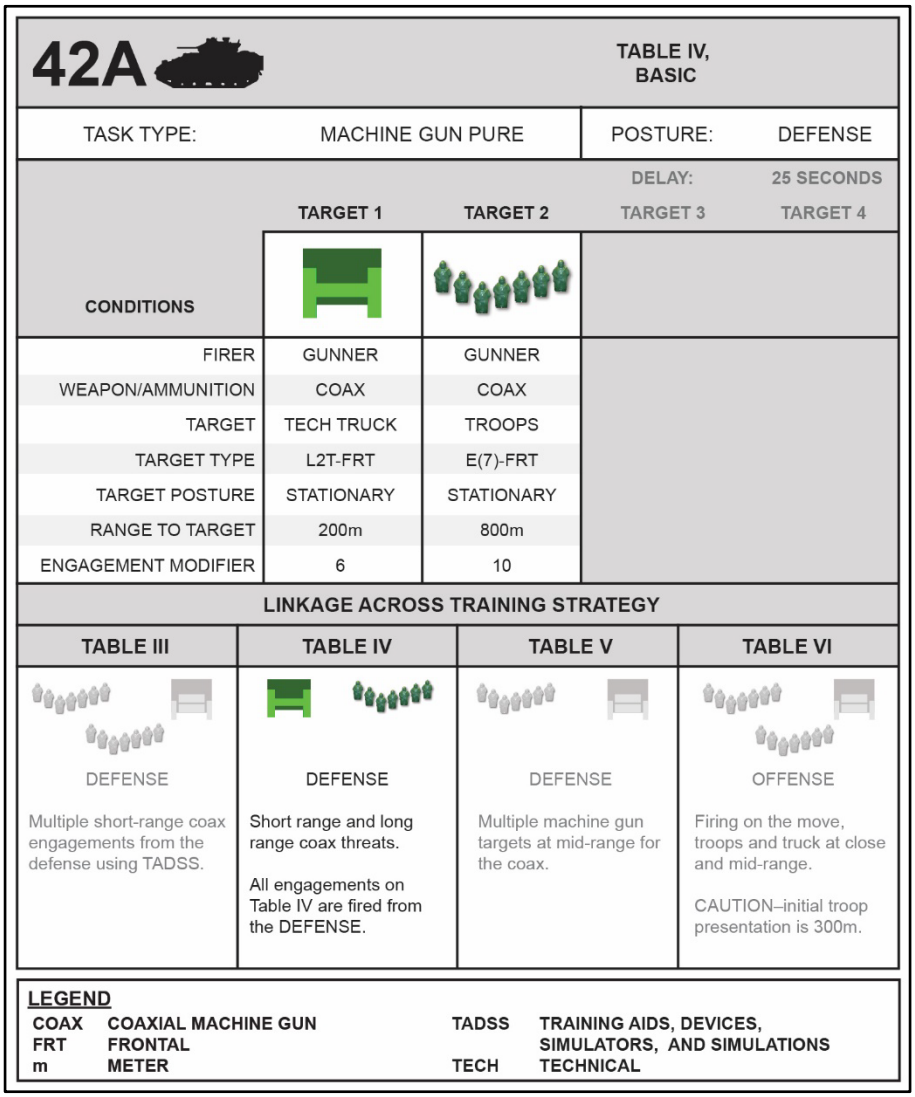


Figure 4-35. Engagement 42A overview

42A

TARGET 1	TARGET 2	TARGET 3	TARGET 4
MACHINE GUN PURE DEFENSE			

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
		100	1	1

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

CHECK YOUR MACHINE GUN. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	COAX
TARGET DESCRIPTION	TRUCK AND TROOPS
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____ AND_____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**mm**	**MILLIMETER**
COAX	**COAXIAL MACHINE GUN**	**REDCON**	**READINESS CONDITION**
HE	**HIGH EXPLOSIVE**		

Figure 4-36. Engagement 42A ammunition and script worksheet

ENGAGEMENT 42B

4-74. This engagement contains multiple long-range machine-gun threats to test the gunner's ability to achieve accurate effects on targets near the weapons maximum effective range (see figure 4-37 and figure 4-38).

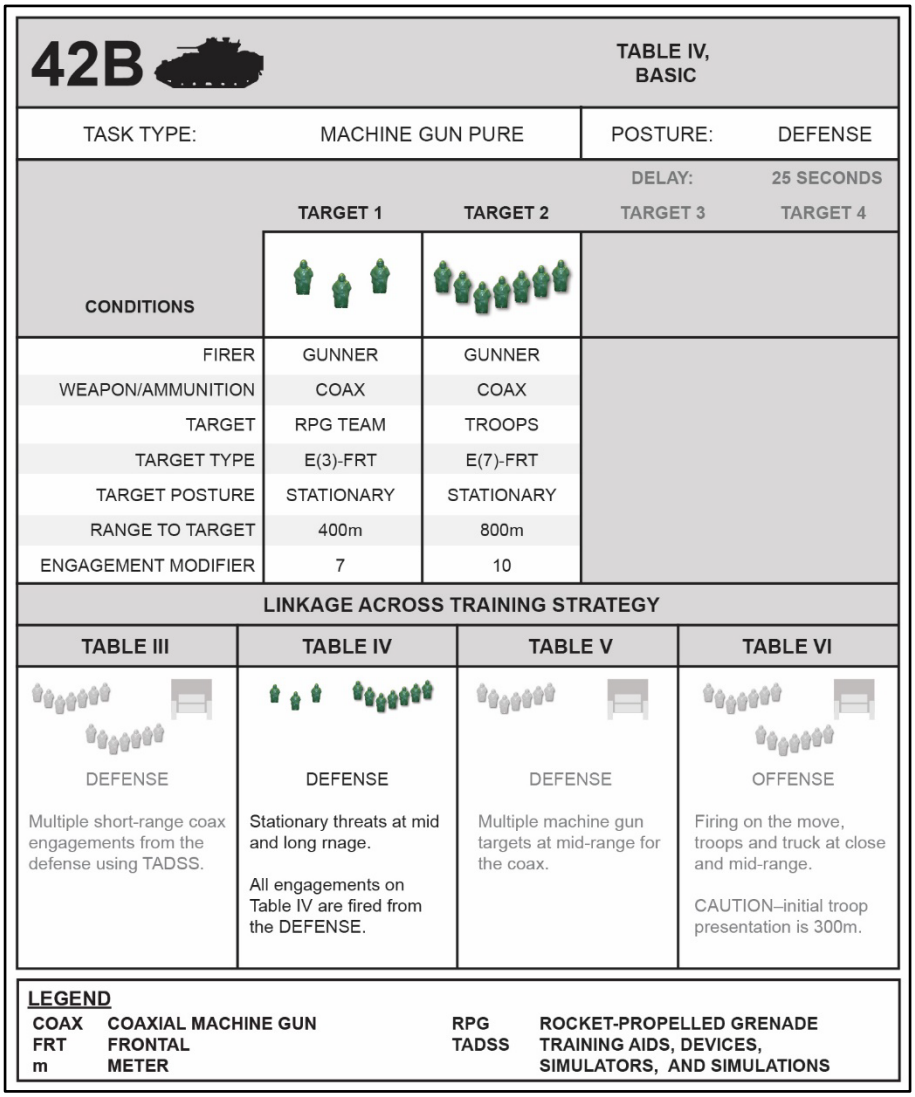


Figure 4-37. Engagement 42B overview

42B

TARGET 1	TARGET 2	TARGET 3	TARGET 4
MACHINE GUN PURE DEFENSE			

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
		100		

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

CHECK YOUR MACHINE GUN. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	TROOPS AND RPG TEAM
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____ AND_____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**mm**	**MILLIMETER**
COAX	**COAXIAL MACHINE GUN**	**REDCON**	**READINESS CONDITION**
HE	**HIGH EXPLOSIVE**		

Figure 4-38. Engagement 42B ammunition and script worksheet

ENGAGEMENT 43

4-75. This engagement introduces the crew to main gun engagement skills against stationary and moving threats at mid-range. This engagement is designed to build crew confidence in their switchology, engagement skills, and their ability to place their primary armament into operation (see figure 4-39 and figure 4-40).

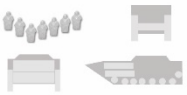
43 

TABLE IV, BASIC

TASK TYPE:	MAIN GUN PURE	POSTURE:	DEFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1 	TARGET 2 	TARGET 3	TARGET 4
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	AP	HE		
TARGET	BMP	TECH TRUCK		
TARGET TYPE	M1T-FRT	L2T-FLK		
TARGET POSTURE	STATIONARY	MOVING		
RANGE TO TARGET	1,400m	1,200m		
ENGAGEMENT MODIFIER	9	11		

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
 DEFENSE	 DEFENSE	 DEFENSE	 OFFENSE
Change of weapon system from the defense. Baseline engagement skills with high probability threat array.	PC and moving truck at mid range from the defense. All engagements on Table IV are fired from the DEFENSE.	Change of weapon system for delay presentation in the defense.	Change of weapon system and ammunition. Complex engagement with long range HE target.

LEGEND

AP	ARMOR PIERCING	HE	HIGH EXPLOSIVE
BMP	BOYEVAYA MASHINA PYEKHOTY	m	METER
FLK	FLANK	PC	PERSONNEL CARRIER
FRT	FRONTAL	TECH	TECHNICAL

Figure 4-39. Engagement 43 overview

43	TARGET 1	TARGET 2	TARGET 3	TARGET 4
MAIN GUN PURE DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
8	8		2	2

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

INDEX AP. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	PC AND TRUCK
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____ AND_____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**PC**	**PERSONNEL CARRIER**
HE	**HIGH EXPLOSIVE**	**REDCON**	**READINESS CONDITION**
mm	**MILLIMETER**		

Figure 4-40. Engagement 43 ammunition and script worksheet

ENGAGEMENT 44

4-76. A main gun pure engagement for the crew with a slightly more challenging range band (see figure 4-41 and figure 4-42). This engagement, fired from the defense, tests the crew's ability to engage multiple targets, one of which is near the maximum range for training high explosive ammunition, building crew confidence in their prep-to-fire and engagement procedures.

44 

TABLE IV, BASIC

TASK TYPE:	MAIN GUN PURE	POSTURE:	DEFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1 	TARGET 2 	TARGET 3	TARGET 4
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	AP	HE		
TARGET	BMP	TECH TRUCK		
TARGET TYPE	M1T-FLK	L2T-FRT		
TARGET POSTURE	MOVING	STATIONARY		
RANGE TO TARGET	1,200m	1,600m		
ENGAGEMENT MODIFIER	10	10		

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
			
DEFENSE	DEFENSE	DEFENSE	OFFENSE
Change of weapon system from the defense. Baseline engagement skills with high probability threat array.	Moving PC at mid range and long range target. All engagements on Table IV are fired from the DEFENSE.	Change of weapon system for delay presentation in the defense.	Change of weapon system and ammunition. Complex engagement with long range HE target.

LEGEND

AP	ARMOR PIERCING	HE	HIGH EXPLOSIVE
BMP	BOYEVAYA MASHINA PYEKHOTY	m	METER
FLK	FLANK	PC	PERSONNEL CARRIER
FRT	FRONTAL	TECH	TECHNICAL

Figure 4-41. Engagement 44 overview

44	TARGET 1	TARGET 2	TARGET 3	TARGET 4
MAIN GUN PURE DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS				
HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	A940	AB86	LA54	LA53
8	8		2	2

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

INDEX AP. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	PC AND TRUCK
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____ AND_____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**PC**	**PERSONNEL CARRIER**
HE	**HIGH EXPLOSIVE**	**REDCON**	**READINESS CONDITION**
mm	**MILLIMETER**		

Figure 4-42. Engagement 44 ammunition and script worksheet

ENGAGEMENT 47

4-77. A degraded engagement where the gunner must engage multiple threats from the defense using degraded engagement techniques (see figure 4-43 and figure 4-44). This engagement challenges the crew by using degraded gunnery techniques using the gunner's auxiliary sight with both main gun and coaxial to defeat the threats.

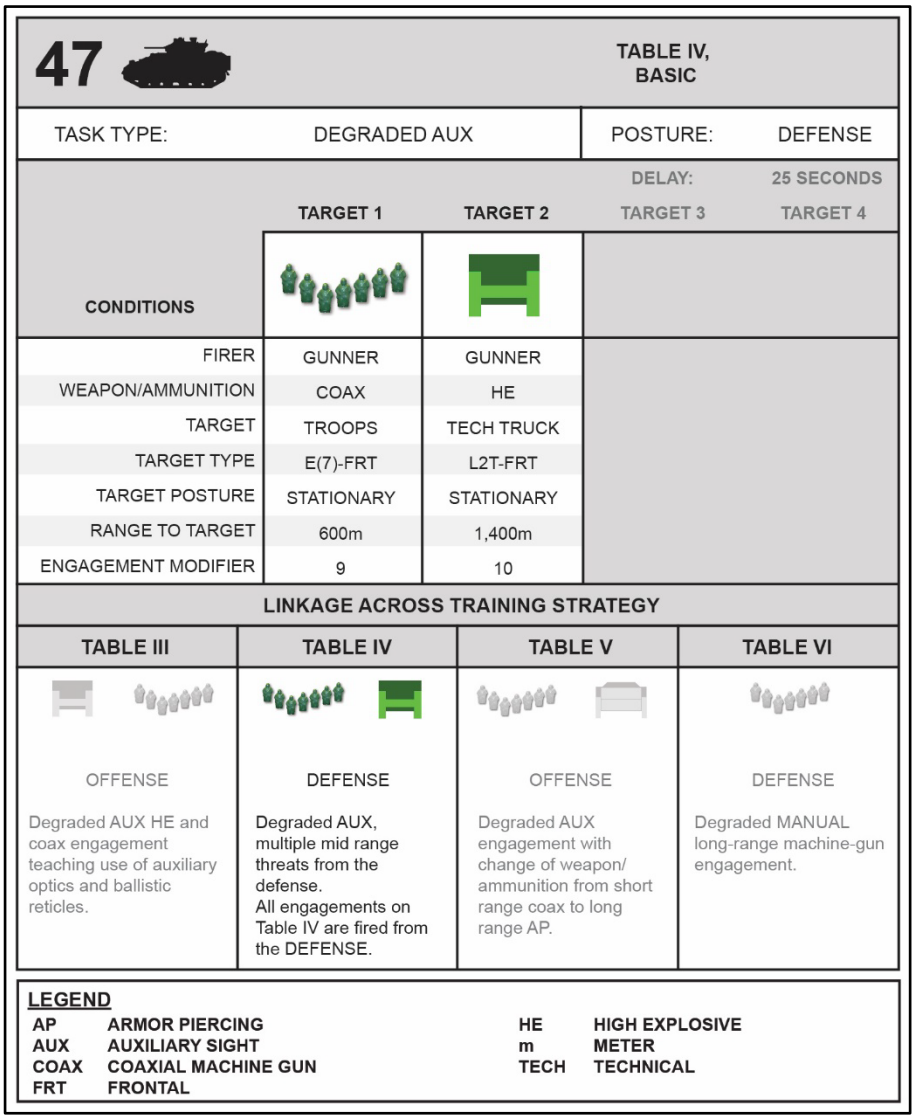


Figure 4-43. Engagement 47 overview

47	TARGET 1	TARGET 2	TARGET 3	TARGET 4
DEGRADED AUX DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS				
HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
8		50	1	1

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____.
YOUR IBAS IS INOP, READY YOUR AUX SIGHT.

INDEX AP. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	TROOPS AND TRUCK IN SECTOR
METHOD	
LOCATION	VICINITY _____ AND_____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**INOP**	**INOPERABLE**
AUX	**AUXILIARY SIGHT**	**mm**	**MILLIMETER**
HE	**HIGH EXPLOSIVE**	**REDCON**	**READINESS CONDITION**
IBAS	**IMPROVED BRADLEY ACQUISITION SYSTEM**	**SIMS**	**SIMULATION**

Figure 4-44. Engagement 47 ammunition and script worksheet

ENGAGEMENT 48

4-78. A degraded engagement for the gunner to apply degraded manual engagement techniques (see figure 4-45 and figure 4-46). This engagement challenges the gunner and crew to scan, identify, and engage multiple stationary and moving threats using the manual traverse and elevation handwheels and trigger.

48 

TABLE IV, BASIC

TASK TYPE:	DEGRADED MANUAL	POSTURE:	DEFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1 	TARGET 2 	TARGET 3	TARGET 4
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	COAX	COAX		
TARGET	TROOPS	TECH TRUCK		
TARGET TYPE	E(7)-FRT	L1T-FRT		
TARGET POSTURE	STATIONARY	STATIONARY		
RANGE TO TARGET	400m	800m		
ENGAGEMENT MODIFIER	7	9		

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
			
DEFENSE	DEFENSE	DEFENSE	OFFENSE
Degraded MANUAL engagement, medium range machine gun.	Degraded MANUAL, stationary targets at mid range. All engagements on Table IV are fired from the DEFENSE.	Degraded MANUAL change of weapon and ammunition from the defense.	Degraded AUX coax and long-range mover. Target detection and acquisition difficulty.

LEGEND

AUX	AUXILIARY SIGHT	m	METER
COAX	COAXIAL MACHINE GUN	TECH	TECHNICAL
FRT	FRONTAL		

Figure 4-45. Engagement 48 overview

48	TARGET 1	TARGET 2	TARGET 3	TARGET 4
DEGRADED MANUAL DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
		100	2	2

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

YOUR TURRET DRIVE SYSTEM IS OUT, SWITCH TO MANUAL. CHECK YOUR MACHINE GUN. PREPARE FOR DEGRADED OPERATIONS AND REPORT REDCON ONE.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	COAX
TARGET DESCRIPTION	TROOPS AND TRUCK IN SECTOR
METHOD	
LOCATION	VICINITY _____ AND_____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**mm**	**MILLIMETER**
HE	**HIGH EXPLOSIVE**	**REDCON**	**READINESS CONDITION**
COAX	**COAXIAL MACHINE GUN**		

Figure 4-46. Engagement 48 ammunition and script worksheet

ENGAGEMENT 49

4-79. A complex engagement, the crew's introduction to a four-target threat presentation (see figure 4-47 and figure 4-48). This engagement uses both stationary and moving targets at mid to long range, developing the crew's ability to utilize both the commander's independent viewer and the improved Bradley acquisition system to detect, identify, and engage threats.

49 

TABLE IV, SITUATIONAL TRAINING EXERCISE (STX)

TASK TYPE:	SIMULTANEOUS/MULTIPLE TARGETS	POSTURE:	OFFENSE

CONDITIONS	TARGET 1	TARGET 2	DELAY: TARGET 3	25 SECONDS TARGET 4
				
FIRER	GUNNER	GUNNER	GUNNER	GUNNER
WEAPON/AMMUNITION	COAX	COAX	COAX	COAX
TARGET	TROOPS	TECH TRUCK	TROOPS	TECH TRUCK
TARGET TYPE	E(7)-FRT	L2T-FLK	E(7)-FRT	L2T-FRT
TARGET POSTURE	STATIONARY	MOVING	STATIONARY	STATIONARY
RANGE TO TARGET	600m	800m	400m	800m
ENGAGEMENT MODIFIER	9	11	7	9

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
			
OFFENSE	DEFENSE	OFFENSE	DEFENSE
Change of weapon and ammunition at varying ranges. Long range missile target presentation fired from short halt if not equipped with TOTM.	Multiple mid to long range troop targets. All engagements on Table IV are fired from the DEFENSE.	Change of weapon system with long-range moving target.	Change of weapon system, RPG team with long range HE target.

LEGEND

COAX	COAXIAL MACHINE GUN	m	METER
FLK	FLANK	RPG	ROCKET-PROPELLED GRENADE
FRT	FRONTAL	TECH	TECHNICAL
HE	HIGH EXPLOSIVE	TOTM	TOW ON THE MOVE

Figure 4-47. Engagement 49 overview

49	TARGET 1	TARGET 2	TARGET 3	TARGET 4
SIMULTANEOUS/ MULTIPLE TARGETS DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS				
HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
		200	2	2

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

CHECK YOUR MACHINE GUN. REPORT REDCON ONE, OVER.

PROMPT	
ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	TROOPS AND TRUCK WITH SUPPORT IN SECTOR
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**mm**	**MILLIMETER**
HE	**HIGH EXPLOSIVE**	**REDCON**	**READINESS CONDITION**

Figure 4-48. Engagement 49 ammunition and script worksheet

ASSESS –TABLE IV

4-80. The intent of the basic course of fire is to train the crews within the organization on the appropriate conduct of fire skills in a defensive posture against common threat arrays using their primary and secondary armament. Proper evaluation and assessment of crew performance is key to improving individual and crew skills prior to moving to the practice and qualification course of fire. This includes conducting AARs for the zeroing and the live-fire engagements.

ZEROING ASSESSMENT–TABLE IV

4-81. For Table IV, the zeroing portion of the event is a maintenance and crew confidence exercise. The crew must ensure the fire control system is functioning as intended after all prep-to-fire procedures have been complete. In doing so, it provides the crew confidence in the procedures, policies, equipment, ammunition, and their own skill. The platoon sergeant or Master Gunner should provide an informal AAR for zeroing procedures that includes at a minimum:

- Actions for each ammunition type.
- Location of hits for each ammunition type.
- Review of fixed biases, variable biases, and random errors that contribute to the accuracy of the round.
- Zeroing procedures for each machine gun.
- Methods to reduce round-to-round dispersion and crew error.

DEFENSIVE ENGAGEMENT ASSESSMENT–TABLE IV

4-82. Each crew should receive a formal AAR following the guidelines found in TC 3-20.31. Each evaluator should use DA Form 8265 and DA Form 8265-1 as the basis for their evaluation, identifying the firing occasional information from the score sheet timelines. The evaluator and VC each review and sign the DA Form 8265-1.

Note. Performing the duties as a VCE during the conduct of Table IV, Basic, is a significant part of building experience and knowledge of those gunners and VCs without firing.

4-83. Units should track the various firing information from the score sheets to identify where in the conduct of fire crews and the overall unit should apply additional training effort. Some of those indicators are—

- Target acquisition, detection, and identification.
- Time to fire.
- Time to kill.
- Opening and closing times for machine gun engagements.
- Gunner lay errors.
- Scanning techniques.
- Engagement techniques.
- Conduct of fire issues.
- Penalties by type.

RETRAIN–TABLE IV

4-84. The unit Master Gunner maintains the unit roll-up by engagement. A subcategorized roll-up by platoons provides the commander a snapshot of training trends, strengths, and weaknesses. The Master Gunner should not only identify crews that did not achieve a passing standard, but also crews that struggled on specific engagement tasks. Once done, the unit can establish and conduct the appropriate focused retraining followed by a subsequent evaluation.

Note. All crews should successfully complete the course of fire based on the standards for the engagements listed earlier in this chapter. No crew should proceed to Table V or any other live-fire event until they have achieved the minimum standard on Table IV. The commander and Master Gunner may assess the crews' capability to proceed without qualifying the table based on target acquisition, target kills, fire commands, and engagement techniques without achieving the minimum standard.

4-85. Unit Master Gunners should include chair drills for the crews using the scenarios for each engagement for retraining purposes. Consider including additional low-impact training drills to meet the demands of the 3 and 4 target engagements. Units should include future table's engagements (Table V and Table VI, respectively) in the chair drills training to best prepare the crews for those events. Additional information on chair drills is in TC 3-20.31.

DRIVER'S TRAINING–TABLE IV

4-86. Leaders should determine the number of miles driven during the day and night phases for their assigned drivers. This information should be recorded, including the miles driven, miles driven with the enhanced viewer, and any tactical (off-road) miles driven.

CREW GUNNERY FOLDER RECORDS–TABLE IV

4-87. Once testing is complete, the Master Gunner records the results of all training completed in the crew gunnery folder. The records must be maintained for a minimum of 12 months.

RECORD INDIVIDUAL TASK PERFORMANCE–TABLE IV

4-88. Leaders track and train their Soldier's individual and collective tasks trained and evaluated using tools provided by the ATN such as the SULT and the DJB. These systems interface directly with the DTMS to record training and evaluation results.

Note. Leaders must be granted access first by their commander or DTMS manager to enroll or assign their Soldiers the specific tasks from the ICTL that are trained and tested during the training event.

4-89. From within the SULT, the authorized leader is enabled to view, maintain, and update—

- Warrior tasks and battle drills.
- MOS-specific individual critical tasks.
- Unit-mandated training tasks.
- Supporting T&EOs (access dependent on proponent distribution restrictions).

4-90. Leaders should update their Soldier's individual training records for training and evaluation of the following tasks, based on their assigned position. This is not an all-inclusive list of the trained and tested tasks for this event (see figure 4-49 on page 163 through page 167). Leaders should adjust based on the unit's additions to the event.

4-91. This ensures historical data is available throughout the Army force generation training cycle for the chain of command to assess strengths and weaknesses of crews and address these concerns in upcoming GST training. The most current GST records must accompany the unit or crew throughout the entire weapons training density.

UPDATING INDIVIDUAL TRAINING RECORDS–TABLE IV

4-92. Leaders update their SULT application with the appropriate training and evaluation outcomes for their crewmembers. The lists provided show the touch points associated with completing Table IV.



TABLE IV, BASIC
INDIVIDUAL TASK TOUCH POINTS

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
031-503-1035	Protect Yourself from Chemical/Biological Contamination Using Your Assigned Protective Mask	Yes	Yes	Yes
071-024-0004	Unlooad the 25mm Armor-Piercing Discarding Sabot Tracer (APDS-T) Ammunition Can on a Bradley Fighting Vehicle (BFV)			
071-300-0001	Conduct Troop Leading Procedures	Yes		
091-91M-1073	Maintain the 25mm Gun System on the Bradley Fighting Vehicle	Yes	Yes	
171-091-1023	Conduct Vehicle Resupply	Yes		
171-121-3009	Control Techniques of Movement	Yes		
171-121-4021	Plan Range Operations	Yes		
171-121-4028	Plan Occupation of a Battle Position	Yes		
171-121-4030	Conduct Vehicle Tactical Navigation	Yes		
171-121-4041	Conduct Combat Table Operations	Yes		
171-121-4051	Prepare a Situation Report (SITREP)	Yes		
171-121-4057	Perform Techniques of Movement	Yes		
171-121-4062	Issue an Oral Operation Order (OPORD)-Fragmentary Order (FRAGORD)	Yes		

LEGEND
mm MILLIMETER

Figure 4-49. Table IV, Basic, task touch points



TABLE IV, BASIC
INDIVIDUAL TASK TOUCH POINTS, CONTINUED

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-121-4064	Prepare Logistical Status (LOGSTAT) Reports	Yes		
171-121-4065	Direct Vehicle Tactical Movement	Yes		
171-121-4067	Execute Platoon Precombat Operations	Yes		
171-122-1061	Maintain Property Accountability	Yes	Yes	Yes
171-123-1000	Occupy of a Vehicle Fighting Position	Yes		
171-123-1023	Maintain Operator's Part of Equipment Record Folder		Yes	Yes
171-123-1090	Perform Preventative Maintenance on Basic Issue Items (BII)		Yes	Yes
171-123-3001	Supervise Personnel Handling Ammunition	Yes		
171-123-4020	Perform Operator Maintenance on Global Positioning System (GPS)		Yes	Yes
171-131-2017	Identify Ammunition Container Markings	Yes	Yes	
171-131-2018	Identify the Components of Main Gun and Small Arms Ammunition	Yes	Yes	
171-136-0002	Mount Combat Identification Panels (CIPs) on a Bradley Fighting Vehicle (BFV)	Yes	Yes	Yes
171-138-0015	Conduct Advanced Vehicle Identification	Yes	Yes	
171-138-0017	Identify Restricted and Suspended Ammunition	Yes	Yes	
171-138-0021	Conduct Individual Weapon and Crew Served Ranges	Yes	Yes	Yes

Figure 4-49. Table IV, Basic, task touch points, continued



TABLE IV, BASIC
INDIVIDUAL TASK TOUCH POINTS, CONTINUED

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-138-0022	Demonstrate Target Acquisition Methods	Yes	Yes	Yes
171-138-0028	Identify Combat Vehicles and Aircraft	Yes	Yes	Yes
171-151-0009	Maintain the AN/VAS-5B Driver's Vision Enhancer (DVE)			Yes
171-19K-2237	Conduct Alternative Range Determinations on an M1 Series Tank	Yes	Yes	
171-300-0083	Enforce Rules of Engagement (ROE)	Yes		
171-309-0650	Inspect DA Form 5988-E or DA Form 2404	Yes	Yes	
171-610-0001	Perform a Map Reconnaissance	Yes	Yes	Yes
171-610-0002	Recognize Threat Tactics and Battlefield Organization	Yes	Yes	Yes
171-620-0123	Employ Common Operational Terms and Graphics	Yes		
171-924-0015	Perform Duties as a Vehicle Crew Evaluator (VCE)	Yes		
171-928-0002	Remove Crew Module Unit Recorder (CMUR) the on an M1-Series Tank	Yes	Yes	
171-928-0003	Install the Thru-Sight Video-Recorder (TSV-R) Subsystem of the Thru-Sight Video (TSV) System on a Bradley Fighting Vehicle (BFV)	Yes	Yes	Yes
171-928-0005	Install the Crew Module Unit Recorder (CMUR) on a Stryker Mobile Gun System (MGS)	Yes	Yes	Yes
171-928-0009	Perform Pre-Operational Set-Up Procedures for the Thru-Sight Video-Recorder (TSV-R) Subsystem of the Thru-Sight Video (TSV) System	Yes		

LEGEND
DA DEPARTMENT OF THE ARMY

Figure 4-49. Table IV, Basic, task touch points, continued



TABLE IV, BASIC
INDIVIDUAL TASK TOUCH POINTS, CONTINUED

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-928-0010	Operate the Crew Modular Unit Recorder (CMUR)	Yes	Yes	
171-928-0011	Perform Preventive Maintenance Checks & Services (PMCS) on the Thru-Sight Video (TSV) System	Yes	Yes	
171-928-0012	Troubleshoot the Thru-Sight Video (TSV) System	Yes	Yes	
171-928-0013	Conduct an After Action Review Using the Thru-Sight Video (TSV) System	Yes		
171-BFV-0000	Boresight the Weapon Systems on a Bradley Fighting Vehicle (BFV)	Yes	Yes	Yes
171-BFV-0001	Maintain the Hull on a Bradley Fighting Vehicle (BFV)	Yes	Yes	Yes
171-BFV-0002	Maintain the Turret on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0004	Drive a Bradley Fighting Vehicle (BFV)			Yes
171-BFV-0010	Slave Start an M2A3 Bradley Fighting Vehicle (BFV)			Yes
171-BFV-0012	Operate the Chemical, Biological, Radiological and Nuclear (CBRN) System on a Bradley Fighting Vehicle (BFV)	Yes	Yes	Yes
171-BFV-0013	Operate the Driver's Vision Enhancer-Wide (DVE-W) on the M2A4 Bradley Fighting Vehicle (BFV)			Yes
171-BFV-0016	Stow Ammunition on an Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0100	Install a M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0101	Perform a Function Check on the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0102	Load the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	

Figure 4-49. Table IV, Basic, task touch points, continued



TABLE IV, BASIC
INDIVIDUAL TASK TOUCH POINTS, CONTINUED

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-BFV-0103	Fire the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0104	Correct Malfunctions of the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0105	Unload the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0106	Remove a M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0201	Perform a Function Check on the 25mm Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0202	Load the the 25mm Gun Feeder on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0204	Load the 25mm Armor-Piercing (AP) Ammunition Can on a Bradley Fighting Vehicle (BFV)			
171-BFV-0205	Fire the 25mm Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0206	Correct a Malfunction of the 25mm Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0209	Unload the the 25mm Gun Feeder on a Bradley Fighting Vehicle (BFV)			
171-BFV-1100	Zero the Weapon Systems on Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-1200	Engage Targets using the Weapon Systems on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-3000	Direct Engagements from the Commander's Position on a Bradley Fighting Vehicle (BFV)	Yes		
171-COM-0302	Conduct Occupation of an Assembly Area	Yes		
171-COM-4079	Send a Situation Report (SITREP)	Yes	Yes	
171-COM-4080	Send a Spot Report (SPOTREP)	Yes	Yes	Yes

LEGEND
mm MILLIMETER

Figure 4-49. Table IV, Basic, task touch points, continued

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Chapter 5
Table V–Practice

Crew platform, Table V, Practice, is a live-environment training event under live-fire conditions using full-caliber training ammunition, 3/4-scale realistic targetry and engagement scenarios, at a combat tempo on an authorized live-fire facility. Regardless of crew platform type, this table reinforces the basic skills trained during previous events but increases the tempo to expected engagement sequence capabilities to build leader and element tactical and technical mastery.

This table includes execution of critical skills in a live environment. Table V prepares the crew to employ their weapons and systems against most common threat scenarios using prescribed targetry to a required standard.

Note. This table requires the use of 3/4-scale targets to reinforce crew engagement speed and precision prior to qualification.

TABLE V OVERVIEW

5-1. Table V, Practice, trains and evaluate the crew's ability to engage stationary or moving targets placed in a tactical array, during day and limited visibility conditions, with an operational or simulated degraded fire control system, as applicable. Crews execute these tasks from the offense and defense using full-caliber ammunition against 3/4-scale targets placed at full range.

5-2. This table requires each crew to successfully complete the live-fire prerequisites, all zeroing procedures for their platform, and complete the defensive engagements on Table IV. This table is designed to train complex engagement skills, day and night, while fighting from the defense and during offensive engagements.

5-3. Table V, Practice, resides within the BFV training strategy through crew qualification (see figure 5-1). Table V is the first live-fire event where the crew conducts live-fire main gun engagements from the defense, as well as complex engagements while on the offense. It is a core training event for the crews that provides experience across multifaceted tactical dilemmas at a battlefield tempo.

CREW TABLE V	TABLE I	TABLE II	TABLE III	TABLE IV	TABLE V	TABLE VI
	CRAWL	*CRAWL*	*WALK*	*RUN*	***RUN***	*RUN*
	Live	Virtual	Live TADSS	Live-Fire	Live-Fire	Live-Fire
	GST	STX-V	STX	BASIC	PRACTICE	QUAL



This event is not required; however, the majority of high payoff skills, engagement techniques, firing positions, and other critical tactical employment tasks are trained and reinforced during this course of fire.

Units that fail to include Table V in their unit training plan dramatically reduce the crew's ability to qualify their platform on the first attempt and reduce the unit's lethality.

In general, crew platforms have a minimum of 2,400 basic engagement possibilities the crews should experience to achieve proficiency. The training strategy leverages simulations to provide those engagement experiences to each crew. Select, high-payoff engagements that demonstrate performance on critical engagement skills are conducted during crew live-fire training. Failure to provide Table V to the crews cuts the crew's potential lethality by 50 percent.

LEGEND

GST	GUNNERY SKILLS TEST OR GUNNER'S/FIRE DIRECTION CENTER EXAM	STX-V	SITUATIONAL TRAINING EXERCISE-VIRTUAL
QUAL	QUALIFICATION	TADSS	TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS
STX	SITUATIONAL TRAINING EXERCISE		

Figure 5-1. Table V, Practice

TABLE V PURPOSE

5-4. Table V is a skills assessment and risk mitigation tool for the commander. It assists the commander in determining the safe and effective use of the platform, its weapons, identification of threats and common ammunition by the crewmembers in the unit. Further, it identifies shortfalls and training gaps in those gunnery specific skills, which build crew proficiency and unit readiness.

TABLE V METHOD

5-5. Table V is a performance-based evaluation of basic and advanced gunnery skills to the Army-standard of knowledge or skill in a live environment under live-fire conditions. Conduct of Table V is on vehicles using full-caliber ammunition, BESs, and 3/4-scale targetry at full-distance to provide the most challenging training prior to the qualification course of fire. It utilizes experienced evaluators to educate, train, test, and retrain Soldiers to meet or exceed those standards.

TABLE V END STATE

5-6. The VC and gunner assigned as a crew have successfully demonstrated the skills and knowledge required to continue training on the platform through platform qualification. Commanders are confident in their Soldier's abilities in the position assigned. The tasks evaluated in Table V provide the commander a means to certify the crew's basic and advanced weapons platform proficiency prior to the qualification course of fire using full-caliber munitions. The commander and Master Gunner use the results from the qualification course when structuring the unit's crew training program and is a readiness reportable item.

TABLE V TASK, CONDITIONS, AND STANDARD

5-7. Units should not add to the live-fire requirements or tasks associated with Table V. If the commander is confident with the crew's skills, they may increase the CBRN requirements from one day and one night engagement to suit their experience. (See figure 5-2 for the task, conditions, and standard for Table V, Practice.)

	TABLE V PRACTICE
TASK	Engage and destroy stationary and moving targets placed in a tactical array, during day and limited visibility from a stationary or moving vehicle by using full-caliber ammunition.
CONDITIONS	Given the following: • An operational platform with weapon or weapon systems. • Allotted ammunition. • Certified vehicle crew evaluators. • ¾ scale targets. • All prerequisites to live-fire for the crew platform achieved.
STANDARD	The crew must: • Score a minimum of 700 to 1,000 points overall. • Score 70 points or more on all targets presented on 7 out of 10 engagements. • Qualify on at least one day and one limited visibility engagement.

Figure 5-2. Table V, Practice, task, conditions, and standards

Note. If any individual target score on an engagement is less than 70 points, the engagement is unqualified, regardless of overall engagement score.

PLAN FOR TABLE V

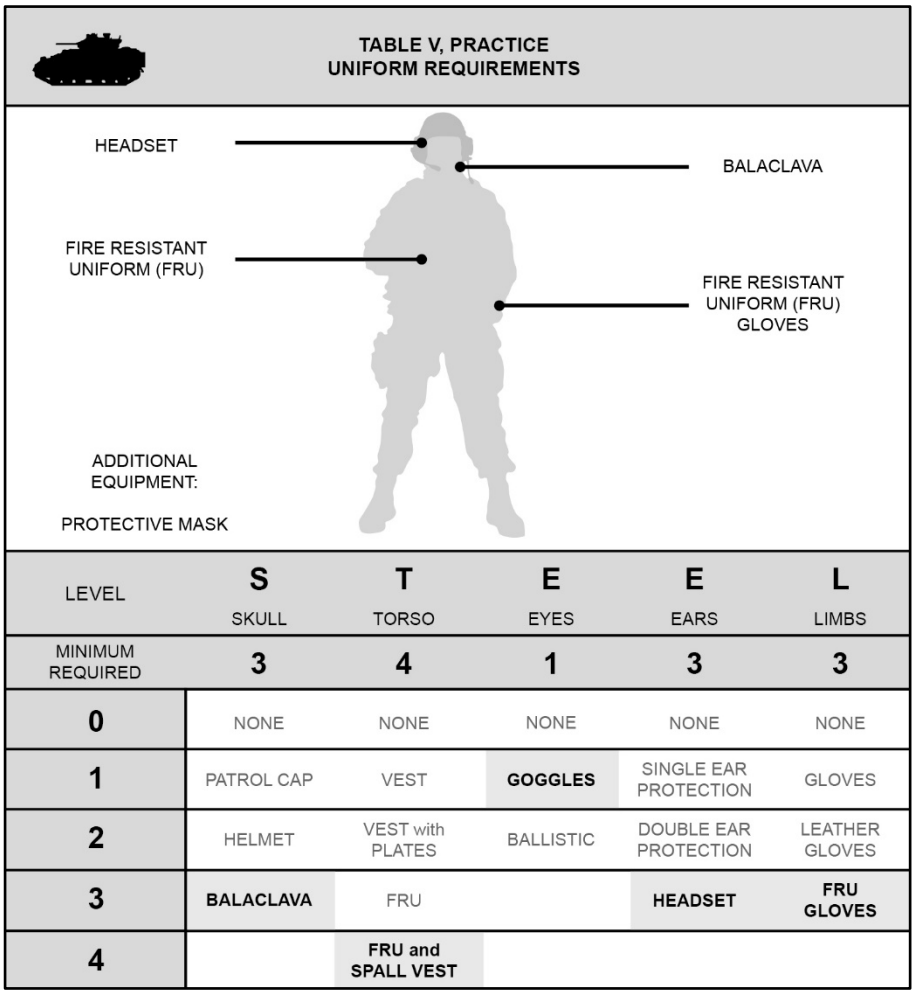
5-8. Table V, Practice, is a live-fire training environment event using training aids, devices, and simulators, and includes the use of full-caliber and small arms training ammunition and BESs.

5-9. This section details the resources needed for planning purposes. It includes general information on the following topics for consideration:

- Uniform—the minimum requirements for the combat vehicle crewmember's fire-retardant clothing and protective equipment.
- Facilities—available facilities that support the training event.
- Training plan—the minimum tasks, general guidelines, and special instructions for the training event.
- Time and throughput—the estimated time required to complete the training event including throughput considerations for planning.
- Ammunition—any training munitions required to complete the training event.
- TADSS—any available training aids that directly support or augment the training event.

TABLE V UNIFORM

5-10. Crews must be in the appropriate vehicle crewmember uniform or prescribed unit uniform and protective mask. Crews are not required to have any additional body armor, ballistic plates, or gear during the training event unless directed by the commander. (See figure 5-3 for the minimum uniform training requirements this event.)



LEVEL	S SKULL	T TORSO	E EYES	E EARS	L LIMBS
MINIMUM REQUIRED	3	4	1	3	3
0	NONE	NONE	NONE	NONE	NONE
1	PATROL CAP	VEST	**GOGGLES**	SINGLE EAR PROTECTION	GLOVES
2	HELMET	VEST with PLATES	BALLISTIC	DOUBLE EAR PROTECTION	LEATHER GLOVES
3	**BALACLAVA**	FRU		**HEADSET**	**FRU GLOVES**
4		**FRU and SPALL VEST**			

Figure 5-3. Table V uniform requirements

TABLE V FACILITIES

5-11. Table V requires the use of a maneuver gunnery range that allows live fire for medium caliber and 7.62-mm small-caliber ammunition. To maximize throughput, units may elect to use multiple lanes on the facility.

5-12. Master Gunners must be familiar with the family of maneuver ranges, the range operations control area, and the specific instrumentation and target sets available on the range facility selected for Table V. (See figure 5-4 for the maneuver range facilities recommended as primary and alternate facilities.)



TABLE V
PRACTICE
AUTHORIZED FACILITIES

FACILITY		
Battle Area Complex	BAX	ALTERNATE
Digital Air Ground Integration Range	DAGIR	ALTERNATE
Digital/Multipurpose Range Complex	D/MPRC	ALTERNATE
Digital/Multipurpose Training Range	D/MPTR	**PRIMARY**
Scout/Reconnaissance Gunnery Complex	SRGC	ALTERNATE

Note: Units should consider using a separate facility to conduct zeroing procedures if it assists with increased throughput.

Figure 5-4. Table V capable maneuver range facilities

TABLE V RANGE SUPPORT

5-13. The range support group provides VCE teams to evaluate the course of fire. This requires all gunners and above to certify or recertify as VCEs between T-6 and T-execution of the training event.

5-14. This includes the most common support required for crew platform live-fire events. In the event the unit utilizes multiple facilities to complete the zero and defensive engagements, appropriate adjustments should be made to this general structure. (See figure 5-5 for the range support personnel general requirements.)

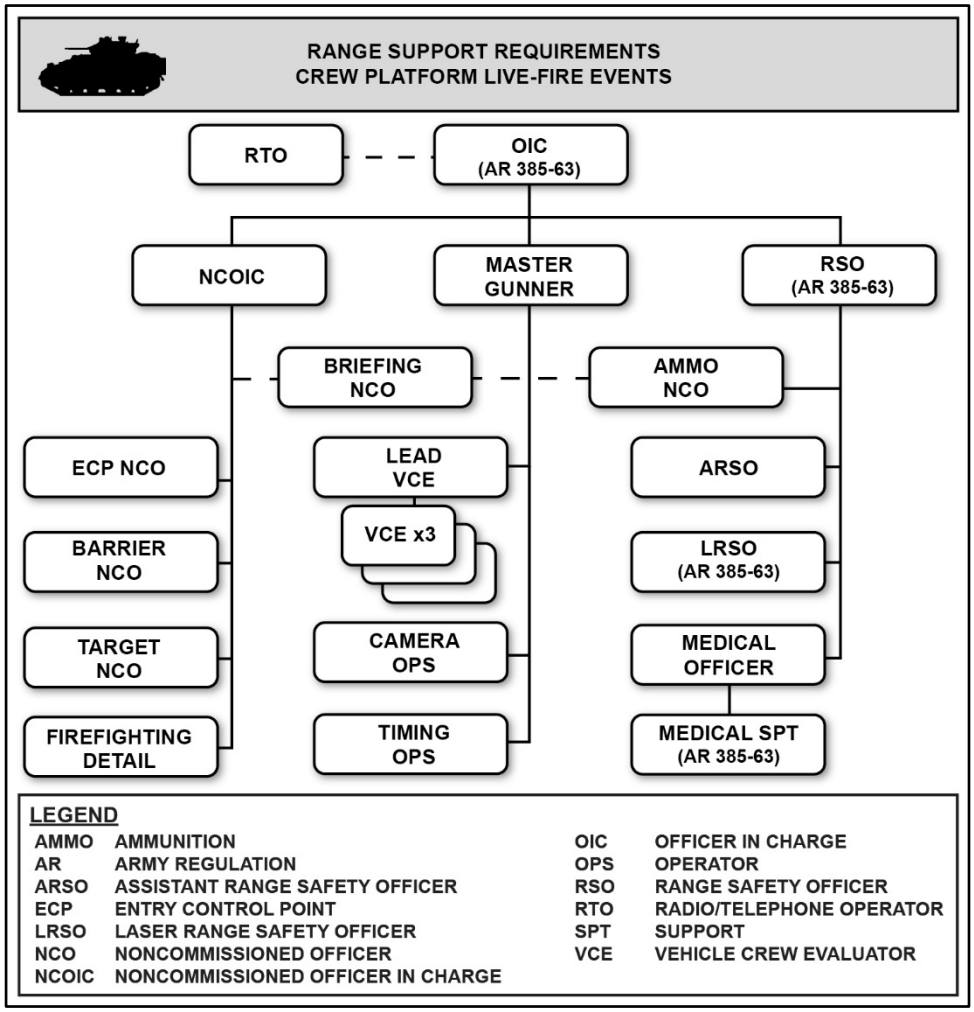


Figure 5-5. Range Support personnel requirements, example

TABLE V TRAINING PLAN

5-15. Table V, Practice, provides a challenging scenario to the crews to prepare them for qualification and future collective training. It relies on engagements with a moderately higher level of difficulty that the qualification course of fire that exercises the crew's conduct of fire and engagement skills. The increased difficulty in relation to the qualification course of fire is provided through—

- Smaller targetry.
- Increased number of targets.
- Increased range to target for the majority of the engagements.
- Greater dispersion between targets laterally and in-depth.

5-16. Units are required to use 3/4-scale targets at full range for the training scenarios unless specifically directed to use full-scale targetry (degraded engagements, for example). The Master Gunner has the option to use F-type rather than E-type silhouettes to increase the difficulty during machine gun engagements. (See TC 25-8 for additional information on scaled targetry.)

5-17. This table prepares crews for the Table VI, Qualification. The table design is purposefully more difficult to master than the qualification. Units should retrain as necessary with full-caliber ammunition when possible. Units should use available resources to ensure all crews successfully complete Table V before proceeding to the qualification course of fire, Table VI.

Table V Scenario Requirements

5-18. This table is designed to train and evaluate the crew's ability to engage stationary or moving targets placed in a tactical array, from the defense, during day and limited visibility conditions.

5-19. Units' must use 3/4-scale targets at full range for all scenarios except degraded engagements. Units may consider using full-scale for degraded engagements based on the units' level of expertise. The Master Gunner may consider using F-type silhouettes rather than E-type silhouettes. (See TC 25-8 for more information.)

5-20. All engagements are evaluated using certified VCE's using DA Form 8265 and DA Form 8265-1 as the official record of training. Master Gunners must ensure the training records are included in each crew's gunnery packet (see TC 3-20.31).

5-21. The engagements listings are by capability type using the standard engagement naming structure listed in TC 3-20.31. It provides the requirements for each engagement, which are described in paragraphs 5-22 through 5-29.

Task Description–Table V

5-22. The task description includes both the engagement number (the table number plus engagement task) followed by the system capability trained.

Firing Vehicle Posture–Table V

5-23. The firing vehicle posture establishes the offense or defense condition for the engagement.

Firer–Table V

5-24. The firer column identifies which crewmember is to engage the target listed. Targets defeated by a different crewmember listed as the firer result in an auto-zero penalty, failing to adhere to course conditions.

Weapon (or Ammunition)–Table V

5-25. The weapon or ammunition column identifies the weapon (coaxial, or primary armament ammunition type) that is used to defeat the threat. Design of each engagement is for a specific weapon or ammunition type (primary armament) for use, which relates to the crew conduct of fire, optic selection, engagement techniques, or other unique implied tasks. Crews that fail to announce the appropriate weapon or ammunition, or appropriate selection for subsequent or supplemental engagements may be penalized IAW evaluation procedures.

Target Type

5-26. The target type is the target required for the presentation, IAW TC 25-8.

Target Posture–Table V

5-27. The target posture establishes if the target is stationary, moving, or evasive for the engagement. See TC 3-20.31 for more information on target postures.

Range (to Target)–Table V

5-28. The range column is the required range (full scale or equivalent scaled range) from the firing vehicle to the target. For offensive engagements, this distance calculation is from the center of the movement box to the target. The range to target distance is provided in meters (for example, 600). The target may be placed at the distance indicated, plus or minus 200-meters. For example, the target may be placed between 400 and 800 meters. No change to the EM is authorized.

Engagement Modifier–Table V

5-29. The EM is the time in seconds required to achieve 100 points against the listed threat. To defeat the threat successfully, the crew must achieve the kill standard against the target and have an overall engagement time of no more than the EM plus 20 seconds. See TC 3-20.31 for the evaluation, timing, and scoring procedures.

Engagements–Table V

5-30. Units are not allowed to deviate from any target type, target posture, range, and weapon system/ammunition type for Table V, Practice. (See figure 5-6 on page 180 for the breakdown of what target type, target posture, range and weapon system/ammunition type are used for each task number.)

TABLE V, PRACTICE ENGAGEMENT REQUIREMENTS

TASK	DESCRIPTION	POSTURE	FIRER	WEAPON	TARGET TYPE	TARGET POSTURE	RANGE	EM
50	VEHICLE COMMANDER	DEFENSE	VC	COAX	E(7)FRT	STA	600m	9
			VC	HE	L2T-FLK	MOV	1,000m	11
51	MACHINE GUN PURE	OFFENSE	GNR	COAX	E(3)FRT	STA	600m	13
			GNR	COAX	E(7)FRT	STA	800m	14
52	MACHINE GUN PURE	DEFENSE	GNR	COAX	E(7)FRT	STA	400m	7
			GNR	COAX	L1T-FRT	STA	800m	9
53	MAIN GUN	OFFENSE	GNR	AP	M2T-FRT	STA	400m	9
			GNR	HE	L2T-FLK	MOV	1,800m	16
54	MAIN GUN	DEFENSE	GNR	HE	L2T-FRT	STA	1,400m	10
			GNR	HE	L1T-FRT	STA	1,600m	10
			GNR	AP	M1T-FLK	MOV	1,200m	10
55	CHANGE OF WEAPON/ AMMUNITION	OFFENSE	GNR	AP	M2T-FRT	STA	400m	9
			GNR	COAX	E(7)FRT	STA	800m	14
			GNR	HE	L2T-FRT	STA	1,400m	14
			GNR	COAX	E(7)FRT	STA	800m	14
56	CHANGE OF WEAPON/ AMMUNITION	DEFENSE	GNR	COAX	E(7)FRT	STA	600m	9
			GNR	COAX	L2T-FRT	STA	800m	9
			GNR	AP	M1T-FRT	STA	1,800m	9
			GNR	AP	M1T-FLK	MOV	1,000m	10
57	DEGRADED AUX	OFFENSE	GNR	COAX	E(7)FRT	STA	400m	11
			GNR	AP	M1T-FRT	STA	1,600m	13
58	DEGRADED MANUAL	DEFENSE	GNR	COAX	E(7)FRT	STA	600m	9
			GNR	HE	L2T-FRT	STA	1,000m	9
59	SIMULTANEOUS /MULTIPLE TARGET	OFFENSE	GNR	COAX	E(7)FRT	STA	400m	11
			GNR	AP	M1T-FLK	MOV	2,000m	16

LEGEND

AP	ARMOR PIERCING	GNR	GUNNER
AUX	AUXILIARY SIGHT	HE	HIGH EXPLOSIVE
COAX	COAXIAL MACHINE GUN	m	METER
EM	ENGAGEMENT MODIFIER	MOV	MOVING
FLK	FLANK	STA	STATIONARY
FRT	FRONTAL	VC	VEHICLE COMMANDER

Figure 5-6. Table V, Practice, scenario requirements

TIME AND THROUGHPUT–TABLE V

5-31. The throughput expectation of this table is 14 crews per day. Depending on maintenance or other unforeseen issues, recommend incorporating an additional half training day to the schedule. (See figure 5-7 for the expected throughput schedule based on the number of vehicles for firing and the unit's day/night engagement breakdown for the engagements.)

CREW PLATFORM WEAPON SYSTEM THROUGHPUT REQUIREMENTS

		NUMBER OF ENGAGEMENTS					
	DAY	8	7	6	5	4	
	NIGHT	2	3	4	5	6	
NUMBER OF CREWS	10	15.25	16.00	16.50	17.25	18.00	HOURS TO COMPLETE
	11	16.25	17.00	17.75	18.50	19.25	
	12	17.50	18.25	19.00	20.00	20.75	
	13	18.50	19.50	20.25	21.25	22.00	
	14	19.75	20.75	21.50	22.50	23.50	
	15	21.00	22.00	23.00	24.00	25.00	
	16	22.00	23.00	24.25	25.25	26.25	
	17	23.25	24.25	25.50	26.50	27.75	
	18	24.25	25.50	26.75	28.00	29.00	
	19	25.50	26.75	28.00	29.25	30.50	
	20	26.50	28.00	29.25	30.50	32.00	

Note: Overall time requirements are based on a single firing lane and include four hours of range maintenance down time (two blocks of two hours each). This is standard at most facilities. These calculations are for planning purposes only. Units that are more proficient in tower operations may have an increased throughput.

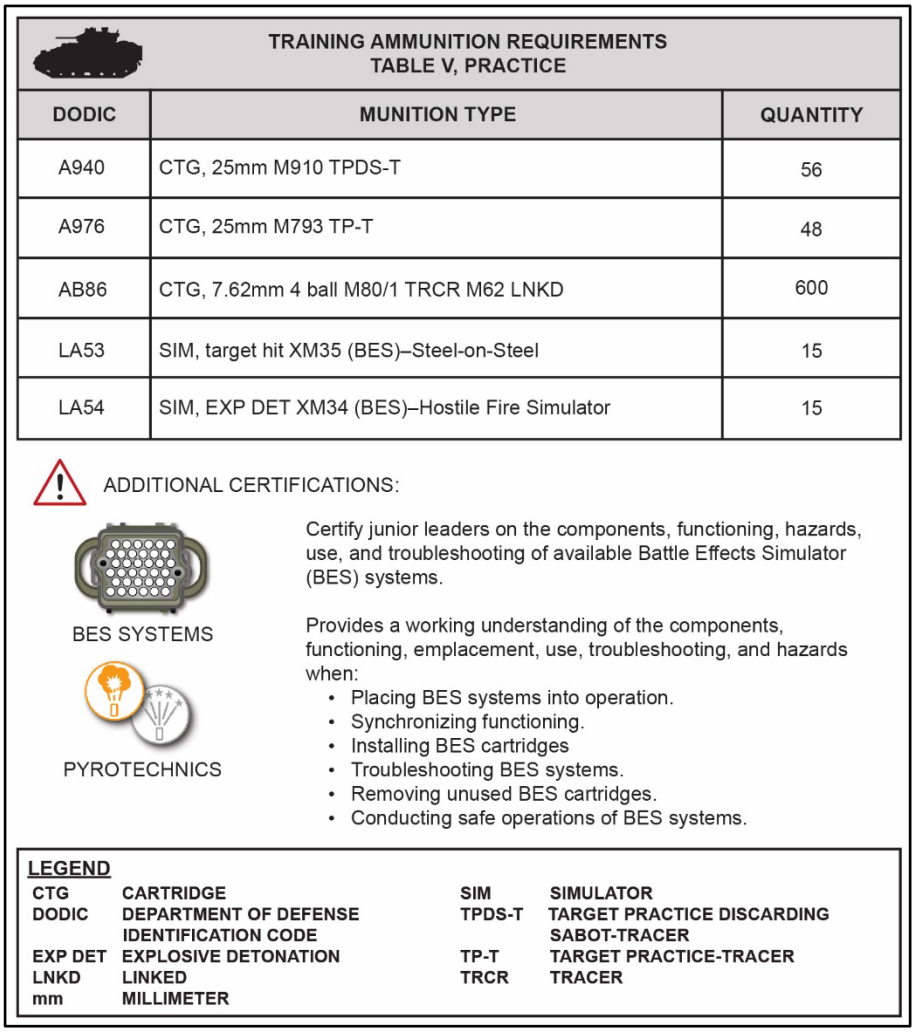
Any time shown exceeding 24 hours will not be possible in a single range day without unit action to conduct the range with a sense of urgency during preparation to fire tasks and execution of the table including tactical movement between engagements.

Figure 5-7. Table V throughput expectations

Note. Time requirements overall are based on a single firing lane and include 4 hours of range maintenance down time (two blocks of 2 hours each). This is standard at most facilities. These calculations are for planning purposes only. Units that are more proficient in tower operations may have an increased throughput.

AMMUNITION–TABLE V

5-32. Units are required to include the BESs as part of the Army-standard target presentations during training. (See figure 5-8 for the ammunition requirements for Table V, Practice.)



TRAINING AMMUNITION REQUIREMENTS
TABLE V, PRACTICE

DODIC	MUNITION TYPE	QUANTITY
A940	CTG, 25mm M910 TPDS-T	56
A976	CTG, 25mm M793 TP-T	48
AB86	CTG, 7.62mm 4 ball M80/1 TRCR M62 LNKD	600
LA53	SIM, target hit XM35 (BES)–Steel-on-Steel	15
LA54	SIM, EXP DET XM34 (BES)–Hostile Fire Simulator	15

Figure 5-8. Table V ammunition requirements

TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS–TABLE V

5-33. This course requires the use of the CMU (some installations may refer to the CMU as the IPU) for all crews. The CMU is available on the digital range facility scheduled (if equipped). Coordination with the scheduled range facility manager will determine unit responsibilities for installation, troubleshooting, maintenance, and use of the devices ahead of the training day(s). If the range does not have a CMU available, unit may draw the CMUR from the TADSS warehouse. The CMUR differs from the CMU in that it stores all run data on a solid-state drive on the vehicle, for use with the provided AAR suite in the CMUR kit.

5-34. The brigade commander must approve authorization for deviation from this requirement if TADSS are unavailable in writing. Units should focus on training and reinforcing the skills in the direct fire kill chain on this table specifically with their thermal optics, day and night to best prepare them for the follow-on training events. (See figure 5-9 for the TADSS required or recommended for Table V.)



TABLE V
PRACTICE
TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS (TADSS) REQUIREMENTS

DEVICE	NOMENCLATURE	REMARKS
CMU	Crew Module Unit/Integrated Player Unit	REQUIRED
CMUR	Crew Module Unit Recorder (Thru-Sight Video)	
DDI	CTG, 25MM LINKED M794 (DDI) DODIC–A976	CONCURRENT TRAINING
DDI	CTG, 7.62MM DUMMY M172 (LINKED) DODIC–A159	
SP-1	BORESIGHT PANEL	REQUIRED

LEGEND

CTG	CARTRIDGE	MM	MILLIMETER
DDI	DUMMY DRILL INERT	SP-1	SPECIAL PANEL NUMBER ONE
DODIC	DEPARTMENT OF DEFENSE IDENTIFICATION CODE		

Figure 5-9. Table V training aids, devices, simulators, and simulations requirements

PREPARE FOR TABLE V

5-35. Units must coordinate for the appropriate training facility, equipment, targetry, training munitions, TADSS (if desired), and pyrotechnics to support Table V. During the preparation phase, the unit should ensure the proofing team, VCE's, and other personnel receive training to standard to support their role as evaluators and trainers. This includes range officers in charge, range safety officers, and ammunition handlers.

TRAIN THE TRAINERS–TABLE V

5-36. Typically, units have certified each VC and most gunners as VCEs prior entering the live-fire density. Units must have certified evaluators to ensure the training objectives for the training table are set and to provide effective AARs to each crew. Table V also requires experienced VCs to serve as the proofing team for the zeroing test (if necessary).

VEHICLE CREW EVALUATORS–TABLE V

5-37. A trained and certified VCE team must be available to support prior to live fire to evaluate a gunnery density correctly. After certification, the unit must ensure sufficient VCEs are available to support the live-fire event. Evaluations of crew gunnery always come from outside the firing platoon element, and for qualification purposes, VCEs external to the battalion are required.

5-38. Depending on the size of the weapons training density (make-up gunnery, platoon, company, or battalion) and the type of range facility used, the number of evaluators may vary. Having the correct number and type of evaluators per firing range maximizes the unit's throughput of firing vehicles on the range, reduce range down time, and provide for the highest quality evaluations.

5-39. Units provide the following to prepare the trainers:

- Commander training objectives.
- Conduct of the range briefing for the training event.
- Provision of scenario and lane concept with crew tasks for training.
- Risk assessment.
- Identification of supporting doctrinal publications for use as primary references.
- TADSS, pyrotechnics, blanks, and BESs used during the training event (see appendix A for the training munitions requirements for the complete training strategy).

RECONNAISSANCE OF THE SITE–TABLE V

5-40. Commanders use an authorized training facility for Table V, Practice. Commanders follow the installation's policies and procedures for formally scheduling the training location as far in advance as practical. See TC 3-20.31 for more in-depth information concerning range operations at the unit level.

5-41. Once scheduled, the commander, Master Gunner, platoon leaders and platoon sergeants conduct a reconnaissance of the training areas to—

- Verify sufficient space is available to support the entire unit through multiple training lanes.
- Ensure multiple iterations or rotations through the scenario are achievable with appropriate retraining opportunities.
- Ensure sufficient administrative areas are available to support group discussions, briefings, and AARs.
- Provide sand table or terrain board.
- Identify the ASP.
- Determine the conduct of the range or the flow of training to maximize the live-fire range time.
- Identify the range operating system and verify that the training scenarios have been properly loaded.
- Schedule proofing of the range, based on the higher headquarters OPORD.
- Ensure requested TADSS are available if provided by the range facility.
- Issue the order.

5-42. Commanders can issue an OPORD, WARNORD, or use the training schedule as necessary. The WARNORD should include the appropriate tasks, required leaders, and equipment needed, as well as the unit's training timeline including walk-through, rehearsals, and AARs. WARNORDs for external organizations must include sufficient reaction time for the appropriate personnel and equipment needed.

REHEARSE–TABLE V

5-43. The unit uses all training resources, materials, and equipment available to conduct rehearsals of training events. During the rehearsal, commanders ensure their unit has sufficient time to train to the specified standard including AARs and retraining time. Commanders ensure their unit verifies optional scenarios that increase complexity when warranted.

5-44. Units should rehearse the training event from start to finish, and confirm the following:

- The VCEs and proofing team understand the training scenarios and tasks.
- Sufficient space is available to provide appropriate distances for engagements ranges and target dispersion.
- Analog and digital systems are operational within the organization and to the higher headquarters regardless of their location.
- Additional crew training packages (DA Form 8265, DA Form 8265-1, and appropriate zero documentation) are complete and provide for multiple iterations.
- Sufficient administrative areas are available.
- A review of AAR capabilities while encouraging a use of thru-sight video systems to increase the fidelity and quality of the AARs.
- Location of retraining for crews as necessary.
- Accessibility to crew simulator systems, plumb and synchronization ramps, tracking and manipulation panels, and additional boresighting locations are available.

5-45. Once the unit completes the walk-through and training rehearsal, the commander makes any necessary adjustments to the plan and issues FRAGORDs as necessary.

EXECUTE TABLE V

5-46. Once the unit arrives at the training location, the unit should—

- Conduct a safety briefing for the training event.
- Provide a conduct of the range briefing to establish the sequence of events for the training day.
- Conduct sensitive item checks prior to executing training.
- Assign VCE support as appropriate.
- Issue the OPORD for the training mission.
- Execute the training scenario.

5-47. The training unit conducts informal AARs of each crew completing a phase of training within the training mission. During training, the assigned VCE's, executive officer, 1SG, and Master Gunner review the subordinate unit's performance. They follow the unit SOP, prescribed TTP, and the appropriate T&EOs, and review completed crew score sheets and roll-up documentation for clarity and completeness.

ENGAGEMENT 50

5-48. The VC engagement fired from the VC's position using the commander's hand station firing the coaxial and main gun (see figure 5-10 and figure 5-11). It trains and evaluates the VC's ability to engage and destroy stationary and moving targets with the multiple weapons from the defense.

50 

TABLE V, PRACTICE

TASK TYPE:	VEHICLE COMMANDER	POSTURE:	DEFENSE

CONDITIONS	TARGET 1	TARGET 2	DELAY: TARGET 3	TARGET 4
				
FIRER	VC	VC		
WEAPON/AMMUNITION	COAX	HE		
TARGET	TROOPS	TECH TRUCK		
TARGET TYPE	E(7)-FRT	L2T-FLK		
TARGET POSTURE	STATIONARY	MOVING		
RANGE TO TARGET	600m	1,000m		
ENGAGEMENT MODIFIER	9	11		

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
			
DEFENSE	DEFENSE	DEFENSE	OFFENSE
Foundation engagement with change of weapon system/ammunition. Reinforces all VC training in simulations.	Initial engagement under live-fire conditions. Building block for future live-fire training. All Table IV Engagements are DEFENSE.	Trains multiple target engagements under live-fire conditions. Specifically trains harder than the test. VC change of weapon system.	Qualification engagement, single moving from the offense at medium range.

LEGEND

COAX	COAXIAL MACHINE GUN	HE	HIGH EXPLOSIVE
FLK	FLANK	m	METER
FRT	FRONTAL	VC	VEHICLE COMMANDER

Figure 5-10. Engagement 50 overview

50	TARGET 1	TARGET 2	TARGET 3	TARGET 4
VEHICLE COMMANDER DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
8		50	1	1

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

YOUR GUNNER'S HAND STATION IS INOPERATIVE. CONTINUE TO FIGHT. CHECK YOUR MACHINE GUNS. INDEX HE. REPORT REDCON ONE.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	TROOPS AND TRUCK IN SECTOR
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____ AND _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**mm**	**MILLIMETER**
HE	**HIGH EXPLOSIVE**	**REDCON**	**READINESS CONDITION**

Figure 5-11. Engagement 50 ammunition and script worksheet

ENGAGEMENT 51

5-49. This is a machine gun pure engagement for the gunner. It trains target detection, acquisition, and machine gun engagement techniques during offensive engagements (see figure 5-12 and figure 5-13). Range bands are near- and mid-range. Crews must tactically use the course road and build a stable firing platform.

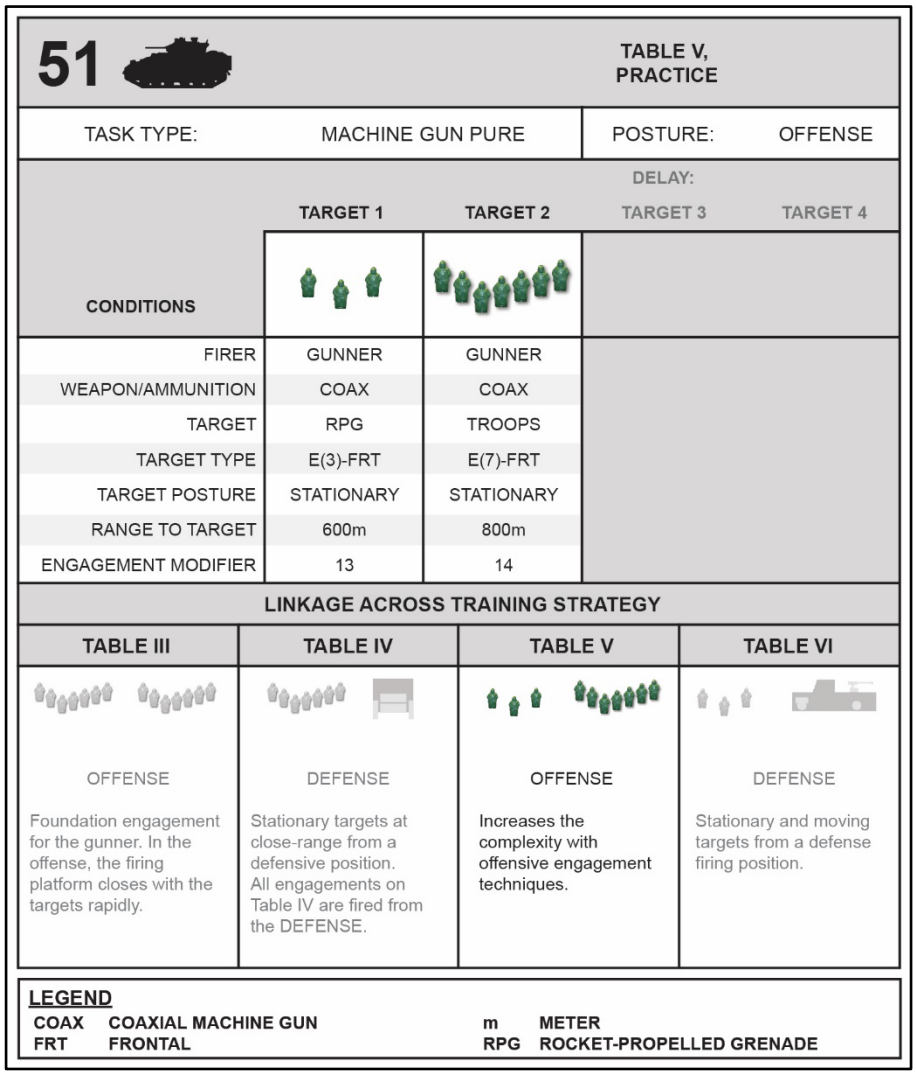


Figure 5-12. Engagement 51 overview

51	TARGET 1	TARGET 2	TARGET 3	TARGET 4
MACHINE GUN PURE OFFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS				
HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
		100		

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR OFFENSIVE OPERATIONS. MOVE TO A SHORT HALT POSITION ALONG ROUTE _____

CHECK YOUR MACHINE GUN. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	TROOPS AND RPG TEAM
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	BEGIN YOUR MOVEMENT, REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**REDCON**	**READINESS CONDITION**
HE	**HIGH EXPLOSIVE**	**RPG**	**ROCKET-PROPELLED GRENADE**
mm	**MILLIMETER**		

Figure 5-13. Engagement 51 ammunition and script worksheet

ENGAGEMENT 52

5-50. From a defensive posture, the gunner engages multiple machine gun threats at close and long-range (see figure 5-14 and figure 5-15). This engagement continues the gunner's education on machine gun engagement techniques against multiple threats while utilizing the battle position and verifying the gun tube is clear for future main gun engagements.

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TABLE V, PRACTICE

TASK TYPE:	MACHINE GUN PURE	POSTURE:	DEFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1	TARGET 2	TARGET 3	TARGET 4
				
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	COAX	COAX		
TARGET	TROOPS	CARGO TRUCK		
TARGET TYPE	E(7)-FRT	L1T-FRT		
TARGET POSTURE	STATIONARY	STATIONARY		
RANGE TO TARGET	400m	800m		
ENGAGEMENT MODIFIER	7	9		

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
			
DEFENSE	DEFENSE	DEFENSE	OFFENSE
Multiple short-range coax engagements from the defense using TADSS.	Short range and long range coax threats. All engagements on Table IV are fired from the DEFENSE.	Multiple machine gun targets at mid-range for the coax.	Firing on the move, troops and truck at close and mid-range. CAUTION–initial troop presentation is 300m.

LEGEND

COAX	COAXIAL MACHINE GUN	m	METER
FRT	FRONTAL	TADSS	TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS

Figure 5-14. Engagement 52 overview

52	TARGET 1	TARGET 2	TARGET 3	TARGET 4
MACHINE GUN PURE DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
			1	1

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

CHECK YOUR MACHINE GUN, REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	COAX
TARGET DESCRIPTION	TROOPS AND TRUCK
METHOD	
LOCATION	VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**mm**	**MILLIMETER**
COAX	**COAXIAL MACHINE GUN**	**REDCON**	**READINESS CONDITION**
HE	**HIGH EXPLOSIVE**		

Figure 5-15. Engagement 52 ammunition and script worksheet

ENGAGEMENT 53

5-51. This is a main gun engagement for the gunner transitioning between short- and long-range threats (see figure 5-16 and figure 5-17). This engagement trains the crews target identification and engagement skills across range bands and threat vehicle postures.

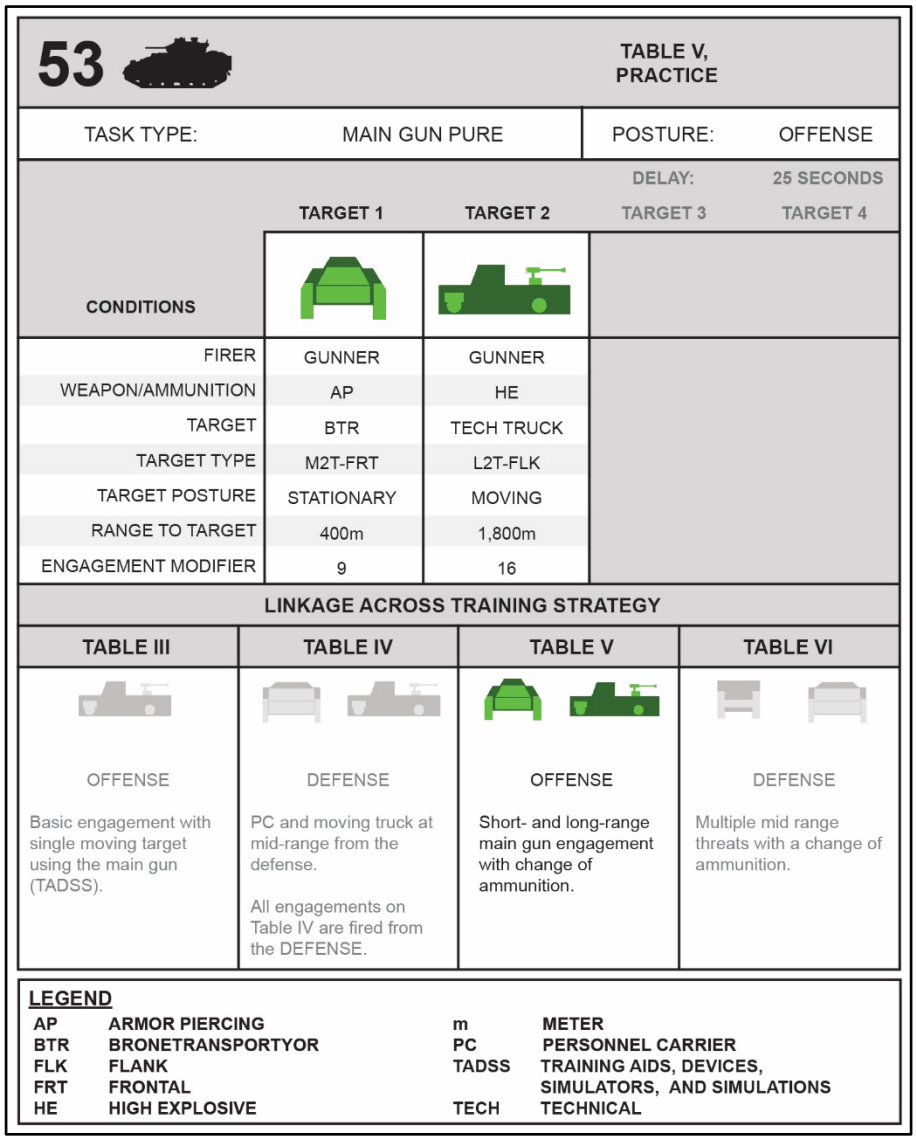


Figure 5-16. Engagement 53 overview

53	TARGET 1	TARGET 2	TARGET 3	TARGET 4
MAIN GUN PURE OFFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS				
HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
8	8		2	2

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR OFFENSIVE OPERATIONS. MOVE TO A SHORT HALT POSITION ALONG ROUTE _____

INDEX AP. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	PC WITH TRUCK MOVING INTO SECTOR
METHOD	
LOCATION	VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	BEGIN YOUR MOVEMENT, REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**mm**	**MILLIMETER**
COAX	**COAXIAL MACHINE GUN**	**PC**	**PERSONNEL CARRIER**
HE	**HIGH EXPLOSIVE**	**REDCON**	**READINESS CONDITION**

Figure 5-17. Engagement 53 ammunition and script worksheet

ENGAGEMENT 54

5-52. This is a main gun engagement from a defensive firing position against multiple stationary and moving threats (see figure 5-18 and figure 5-19). This engagement requires the crew to conduct a change of ammunition and transition from stationary to moving threat presentations.

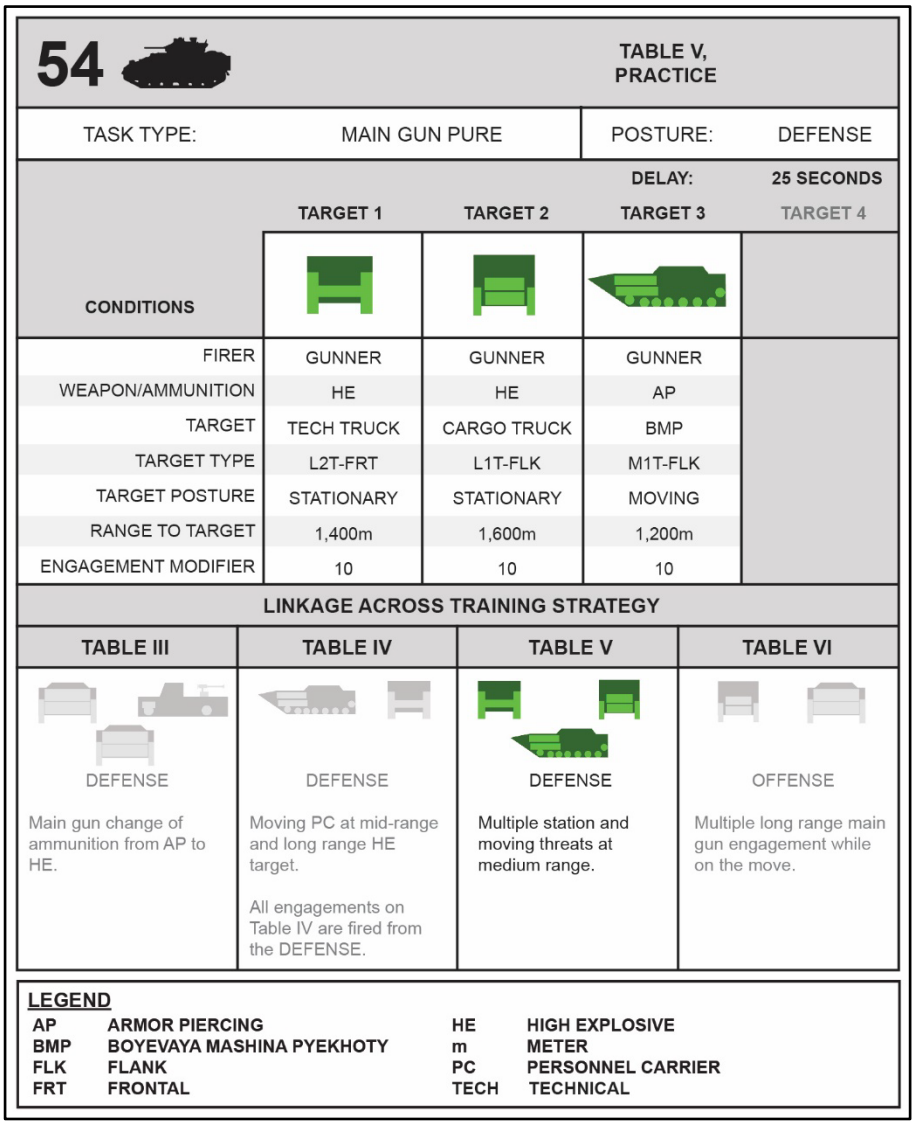


Figure 5-18. Engagement 54 overview

54

	TARGET 1	TARGET 2	TARGET 3	TARGET 4
MAIN GUN PURE DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
16	8		3	3

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

INDEX HE, REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	TRUCKS WITH LIGHT ARMOR SUPPORT
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____ AND _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**mm**	**MILLIMETER**
HE	**HIGH EXPLOSIVE**	**REDCON**	**READINESS CONDITION**

Figure 5-19. Engagement 54 ammunition and script worksheet

ENGAGEMENT 55

5-53. This engagement challenges the crew with a change of weapon and ammunition during while on the offense (see figure 5-20 and figure 5-21). This is the most complex and rigorous engagement on this table. Teaching points may include the execution of target designation/handoff by the VC. This engagement is designed to include the most changes to weapon and ammunition types requiring increased switchology awareness.

55 

TABLE V, PRACTICE

TASK TYPE:	CHANGE OF WEAPON/AMMUNITION	POSTURE:	OFFENSE

CONDITIONS	TARGET 1	TARGET 2	DELAY: TARGET 3	25 SECONDS TARGET 4
				
FIRER	GUNNER	GUNNER	GUNNER	GUNNER
WEAPON/AMMUNITION	AP	COAX	HE	COAX
TARGET	BTR	TROOPS	TECH TRUCK	TROOPS
TARGET TYPE	M2T-FRT	E(7)-FRT	L2T-FRT	E(7)-FRT
TARGET POSTURE	STATIONARY	STATIONARY	STATIONARY	STATIONARY
RANGE TO TARGET	400m	800m	1,400m	800m
ENGAGEMENT MODIFIER	9	14	14	14

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
 OFFENSE Trains the crew's ability to prioritize threats presented. Change of weapon and ammo on the offense.	Change of weapon system/ammunition tasks are not executed on Table IV, Basic.	 OFFENSE Complex engagement with change of weapon and ammunition on the offense.	 DEFENSE Complex 4-target engagement with change of weapon and long-range mover.

LEGEND

AP	ARMOR PIERCING	HE	HIGH EXPLOSIVE
BTR	BRONETRANSPORTYOR	m	METER
COAX	COAXIAL MACHINE GUN	TECH	TECHNICAL
FRT	FRONTAL		

Figure 5-20. Engagement 55 overview

55	TARGET 1	TARGET 2	TARGET 3	TARGET 4
CHANGE OF WEAPON/ AMMUNITION OFFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
8	8	100	2	2

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR OFFENSIVE OPERATIONS. MOVE TO A SHORT HALT POSITION ALONG ROUTE _____

INDEX AP, CHECK YOUR MACHINE GUN. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	PC AND TROOPS IN SECTOR WITH SUPPORT
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	BEGIN YOUR MOVEMENT, REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**PC**	**PERSONNEL CARRIER**
HE	**HIGH EXPLOSIVE**	**REDCON**	**READINESS CONDITION**
mm	**MILLIMETER**		

Figure 5-21. Engagement 55 ammunition and script worksheet

ENGAGEMENT 56

5-54. This is a change of weapon and ammunition engagement fired from a defensive firing position (see figure 5-22 and figure 5-23). This is a complex engagement and requires the crew to tactically move from the defilade to the enfilade while managing their switchology, ammunition type, and conduct of fire. This is one of the most complex engagements for the crew to master.

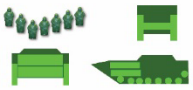
56 

TABLE V, PRACTICE

TASK TYPE:	CHANGE OF WEAPON/AMMUNITION	POSTURE:	DEFENSE

CONDITIONS	TARGET 1	TARGET 2	DELAY: TARGET 3	25 SECONDS TARGET 4
				
FIRER	GUNNER	GUNNER	GUNNER	GUNNER
WEAPON/AMMUNITION	COAX	COAX	AP	AP
TARGET	TROOPS	TECH TRUCK	BMP	BMP
TARGET TYPE	E(7)-FRT	L2T-FRT	M1T-FRT	M1T-FLK
TARGET POSTURE	STATIONARY	STATIONARY	STATIONARY	MOVING
RANGE TO TARGET	600m	800m	1,800m	1,000m
ENGAGEMENT MODIFIER	9	9	9	10

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
 DEFENSE Change of weapon system from the defense with long range missile target. Baseline engagement skills with high probability threat array.	Change of weapon system/ammunition tasks are not executed on Table IV, Basic.	 DEFENSE Change of weapon system for delay presentation in the defense.	 OFFENSE Change of weapon system and ammunition. Complex engagement with long range HE target.

LEGEND

AP	ARMOR PIERCING	FRT	FRONTAL
BMP	BOYEVAYA MASHINA PYEKHOTY	HE	HIGH EXPLOSIVE
COAX	COAXIAL MACHINE GUN	m	METER
FLK	FLANK	TECH	TECHNICAL

Figure 5-22. Engagement 56 overview

56	TARGET 1	TARGET 2	TARGET 3	TARGET 4
CHANGE OF WEAPON/ AMMUNITION DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
	16	100	3	3

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

CHECK YOUR MACHINE GUN, REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	TROOPS AND TRUCK WITH LIGHT ARMOR SUPPORT
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____ AND _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**mm**	**MILLIMETER**
HE	**HIGH EXPLOSIVE**	**REDCON**	**READINESS CONDITION**

Figure 5-23. Engagement 56 ammunition and script worksheet

ENGAGEMENT 57

5-55. A degraded engagement where the gunner must engage multiple threats on the offense using the auxiliary sight (see figure 5-24 and figure 5-25). This engagement challenges the crew by using degraded gunnery techniques and advanced target acquisition with a near and far threat array.

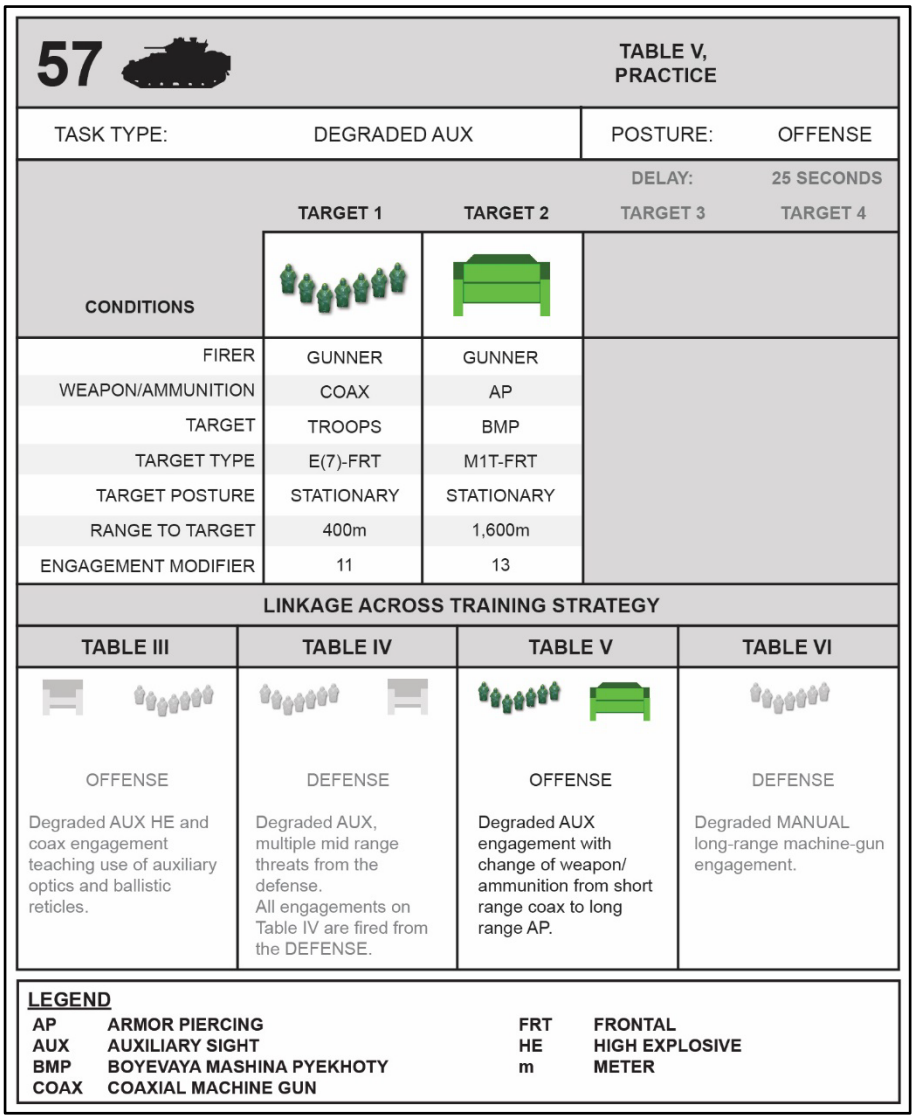


Figure 5-24. Engagement 57 overview

57	TARGET 1	TARGET 2	TARGET 3	TARGET 4
DEGRADED AUX OFFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
	8	50	1	1

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR OFFENSIVE OPERATIONS. YOUR IBAS IS INOP, READY YOUR AUX SIGHT
MOVE TO A SHORT HALT POSITION ALONG ROUTE _____

INDEX AP, CHECK YOUR MACHINE GUN. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	TROOPS AND PC IN SECTOR
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	BEGIN YOUR MOVEMENT, REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**INOP**	**INOPERABLE**
AUX	**AUXILIARY SIGHT**	**mm**	**MILLIMETER**
HE	**HIGH EXPLOSIVE**	**PC**	**PERSONNEL CARRIER**
IBAS	**IMPROVED BRADLEY ACQUISITION SYSTEM**	**REDCON**	**READINESS CONDITION**

Figure 5-25. Engagement 57 ammunition and script worksheet

ENGAGEMENT 58

5-56. A degraded engagement for the gunner to apply manual engagement techniques (see figure 5-26 and figure 5-27). This requires the gunner to scan, identify, and engage mid-range coaxial and high explosive threat presentations while in the defense using the manual traverse and elevation handwheels and trigger.

58 

TABLE V, PRACTICE

TASK TYPE:	DEGRADED MANUAL	POSTURE:	DEFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1	TARGET 2	TARGET 3	TARGET 4
				
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	COAX	HE		
TARGET	TROOPS	TECH TRUCK		
TARGET TYPE	E(7)-FRT	L2T-FRT		
TARGET POSTURE	STATIONARY	STATIONARY		
RANGE TO TARGET	600m	1,000m		
ENGAGEMENT MODIFIER	9	9		

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
			
DEFENSE	DEFENSE	DEFENSE	OFFENSE
Degraded MANUAL engagement, medium range machine gun.	Degraded MANUAL, stationary targets at mid range. All engagements on Table IV are fired from the DEFENSE.	Degraded MANUAL change of weapon and ammunition from the defense.	Degraded AUX coax and long-range mover. Target detection and acquisition difficulty.

LEGEND

AUX	AUXILIARY SIGHT	HE	HIGH EXPLOSIVE
COAX	COAXIAL MACHINE GUN	m	METER
FRT	FRONTAL	TECH	TECHNICAL

Figure 5-26. Engagement 58 overview

58	TARGET 1	TARGET 2	TARGET 3	TARGET 4
DEGRADED MANUAL DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
8		50	1	1

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

YOUR TURRET DRIVE SYSTEM IS OUT, SWITCH TO MANUAL. CHECK YOUR MACHINE GUN. PREPARE FOR DEGRADED OPERATIONS AND REPORT REDCON ONE.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	TROOPS AND TRUCK
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____ AND _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**mm**	**MILLIMETER**
HE	**HIGH EXPLOSIVE**	**REDCON**	**READINESS CONDITION**

Figure 5-27. Engagement 58 ammunition and script worksheet

ENGAGEMENT 59

5-57. A change of weapon system and ammunition (see figure 5-28 and 5-29). This engagement reinforces the crew skills required to engage threats at near and long-range, both stationary and moving.

59 

TABLE V, PRACTICE

TASK TYPE:	CHANGE OF WEAPON/AMMUNITION	POSTURE:	OFFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1	TARGET 2	TARGET 3	TARGET 4
				
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	COAX	AP		
TARGET	TROOPS	BMP		
TARGET TYPE	E(7)-FRT	M1T-FLK		
TARGET POSTURE	STATIONARY	MOVING		
RANGE TO TARGET	400m	2,000m		
ENGAGEMENT MODIFIER	11	16		

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
			
OFFENSE	DEFENSE	OFFENSE	DEFENSE
Change of weapon and ammunition at varying ranges. Long range missile target presentation fired from short halt if not equipped with TOTM.	Multiple mid to long range troop targets. All engagements on Table IV are fired from the DEFENSE.	Change of weapon system with long-range moving target.	Change of weapon system, RPG team with long range HE target.

LEGEND

AP	ARMOR PIERCING	HE	HIGH EXPLOSIVE
BMP	BOYEVAYA MASHINA PYEKHOTY	m	METER
COAX	COAXIAL MACHINE GUN	RPG	ROCKET-PROPELLED GRENADE
FRT	FRONTAL	TOTM	TOW ON THE MOVE
FLK	FLANK		

Figure 5-28. Engagement 59 overview

59	TARGET 1	TARGET 2	TARGET 3	TARGET 4
CHANGE OF WEAPON SYSTEM/AMMUNITION OFFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
	8	50	1	1

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR OFFENSIVE OPERATIONS. MOVE TO A SHORT HALT POSITION ALONG ROUTE _____

INDEX AP, CHECK YOUR MACHINE GUN. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	TROOPS AND PC MOVING INTO SECTOR
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____ AND _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	BEGIN YOUR MOVEMENT, REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**PC**	**PERSONNEL CARRIER**
HE	**HIGH EXPLOSIVE**	**REDCON**	**READINESS CONDITION**
mm	**MILLIMETER**		

Figure 5-29. Engagement 59 ammunition and script worksheet

ASSESS TABLE V

5-58. The intent of the practice course of fire is to train the crews within the organization on the appropriate conduct of fire skills in both offensive and defensive postures against common threat arrays using the primary armament, coaxial, and commander's machine gun. Proper evaluation and assessment of crew performance is key to improving individual and crew skills prior to moving to the qualification course of fire.

5-59. Each crew should receive a formal AAR following the guidelines found in TC 3-20.31. Each evaluator should use DA Form 8265 and DA Form 8265-1 as the basis for their evaluation, identifying the firing occasional information from the scoresheet timelines. The evaluator and VC each review and sign the DA Form 8265-1.

Note. VCEs must be certified or recertified as described in TC 3-20.31. Performing the duties, as a VCE during the conduct of Table V, Practice, is a significant part of building experience and knowledge of those gunners and VCs without firing.

5-60. Units should track the various firing information from the score sheets to identify where in the conduct of fire crews and the overall unit should apply additional training effort. Some of those indicators are—

- Target acquisition, detection, and identification.
- Time to fire.
- Time to kill.
- Opening and closing times for machine gun engagements.
- Gunner lay errors.
- Scanning techniques.
- Engagement techniques.
- Conduct of fire issues.
- Penalties by type.

RETRAIN–TABLE V

5-61. The unit Master Gunner maintains the unit roll-up by engagement. A subcategorized roll-up by platoon provides the commander a snapshot of training trends, strengths, and weaknesses. The Master Gunner should not only identify crews that did not achieve a passing standard, but also crews that struggled on specific engagement tasks. Once done, the unit can establish and conduct the appropriate focused retraining followed by a subsequent evaluation.

5-62. All crews successfully complete the course of fire based on the standards for the engagements listed earlier in this chapter.

Note. All crews should successfully complete the course of fire based on the standards for the engagements listed earlier in this chapter. No crew should proceed to Table VI or any other live-fire event until they have achieved the minimum standard on Table V. The commander and Master Gunner may assess the crews' capability to proceed without qualifying the table based on target acquisition, target kills, fire commands, and engagement techniques.

5-63. Unit Master Gunners should include chair drills for the crews using the scenarios for each engagement for retraining purposes. Units should include future table's engagements in the chair drills training to best prepare the crews for those events. Additional information on chair drills is in TC 3-20.31.

DRIVER'S TRAINING–TABLE V

5-64. Leaders should determine the number of miles driven during the day and night phases for their assigned drivers. This information should be recorded, including the miles driven, miles driven with the enhanced viewer, and any tactical (off-road) miles driven.

CREW GUNNERY FOLDER RECORDS–TABLE V

5-65. Once testing is complete, the Master Gunner records the results of all training completed in the crew gunnery folder. The records must be maintained for a minimum of 12 months.

RECORD INDIVIDUAL TASK PERFORMANCE–TABLE V

5-66. Leaders track and train their Soldier's individual and collective tasks trained and evaluated using tools provided by the ATN such as the SULT and the DJB. These systems interface directly with the DTMS to record training and evaluation results.

Note. Leaders must be granted access first by their commander or DTMS manager to enroll or assign their Soldiers the specific tasks from the ICTL that are trained and tested during the training event.

5-67. From within the SULT, the authorized leader is enabled to view, maintain, and update—

- Warrior tasks and battle drills.
- MOS-specific individual critical tasks.
- Unit-mandated training tasks.
- Supporting T&EOs (access dependent on proponent distribution restrictions).

5-68. Leaders should update their Soldier's individual training records for training and evaluation of the following tasks, based on their assigned position. This is not an all-inclusive list of the trained and tested tasks for this event. Leaders should adjust based on the unit's additions to the event.

5-69. This ensures historical data is available throughout the Army force generation training cycle for the chain of command to assess strengths and weaknesses of crews and address these concerns in upcoming GST training. The most current GST records must accompany the unit or crew throughout the entire weapons training density.

UPDATING INDIVIDUAL TRAINING RECORDS–TABLE V

5-70. Leaders update their SULT application with the appropriate training and evaluation outcomes for their crewmembers. The lists provided show the touch points associated with completing Table V.

5-71. Leaders must determine if the tasks were effectively trained to the Soldier and the level of proficiency based upon their performance. (See figure 5-30 on page 211 through page 216 for the tasks that are included within this event for the crew.) Leaders then update the tasks for each Soldier based on their assessment.



TABLE V, PRACTICE
INDIVIDUAL TASK TOUCH POINTS

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
031-503-1035	Protect Yourself from Chemical/Biological Contamination Using Your Assigned Protective Mask	Yes	Yes	Yes
071-024-0003	Unload the 25mm High-Explosive Incendiary Tracer (HEI-T) Ammunition Can on a Bradley Fighting Vehicle (BFV)			
071-024-0004	Unload the 25mm Armor-Piercing Sabot Discarding Tracer (APDS-T) Ammunition Can on a Bradley Fighting Vehicle (BFV)			
071-300-0001	Conduct Troop Leading Procedures	Yes		
091-91M-1073	Maintain the 25mm Gun System on the Bradley Fighting Vehicle	Yes	Yes	
171-091-1023	Conduct Vehicle Resupply	Yes		
171-121-3009	Control Techniques of Movement	Yes		
171-121-4021	Plan Range Operations	Yes		
171-121-4028	Plan Occupation of a Battle Position	Yes		
171-121-4030	Conduct Vehicle Tactical Navigation	Yes		
171-121-4041	Conduct Combat Table Operations	Yes		
171-121-4051	Prepare a Situation Report (SITREP)	Yes		

LEGEND
mm MILLIMETER

Figure 5-30. Table V, Practice, task touch points



TABLE V, PRACTICE
INDIVIDUAL TASK TOUCH POINTS, CONTINUED

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-121-4057	Perform Techniques of Movement	Yes		
171-121-4062	Issue an Oral Operation Order (OPORD)-Fragmentary Order (FRAGORD)	Yes		
171-121-4064	Prepare Logistical Status (LOGSTAT) Reports	Yes		
171-121-4065	Direct Vehicle Tactical Movement	Yes		
171-121-4067	Execute Platoon Precombat Operations	Yes		
171-122-1061	Maintain Property Accountability	Yes	Yes	Yes
171-123-1000	Occupy of a Vehicle Fighting Position	Yes		
171-123-1023	Maintain Operator's Part of Equipment Record Folder		Yes	Yes
171-123-1090	Perform Preventative Maintenance on Basic Issue Items (BII)		Yes	Yes
171-123-3001	Supervise Personnel Handling Ammunition	Yes		
171-123-4020	Perform Operator Maintenance on Global Positioning System (GPS)		Yes	Yes
171-131-2017	Identify Ammunition Container Markings	Yes	Yes	
171-131-2018	Identify the Components of Main Gun and Small Arms Ammunition	Yes	Yes	
171-136-0002	Mount Combat Identification Panels (CIPs) on a Bradley Fighting Vehicle (BFV)	Yes	Yes	Yes
171-138-0015	Conduct Advanced Vehicle Identification	Yes	Yes	

Figure 5-30. Table V, Practice, task touch points, continued



TABLE V, PRACTICE
INDIVIDUAL TASK TOUCH POINTS, CONTINUED

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-138-0017	Identify Restricted and Suspended Ammunition	Yes	Yes	
171-138-0021	Conduct Individual Weapon and Crew Served Ranges	Yes	Yes	Yes
171-138-0022	Demonstrate Target Acquisition Methods	Yes	Yes	Yes
171-138-0028	Identify Combat Vehicles and Aircraft	Yes	Yes	Yes
171-151-0009	Maintain the AN/VAS-5B Driver's Vision Enhancer (DVE)			Yes
171-19K-2237	Conduct Alternative Range Determinations on an M1 Series Tank	Yes	Yes	
171-300-0083	Enforce Rules of Engagement (ROE)	Yes		
171-309-0650	Inspect DA Form 5988-E or DA Form 2404	Yes	Yes	
171-610-0001	Perform a Map Reconnaissance	Yes	Yes	Yes
171-610-0002	Recognize Threat Tactics and Battlefield Organization	Yes	Yes	Yes
171-620-0123	Employ Common Operational Terms and Graphics	Yes		
171-924-0015	Perform Duties as a Vehicle Crew Evaluator (VCE)	Yes		
171-928-0002	Remove Crew Module Unit Recorder (CMUR) the on an M1-Series Tank	Yes	Yes	
171-928-0003	Install the Thru-Sight Video-Recorder (TSV-R) Subsystem of the Thru-Sight Video (TSV) System on a Bradley Fighting Vehicle (BFV)	Yes	Yes	Yes
171-928-0005	Install the Crew Module Unit Recorder (CMUR) on a Stryker Mobile Gun System (MGS)	Yes	Yes	Yes

LEGEND
DA **DEPARTMENT OF THE ARMY**

Figure 5-30. Table V, Practice, task touch points, continued



TABLE V, PRACTICE
INDIVIDUAL TASK TOUCH POINTS, CONTINUED

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-928-0009	Perform Pre-Operational Set-Up Procedures for the Thru-Sight Video-Recorder (TSV-R) Subsystem of the Thru-Sight Video (TSV) System	Yes		
171-928-0010	Operate the Crew Modular Unit Recorder (CMUR)	Yes	Yes	
171-928-0011	Perform Preventive Maintenance Checks & Services (PMCS) on the Thru-Sight Video (TSV) System	Yes	Yes	
171-928-0012	Troubleshoot the Thru-Sight Video (TSV) System	Yes	Yes	
171-928-0013	Conduct an After Action Review Using the Thru-Sight Video (TSV) System	Yes		
171-BFV-0000	Boresight the Weapon Systems on a Bradley Fighting Vehicle (BFV)	Yes	Yes	Yes
171-BFV-0001	Maintain the Hull on a Bradley Fighting Vehicle (BFV)	Yes	Yes	Yes
171-BFV-0002	Maintain the Turret on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0004	Drive a Bradley Fighting Vehicle (BFV)			Yes
171-BFV-0010	Slave Start an M2A3 Bradley Fighting Vehicle (BFV)			Yes
171-BFV-0012	Operate the Chemical, Biological, Radiological and Nuclear (CBRN) System on a Bradley Fighting Vehicle (BFV)	Yes	Yes	Yes
171-BFV-0013	Operate the Driver's Vision Enhancer-Wide (DVE-W) on the M2A4 Bradley Fighting Vehicle (BFV)			Yes
171-BFV-0016	Stow Ammunition on an Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0100	Install a M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0101	Perform a Function Check on the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	

Figure 5-30. Table V, Practice, task touch points, continued



TABLE V, PRACTICE
INDIVIDUAL TASK TOUCH POINTS, CONTINUED

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-BFV-0102	Load the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0103	Fire the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0104	Correct Malfunctions of the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0105	Unload the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0106	Remove a M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0201	Perform a Function Check on the 25mm Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0202	Load the the 25mm Gun Feeder on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0203	Load the 25mm High-Explosive (HE) Ammunition Can on a Bradley Fighting Vehicle (BFV)			
171-BFV-0204	Load the 25mm Armor-Piercing (AP) Ammunition Can on a Bradley Fighting Vehicle (BFV)			
171-BFV-0205	Fire the 25mm Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0206	Correct a Malfunction of the 25mm Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0209	Unload the the 25mm Gun Feeder on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-1100	Zero the Weapon Systems on Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-1200	Engage Targets using the Weapon Systems on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-3000	Direct Engagements from the Commander's Position on a Bradley Fighting Vehicle (BFV)	Yes		

LEGEND
mm MILLIMETER

Figure 5-30. Table V, Practice, task touch points, continued



TABLE V, PRACTICE
INDIVIDUAL TASK TOUCH POINTS, CONTINUED

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-COM-0302	Conduct Occupation of an Assembly Area	Yes		
171-COM-4079	Send a Situation Report (SITREP)	Yes	Yes	
171-COM-4080	Send a Spot Report (SPOTREP)	Yes	Yes	Yes

Figure 5-30. Table V, Practice, task touch points, continued

Chapter 6

Table VI–Qualification

Crew Platform, Table VI, Qualification, is the record course of fire used to determine the live-fire proficiency of a crew platform. Table VI serves as the live-fire proficiency event for readiness reporting. It serves as the live-fire prerequisite for the crew to move to collective live-fire events. Table VI, Qualification, is a live environment-training event under live-fire conditions using full-caliber training ammunition, realistic targetry and engagement scenarios, at a combat tempo, conducted on an authorized live-fire facility. Regardless of crew platform type, this table reinforces the basic skills trained during previous events but increases the tempo to expected engagement sequence capabilities to build leader and element tactical and technical mastery.

OVERVIEW OF TABLE VI

6-1. Table VI, Qualification, is from the crew's vehicle and uses full-caliber training ammunition on an authorized live-fire facility or safety certified training area that assesses an element's tactical employment proficiency and lethality. Table VI trains and evaluates the crew's ability to engage stationary or moving targets placed in a tactical array, during day and limited visibility conditions, with an operational or simulated degraded fire control system, as applicable. Crews execute these tasks from the offense and defense using full-caliber ammunition.

6-2. This table requires each crew to successfully complete the live-fire prerequisites, all zeroing procedures for their platform, and complete the defensive engagements on Table IV. This table is designed to train and evaluate complex engagement skills, day and night, while fighting from the defense and during offensive engagements. It is the qualification event for BFV crews.

Table VI, Qualification
This event builds unit proficiency and is a requirement to build unit readiness.

6-3. Figure 6-1 shows where Table VI, Qualification, resides within the BFV training strategy through crew qualification. Table VI is the qualification event where the crew is evaluated on their demonstrated proficiency executing critical live-fire main gun, machine gun, and complex change of weapons system engagements from the offense and defense, during the day and night phases. It requires the crew to demonstrate their ability to effectively employ the BFV's weapons using fully mission capable fire control system components as well as redundant, degraded engagements.

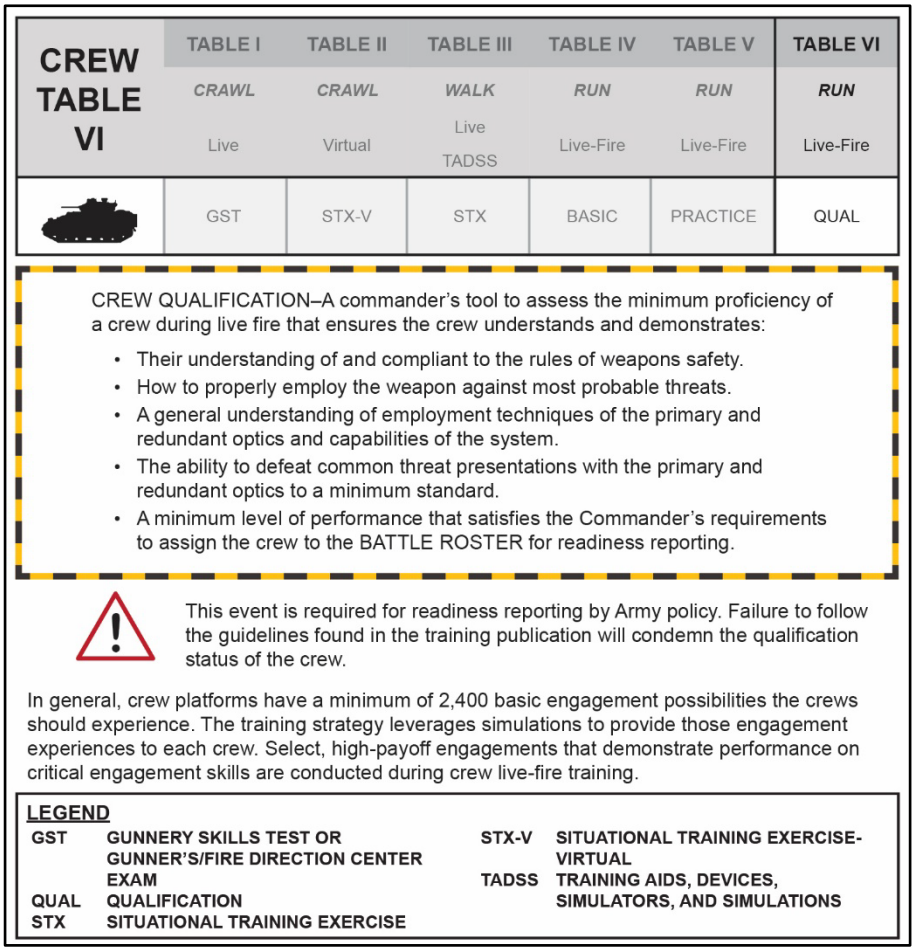


Figure 6-1. Table VI, Qualification

TABLE VI PURPOSE

6-4. Table VI is a skills assessment and risk mitigation tool for the commander and is the platform's qualification for reporting purposes. It is also a proficiency gate the crew must successfully complete prior to entering any collective live-fire event. It assists the commander in determining the safe and effective use of the platform, its weapons, identification of threats and common ammunition by the crewmembers in the unit. Further, it identifies shortfalls and training gaps in those gunnery specific skills, which build crew proficiency and unit readiness.

TABLE VI METHOD

6-5. Table VI is a performance-based evaluation of basic and advanced gunnery skills to the Army-standard of knowledge or skill in a live environment under live-fire conditions. Conduct of Table VI is on vehicles using full-caliber ammunition, and BESs. It utilizes experienced evaluators to educate, train, test, and retrain Soldiers to meet or exceed those standards.

TABLE VI END STATE

6-6. The VC/gunner assigned as a crew have successfully demonstrated the skills and knowledge required to continue training on the platform through platform qualification. Commanders are confident in their Soldier's abilities in the position assigned. The tasks evaluated in Table VI provide the commander a means to certify the crew's basic and advanced weapons platform proficiency prior to collective live-fire events. The commander and Master Gunner use the results from the qualification course when structuring the unit's crew training program and is a readiness reportable item.

TABLE VI TASK, CONDITIONS, AND STANDARD

6-7. Units may not add to the live-fire requirements or tasks associated with Table VI. The division commander or equivalent maintains the qualification course of fire standards and approved scenarios. (See figure 6-2 for the task, conditions, and standard for Table VI, Qualification.)

	TABLE VI QUALIFICATION
TASK	Engage and destroy stationary and moving targets placed in a tactical array, during day and limited visibility from a stationary or moving vehicle using full-caliber ammunition.
CONDITIONS	Given the following: • An operational platform with weapon or weapon systems. • Allotted ammunition. • Certified vehicle crew evaluators. • Full-scale targets. • All prerequisites to live-fire for the crew platform achieved.
STANDARD	The crew must: • Score a minimum of 700 of 1,000 points overall. • Score 70 points or more on all targets presented on 7 out of the 10 engagements. • Qualify on at least one day and one limited visibility engagement.

Figure 6-2. Table VI, Qualification

Note. If any individual target score on an engagement is less than 70 points, the engagement is unqualified, regardless of overall engagement score.

PLAN FOR TABLE VI

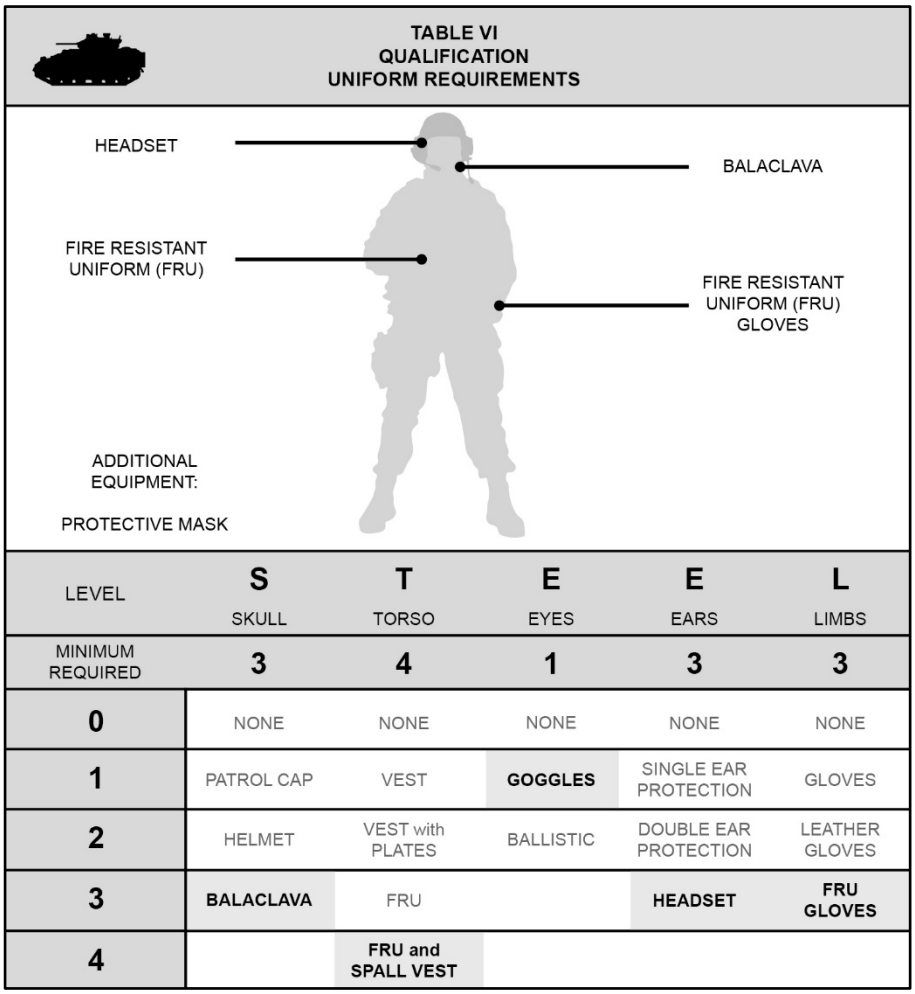
6-8. Table VI, Qualification, is a live-fire training environment event using training aids, devices, and simulators, and includes the use of full-caliber and small arms training ammunition and BESs. The qualification course of fire requires external VCEs and coordination with the higher headquarters for support.

6-9. This section details the resources needed for planning purposes. It includes general information on the following topics for consideration:

- Uniform—the minimum requirements for the combat vehicle crewmember's fire-retardant clothing and protective equipment.
- Facilities—available facilities that support the training event.
- Training plan—the minimum tasks, general guidelines, and special instructions for the training event.
- Time and throughput—the estimated time required to complete the training event including throughput considerations for planning.
- Ammunition—any training munitions required to complete the training event.
- TADSS—any available training aids that directly support or augment the training event.

TABLE VI UNIFORM

6-10. Crews must be in the appropriate vehicle crewmember uniform or prescribed unit uniform and protective mask. Crews are not required to have any additional body armor, ballistic plates, or gear during the training event unless directed by the commander. (See figure 6-3 for the minimum uniform training requirements for this event.)



LEVEL	S SKULL	T TORSO	E EYES	E EARS	L LIMBS
MINIMUM REQUIRED	3	4	1	3	3
0	NONE	NONE	NONE	NONE	NONE
1	PATROL CAP	VEST	**GOGGLES**	SINGLE EAR PROTECTION	GLOVES
2	HELMET	VEST with PLATES	BALLISTIC	DOUBLE EAR PROTECTION	LEATHER GLOVES
3	**BALACLAVA**	FRU		**HEADSET**	**FRU GLOVES**
4		**FRU and SPALL VEST**			

Figure 6-3. Table VI uniform requirements

TABLE VI FACILITIES

6-11. Table VI requires the use of a maneuver gunnery range that allows live fire for small and large caliber ammunition. Master Gunners must be familiar with the family of maneuver ranges, the range operations control area, and the specific instrumentation and target sets available on the range facility selected for Table VI. (The maneuver range facilities recommended as primary and alternate facilities are shown in figure 6-4.)



TABLE VI
QUALIFICATION
AUTHORIZED FACILITIES

FACILITY		
Battle Area Complex	BAX	ALTERNATE
Digital Air Ground Integration Range	DAGIR	ALTERNATE
Digital/Multipurpose Range Complex	D/MPRC	ALTERNATE
Digital/Multipurpose Training Range	D/MPTR	**PRIMARY**
Scout/Reconnaissance Gunnery Complex	SRGC	ALTERNATE

Note: Units should consider using a separate facility to conduct zeroing procedures if it assists with increased throughput.

Figure 6-4. Table VI maneuver range facilities

Thru-Sight Video Required

Units are required to utilize the thru-sight video system available for their platform on the qualification event. This is to ensure the highest fidelity AAR, and take-home packages are created for the crews and commanders to build future unit training plans.

TABLE VI RANGE SUPPORT

6-12. The range support group provides VCE teams to evaluate the course of fire. This requires all gunners and above to certify or recertify as VCEs between T-6 and T-execution of the training event.

6-13. This includes the most common support required for crew platform live-fire events. In the event the unit utilizes multiple facilities to complete the zero and defensive engagements, appropriate adjustments should be made to this general structure. (See figure 6-5 for the range support personnel general requirements.)

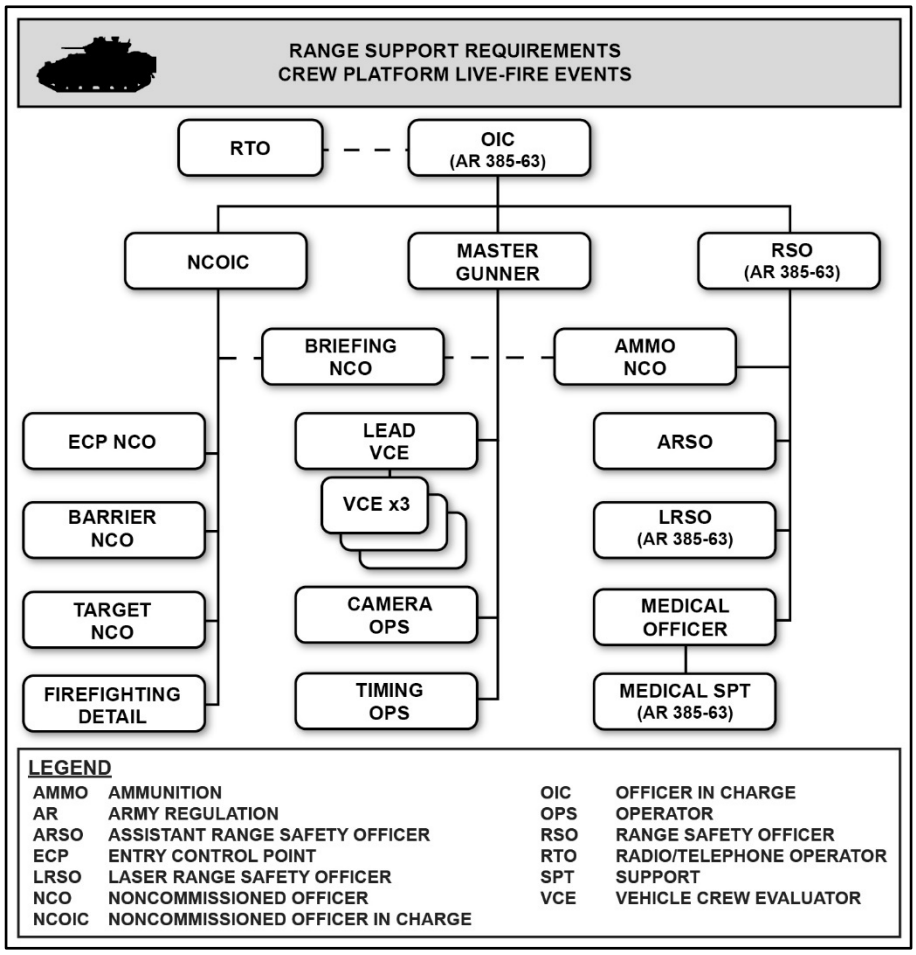


Figure 6-5. Range Support personnel requirements, example

TABLE VI TRAINING PLAN

6-14. Table VI, Qualification, provides a challenging scenario to the crews to prepare them for collective live-fire events and deployment. The qualification course exercises the crew's conduct of fire and engagement skills in a demanding manner that demonstrates the minimum proficiency of the crew.

6-15. Units are required to use full-scale targets at full range for the engagement scenarios unless specifically directed. To maintain training standards across the Army, there is no authorization for deviation from the engagements on Table VI beyond the guidelines listed in TC 3-20.31 for alternate targetry.

6-16. The design of Table VI is purposefully challenging to the crews while providing realistic engagements that exercise the crew's ability to utilize the key capabilities of the vehicle's fire control system. Units retrain as necessary with full-caliber ammunition using first-round hit savings (harvested ammunition) from the previous tables in the training strategy. Units must manage the available resources to ensure all crews successfully complete Table VI before proceeding to any collective live-fire event or deployment.

6-17. All crew platform tables are multiple qualification criteria tables. Crews must score at least 70 points per target according to the target kill standards in TC 3-20.31 on single and multiple target engagements to qualify the engagement. Crews must also score more than 700 points overall with a minimum of 70 points per target during 7 of 10 engagements on the qualification table to be used. Crews must qualify at least one engagement during day and one engagement during limited visibility to be qualified.

6-18. Table VI uses full-caliber training ammunition on an authorized live-fire facility or safety certified training area that assesses an element's tactical employment proficiency and lethality.

6-19. Crews must successfully complete the qualification course prior to executing any collective live-fire training. Units must follow the training guidelines for those gates in the appropriate training circular. Units may conduct make-up qualifications prior to live collective training when required but units must accomplish live-fire prerequisites as directed.

Table VI Scenario Requirements

6-20. This table is designed to train and evaluate the crew's ability to engage stationary or moving targets placed in a tactical array, from the offense and defense, during day and limited visibility conditions.

6-21. All engagements are evaluated using certified VCE's using DA Form 8265 and DA Form 8265-1 as the official record of training. Master Gunners must ensure the training records are included in each crew's gunnery packet (see TC 3-20.31).

6-22. The engagements listings are by capability type using the standard engagement naming structure listed in TC 3-20.31. It provides the requirements for each engagement, which are listed in paragraphs 6-23 through 6-30.

Task Description–Table VI

6-23. The task description includes both the engagement number (the table number plus engagement task) followed by the system capability trained.

Firing Vehicle Posture–Table VI

6-24. The firing vehicle posture establishes the offense or defense condition for the engagement.

Firer–Table VI

6-25. The firer column identifies which crewmember is to engage the target listed. Targets defeated by a different crewmember listed as the firer result in an auto-zero penalty, failing to adhere to course conditions.

Weapon (or Ammunition)–Table VI

6-26. Identifies the weapon (coaxial or primary armament ammunition type) that is used to defeat the threat. Design of each engagement is for a specific weapon or ammunition type (primary armament) for use, which relates to the crew conduct of fire, optic selection, engagement techniques, or other unique implied tasks. Crews that fail to announce the appropriate weapon or ammunition, or appropriate selection for subsequent or supplemental engagements may be penalized IAW TC 3-20.31.

Target Type–Table VI

6-27. The target type is the target required for the presentation, IAW TC 25-8.

Target Posture–Table VI

6-28. The target posture establishes if the target is stationary, moving, or evasive for the engagement. See TC 3-20.31 for more information on target postures.

Range (to Target)–Table VI

6-29. The range column is the required range (full scale or equivalent scaled range) from the firing vehicle to the target. For offensive engagements, this distance calculation is from the center of the movement box to the target. The range to target distance is provided in meters, (for example, 600). The target may be placed at the distance indicated, plus or minus 200 meters. For example, the target may be placed between 400 and 800 meters. No change to the EM is authorized.

Engagement Modifier–Table VI

6-30. The EM is the time in seconds required to achieve 100 points against the listed threat. To defeat the threat successfully, the crew must achieve the kill standard against the target and have an overall engagement time of no more than the EM plus 20 seconds. See TC 3-20.31 for the evaluation, timing, and scoring procedures.

Engagements

6-31. Units are not allowed to deviate from any target type, target posture, range, and weapon system/ammunition. (See figure 6-6 for the breakdown of what target type, target posture, range, and weapon system/ammunition type used for each task number.)

TABLE VI, QUALIFICATION ENGAGEMENT REQUIREMENTS

TASK	DESCRIPTION	POSTURE	FIRER	WEAPON	TARGET TYPE	TARGET POSTURE	RANGE	EM
60	VEHICLE COMMANDER	OFFENSE	VC	HE	L2T-FLK	MOV	1,400m	16
61	MACHINE GUN PURE	DEFENSE	GNR	COAX	E(3)FRT	STA	600m	9
			GNR	COAX	L2T-FLK	MOV	800m	11
62	MACHINE GUN PURE	OFFENSE	GNR	COAX	E(7)FRT	STA	400m	11
			GNR	COAX	L1T-FRT	STA	800m	13
			GNR	COAX	E(7)FRT	STA	800m	14
63	MAIN GUN PURE	DEFENSE	GNR	HE	L2T-FRT	STA	1,200m	9
			GNR	AP	M1T-FRT	STA	1,400m	9
64	MAIN GUN PURE	OFFENSE	GNR	HE	L1T-FRT	STA	1,200m	13
			GNR	AP	M1T-FRT	STA	2,000m	14
65	CHANGE OF WEAPON/ AMMUNITION	DEFENSE	GNR	COAX	E(7)FRT	STA	400m	7
			GNR	AP	M1T-FRT	STA	1,500m	9
			GNR	COAX	E(7)FRT	STA	600m	9
			GNR	AP	M1T-FLK	MOV	2,000m	12
66	CHANGE OF WEAPON/ AMMUNITION	OFFENSE	GNR	AP	M1T-FRT	STA	400m	9
			GNR	COAX	L2T-FRT	STA	800m	13
			GNR	COAX	E(7)FRT	STA	400m	11
			GNR	HE	L2T-FLK	MOV	1,600m	16
67	DEGRADED MANUAL	DEFENSE	GNR	COAX	E(7)FRT	STA	600m	9
68	DEGRADED AUX	OFFENSE	GNR	COAX	E(7)FRT	STA	400m	11
			GNR	AP	M1T-FLK	MOV	1,800m	15
69	SIMULTANEOUS /MULTIPLE TARGET	DEFENSE	GNR	COAX	E(3)FRT	STA	400m	7
			GNR	HE	L2T-FRT	STA	1,600m	10

LEGEND

AP	ARMOR PIERCING	GNR	GUNNER
AUX	AUXILIARY SIGHT	HE	HIGH EXPLOSIVE
COAX	COAXIAL MACHINE GUN	m	METER
EM	ENGAGEMENT MODIFIER	MOV	MOVING
FLK	FLANK	STA	STATIONARY
FRT	FRONTAL	VC	VEHICLE COMMANDER

Figure 6-6. Table VI, Qualification scenario requirements

TIME AND THROUGHPUT–TABLE VI

6-32. The throughput expectation of this table is 14 crews per day. Depending on maintenance or other unforeseen issues, recommend incorporating an additional half training day to the schedule. (See figure 6-7 for the expected throughput schedule based on the number of vehicles for firing and the unit's day/night engagement breakdown for the engagements.)

CREW PLATFORM WEAPON SYSTEM THROUGHPUT REQUIREMENTS

		NUMBER OF ENGAGEMENTS					
	DAY	8	7	6	5	4	
	NIGHT	2	3	4	5	6	
NUMBER OF CREWS	10	15.25	16.00	16.50	17.25	18.00	HOURS TO COMPLETE
	11	16.25	17.00	17.75	18.50	19.25	
	12	17.50	18.25	19.00	20.00	20.75	
	13	18.50	19.50	20.25	21.25	22.00	
	14	19.75	20.75	21.50	22.50	23.50	
	15	21.00	22.00	23.00	24.00	25.00	
	16	22.00	23.00	24.25	25.25	26.25	
	17	23.25	24.25	25.50	26.50	27.75	
	18	24.25	25.50	26.75	28.00	29.00	
	19	25.50	26.75	28.00	29.25	30.50	
	20	26.50	28.00	29.25	30.50	32.00	

Note: Overall time requirements are based on a single firing lane and include four hours of range maintenance down time (two blocks of two hours each). This is standard at most facilities. These calculations are for planning purposes only. Units that are more proficient in tower operations may have an increased throughput.

Any time shown exceeding 24 hours will not be possible in a single range day without unit action to conduct the range with a sense of urgency during preparation to fire tasks and execution of the table including tactical movement between engagements.

Figure 6-7. Table VI, Qualification, throughput expectations

Note. Time requirements overall are based on a single firing lane and include 4 hours of range maintenance down time (two blocks of 2 hours each). This is standard at most facilities. These calculations are for planning purposes only. Units that are more proficient in tower operations may have an increased throughput.

AMMUNITION–TABLE VI

6-33. Failure to forecast, schedule, or provide the BES devices or munitions violates the conditions of the engagements for readiness reporting. (See figure 6-8 for the ammunition requirements for Table VI, Qualification.)



TRAINING AMMUNITION REQUIREMENTS
TABLE VI, QUALIFICATION

DODIC	MUNITION TYPE	QUANTITY
A940	CTG, 25mm M910 TPDS-T	48
A976	CTG, 25mm M793 TP-T	40
AB86	CTG, 7.62mm 4 ball M80/1 TRCR M62 LNKD	600
LA53	SIM, target hit XM35 (BES)–Steel-on-Steel	14
LA54	SIM, EXP DET XM34 (BES)–Hostile Fire Simulator	14

ADDITIONAL CERTIFICATIONS:



BES SYSTEMS



PYROTECHNICS

Certify junior leaders on the components, functioning, hazards, use, and troubleshooting of available Battle Effects Simulator (BES) systems.

Provides a working understanding of the components, functioning, emplacement, use, troubleshooting, and hazards when:

- Placing BES systems into operation.
- Synchronizing functioning.
- Installing BES cartridges
- Troubleshooting BES systems.
- Removing unused BES cartridges.
- Conducting safe operations of BES systems.

LEGEND

CTG	CARTRIDGE	SIM	SIMULATOR
DODIC	DEPARTMENT OF DEFENSE IDENTIFICATION CODE	TPDS-T	TARGET PRACTICE DISCARDING SABOT-TRACER
EXP DET	EXPLOSIVE DETONATION	TP-T	TARGET PRACTICE-TRACER
LNKD	LINKED	TRCR	TRACER
mm	MILLIMETER		

Figure 6-8. Table VI ammunition requirements

TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS–TABLE VI

6-34. This course requires the use of the CMU (some installations may refer to the CMU as an IPU) for all crews. The CMU is available on the digital range facility scheduled (if equipped). Coordination with the scheduled range facility manager will determine unit responsibilities for installation, troubleshooting, maintenance, and use of the devices ahead of the training day(s). If the range does not have a CMU available, unit may draw the CMUR from the TADSS warehouse. The CMUR differs from the CMU in that it stores all run data on a solid-state drive on the vehicle, for use with the provided AAR suite in the CMUR kit.

6-35. The brigade commander must approve authorization for deviation from this requirement if TADSS are unavailable. Units should focus on training and reinforcing the skills in the direct fire kill chain on this table specifically with their thermal optics, day and night to best prepare them for the follow-on training events. (Figure 6-9 shows the TADSS required or recommended for Table VI.)



TABLE VI
QUALIFICATION
TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS (TADSS) REQUIREMENTS

DEVICE	NOMENCLATURE	REMARKS
CMU	Crew Module Unit/Integrated Player Unit	REQUIRED
CMUR	Crew Module Unit Recorder (Through-Sight Video)	
DDI	CTG, 25MM LINKED M794 (DDI) DODIC–A976	CONCURRENT TRAINING
DDI	CTG, 7.62MM DUMMY M172 (LINKED) DODIC–A159	
SP-1	BORESIGHT PANEL	REQUIRED

LEGEND

CTG	CARTRIDGE	MM	MILLIMETER
DDI	DUMMY DRILL INERT	SP-1	SPECIAL PANEL NUMBER ONE
DODIC	DEPARTMENT OF DEFENSE IDENTIFICATION CODE		

Figure 6-9. Table VI training aids, devices, simulators, and simulations requirements

PREPARE TABLE VI

6-36. Units must coordinate for the appropriate training facility, equipment, targetry, training munitions, TADSS (if desired), and pyrotechnics to support Table VI. During the preparation phase, the unit should ensure the proofing team, VCE's, and other personnel receive training to standard to support their role as evaluators and trainers. This includes range officers in charge, range safety officers, and ammunition handlers.

TRAIN THE TRAINERS–TABLE VI

6-37. Typically, units have certified each VC/gunner as VCEs prior entering the live fire density. Units must have certified evaluators to ensure the training objectives for the training table are set and to provide effective AARs to each crew. Table VI also requires experienced VC/gunners to serve as the proofing team for the zero test.

VEHICLE CREW EVALUATORS–TABLE VI

6-38. A trained and certified VCE team must be available to support prior to live fire to evaluate a gunnery density correctly. After certification, the unit must ensure sufficient VCEs are available to support the live-fire event. Evaluations of crew gunnery always come from outside the firing platoon element, and for qualification purposes, VCEs external to the battalion are required.

6-39. Depending on the size of the weapons training density (make-up gunnery, platoon, company, or battalion) and the type of range facility used, the number of evaluators may vary. Having the correct number and type of evaluators per firing range maximizes the unit's throughput of firing vehicles on the range, reduce range down time, and provide for the highest quality evaluations. See TC 3-20.31 for more in-depth information on VCEs, the evaluation team, and the evaluation process.

6-40. Units provide the following to prepare the trainers:

- Commander training objectives.
- Conduct of the range briefing for the training event.
- Scenario and lane concept with crew tasks for training.
- Risk assessment.
- Identification of supporting doctrinal publications for use as primary references.
- TADSS, pyrotechnics, and BESs used during the training event (see appendix A for the training munitions requirements for the complete training strategy).

RECONNAISSANCE OF THE SITE–TABLE VI

6-41. Commanders use an authorized training facility for Table VI, Qualification. Commanders follow the installation's policies and procedures for formally scheduling the training location as far in advance as practical. See TC 3-20.31 for more in-depth information concerning range operations at the unit level.

6-42. Once scheduled, the commander, Master Gunner, platoon leaders and platoon sergeants conduct a reconnaissance of the training areas to—

- Verify sufficient space is available to support the entire unit through multiple training lanes.
- Ensure multiple iterations or rotations through the scenario are achievable with appropriate retraining opportunities.
- Ensure sufficient administrative areas are available to support group discussions, briefings, and AARs.
- Provide a sand table or terrain board.
- Identify the ASP.
- Determine the conduct of the range or the flow of training to maximize the live-fire range time.
- Identify the range operating system and verify that the training scenarios have been properly loaded.
- Schedule proofing of the range, based on the higher headquarters OPORD.
- Ensure requested TADSS are available if provided by the range facility.

ISSUE THE ORDER–TABLE VI

6-43. Commanders can issue an OPORD, WARNORD, or use the training schedule as necessary. The WARNORD should include the appropriate tasks, required leaders, and equipment needed, as well as the unit's training timeline including walk-through, rehearsals, and AARs. WARNORDs for external organizations must include sufficient reaction time for the appropriate personnel and equipment needed.

REHEARSE–TABLE VI

6-44. The unit uses all training resources, materials, and equipment available to conduct rehearsals of training events. During the rehearsal, commanders ensure their unit has sufficient time to train to the specified standard including AARs and retraining time. Commanders ensure their unit verifies optional scenarios that increase complexity when warranted.

6-45. Units should rehearse the training event from start to finish, and confirm the following:

- The VCEs and proofing team understand the training scenarios and tasks.
- Sufficient space is available to provide appropriate distances for engagements ranges and target dispersion.
- Analog and digital systems are operational within the organization and to the higher headquarters regardless of their location.
- Additional crew training packages (DA Form 8265 and appropriate computer correction factors [zero] documentation) are complete and provide for multiple iterations.

- Sufficient administrative areas are available.
- AAR capabilities are reviewed, while encouraging use of through the sight video systems to increase the fidelity and quality of the AARs.
- Location of retraining for crews as necessary.
- Accessibility to crew simulator systems, plumb and synchronization ramps, tracking and manipulation panels, and additional boresighting locations are available.

6-46. Once the unit completes the walk-through and training rehearsal, the commander makes any necessary adjustments to the plan and issues FRAGORDs as necessary.

EXECUTE TABLE VI

6-47. Once the unit arrives at the training location, they should—

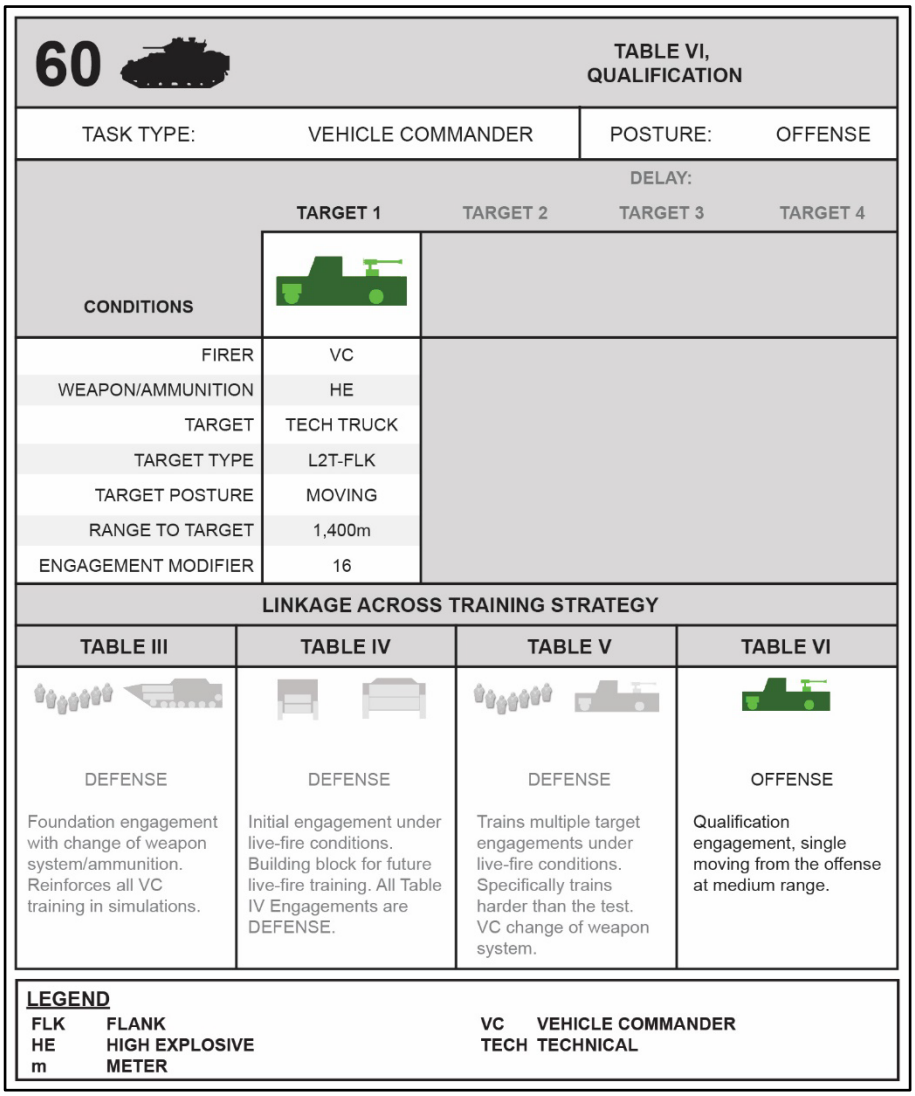
- Conduct a safety briefing for the training event.
- Provide a conduct of the range briefing to establish the sequence of events for the training day.
- Conduct sensitive item checks prior to executing training.
- Receive briefing from the external VCE team.
- Establish the firing order.
- Identify the maintenance support area for any fire control or weapons issues on the range.
- Install TADSS as required.

6-48. The training unit conducts informal AARs of each crew completing a phase of training within the training mission. During training, the commander, executive officer, 1SG, and Master Gunner review the crew's performance. They follow the unit SOP, prescribed TTP, and the appropriate T&EOs, and review completed crew score sheets and roll-up documentation for clarity and completeness.

Note. The sequence of the engagements as well as which engagements are fired in a chemical environment are determined as unit policy directs.

ENGAGEMENT 60

6-49. The VC engagement fired from the VC's position (using the commander's hand station) at a moving threat (as shown in figure 6-10 and figure 6-11) while on the offense. It trains and evaluates the VC's ability to engage and destroy a moving threat with the main gun.



60 — TABLE VI, QUALIFICATION

TASK TYPE:	VEHICLE COMMANDER	POSTURE:	OFFENSE

CONDITIONS	TARGET 1	TARGET 2	DELAY: TARGET 3	TARGET 4
FIRER	VC			
WEAPON/AMMUNITION	HE			
TARGET	TECH TRUCK			
TARGET TYPE	L2T-FLK			
TARGET POSTURE	MOVING			
RANGE TO TARGET	1,400m			
ENGAGEMENT MODIFIER	16			

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
DEFENSE	DEFENSE	DEFENSE	OFFENSE
Foundation engagement with change of weapon system/ammunition. Reinforces all VC training in simulations.	Initial engagement under live-fire conditions. Building block for future live-fire training. All Table IV Engagements are DEFENSE.	Trains multiple target engagements under live-fire conditions. Specifically trains harder than the test. VC change of weapon system.	Qualification engagement, single moving from the offense at medium range.

LEGEND

FLK	FLANK	VC	VEHICLE COMMANDER
HE	HIGH EXPLOSIVE	TECH	TECHNICAL
m	METER		

Figure 6-10. Engagement 60 overview

60	TARGET 1	TARGET 2	TARGET 3	TARGET 4
VEHICLE COMMANDER OFFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
8			1	1

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR OFFENSIVE OPERATIONS. MOVE TO A SHORT HALT POSITION ALONG ROUTE _____

YOUR GUNNER'S HAND STATION IS INOPERATIVE. CONTINUE TO FIGHT. INDEX HE. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	TRUCK MOVING INTO SECTOR
METHOD	
LOCATION	VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**mm**	**MILLIMETER**
HE	**HIGH EXPLOSIVE**	**REDCON**	**READINESS CONDITION**

Figure 6-11. Engagement 60 ammunition and script worksheet

ENGAGEMENT 61

6-50. This is a machine gun pure engagement for the gunner. It trains target detection, acquisition, and machine gun engagement techniques from the defense against a stationary and moving threat (see figure 6-12 and figure 6-13). Range bands are mid- to long-range. Crews must tactically use the battle position and demonstrate stability in their forward and rearward movements.

61 

TABLE VI, QUALIFICATION

TASK TYPE:	MACHINE GUN PURE	POSTURE:	DEFENSE

CONDITIONS	TARGET 1	TARGET 2	DELAY: TARGET 3	TARGET 4
				
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	COAX	COAX		
TARGET	RPG TEAM	TECH TRUCK		
TARGET TYPE	E(3)-FRT	L2T-FLK		
TARGET POSTURE	STATIONARY	MOVING		
RANGE TO TARGET	600m	800m		
ENGAGEMENT MODIFIER	9	11		

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
			
OFFENSE	DEFENSE	OFFENSE	DEFENSE
Foundation engagement for the gunner. In the offense, the firing platform closes with the targets rapidly.	Stationary targets at close-range from a defensive position. All engagements on Table IV are fired from the DEFENSE.	Increases the complexity with offensive engagement techniques.	Stationary and moving targets from a defense firing position.

LEGEND

COAX	COAXIAL MACHINE GUN	m	METER
FLK	FLANK	RPG	ROCKET-PROPELLED GRENADE
FRT	FRONTAL	TECH	TECHNICAL

Figure 6-12. Engagement 61 overview

61	TARGET 1	TARGET 2	TARGET 3	TARGET 4
MACHINE GUN PURE DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS				
HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
		100	1	1

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

CHECK YOUR MACHINE GUN, REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	RPG TEAM AND TRUCK IN SECTOR
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____ AND _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**REDCON**	**READINESS CONDITION**
HE	**HIGH EXPLOSIVE**	**RPG**	**ROCKET-PROPELLED GRENADE**
mm	**MILLIMETER**		

Figure 6-13. Engagement 61 ammunition and script worksheet

ENGAGEMENT 62

6-51. While on the offense, the gunner engages multiple machine gun threats at close- and mid-range (see figure 6-14 and figure 6-15). This engagement reinforces machine gun engagement techniques against stationary threats. The unit should observe the vehicle speed in relation to the close-range targets to ensure the firing platform does not bypass the threat.

62 

TABLE VI, QUALIFICATION

TASK TYPE:	MACHINE GUN PURE	POSTURE:	OFFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1	TARGET 2	TARGET 3	TARGET 4
				
FIRER	GUNNER	GUNNER	GUNNER	
WEAPON/AMMUNITION	COAX	COAX	COAX	
TARGET	TROOPS	CARGO TRUCK	TROOPS	
TARGET TYPE	E(7)-FRT	L1T-FRT	E(7)-FRT	
TARGET POSTURE	STATIONARY	STATIONARY	STATIONARY	
RANGE TO TARGET	400m	800m	800m	
ENGAGEMENT MODIFIER	11	13	14	

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
			
DEFENSE	DEFENSE	DEFENSE	OFFENSE
Multiple short-range coax engagements from the defense using TADSS.	Short range and long range coax threats. All engagements on Table IV are fired from the DEFENSE.	Multiple machine gun targets at mid-range for the coax.	Firing on the move, troops and truck at close and mid-range. CAUTION–initial troop presentation is 400m.

LEGEND

COAX	COAXIAL MACHINE GUN	m	METER
FRT	FRONTAL	TADSS	TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS

Figure 6-14. Engagement 62 overview

62	TARGET 1	TARGET 2	TARGET 3	TARGET 4
MACHINE GUN PURE OFFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
		150	1	1

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR OFFENSIVE OPERATIONS. MOVE TO A SHORT HALT POSITION ALONG ROUTE _____

CHECK YOUR MACHINE GUN. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	TROOPS AND TRUCK WITH DISMOUNT SUPPORT
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____ AND _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	BEGIN YOUR MOVEMENT, REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**mm**	**MILLIMETER**
HE	**HIGH EXPLOSIVE**	**REDCON**	**READINESS CONDITION**

Figure 6-15. Engagement 62 ammunition and script worksheet

ENGAGEMENT 63

6-52. This engagement provides the gunner main gun engagements with a change of ammunition from a defensive posture (see figure 6-16 and figure 6-17). This engagement requires the crew to coordinate the tactical movement from the defilade to the enfilade firing positions, ensuring appropriate main gun clearance of the berm.

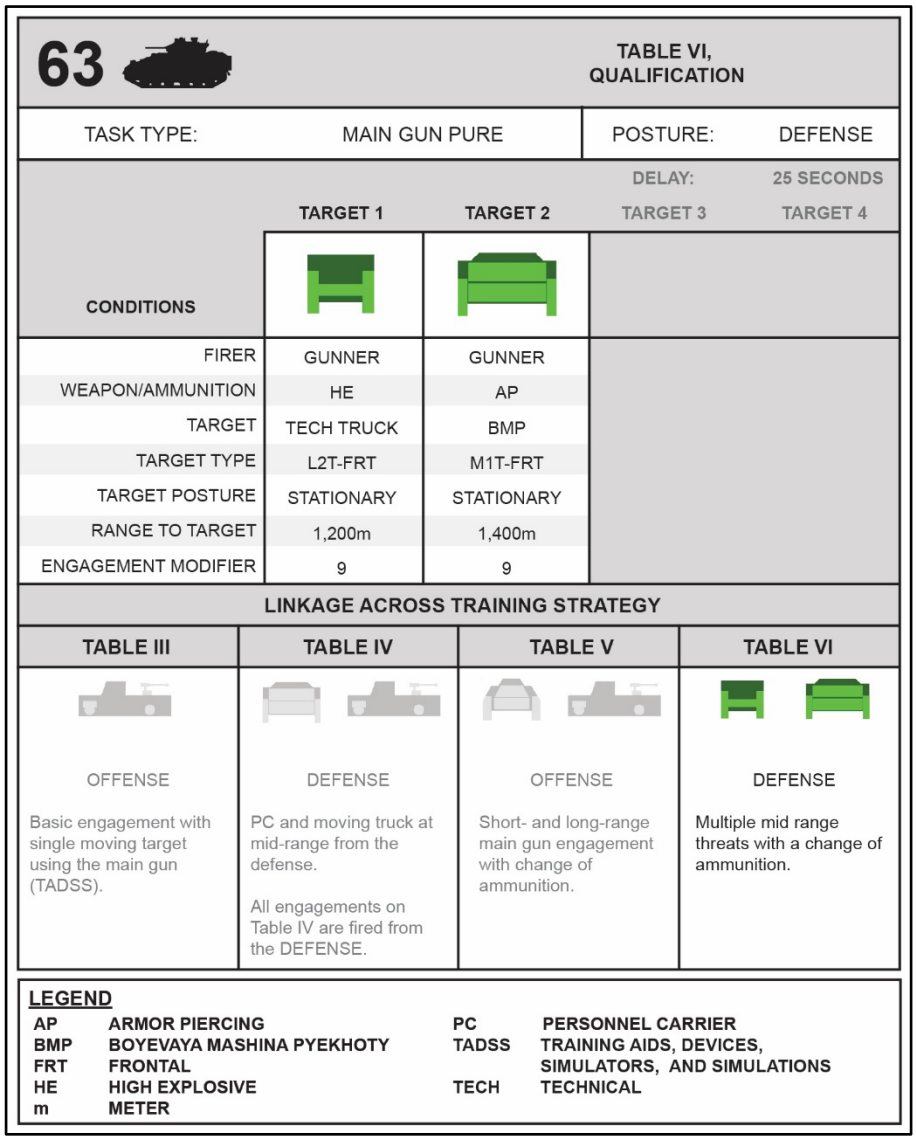


Figure 6-16. Engagement 63 overview

63

	TARGET 1	TARGET 2	TARGET 3	TARGET 4
MAIN GUN PURE DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
8	8		2	2

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

INDEX AP, REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	TRUCK AND PC IN SECTOR
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____ AND _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**mm**	**MILLIMETER**
HE	**HIGH EXPLOSIVE**	**REDCON**	**READINESS CONDITION**

Figure 6-17. Engagement 63 ammunition and script worksheet

ENGAGEMENT 64

6-53. This is an offensive engagement using the main gun against mid to long-range threats while executing a change of ammunition (see figure 6-18 and figure 6-19). This task reinforces critical crew coordination within the vehicle to rapidly scan, identify, and engage mid- to long-range targets while on the move.

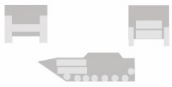
64 

TABLE VI, QUALIFICATION

TASK TYPE:	MAIN GUN PURE	POSTURE:	OFFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1	TARGET 2	TARGET 3	TARGET 4
				
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	HE	AP		
TARGET	CARGO TRUCK	BMP		
TARGET TYPE	L1T-FRT	M1T-FRT		
TARGET POSTURE	STATIONARY	STATIONARY		
RANGE TO TARGET	1,200m	2,000m		
ENGAGEMENT MODIFIER	13	14		

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
			
DEFENSE	DEFENSE	DEFENSE	OFFENSE
Main gun change of ammunition from AP to HE.	Moving PC at mid-range and long range HE target. All engagements on Table IV are fired from the DEFENSE.	Multiple station and moving threats at medium range.	Multiple long range main gun engagement while on the move.

LEGEND

AP	ARMOR PIERCING	HE	HIGH EXPLOSIVE
BMP	BOYEVAYA MASHINA PYEKHOTY	m	METER
FLK	FLANK	PC	PERSONNEL CARRIER
FRT	FRONTAL		

Figure 6-18. Engagement 64 overview

64

TARGET 1	TARGET 2	TARGET 3	TARGET 4
MAIN GUN PURE OFFENSE			

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
8	8		2	2

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR OFFENSIVE OPERATIONS. MOVE TO A SHORT HALT POSITION ALONG ROUTE _____

INDEX AP, REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	TRUCK AND LIGHT ARMOR IN SECTOR
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	BEGIN YOUR MOVEMENT, REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**mm**	**MILLIMETER**
HE	**HIGH EXPLOSIVE**	**REDCON**	**READINESS CONDITION**

Figure 6-19. Engagement 64 ammunition and script worksheet

ENGAGEMENT 65

6-54. This engagement challenges the crew with a change of weapon system and ammunition type from a defensive position (see figure 6-20 and figure 6-21). This is a complex engagement and requires the crew to tactically move from the defilade to the enfilade while managing their switchology, ammunition type, and conduct of fire. This is one of the most complex engagements for the crew to master.

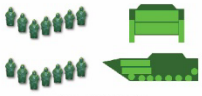
65 

TABLE VI, QUALIFICATION

TASK TYPE:	CHANGE OF WEAPON/AMMUNITION	POSTURE:	DEFENSE

			DELAY:	25 SECONDS
	TARGET 1	TARGET 2	TARGET 3	TARGET 4
CONDITIONS				
FIRER	GUNNER	GUNNER	GUNNER	GUNNER
WEAPON/AMMUNITION	COAX	AP	COAX	AP
TARGET	TROOPS	BMP	TROOPS	BMP
TARGET TYPE	E(7)-FRT	M1T-FRT	E(7)-FRT	M1T-FLK
TARGET POSTURE	STATIONARY	STATIONARY	STATIONARY	MOVING
RANGE TO TARGET	400m	1,500m	600m	2,000m
ENGAGEMENT MODIFIER	7	9	9	12

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
 OFFENSE Trains the crew's ability to prioritize threats presented. Change of weapon and ammo on the offense.	Change of weapon system/ammunition tasks are not executed on Table IV, Basic.	 OFFENSE Complex engagement with change of weapon and ammunition on the offense.	 DEFENSE Complex 4-target engagement with change of weapon and long-range mover.

LEGEND

AP	ARMOR PIERCING	FLK	FLANK
BMP	BOYEVAYA MASHINA PYEKHOTY	FRT	FRONTAL
COAX	COAXIAL MACHINE GUN	m	METER

Figure 6-20. Engagement 65 overview

65	TARGET 1	TARGET 2	TARGET 3	TARGET 4
CHANGE OF WEAPON/ AMMUNITION DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
	16	100	2	2

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

INDEX AP, CHECK YOUR MACHINE GUN. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	TROOPS AND PC WITH SUPPORT IN SECTOR
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**PC**	**PERSONNEL CARRIER**
HE	**HIGH EXPLOSIVE**	**REDCON**	**READINESS CONDITION**
mm	**MILLIMETER**		

Figure 6-21. Engagement 65 ammunition and script worksheet

ENGAGEMENT 66

6-55. This engagement challenges the crew with a change of weapon and ammunition during while on the offense (see figure 6-22 and figure 6-23). This is the most complex and rigorous engagement on this table. Efficient crew coordination skills are critical to the crew's success, including rapid target acquisition and target handoff. This engagement is designed to include the most changes to weapon and ammunition types requiring increased switchology awareness.

66 

TABLE VI, QUALIFICATION

TASK TYPE:	CHANGE OF WEAPON/AMMUNITION	POSTURE:	OFFENSE

			DELAY:	25 SECONDS
	TARGET 1	TARGET 2	TARGET 3	TARGET 4
CONDITIONS				
FIRER	GUNNER	GUNNER	GUNNER	GUNNER
WEAPON/AMMUNITION	AP	COAX	COAX	HE
TARGET	BMP, FRONTAL	TECH TRUCK	TROOPS	TECH TRUCK
TARGET TYPE	M1T-FRT	L2T-FRT	E(7)-FRT	L2T-FLK
TARGET POSTURE	STATIONARY	STATIONARY	STATIONARY	MOVING
RANGE TO TARGET	400m	800m	400m	1,600m
ENGAGEMENT MODIFIER	9	13	11	16

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
 DEFENSE	Change of weapon system/ammunition tasks are not executed on Table IV, Basic.	 DEFENSE	 OFFENSE
Change of weapon system from the defense with long range missile target. Baseline engagement skills with high probability threat array.		Change of weapon system for delay presentation in the defense.	Change of weapon system and ammunition. Complex engagement with long range HE target.

LEGEND

AP	ARMOR PIERCING	FRT	FRONTAL
BMP	BOYEVAYA MASHINA PYEKHOTY	HE	HIGH EXPLOSIVE
COAX	COAXIAL MACHINE GUN	m	METER
FLK	FLANK	TECH	TECHNICAL

Figure 6-22. Engagement 66 overview

66	TARGET 1	TARGET 2	TARGET 3	TARGET 4
CHANGE OF WEAPON/ AMMUNITION OFFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
8	8	100	3	3

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR OFFENSIVE OPERATIONS. MOVE TO A SHORT HALT POSITION ALONG ROUTE _____

INDEX AP, CHECK YOUR MACHINE GUN. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	PC AND TRUCK IN SECTOR WITH SUPPORT
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	BEGIN YOUR MOVEMENT, REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**PC**	**PERSONNEL CARRIER**
HE	**HIGH EXPLOSIVE**	**REDCON**	**READINESS CONDITION**
mm	**MILLIMETER**		

Figure 6-23. Engagement 66 ammunition and script worksheet

ENGAGEMENT 67

6-56. Engagement 67 is a degraded engagement for the gunner to apply manual engagement techniques (see figure 6-24 and figure 6-25). This requires the gunner to scan, identify, and engage the threat using the manual traverse and elevation handwheels and trigger.

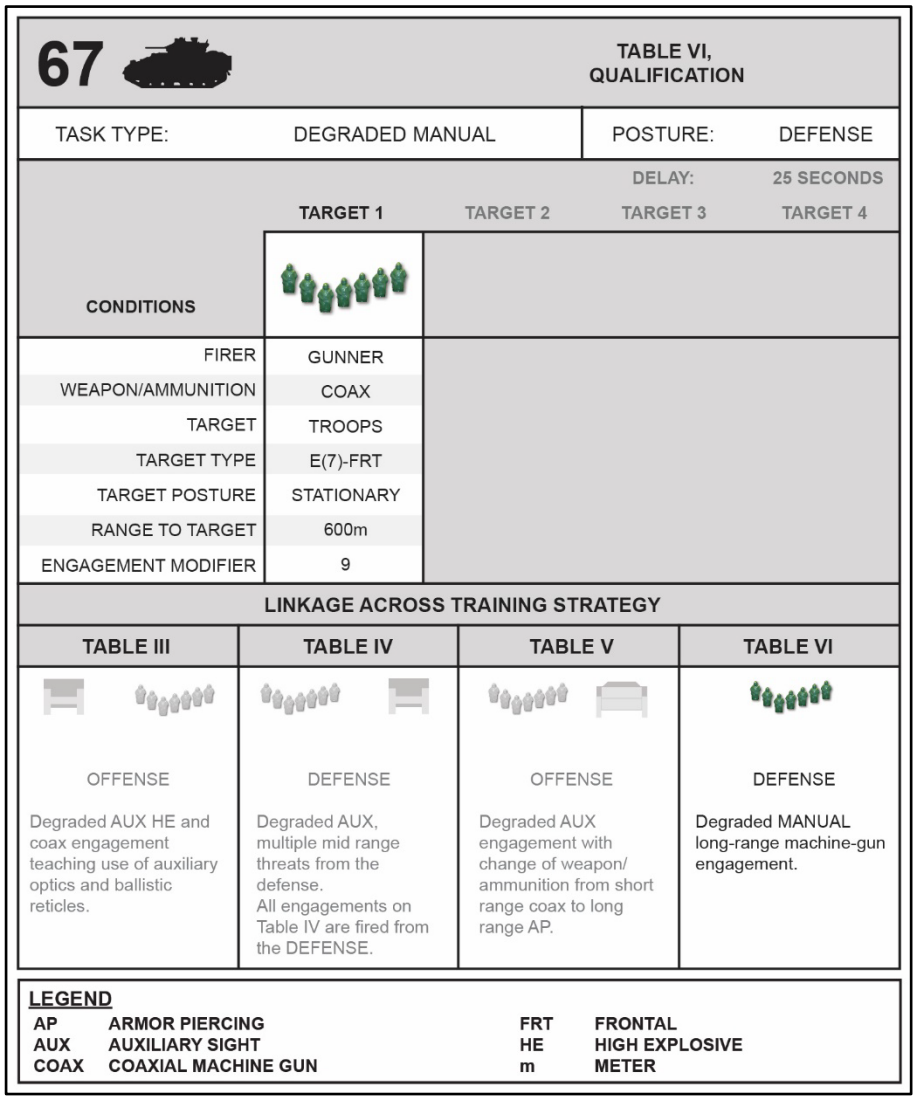


Figure 6-24. Engagement 67 overview

67	TARGET 1	TARGET 2	TARGET 3	TARGET 4
DEGRADED MANUAL DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS				
HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	A940	AB86	LA54	LA53
		50		

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____
YOUR TURRET DRIVES ARE INOP, SWITCH TO MANUAL.

CHECK YOUR MACHINE GUN, REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	TROOPS IN SECTOR
METHOD	
LOCATION	VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**mm**	**MILLIMETER**
HE	**HIGH EXPLOSIVE**	**REDCON**	**READINESS CONDITION**
INOP	**INOPERABLE**		

Figure 6-25. Engagement 67 ammunition and script worksheet

ENGAGEMENT 68

6-57. This is a degraded engagement where the gunner must engage multiple threats on the offense utilizing the auxiliary sight (see figure 6-26 and figure 6-27). This engagement challenges the crew by using degraded gunnery techniques and reinforces battle carry and battlesight preparation to fire, battlesight gunnery, and advanced target acquisition.

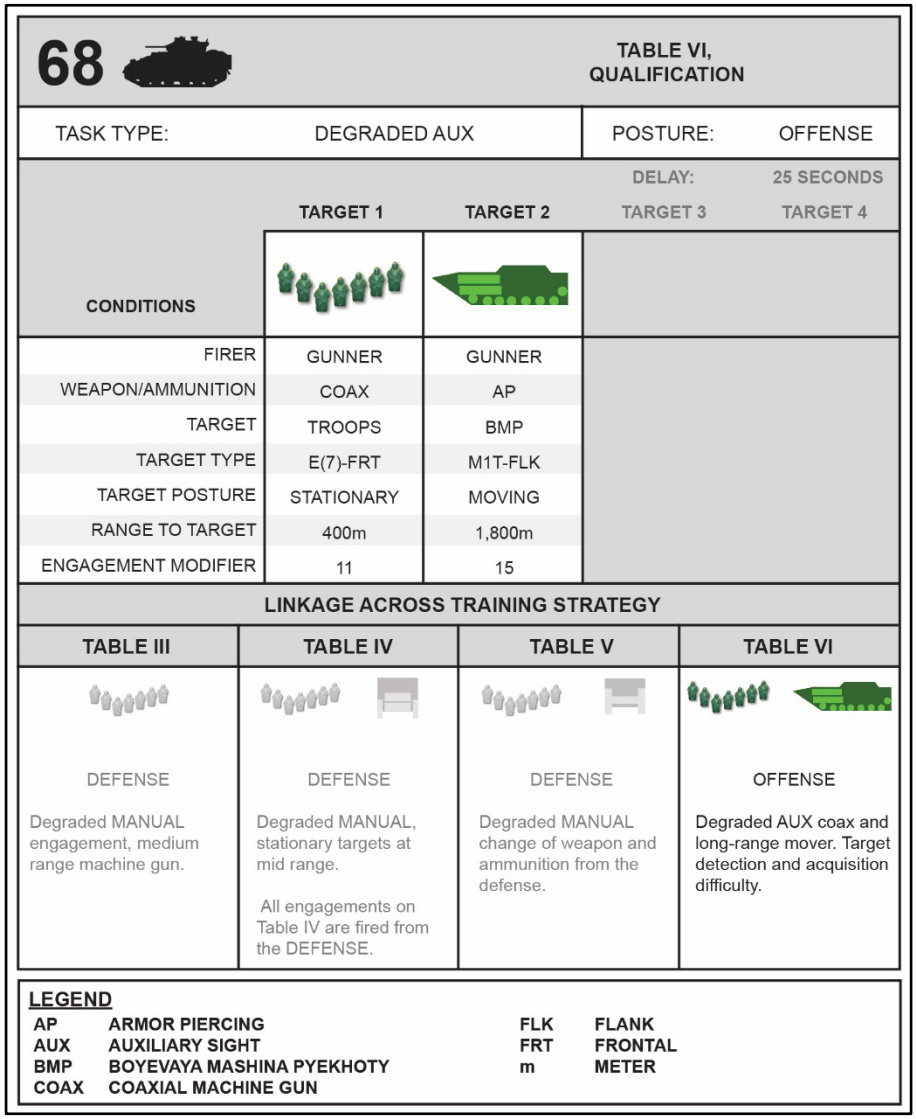


Figure 6-26. Engagement 68 overview

68	TARGET 1	TARGET 2	TARGET 3	TARGET 4
DEGRADED AUX OFFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS				
HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
	8	50	1	1

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR OFFENSIVE OPERATIONS. MOVE TO A SHORT HALT POSITION ALONG ROUTE _____YOUR IBAS IS INOP, READY YOUR AUX SIGHT.

INDEX AP, CHECK YOUR MACHINE GUN. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	TROOPS AND PC MOVING INTO SECTOR
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	BEGIN YOUR MOVEMENT, REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**INOP**	**INOPERABLE**
AUX	**AUXILIARY SIGHT**	**mm**	**MILLIMETER**
HE	**HIGH EXPLOSIVE**	**PC**	**PERSONNEL CARRIER**
IBAS	**IMPROVED BRADLEY ACQUISITION SYSTEM**	**REDCON**	**READINESS CONDITION**

Figure 6-27. Engagement 68 ammunition and script worksheet

ENGAGEMENT 69

6-58. Engagement 69 allows for a change of weapon system and ammunition fired from the defensive posture (see figure 6-28 and figure 6-29). This builds upon previous change of weapon and ammunition tasks and incorporates a transition from short- to long-range targets.

69 

TABLE VI, QUALIFICATION

TASK TYPE:	CHANGE OF WEAPON SYSTEM	POSTURE:	DEFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1 	TARGET 2 	TARGET 3	TARGET 4
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	COAX	HE		
TARGET	RPG TEAM	TECH TRUCK		
TARGET TYPE	E(3)-FRT	L2T-FRT		
TARGET POSTURE	STATIONARY	STATIONARY		
RANGE TO TARGET	400m	1,600m		
ENGAGEMENT MODIFIER	7	10		

LINKAGE ACROSS TRAINING STRATEGY

TABLE III	TABLE IV	TABLE V	TABLE VI
			
OFFENSE	DEFENSE	OFFENSE	DEFENSE
Change of weapon and ammunition at varying ranges. Long range missile target presentation fired from short halt if not equipped with TOTM.	Multiple mid to long range troop targets. All engagements on Table IV are fired from the DEFENSE.	Change of weapon system with long-range moving target.	Change of weapon system, RPG team with long range HE target.

LEGEND

COAX	COAXIAL MACHINE GUN	RPG	ROCKET-PROPELLED GRENADE
FRT	FRONTAL	TECH	TECHNICAL
HE	HIGH EXPLOSIVE	TOTM	TOW ON THE MOVE
m	METER		

Figure 6-28. Engagement 69 overview

69	TARGET 1	TARGET 2	TARGET 3	TARGET 4
CHANGE OF WEAPON SYSTEM DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS				
HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	A940	AB86	LA54	LA53
8		50	1	1

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

INDEX HE, CHECK YOUR MACHINE GUN. REPORT REDCON ONE, OVER.

PROMPT	
ALERT	_____ THIS IS _____
WEAPON/AMMO	
TARGET DESCRIPTION	RPG TEAM AND TRUCK
METHOD	MOST DANGEROUS FIRST
LOCATION	VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	ARMOR PIERCING	REDCON	READINESS CONDITION
HE	HIGH EXPLOSIVE	RPG	ROCKET-PROPELLED GRENADE
mm	MILLIMETER		

Figure 6-29. Engagement 69 ammunition and script worksheet

ASSESS TABLE VI

6-59. The intent of the qualification course of fire is to train the crews within the organization on the appropriate conduct of fire skills during offensive and defensive postures against common threat arrays using the primary armament, coaxial, and commander's machine gun. Proper evaluation and assessment of crew performance is key to improving individual and crew skills prior to moving to collective live-fire events.

6-60. Each crew should receive a formal AAR following the guidelines found in TC 3-20.31. Each evaluator should use DA Form 8265 and DA Form 8265-1 as the basis for their evaluation, identifying the firing occasional information from the scoresheet timelines. The evaluator and VC each review and sign the DA Form 8265-1.

Note. Certified VCEs, externally evaluate Table VI, Qualification. Units coordinate with their higher headquarters for those personnel. Typically, the brigade combat team will train and certify those evaluators. If there is no external unit that can meet the requirements for the primary evaluator (see TC 3-20.31). Brigade coordination outside the division may be required to provide the appropriate personnel to evaluate the crews. When that level of support is not feasible, the division commander (or equivalent) must authorize self-evaluation using senior subject matter experts.

6-61. Units should track the various firing information from the score sheets to identify where in the conduct of fire crews and the overall unit should apply additional training effort. Some of those indicators are—

- Target acquisition, detection, and identification.
- Time to fire.
- Time to kill.
- Opening and closing times for machine gun engagements.
- Gunner lay errors.
- Scanning techniques.
- Engagement techniques.
- Conduct of fire issues.
- Penalties by type.

RETRAIN–TABLE VI

6-62. The unit Master Gunner maintains the unit roll-up by engagement. A subcategorized roll-up by platoons provides the commander a snapshot of training trends, strengths, and weaknesses. The Master Gunner should not only identify crews that did not achieve a passing standard, but also crews that struggled on specific engagement tasks. Once done, the unit can establish and conduct the appropriate focused retraining followed by a subsequent evaluation.

6-63. All crews must successfully complete the course of fire based on the standards for the engagements listed earlier in this chapter. No crew should proceed to a collective live-fire event until they have achieved the minimum standard on Table VI, Qualification.

6-64. Unit Master Gunners should include chair drills for the crews using the scenarios for each engagement for retraining purposes. Additional information on chair drills is in TC 3-20.31.

6-65. Any crew that disqualified for any reason may not refire without brigade commander approval after corrective training is complete. See chapter 7 for additional information on disqualified crews.

DRIVER'S TRAINING–TABLE VI

6-66. Leaders should determine the number of miles driven during the day and night phases for their assigned drivers. This information should be recorded, including the miles driven, miles driven with the enhanced viewer, and any tactical (off-road) miles driven.

CREW GUNNERY FOLDER RECORDS–TABLE VI

6-67. Once testing is complete, the Master Gunner records the results of all training completed in the crew gunnery folder. The records must be maintained for a minimum of 12 months.

RECORD INDIVIDUAL TASK PERFORMANCE–TABLE VI

6-68. Leaders track and train their Soldier's individual and collective tasks trained and evaluated using tools provided by the ATN such as the SULT and the DJB. These systems interface directly with the DTMS to record training and evaluation results.

> ***Note***. Leaders must be granted access first by their commander or DTMS manager to enroll or assign their Soldiers the specific tasks from the ICTL that are trained and tested during the training event.

6-69. From within the SULT, the authorized leader is enabled to view, maintain, and update—

- Warrior tasks and battle drills.
- MOS-specific individual critical tasks.
- Unit-mandated training tasks.
- Supporting T&EOs (access dependent on proponent distribution restrictions).

6-70. Leaders should update their Soldier's individual training records for training and evaluation of the following tasks, based on their assigned position. This is not an all-inclusive list of the trained and tested tasks for this event. Leaders should adjust based on the unit's additions to the event.

6-71. This ensures historical data is available throughout the Army force generation training cycle for the chain of command to assess strengths and weaknesses of crews and address these concerns in upcoming GST training. The most current GST records must accompany the unit or crew throughout the entire weapons training density.

UPDATING INDIVIDUAL TRAINING RECORDS–TABLE VI

6-72. Leaders update their SULT application with the appropriate training and evaluation outcomes for their crewmembers. The lists provided show the touch points associated with completing Table VI, Qualification.

6-73. Leaders must determine if the tasks were effectively trained to the Soldier and the level of proficiency based upon their performance. (See figure 6-30 on page 257 through page 262 for tasks included within this event.) Leaders then update the tasks for each Soldier based on their assessment.



TABLE VI, QUALIFICATION
INDIVIDUAL TASK TOUCH POINTS

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
031-503-1035	Protect Yourself from Chemical/Biological Contamination Using Your Assigned Protective Mask	Yes	Yes	Yes
071-024-0003	Unload the 25mm High-Explosive Incendiary Tracer (HEI-T) Ammunition Can on a Bradley Fighting Vehicle (BFV)			
071-024-0004	Unload the 25mm Armor-Piercing Discarding Tracer (APDS-T) Ammunition Can on a Bradley Fighting Vehicle (BFV)			
071-300-0001	Conduct Troop Leading Procedures	Yes		
091-91M-1073	Maintain the 25mm Gun System on the Bradley Fighting Vehicle	Yes	Yes	
171-091-1023	Conduct Vehicle Resupply	Yes		
171-121-3009	Control Techniques of Movement	Yes		
171-121-4021	Plan Range Operations	Yes		
171-121-4028	Plan Occupation of a Battle Position	Yes		
171-121-4030	Conduct Vehicle Tactical Navigation	Yes		
171-121-4041	Conduct Combat Table Operations	Yes		
171-121-4051	Prepare a Situation Report (SITREP)	Yes		

LEGEND
mm MILLIMETER

Figure 6-30. Table VI, Qualification, task touch points



TABLE VI, QUALIFICATION
INDIVIDUAL TASK TOUCH POINTS, CONTINUED

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-121-4057	Perform Techniques of Movement	Yes		
171-121-4062	Issue an Oral Operation Order (OPORD)-Fragmentary Order (FRAGORD)	Yes		
171-121-4064	Prepare Logistical Status (LOGSTAT) Reports	Yes		
171-121-4065	Direct Vehicle Tactical Movement	Yes		
171-121-4067	Execute Platoon Precombat Operations	Yes		
171-122-1061	Maintain Property Accountability	Yes	Yes	Yes
171-123-1000	Occupy of a Vehicle Fighting Position	Yes		
171-123-1023	Maintain Operator's Part of Equipment Record Folder		Yes	Yes
171-123-1090	Perform Preventative Maintenance on Basic Issue Items (BII)		Yes	Yes
171-123-3001	Supervise Personnel Handling Ammunition	Yes		
171-123-4020	Perform Operator Maintenance on Global Positioning System (GPS)		Yes	Yes
171-131-2017	Identify Ammunition Container Markings	Yes	Yes	
171-131-2018	Identify the Components of Main Gun and Small Arms Ammunition	Yes	Yes	
171-136-0002	Mount Combat Identification Panels (CIPs) on a Bradley Fighting Vehicle (BFV)	Yes	Yes	Yes
171-138-0015	Conduct Advanced Vehicle Identification	Yes	Yes	

Figure 6-30. Table VI, Qualification, task touch points, continued



TABLE VI, QUALIFICATION
INDIVIDUAL TASK TOUCH POINTS, CONTINUED

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-138-0017	Identify Restricted and Suspended Ammunition	Yes	Yes	
171-138-0021	Conduct Individual Weapon and Crew Served Ranges	Yes	Yes	Yes
171-138-0022	Demonstrate Target Acquisition Methods	Yes	Yes	Yes
171-138-0028	Identify Combat Vehicles and Aircraft	Yes	Yes	Yes
171-151-0009	Maintain the AN/VAS-5B Driver's Vision Enhancer (DVE)			Yes
171-19K-2237	Conduct Alternative Range Determinations on an M1 Series Tank	Yes	Yes	
171-300-0083	Enforce Rules of Engagement (ROE)	Yes		
171-309-0650	Inspect DA Form 5988-E or DA Form 2404	Yes	Yes	
171-610-0001	Perform a Map Reconnaissance	Yes	Yes	Yes
171-610-0002	Recognize Threat Tactics and Battlefield Organization	Yes	Yes	Yes
171-620-0123	Employ Common Operational Terms and Graphics	Yes		
171-924-0015	Perform Duties as a Vehicle Crew Evaluator (VCE)	Yes		
171-928-0002	Remove Crew Module Unit Recorder (CMUR) the on an M1-Series Tank	Yes	Yes	
171-928-0003	Install the Thru-Sight Video-Recorder (TSV-R) Subsystem of the Thru-Sight Video (TSV) System on a Bradley Fighting Vehicle (BFV)	Yes	Yes	Yes
171-928-0005	Install the Crew Module Unit Recorder (CMUR) on a Stryker Mobile Gun System (MGS)	Yes	Yes	Yes

LEGEND
DA **DEPARTMENT OF THE ARMY**

Figure 6-30. Table VI, Qualification, task touch points, continued



TABLE VI, QUALIFICATION
INDIVIDUAL TASK TOUCH POINTS, CONTINUED

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-928-0009	Perform Pre-Operational Set-Up Procedures for the Thru-Sight Video-Recorder (TSV-R) Subsystem of the Thru-Sight Video (TSV) System	Yes		
171-928-0010	Operate the Crew Modular Unit Recorder (CMUR)	Yes	Yes	
171-928-0011	Perform Preventive Maintenance Checks & Services (PMCS) on the Thru-Sight Video (TSV) System	Yes	Yes	
171-928-0012	Troubleshoot the Thru-Sight Video (TSV) System	Yes	Yes	
171-928-0013	Conduct an After Action Review Using the Thru-Sight Video (TSV) System	Yes		
171-BFV-0000	Boresight the Weapon Systems on a Bradley Fighting Vehicle (BFV)	Yes	Yes	Yes
171-BFV-0001	Maintain the Hull on a Bradley Fighting Vehicle (BFV)	Yes	Yes	Yes
171-BFV-0002	Maintain the Turret on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0004	Drive a Bradley Fighting Vehicle (BFV)			Yes
171-BFV-0010	Slave Start an M2A3 Bradley Fighting Vehicle (BFV)			Yes
171-BFV-0012	Operate the Chemical, Biological, Radiological and Nuclear (CBRN) System on a Bradley Fighting Vehicle (BFV)	Yes	Yes	Yes
171-BFV-0013	Operate the Driver's Vision Enhancer-Wide (DVE-W) on the M2A4 Bradley Fighting Vehicle (BFV)			Yes
171-BFV-0016	Stow Ammunition on an Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0100	Install a M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0101	Perform a Function Check on the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	

Figure 6-30. Table VI, Qualification, task touch points, continued



TABLE VI, QUALIFICATION
INDIVIDUAL TASK TOUCH POINTS, CONTINUED

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-BFV-0102	Load the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0103	Fire the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0104	Correct Malfunctions of the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0105	Unload the M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0106	Remove a M240C Coaxial Machine Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0201	Perform a Function Check on the 25mm Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0202	Load the the 25mm Gun Feeder on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0203	Load the 25mm High-Explosive (HE) Ammunition Can on a Bradley Fighting Vehicle (BFV)			
171-BFV-0204	Load the 25mm Armor-Piercing (AP) Ammunition Can on a Bradley Fighting Vehicle (BFV)			
171-BFV-0205	Fire the 25mm Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0206	Correct a Malfunction of the 25mm Gun on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0209	Unload the the 25mm Gun Feeder on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-1100	Zero the Weapon Systems on Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-1200	Engage Targets using the Weapon Systems on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-3000	Direct Engagements from the Commander's Position on a Bradley Fighting Vehicle (BFV)	Yes		

LEGEND
mm MILLIMETER

Figure 6-30. Table VI, Qualification, task touch points, continued



TABLE VI, QUALIFICATION
INDIVIDUAL TASK TOUCH POINTS, CONTINUED

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-COM-0302	Conduct Occupation of an Assembly Area	Yes		
171-COM-4079	Send a Situation Report (SITREP)	Yes	Yes	
171-COM-4080	Send a Spot Report (SPOTREP)	Yes	Yes	Yes

Figure 6-30. Table VI, Qualification, task touch points, continued

Chapter 7
Qualification Standards

The crew tables culminate in the evaluation of the crew's ability to destroy threat targets using full-caliber ammunition both day and night. Successful completion of Table VI, Qualification is required for crews to advance to collective live-fire training.

Crew Table VI is the record course of fire used to determine the live-fire proficiency of a crew platform. Table VI serves as the commander's assessment of lethality and proficiency of the crew platform. This qualification is required by AR 350-1 and described as a metric of unit readiness within AR 220-1. Crew platform qualification is the cornerstone of company, battalion/squadron, and brigade combat team readiness.

OVERVIEW OF QUALIFICATION STANDARDS

7-1. Crew Table VI, Qualification is the Army's standard demonstrations of a BFV crew's employment proficiency of their platform during a live-fire event. Crews must successfully complete Table VI, Qualification to progress to higher echelon live-fire collective events. Crew qualification is also used as prerequisites for additional training, certifications, and functional courses.

7-2. All crew platform tables include multiple qualification criteria to determine when a crew is qualified. The multiple qualification criteria are not waiverable on the qualification table.

Qualified Crew

A qualified crew is a VC and gunner combination that successfully completes Crew Platform, Table VI, Qualification and have not met any of the condemnation criteria of the qualification period.

TERMS OF REFERENCE

7-3. Units must be familiar with the training terminology used to describe the various components of proficiency, qualification, and readiness. The terms found in paragraphs 7-4 through 7-10 are used within this chapter when discussing qualification.

QUALIFICATION

7-4. A qualified crew is a VC and gunner combination that successfully completes crew platform, Table VI, Qualification and have not met any of the condemnation criteria of the qualification period.

QUALIFICATION DURATION

7-5. The length of time a qualification is valid provided all other qualification conditions exist. For crew platforms, the qualification duration is 12 months.

PREREQUISITES

7-6. Training events prior to live-fire that must be successfully completed by the Soldier or crew. Official records of the training must be maintained for a minimum of 12 months.

EXTERNAL EVALUATION

7-7. Qualification events require external evaluations by certified VCEs. Evaluators are typically external to the battalion/squadron (see figure 7-1). For some units in remote locations, the unit must conduct the evaluations with trained leaders within the organization. In those circumstances, the evaluator for any crew should not have influence over the promotion potential or be in any professional competition with the VC or gunner.



TABLE VI
QUALIFICATION
EXTERNAL EVALUATION REQUIREMENTS

EVENT	EXTERNAL TO	REMARKS
Table VI, Crew Platform Qualification	Battalion/ Squadron	Typically tasked within brigade.

Figure 7-1. External evaluation requirements

QUALIFICATION PERIOD

7-8. The period that begins the day a qualification is awarded and continues for 365 days. This term is used to describe the time since qualification occurred.

CONDEMNATION CRITERIA

7-9. The rules that determine if any given qualification is still valid. For crew platforms, these rules are time, key leader turn over, and commander assessment.

MULTIPLE QUALIFICATION CRITERIA

7-10. The rules used to crew platform live-fire to determine their qualification status or rating based on their performance during Table VI engagements.

QUALIFICATION STANDARDS

7-11. Crew Table VI, Qualification is the record courses of fire used to determine the live-fire proficiency of a BFV crew. Table VI serves as the commander's assessment of lethality and proficiency of the crew on their platform. This qualification is required by AR 350-1 and described as a metric of unit readiness within AR 220-1. Crew platform qualification is the cornerstone of company, battalion/squadron, and brigade combat team readiness.

7-12. Crew Table VI, Qualification is the Army's standard demonstration of a crew's employment proficiency the crew platform during a live-fire event. Crews must successfully complete Table VI, Qualification to progress to higher echelon live-fire collective events. Crew qualification is also used as prerequisites for additional training, certifications, and functional courses. Certified, experienced leaders external to the unit evaluate crew platforms on the qualification course of fire.

7-13. Crew qualification uses multiple-qualification criteria to determine the live-fire proficiency. To qualify on Table VI, the qualification course of fire, the crew must at a minimum successfully—

- Qualify 7 of 10 engagements by achieving a minimum of 70 points on all targets presented within the engagement overall.
- Score a minimum of 700 points out of a possible 1,000 points, overall.
- Qualify a minimum of one day engagement and one night engagement.

7-14. Table M, Missile Qualification uses multiple-qualification criteria to determine the missile proficiency. If units elect to conduct Table M, the missile qualification course of fire, the crew must at a minimum successfully—

- Qualify 7 of 10 engagements by achieving a minimum of 70 points on all targets presented within the engagement overall.
- Score a minimum of 700 points out of a possible 1,000 points, overall.
- Qualify a minimum of one day engagement and one night engagement.
- If TOW-on-the-move equipped, conduct one offensive TOW engagement, day and night.

7-15. With proper training and adherence to the training strategy, units should achieve qualification on the first run attempt (termed first run) on a minimum of 90 percent of their crews. Units that fail to achieve 90 percent qualified crews on their first run, commonly known as Q1, indicate a failure to train the necessary skills at the company/troop level.

7-16. Qualification standards for BFV crews establish the reporting requirements for crew platforms for readiness reporting (see figure 7-2).



QUALIFICATION DURATION: 12 months

PREREQUISITES Each BRADLEY COMMANDER/GUNNER COMBINATION must successfully complete:	
Table I *GST*	Table I between T-6 and T-execution of the combat training density for qualification.
Table II *STX-V* Table III *STX (Drills)*	Table II and III between T-6 and T-execution of the combat training density for qualification.
LIVE-FIRE TRAINING Each BRADLEY COMMANDER/GUNNER COMBINATION successfully completes:	
Table IV *Basic*	All appropriate optics zeroing, screening, or calibration procedures within 30 days of live-fire training.
Table V *Practice*	The practice course of fire within the previous qualification period. Successful completion of Table V is recommended prior to conducting the qualification course of fire.
STANDARD Each BRADLEY COMMANDER/GUNNER COMBINATION successfully completes:	
Table VI *Qualification* *or* Table A *Austere Qualification*	An authorized qualification course of fire within the last qualification period, has not triggered any condemnation criteria, and has met the minimum qualification standards listed in the respective training publication.
Note: Crew (VC/Gunner combination, as directed) must successfully complete Table VI prior to executing any collective live-fire event.	

LEGEND

GST	**GUNNERY SKILLS TEST**	**T-**	**TRAINING WEEK/MONTH MINUS [THE NUMBER OF WEEKS/MONTHS TILL EXECUTION]**
STX	**SITUATIONAL TRAINING EXERCISE**		
STX-V	**SITUATIONAL TRAINING EXERCISE-VIRTUAL**	**VC**	**VEHICLE COMMANDER**

Figure 7-2. Crew platform qualification standards

CREW PLATFORM RATINGS

7-17. Crew evaluation basis is on their level of competence on their platform using the standard evaluation procedures as described in the platform's training publication. The end state for each crew after completing Table VI and Table M, is a crew proficient on all systems within their platform, that is confident and competent to a standard that best prepares them for combat.

7-18. Crews will receive an overall qualification rating for Table VI, Crew Qualification and Table M, Missile Qualification, based on the multiple-qualification criteria (see figure 7-3). Commanders are authorized to award crewmembers the appropriate weapons qualification badge based on the live-fire proficiency event rating including the corresponding qualification clasp.

QUALIFICATION RATINGS	
RATING	**THE CREW MUST**
DISTINGUISHED 	On the first attempt to qualify (FIRST RUN) Table VI/ Table M: • Qualify 9 of 10 engagements and • Score a minimum of 900 points of a possible 1,000 and • Qualify a minimum of three day and one night engagements. • Qualify a minimum of one offensive TOW engagement day and night (if TOTM equipped)
SUPERIOR 	On the FIRST RUN Table VI/ Table M: • Qualify 8 of 10 engagements and • Score a minimum of 800 points of a possible 1,000 and • Qualify a minimum of two day and one night engagements. • Qualify a minimum of one offensive TOW engagement day and night (if TOTM equipped)
QUALIFIED 	On the FIRST RUN Table VI/ Table M: • Qualify 7 of 10 engagements and • Score a minimum of 700 points of a possible 1,000 and • Qualify a minimum of one day and one night engagements. • Qualify a minimum of one offensive TOW engagement day and night (if TOTM equipped)
NO BADGE or CLASP AUTHORIZED	When more than one attempt to qualify is conducted in order to meet the minimum standards on Table VI/Table M.

LEGEND
TOTM TOW ON THE MOVE
TOW TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED

Figure 7-3. Crew platform qualification badges authorized

7-19. When units require multiple attempts to qualify, units traditionally classify them by the maximum number of iterations of any engagement on the course of fire (see figure 7-4).

RATING	INABILITY TO ACHIEVE STANDARD BY
Q2	Failed to achieve Qualification or Certification standards on the first run, where one or more engagements were fired TWO times by the crew to achieve the minimum qualification standards.
Q3	Failed to achieve Qualification or Certification standards on the first run, where one or more engagements were fired THREE times by the crew to achieve the minimum qualification standards.
Note: The number following the "Q" indicates the largest number of iterations the crew executed any single engagement to achieve the minimum qualification requirements. There is no "Q1" rating as the crew should therefore receive a QUALIFIED, SUPERIOR, or DISTINGUISHED rating.	

Figure 7-4. Qualifying with multiple attempts

7-20. The Q number ratings are used to identify weak performing crews that require additional training to achieve the appropriate readiness level expected of their MOS, assigned position, and unit readiness. They provide a rapid indication to the commander beyond the crew's score where training deficiencies or gaps are present.

Note. For example, a crew refires the 62 engagement 3 times on Table VI to achieve the required 700 minimum points with 7 qualified engagements. As the 62 engagement was fired multiple times (three in this case), the crew is rated qualified as Q3.

7-21. Units that train according to the training strategy throughout the training period with proactive leadership involvement will achieve the desired training outcomes. To do so, these units typically achieve the benchmarks (see figure 7-5).

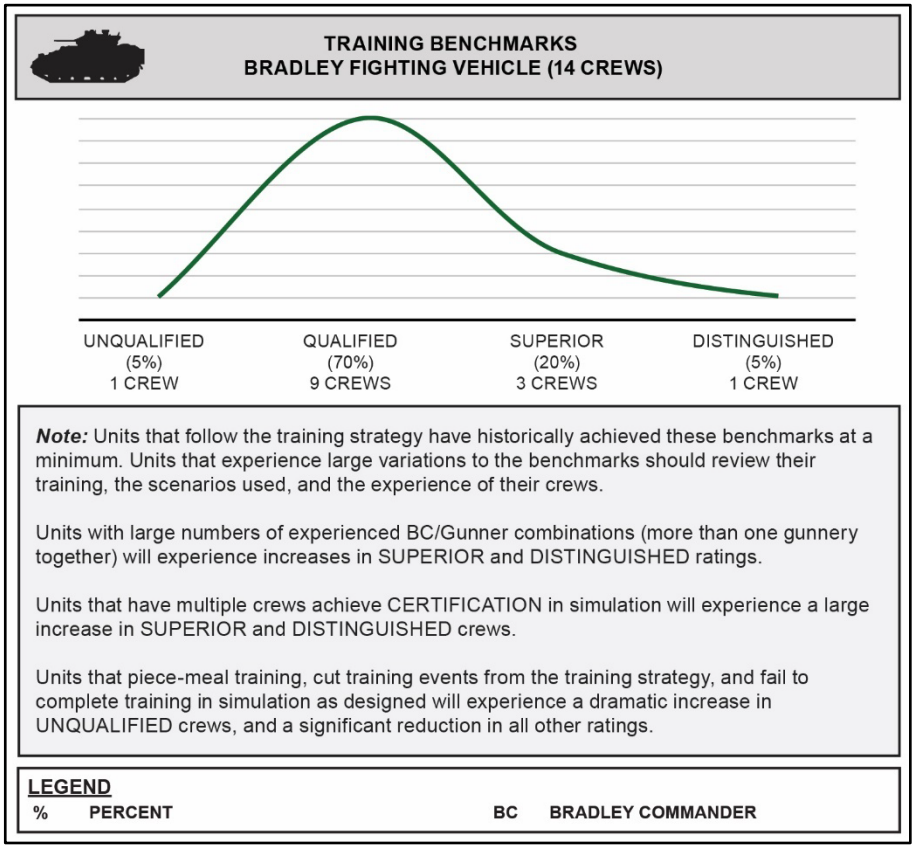


Figure 7-5. Training benchmarks achieved by following the training strategy

QUALIFICATION REFIRES

7-22. If a crew fails to qualify, they must refire select engagements for qualification. The highest rating that a crew can earn when refiring is qualified.

7-23. A crew refires only the engagements that they failed to achieve the minimum standard. Units should initially focus on those nonqualified engagements that provide the most points to gain. A crew refires only the number of engagements required to obtain a qualified rating.

7-24. AR 220-1 and AR 350-1 delineate the qualification standards reporting requirements. They relate directly to the individual and collective training proficiency goals of the readiness model found in AR 525-29.

DISQUALIFICATION

7-25. A disqualification is the immediate removal from live training of any unsafe crew until the crew satisfactorily completes a recertification program. Disqualification is a critical failure in the safe conduct of the range by leaders using weapons or weapon systems in such a manner that has the potential to injure or kill Soldiers or civilians, or excessive damage to government property.

7-26. The following is a list of disqualification criteria:

- A crew that performs any actions listed in the immediate disqualification section of DA Form 8265-1.
- A crew that performs three each 30-point penalties as listed on DA Form 8265-1 during the same table.
- A crewmember or entire crew can be disqualified and require recertification for actions not associated with firing.
  - The unit commander may disqualify individuals or crews that consistently perform unsafe acts during non-firing or preparation tasks.
  - This type of disqualification will be at the discretion of the unit commander.

7-27. Any crew disqualified for any reason may not refire without brigade commander approval after corrective training is complete. Corrective training for disqualified crews includes, at a minimum, repeating and successful completion of the following:

- Table I, GST.
- Table II, STX-V GTLF on the authorized training system.
- Table III, STX.

7-28. Disqualified crews indicate a significant lack of awareness for safety on the vehicle. The requirement for retraining on Tables I, II, and III, at a minimum, may be waived by the first general officer in the chain of command and may not be delegated.

Note. The battalion or squadron commander is the approving authority for all recertification. A commander may impose additional retraining requirements as desired to ensure the crew's safety and effective performance during live-fire training.

SUSTAINING CREW PROFICIENCY

7-29. Once the element has successfully completed their qualification event, the unit must consider how the condemnation criteria impact their subordinate's proficiency. The following paragraphs describes how crew platforms maintain their proficiency, how to identify when a proficiency rating has triggered one or more condemnation criteria, and any options the commander can consider lessening or mitigating those impacts.

CREW PLATFORM CONDEMNATION CRITERIA

7-30. Qualifications remain valid until one of the condemnation criteria is met. The qualification condemnation criteria for crew platforms are found in paragraphs 7-31 through 7-34.

Time

7-31. The maximum qualification duration for any qualification, certification, or proficiency rating is 12 months since the previous qualification, certification, or proficiency rating.

Key Leaders

7-32. The minimum identified key leaders on the crew platform (VC and gunner for the BFV) are no longer assigned to their qualified position.

Commander Assessment

7-33. Any commander within the chain of command determines the crew no longer maintains crew platform proficiency for any reason. Any condemnation based on the commander's assessment will instigate immediate retraining.

No alterations to the condemnation criteria authorized

Units may not alter, change, or modify the condemnation criteria. Evaluation commanders have the option, based on their assessment of the element, to condemn any proficiency rating they are authorized to assign.

7-34. Once any crew loses their qualification status, that crew must be removed from the battle roster. Once removed from the battle roster, commanders and their advisors review the potential to maintain the remaining crewmembers on either the crew roster or cross-train roster based on each situation.

TALENT MANAGEMENT

7-35. Commanders can mitigate the impacts to their unit's proficiency in a variety of methods. Talent management skills before, during, and after conducting the crew platform training strategy is required by leaders to ensure the maximum proficiency is maintained and sustained within the larger organization. Crew platform qualification has a direct impact on the unit's overall readiness and contribute to the unit's level of proficiency.

7-36. To best manage crew turbulence when establishing crew rosters, the commander and staff consider the process described in paragraphs 7-37 through 7-45.

Identify

7-37. Identify high-performing Soldiers that demonstrate technical and tactical understanding and who are prepared for increased responsibility. Consider their previous assignments and experience for potential assignment as a gunner or VC. Identify the Soldier's year and month available or date of expected return from overseas assignment for permanent change of station. Soldiers are determined for eligibility for stabilization following established Army personnel policies.

Assess

7-38. Units must assess new Soldier/crewmember proficiency on their platform. Commanders that receive new leaders who achieved proficiency within the last qualification period have assessment options to maintain element qualifications. Commanders can assess two previously qualified key leaders from different elements to determine their proficiency status if they are assigned together in an element. This is the least preferred method of talent management and requires the commander to make assessments using previous crew records, sustainment training in simulations, and other assessments to determine their proficiency status.

Assign

7-39. The VC/gunner combinations are selected together. This maximizes the key leader's longevity and future proficiency ratings in a more stable manner. Each crewmember is assigned to their position on their potential and longevity. Those leaders are placed in the next higher position (for example, gunner to VC, or driver to gunner).

Transfer

7-40. When promotions occur, commanders should make every effort to keep the trained key leaders together, including inter-battalion transfers. Commanders should consider moving the newly promoted key leader and key leader combination together where the gaining unit within the battalion will benefit from maintaining proficient key leaders.

Cross-train

7-41. Experienced Soldiers are easier to train than new Soldiers. Units should utilize harvested training ammunition to train and qualify alternate firers to build experience. Units should invest first-round-hit ammunition savings, commonly referred to as ammunition harvesting, to cross training young leaders in key leader positions. In doing so, commanders can mitigate key leader turnover with trained and proficient leaders in stride with key leader turbulence. Ammunition available through first round hit savings vary from training event to training event. Units must be prepared to execute training based on the varying training munitions availability and plan for additional time on range facilities to build depth in their trained and qualified cross-trained crews.

Stabilize

7-42. Commanders must ensure personnel administration is involved in crew management through requesting stabilization for Soldiers or organizations in unique situations. Some of these situations are noted in paragraphs 7-43 through 7-45.

Functional Course Graduation

7-43. Soldier attendance to the various platform mastery courses or instructor courses provide units with a graduate stabilization capability. These types of requests maximize the unit's investment in the Soldier's by effectively stabilizing the Soldier with the unit for up to 24 months.

Stop Move

7-44. Units request to stabilize specific Soldiers, small unit, or an entire organization six months prior to latest arrival date. This does not apply to Soldiers already on assignment instructions. The stop move is effective 180 days prior to the unit's latest arrival date and continues through redeployment to at least 90 days.

Oversight

7-45. The special actions branch at Army Human Resources Command provides oversight and action against all stabilization, stop movement, and crew stabilization requests. For units that have an assigned latest arrival date the brigade commander requests stabilization for those VC and gunner combinations they foresee becoming turbulent in the next four quarters. For additional information, see the Army Human Resources Command website.

Plan for Turbulence

7-46. Commanders, with the assistance of their Master Gunner must anticipate future turbulence before it happens. As the key leader turbulence periods occur (permanent change of station, date of expected return from overseas assignment, reenlistment options, promotion potential, and so forth), the commander must be able to visualize and identify the most common causes, their impacts on proficiency and readiness, and identify the most probable points of failure in sustaining readiness.

CREW PLATFORM TURBULENCE

7-47. The commander may consider a turbulent crew as qualified (proficient) in extreme circumstances. Commanders accept the risk when assigning turbulent crewmembers together and carry that crew as qualified for reporting purposes. It is the least preferred method of crew management and is approved by the first general officer in their chain of command.

7-48. The commander should review the cohesion and proficiency of critical skills on the platform used by the VC and gunner. Such cohesion and proficiency are demonstrated by the crews'—

- Previous qualification in their assigned position on a different crew within the previous qualification period (12 months).
- Successful completion of Table I, GST, for the unit within the previous qualification period or on a diagnostic exam.
- Completion of the simulations training strategy from entry-level through the GTLF exercise (which typically takes between 8 to 12 hours in the simulator with a qualified instructor/operator and platoon sergeant oversight).
- Successful completion of the crew platform, Table II, STX–V GTLF with a score of 850 or above.

7-49. If commanders are not completely confident in the crew cohesion, capability, experience, and performance, they must rate them as unqualified the next training density.

CREW TURBULENCE AND QUALIFICATION

7-50. There are only two key leaders on the BFV. Units must develop talent management skills to maintain the crew's qualification status and proficiency as long as possible. (See figure 7-6 for an example of a proficient Bradley crew.)

PROFICIENT CREW	BRADLEY CREW	
TIME	**KEY LEADER TURN-OVER**	**COMMANDER ASSESSMENT**
Twelve (12) months has elapsed since the date of the qualification.	Minimum identified key leader(s) (BC or Gunner) are no longer assigned to the position(s) since the completion of the qualification.	Any commander within the chain of command determines the subordinate unit's proficiency is no longer at a trained level.



Key Leaders:

BRADLEY COMMANDER (BC)

GUNNER

QUALIFIED CREW

A qualified crew is a Bradley commander and gunner combination that successfully completes Crew Platform, Table VI (Qualification) and have not met any of the condemnation criteria of the qualification period.

Note: Crew Platform Drivers are MOS qualified separately (licensed) and are not required for crew management purposes to maintain proficiency/qualification rating.

LEGEND
MOS MILITARY OCCUPATIONAL SPECIALTY

Figure 7-6. Bradley proficient crew example

Crew Turbulence Example 1

7-51. In the example below, the Bradley commander, one of the crew's key leaders, leaves the organization. (See figure 7-7 for a demonstration of the Bradley crew losing proficiency rating due to a trigger from the condemnation criteria.)

UNQUALIFIED CREW	BRADLEY CREW	
TIME	KEY LEADER TURN-OVER	COMMANDER ASSESSMENT
Twelve (12) months has elapsed since the date of the qualification.	Minimum identified key leader(s) (BC or Gunner) are no longer assigned to the position(s) since the completion of the qualification.	Any commander within the chain of command determines the subordinate unit's proficiency is no longer at a trained level.



Key Leaders:

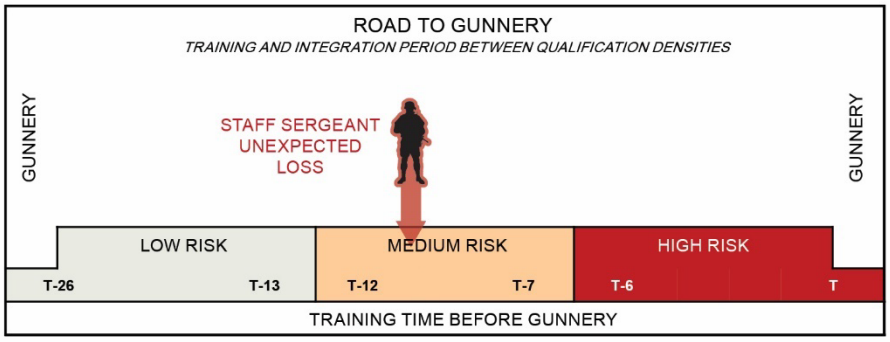
BRADLEY COMMANDER (BC)

GUNNER

SITUATION 1

The BRADLEY COMMANDER is no longer assigned.

THE BCT HAS A ROBUST MASTER GUNNER CANDIDATE ASSESSMENT PROGRAM AND SABOT ACADEMY SCHEDULE FOR EACH BATTALION. THIS INCLUDES THOSE PLATFORM CREWMEMBERS THAT ARE ASSIGNED WITHIN THE BCT BUT ARE NOT ASSIGNED TO A CREW. THE BCT ENSURES THEIR CONTINUING EDUCATION WITH CROSS-TRAINING OPPORTUNITIES, SIMULATIONS USE, AND MENTORSHIP FROM EXPERIENCED PLATOON SERGEANTS AND MASTER GUNNERS.



LEGEND

BCT BRIGADE COMBAT TEAM

T- TRAINING WEEK/MONTH MINUS [THE NUMBER OF WEEKS/MONTHS TILL EXECUTION (X)]

Figure 7-7. Unqualified Bradley crew example

7-52. The commander can exercise their assessment options to potentially restore or build a qualified crew. (See figure 7-8 for an example of a commander applying talent management techniques assigning a Bradley commander that continued to train on critical skills when assigned within the battalion but not assigned to a crew.)

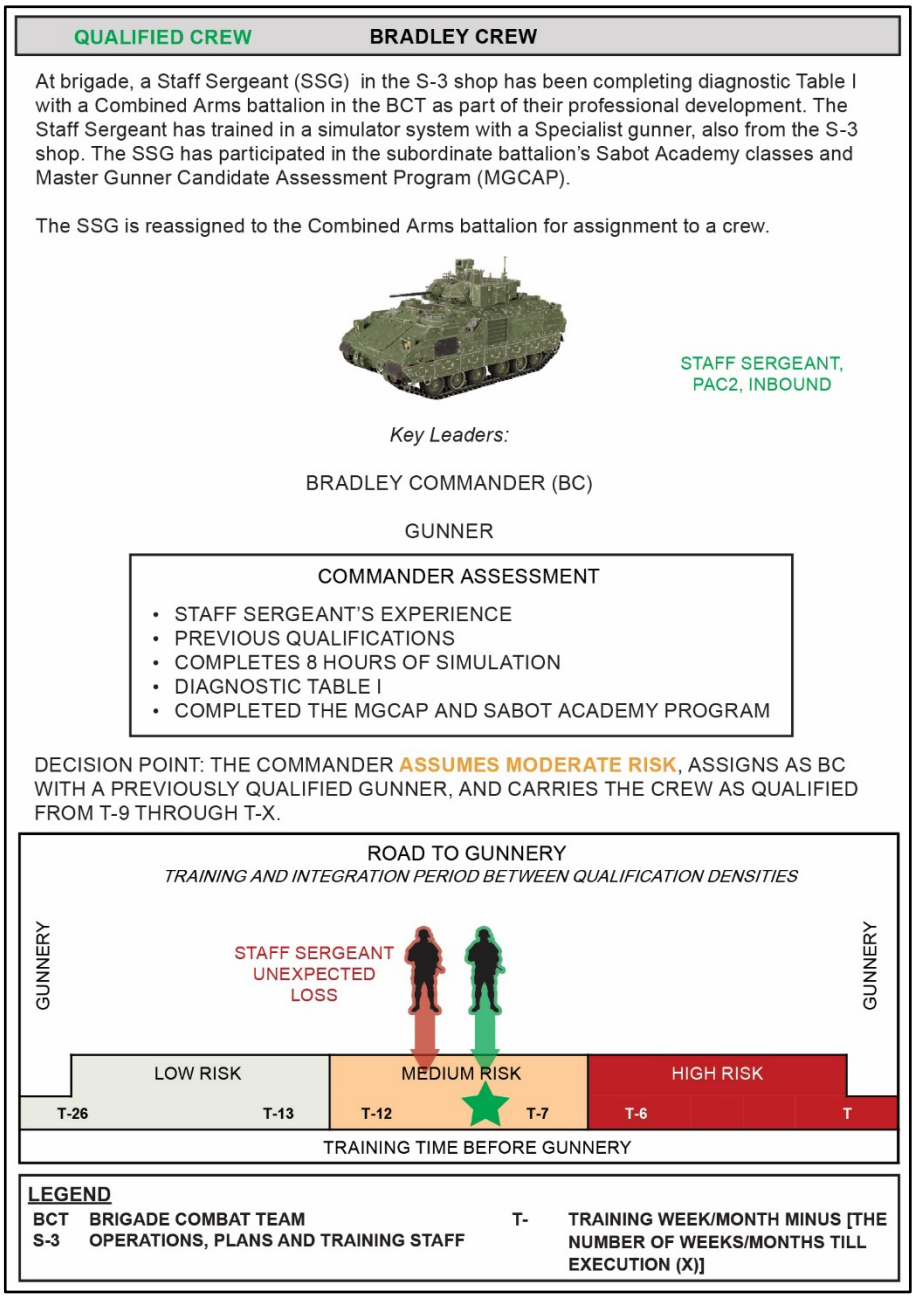


Figure 7-8. Commander assessment and mitigation example

Crew Turbulence Example 2

7-53. In the example in figure 7-9, a Bradley commander from one vehicle and the gunner from another leave the organization. This causes a loss of two qualified crews in the company. (See figure 7-9 for an example of two crews losing their qualifications.)

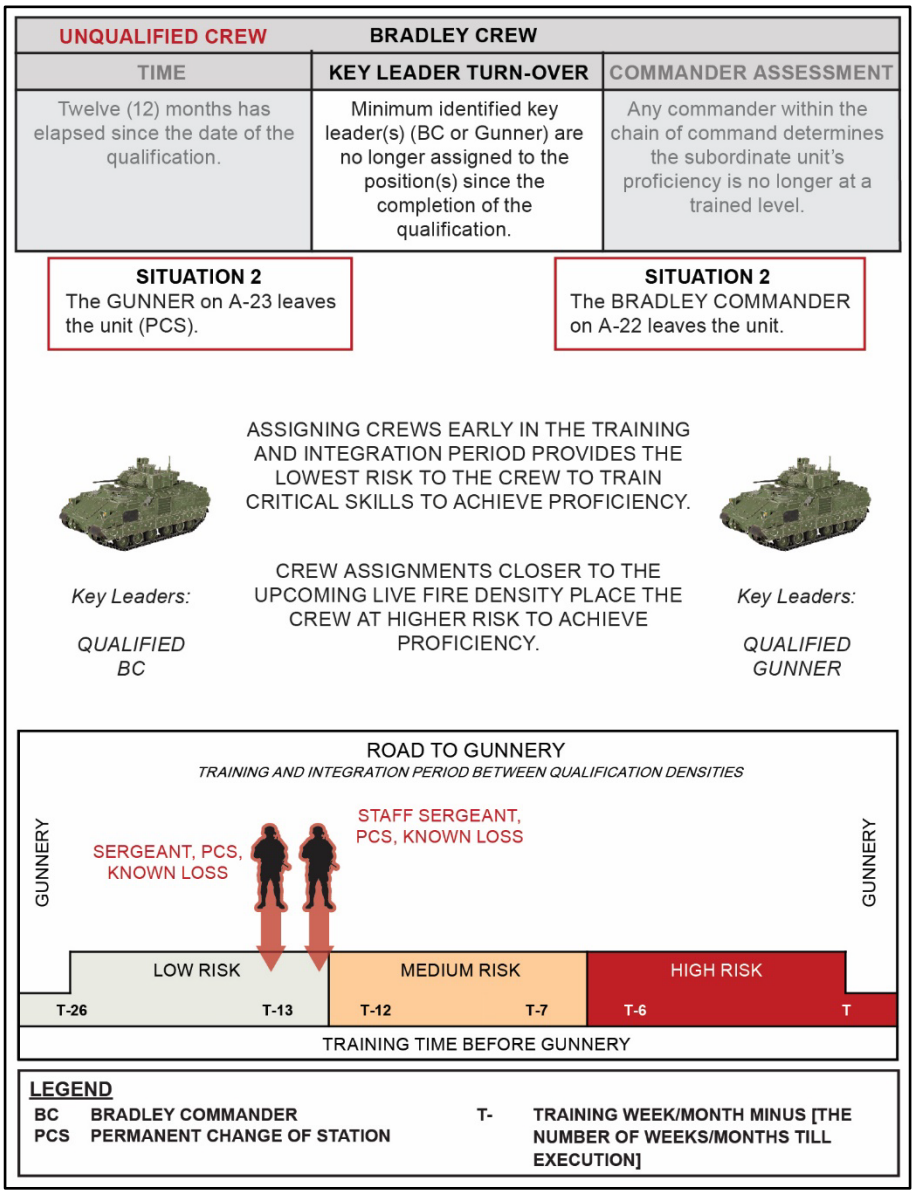


Figure 7-9. Bradley crew turbulence example

7-54. The commander assesses the two remaining key leaders from the two broken crews. The commander places them together to salvage one qualification out of the loss of two, minimizing the overall loss at the company level (see figure 7-10).

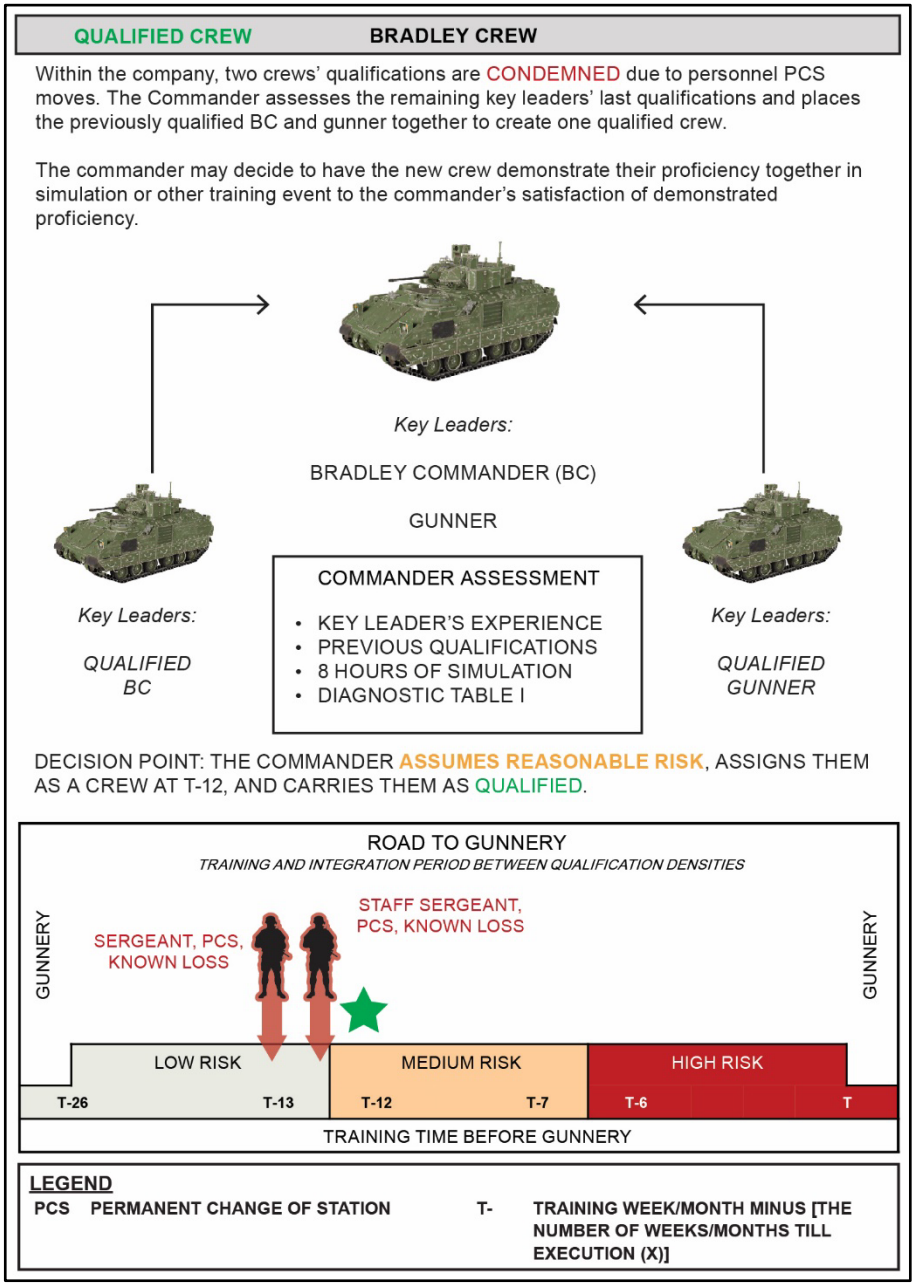


Figure 7-10. Creating one qualified crew from two broken crews

7-55. The commander must understand what they can, should, and should not do to mitigate crew turbulence. When assessing turbulent crews, the commander should make use of the authorized simulations systems, GSTs, the VCE course, and other training assets. See the turbulent crew section in this chapter for additional information.

Assignments with Qualified Rating Approval Authority

Commanders should not carry turbulent crews without previous live fire demonstrated proficiency in position. Providing as much trigger time on the system as possible, as often as possible, will create less difficult talent management decisions.

Commander Risk

Carrying a turbulent crew as qualified is a commander option. The commander accepts the risk to the crew and small unit when reporting readiness for a crew in this manner.
Approval to carry the crew as qualified resides with the first general officer in the chain of command.

Appendix A

Ammunition Requirements

The BFV ammunition requirements, capabilities, and basic ammunition descriptions are outlined within this appendix. The ammunition information provided is for training purposes.

AMMUNITION GUIDELINES

A-1. The BFV crews complete the following events as indicated within this training circular. The actions listed below are in T-week (active component) and T-month (reserve component) concept. Frequency of execution of the training strategy is twice per fiscal year for active component and once per training year for reserve component. The sequence of the execution is the following:

- Table I—GST is completed between T-6 and T-execution of a live-fire event.
- Table II—Simulations is completed between T-6 and T-execution of a live-fire event, and each crew is authorized 1 hour per month with an authorized simulations system.
- Table III—STX is completed between T-6 and T-execution of a live-fire event, and units should conduct Table III as concurrent training on all other listed tables.
- Table IV—Basic is completed prior to Table V.
- Table V—Practice is completed prior to Table VI.
- Table VI—Qualification (duration is 12 months).

A-2. The ammunition requirements may not match DA Pam 350-38 (also called STRAC or Standards in Training Commission), which is the authorization. (See figure A-1 on page 282 for the ammunition requirements for Tables III through VI.) The unit Master Gunner must determine the annual forecast of ammunition required to meet the training goals and objectives of the commander. The Master Gunner uses the Total Ammunition Management Information System to review, validate, and submit unit ammunition requirements and forecast their training ammunition authorizations by month.

DODIC	MUNITION TYPE	FREQUENCY		QUANTITY
		AC	RC	
TABLE III–SITUATIONAL TRAINING EXERCISE (STX)				
A111	CTG 7.62MM BLANK M82 LINKED	2	1	650
LA53	SIM, TARGET HIT XM35 (BES)	2	1	10
LA54	SIM, EXP DET XM34 (BES)	2	1	10
LA77	SIMULATOR, LAUNCHING, ANTITANK MISSILE/ROCKET M22	2	1	2
TABLE M–MISSILE QUALIFICATION				
LA77	SIMULATOR, LAUNCHING, ANTITANK MISSILE/ROCKET M22	2	1	21
LA53	SIM, TARGET HIT XM35 (BES)	2	1	21
LA54	SIM, EXP DET XM34 (BES)	2	1	21
TABLE IV–ZERO				
A940	CTG, 25MM M910 TPDS-T	2	1	8
AB86	CTG, 7.62MM 4 BALL/1 TR LINKED, LEAD FREE	2	1	50
TABLE IV–BASIC				
AB86	CTG, 7.62MM 4 BALL/1 TR LINKED, LEAD FREE	2	1	800
A940	CTG, 25MM M910 TPDS-T	2	1	24
A976	CTG, 25MM M793 TP-T	2	1	24
LA53	SIM, TARGET HIT XM35 (BES)	2	1	13
LA54	SIM, EXP DET XM34 (BES)	2	1	13
TABLE V–PRACTICE				
A940	CTG, 25MM M910 TPDS-T	2	1	56
A976	CTG, 25MM M793 TP-T	2	1	48
AB86	CTG, 7.62MM 4 BALL/1 TR LINKED, LEAD FREE	2	1	600
LA53	SIM, TARGET HIT XM35 (BES)	2	1	15
LA54	SIM, EXP DET XM34 (BES)	2	1	15
TABLE VI–QUALIFICATION				
A940	CTG, 25MM M910 TPDS-T	2	1	48
A976	CTG, 25MM M793 TP-T	2	1	40
AB86	CTG, 7.62MM 4 BALL/1 TR LINKED, LEAD FREE	2	1	600
LA53	SIM, TARGET HIT XM35 (BES)	2	1	14
LA54	SIM, EXP DET XM34 (BES)	2	1	14

LEGEND

AC	ACTIVE COMPONENT	RC	RESERVE COMPONENT
BES	BATTLEFIELD EFFECTS SIMULATOR	SIM	SIMULATOR
CTG	CARTRIDGE	TP-T	TARGET PRACTICE-TRACER
DODIC	DEPARTMENT OF DEFENSE IDENTIFICATION CODE	TPDS-T	TARGET PRACTICE DISCARDING SABOT-TRACER
EXP DET	EXPLOSIVE DETONATION	TR	TRACER
MM	MILLIMETER		

Figure A-1. Crew gunnery ammunition, requirements

A-3. Each chapter within this training circular represents the requirement by firing table and may not match DA Pam 350-38, which is the authorization. (See figure A-2 for the total roll-up of ammunition for Tables III through VI.)

DODIC	MUNITION TYPE	QUANTITY
Table III–VI Total (One Frequency)		
A111	CTG 7.62MM BLANK M82 LINKED	650
LA77	SIMULATOR, LAUNCHING, ANTITANK MISSILE/ROCKET M22	23
A940	CTG, 25MM M910 TPDS-T	136
A976	CTG, 25MM M793 TP-T	112
AB86	CTG, 7.62MM 4 BALL/1 TR LINKED, LEAD FREE	2,100
LA53	SIM, TARGET HIT XM35 (BES)	72
LA54	SIM, EXP DET XM34 (BES)	72

LEGEND

BES	BATTLEFIELD EFFECTS SIMULATOR	SIM	SIMULATOR
CTG	CARTRIDGE	TP-T	TARGET PRACTICE-TRACER
DODIC	DEPARTMENT OF DEFENSE IDENTIFICATION CODE	TPDS-T	TARGET PRACTICE DISCARDING SABOT-TRACER
EXP DET	EXPLOSIVE DETONATION	TR	TRACER
MM	MILLIMETER		

Figure A-2. Crew gunnery ammunition requirements, totals

BES Cartridges

Units are resourced various BES cartridges on Tables III through VI as shown in figure A-2. Units are responsible to forecast the BES cartridges using the Total Ammunition Management Information System, coordinate pick-up, and provide them to the appropriate range support personnel prior to training. The training unit resource BES pyrotechnics to support retraining or refires internally.

AMMUNITION CAPABILITIES

A-4. Units are authorized two types of training ammunition. The target practice rounds have ballistic characteristics like service ammunition, without the chemical energy projectile, fuze, or service penetrator. (See figure A-3 for the ammunition and its capabilities.) Crews should use this as an outline to familiarize themselves with the ammunition.

25mm TRAINING AMMUNITION CAPABILITIES BY TARGET TYPE		
THREAT TYPE	MODEL (DODIC) TYPE	
	M910 (A940) TPDS-T	M793 (A976) TP-T
 HELICOPTER AND SLOW-MOVING AIRCRAFT	*Secondary*	*Secondary*
 MEDIUM ARMORED	**PRIMARY**	
 LIGHT ARMORED		**PRIMARY**
 DISMOUNTED THREAT		*Secondary*

LEGEND

DODIC	DEPARTMENT OF DEFENSE	TP-T	TARGET PRACTICE-TRACER
mm	MILLIMETER	TPDS-T	TARGET PRACTICE DISCARDING SABOT-TRACER

Figure A-3. Training ammunition capabilities

A-5. Units are authorized two types of service ammunition, the kinetic energy (KE) round and the chemical energy round. (See figure A-4 for the ammunition and its capabilities.) Crews should use this as an outline to familiarize themselves with the ammunition.

25mm SERVICE AMMUNITION CAPABILITIES BY TARGET TYPE

THREAT TYPE	MODEL (DODIC) TYPE	
	M919 (A986) APFSDS-T	M792 (A975) HEI-T
 HELICOPTER AND SLOW-MOVING AIRCRAFT	*Secondary*	*Secondary*
 MEDIUM ARMORED	**PRIMARY**	
 LIGHT ARMORED		**PRIMARY**
 DISMOUNTED THREAT		*Secondary*

LEGEND

APFSDS-T	ARMOR PIERCING DISCARDING SABOT-TRACER	HEI-T	HIGH EXPLOSIVE INCENDIARY-TRACER
DODIC	DEPARTMENT OF DEFENSE IDENTIFICATION CODE	mm	MILLIMETER

Figure A-4. Service ammunition capabilities

25-MM AMMUNITION COMPONENTS

A-6. All 25-mm ammunition cartridges consist of a cartridge case and projectile assembly (see figure A-5). Within the cartridge case is the primer, booster pellet or flash tube (round dependent), and propellant. The projectile assembly contains the sub-projectile, windscreen, obturator, fuze, rotating band, ogive, and pusher base.

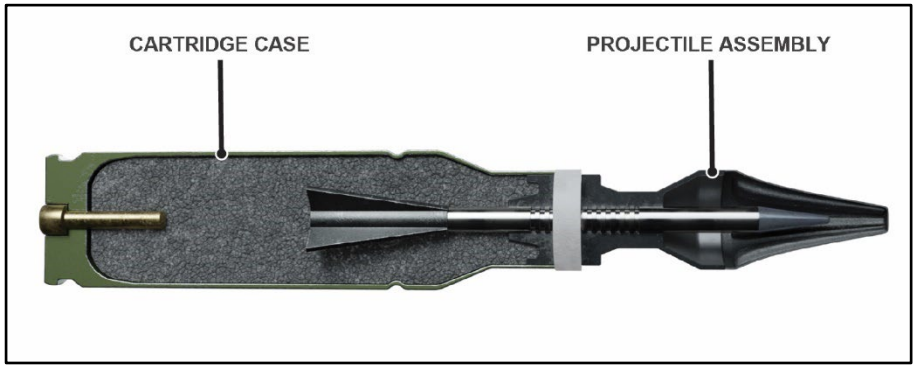


Figure A-5. 25-mm ammunition components

CARTRIDGE CASE

A-7. The cartridge case is a steel casing that contains the primer, booster pellet or flash tube, and propellant. (See figure A-6 for detailed view of the case base.)

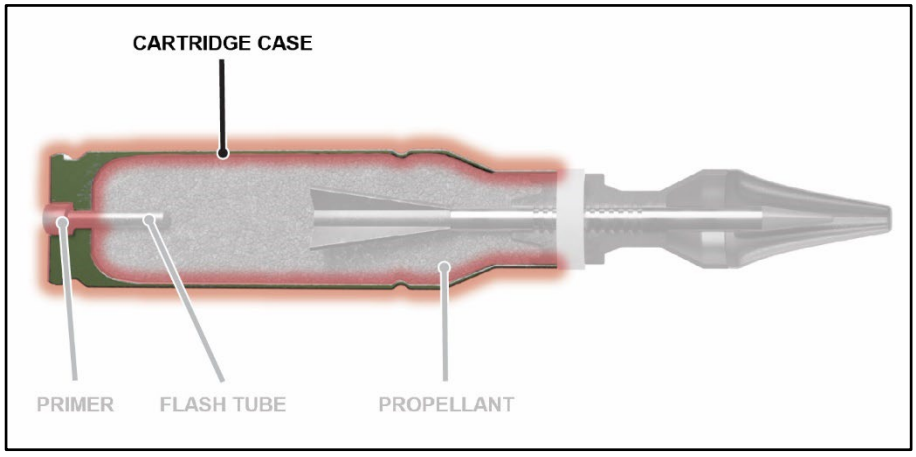


Figure A-6. Cartridge case

Primer

A-8. The primer (see figure A-7) is the cap in the base of the cartridge case. When struck by the firing pin, this starts the ignition sequence.

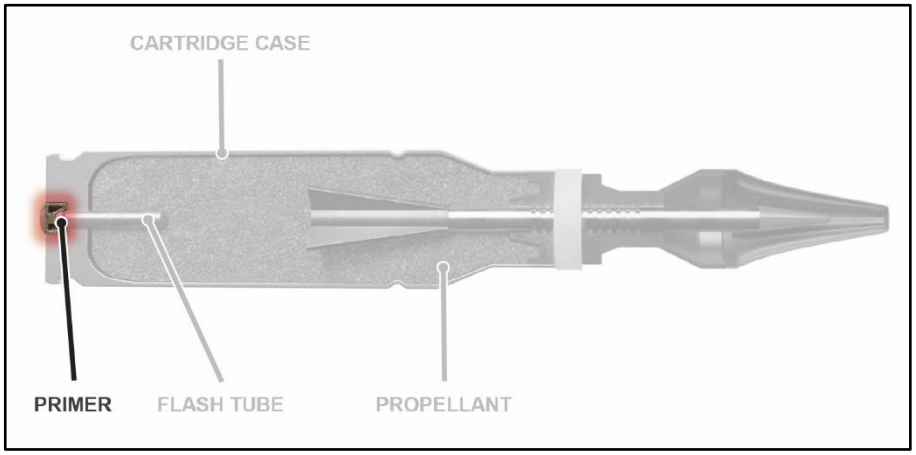


Figure A-7. Primer

Flash Tube

A-9. The flash tube (as shown in figure A-8), or the booster pellet (round dependent), is part of the ignition sequence of the ammunition. The flash tube or booster pellet is ignited by the primer, which in turn ignites the propellant in the cartridge case.

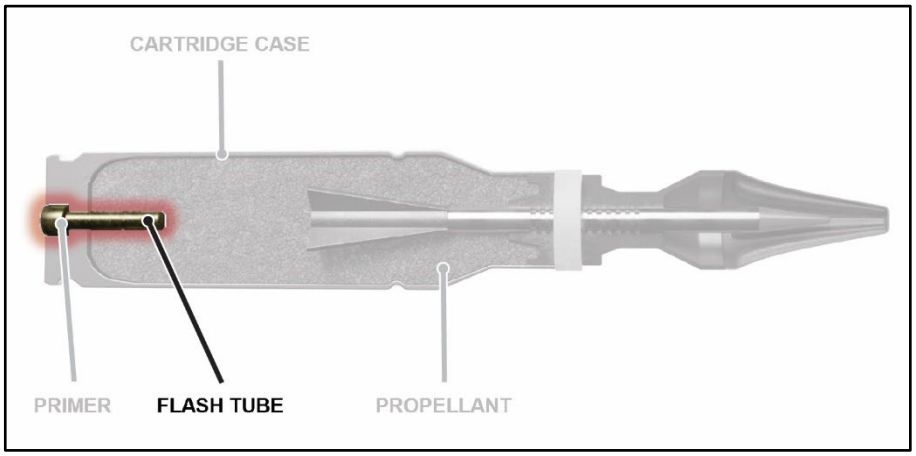


Figure A-8. Flash tube

Propellant

A-10. The propellant is contained within the cartridge case (see figure A-9). The propellant is a composition that burns, producing gas pressure that forces the projectile assembly from the cartridge case down the gun barrel toward the target. The different propellant types vary by the model number of the round, listed later within this appendix.

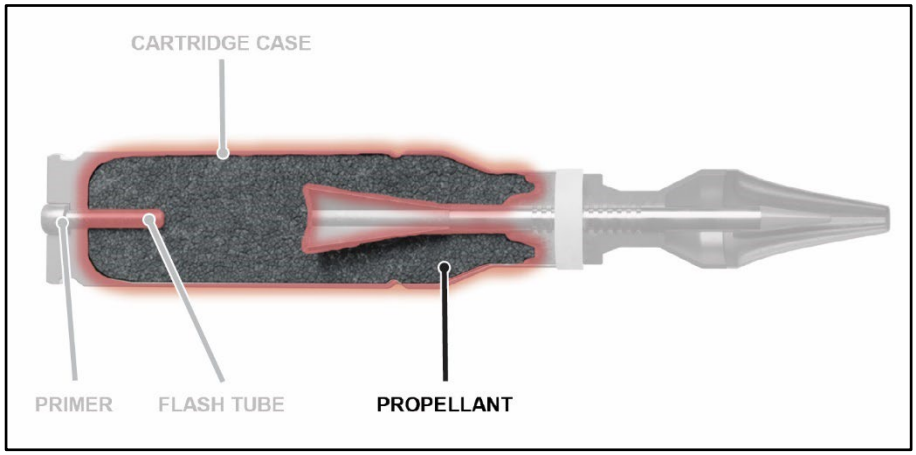


Figure A-9. Propellant

PROJECTILE ASSEMBLY

A-11. The projectile is the cylindrical portion at the end of the cartridge case. The projectile travels down the bore toward the target. The projectile, based on the type of round, may house a sub projectile, windscreen, obturator, rotating band, fuze, ogive, and pusher base.

A-12. Based on the type of round, after shot exit, the round may—

- Arm a chemical warhead.
- Begin separating sabot petals from a sub-projectile.
- Continue down range on the ballistic path.

A-13. The projectile has three different color applications: black, yellow, or light blue. The black projectile is an armor defeating round, yellow is for high explosive, and the light blue color indicates training (target practice). (See figure A-10 for an illustration of the projectile location.)

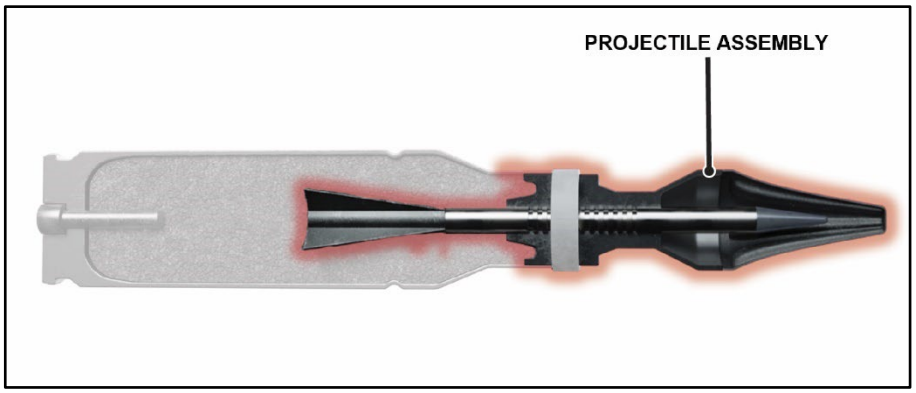


Figure A-10. Projectile assembly

Sub Projectile

A-14. The sub projectile from a KE round is the portion of the round that travels to the target after it has discarded the sabots. (See figure A-11 for the sub projectile from a KE round.)

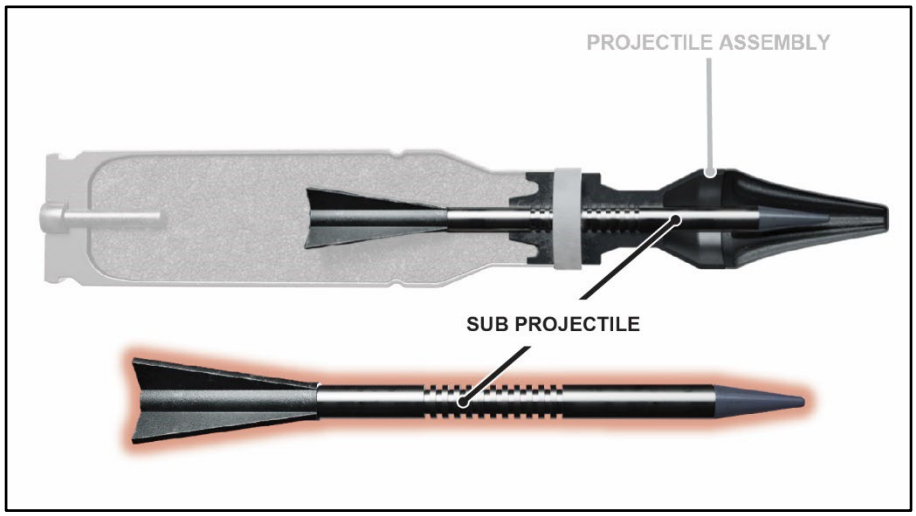


Figure A-11. Sub projectile

Windscreen

A-15. The windscreen is a pointed, or curved surface, mainly used to form the streamlined nose of the round. This is also known as the nose cap (see figure A-12).

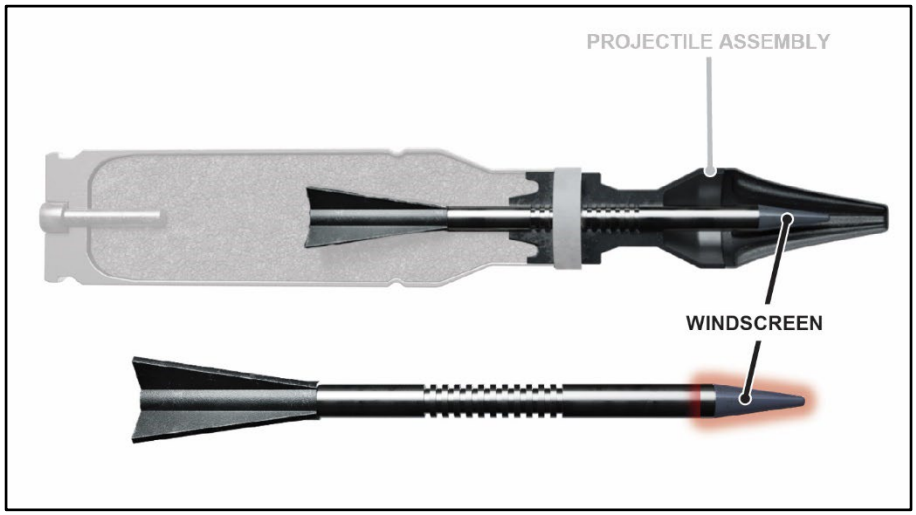


Figure A-12. Windscreen

Obturator

A-16. The obturator is a rubber, nylon, or copper ring that seals propellant gases behind the projectile during firing. (See figure A-13 for a detailed view and location of the obturator.)

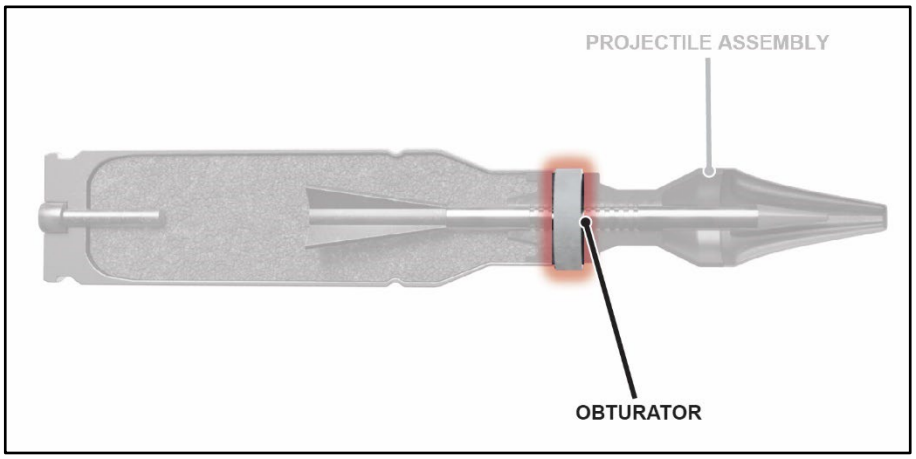


Figure A-13. Obturator

Rotating Band

A-17. The rotating band is an iron or nylon O-ring located on the projectile assembly which engages the rifling of the barrel and provides forward obturation. Forward obturation seals propellant gases behind the projectile during firing and causes the projectile assembly to spin. (See figure A-14 for a detailed view.)

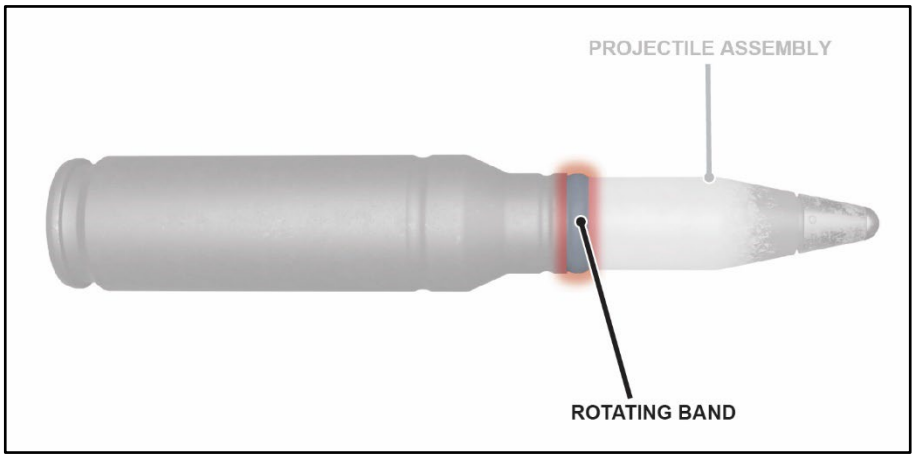


Figure A-14. Rotating band

Fuze

A-18. The fuze is part of the high explosive projectile that causes it to function upon impact with a target. This is not used with KE rounds. (See figure A-15 for a detailed view of the M758 fuze.)

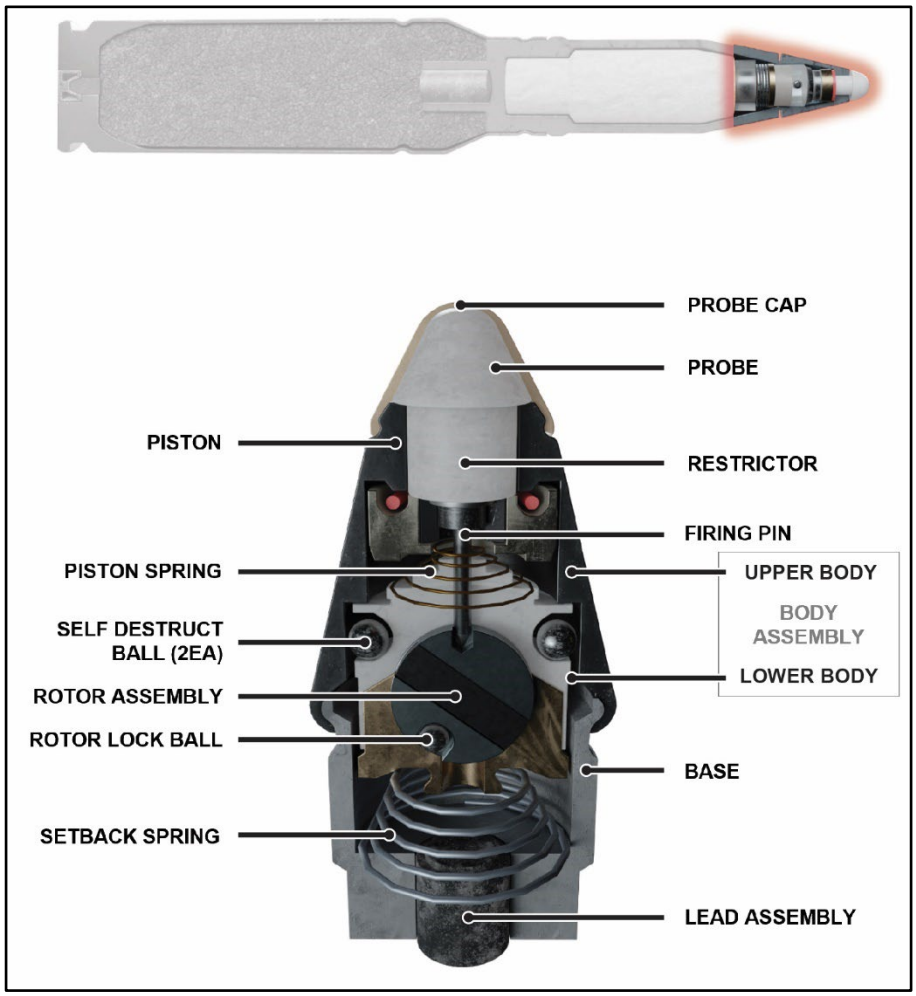


Figure A-15. Fuze

Ogive

A-19. The ogive is on the end of the projectile assembly. This provides the aerodynamic shape which lowers the drag. (See figure A-16 for detailed view of the ogive location.)

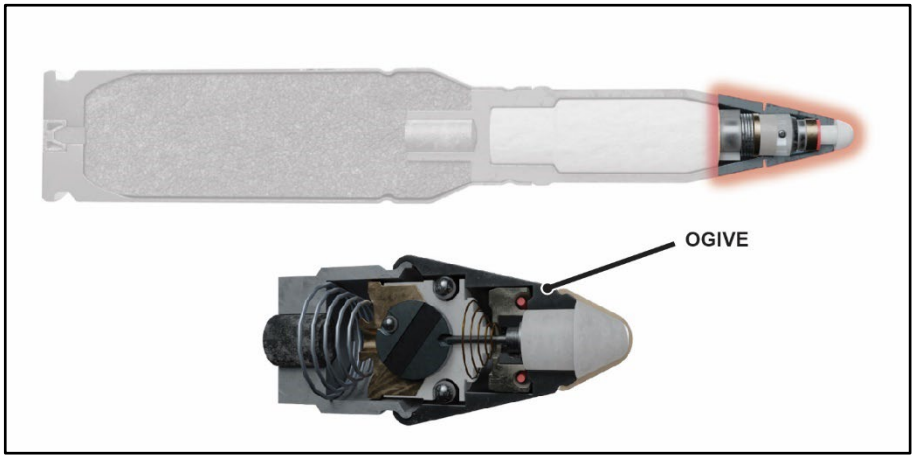


Figure A-16. Ogive

Pusher Base

A-20. The pusher base is the metal base on certain projectile assemblies that propellant gases push against to drive the projectile assembly down the gun barrel. It is discarded from the projectile assembly once it leaves the gun barrel (see figure A-17).

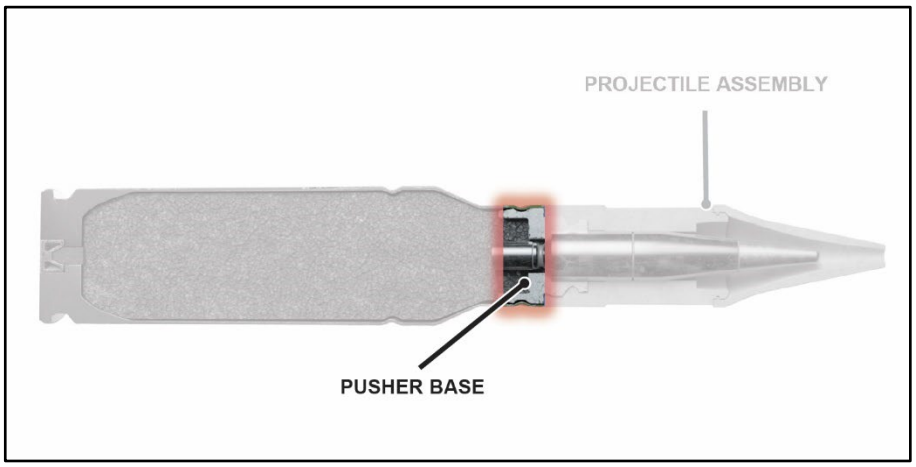


Figure A-17. Pusher base

25-MM AMMUNITION DESCRIPTION

A-21. The following information describes each of the service and training 25-mm ammunition cartridges for reference. Additional detailed information can be found on the Sabot Academy milSuite website.

A-22. The basic ammunition data card information for the training and service cartridges (see figure A-18 on page 295 through figure A-21 on page 298) include information on:

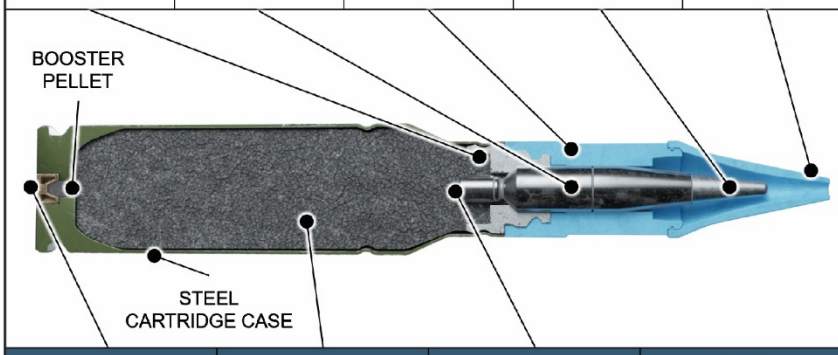
- Department of Defense Identification Code.
- Complete nomenclature.
- Fins and tracer assemblies.
- Obturator.
- Projectile and sub projectile.
- Primer.
- Propellant.
- Cartridge case.
- Hazard classification.
- Length.
- Weight.
- Muzzle velocity.
- Maximum effective range.

SMALL CALIBER AMMUNITION, 25MM — **COMPONENTS**

CARTRIDGE, 25MM: TPDS-T, M910

DODIC–A940 — **NSN: 1305-01-350-5265**

PUSHER BASE	BODY	SABOT	WINDSCREEN	NOSE CAP
ALUMINUM	STEEL	NYLON	ALUMINUM	PLASTIC



PRIMER	PROPELLANT	TRACER	HAZARD CLASSIFICATION
M115 PERCUSSION PRIMER	SINGLE BASE OR DOUBLE BASE	MAGNESIUM	1.2 C

LENGTH	WEIGHT	MUZZLE VELOCITY	MAXIMUM EFFECTIVE RANGE
22.3 cm (8.78 in)	421 g (0.93 lbs)	1,520 m/s (4986 fps)	2,000m

LEGEND

cm	CENTIMETER	m	METER
DODIC	DEPARTMENT OF DEFENSE IDENTIFICATION CODE	m/s	METER PER SECOND
		MM	MILLIMETER
fps	FEET PER SECOND	NSN	NATIONAL STOCK NUMBER
g	GRAM	TPDS-T	TARGET PRACTICE DISCARDING SABOT-TRACER
in	INCH		
lbs	POUNDS		

Figure A-18. Cartridge, 25-mm TPDS-T, M910

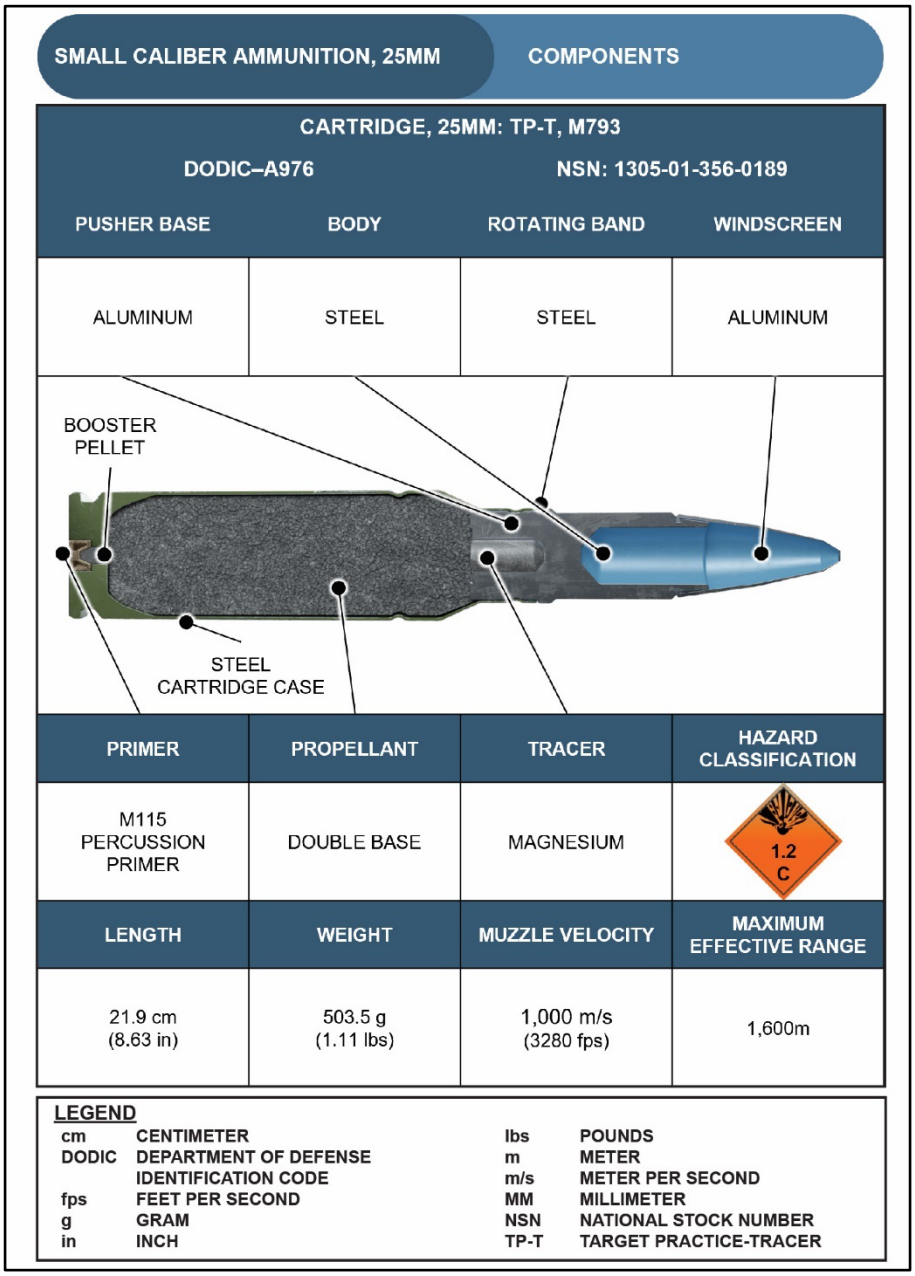


Figure A-19. Cartridge, 25-mm TP-T, M793

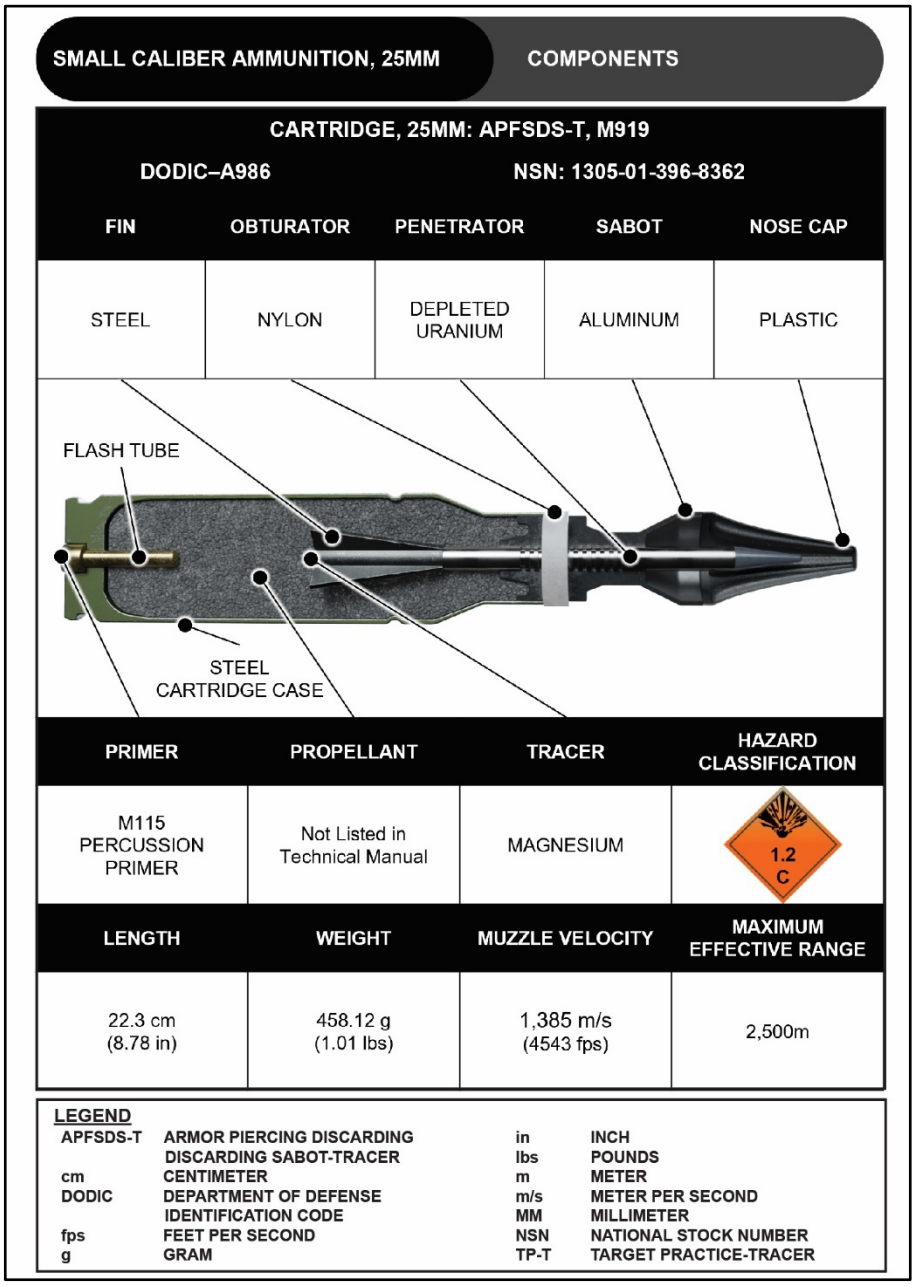
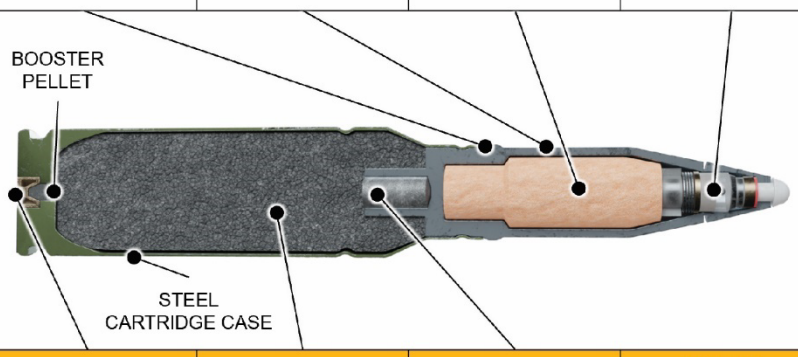


Figure A-20. Cartridge, 25-mm APFSDS-T, M919

SMALL CALIBER AMMUNITION, 25MM **COMPONENTS**

CARTRIDGE, 25MM: HEI-T, M792

DODIC–A975		NSN: 1305-01-398-3492	
ROTATING BAND	**BODY**	**EXPLOSIVE**	**FUZE**
STEEL	STEEL	HIGH-EXPLOSIVE INCENDIARY (HEI)	POINT-DETONATING SELF-DESTRUCT (PDSD) M758 FUZE



PRIMER	PROPELLANT	TRACER	HAZARD CLASSIFICATION
M115 PERCUSSION PRIMER	DOUBLE BASE	MAGNESIUM	1.2 E

LENGTH	WEIGHT	ARMING DISTANCE	SELF DESTRUCT	BURSTING RADIUS	MUZZLE VELOCITY	MAXIMUM EFFECTIVE RANGE
219.2 cm (8.63 in)	503.49 g (1.11 lbs)	10-200m	6.2 sec	5m	1,100m/s (3,608.92 fps)	Point: 1,600m Area: 3,000m

LEGEND

cm	CENTIMETER	lbs	POUNDS
DODIC	DEPARTMENT OF DEFENSE IDENTIFICATION CODE	m	METER
		m/s	METER PER SECOND
fps	FEET PER SECOND	MM	MILLIMETER
g	GRAM	NSN	NATIONAL STOCK NUMBER
in	INCH	sec	SECOND

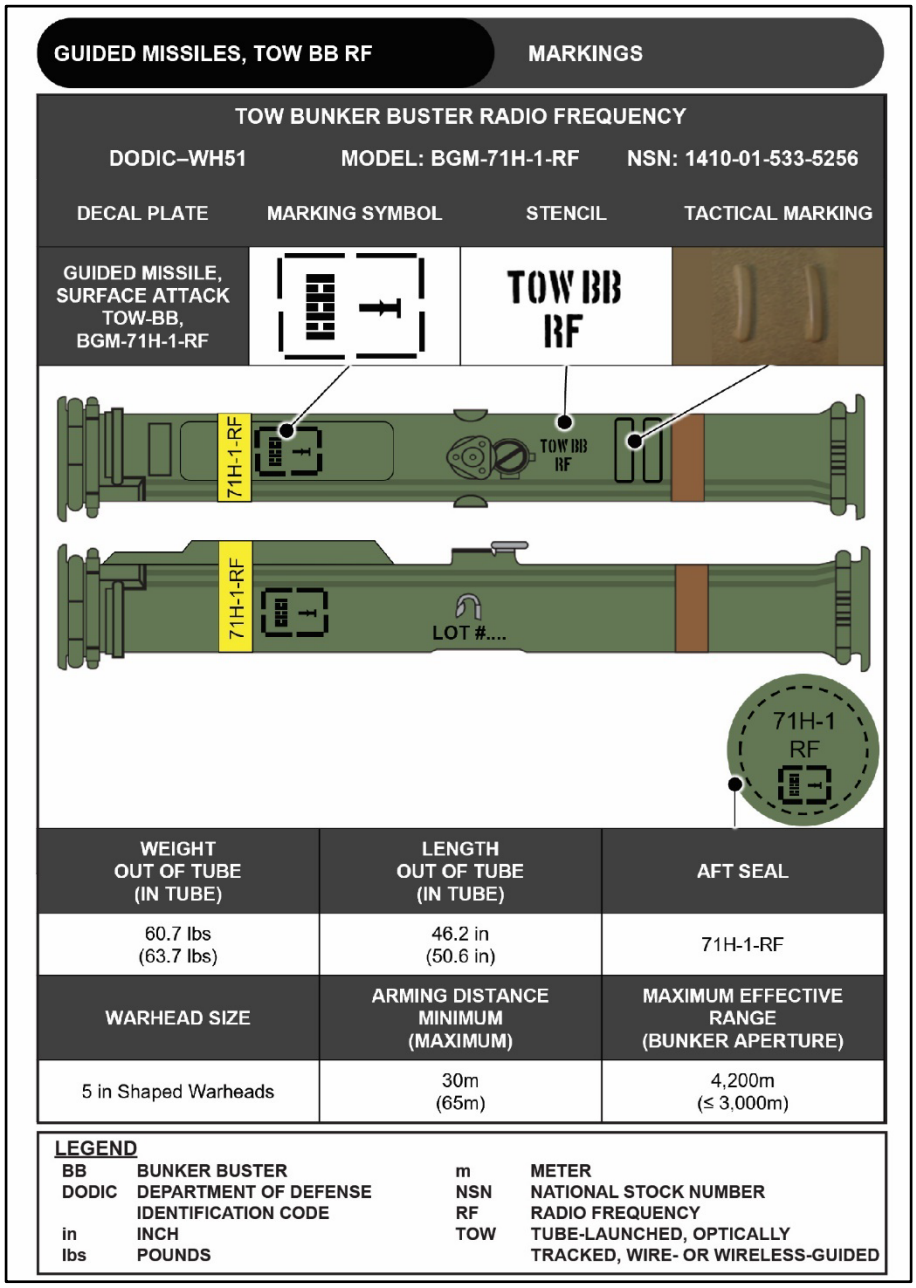
Figure A-21. Cartridge, 25-mm HEI-T, M792

MISSILE AMMUNITION DESCRIPTION

A-23. The following information describes the TOW missile for reference. Additional detailed information can be found on the Sabot Academy milSuite website.

A-24. The basic ammunition data card information for the TOW 2B and the TOW bunker buster (see figure A-22 on page 300 and figure A-23 on page 301) include information on:

- Department of Defense Identification Code.
- Complete nomenclature.
- Decal plate.
- Marking symbol.
- Stencil location.
- Tactical marking.
- Weight.
- Length.
- Aft seal.
- Warhead size.
- Arming distance.
- Maximum effective range.

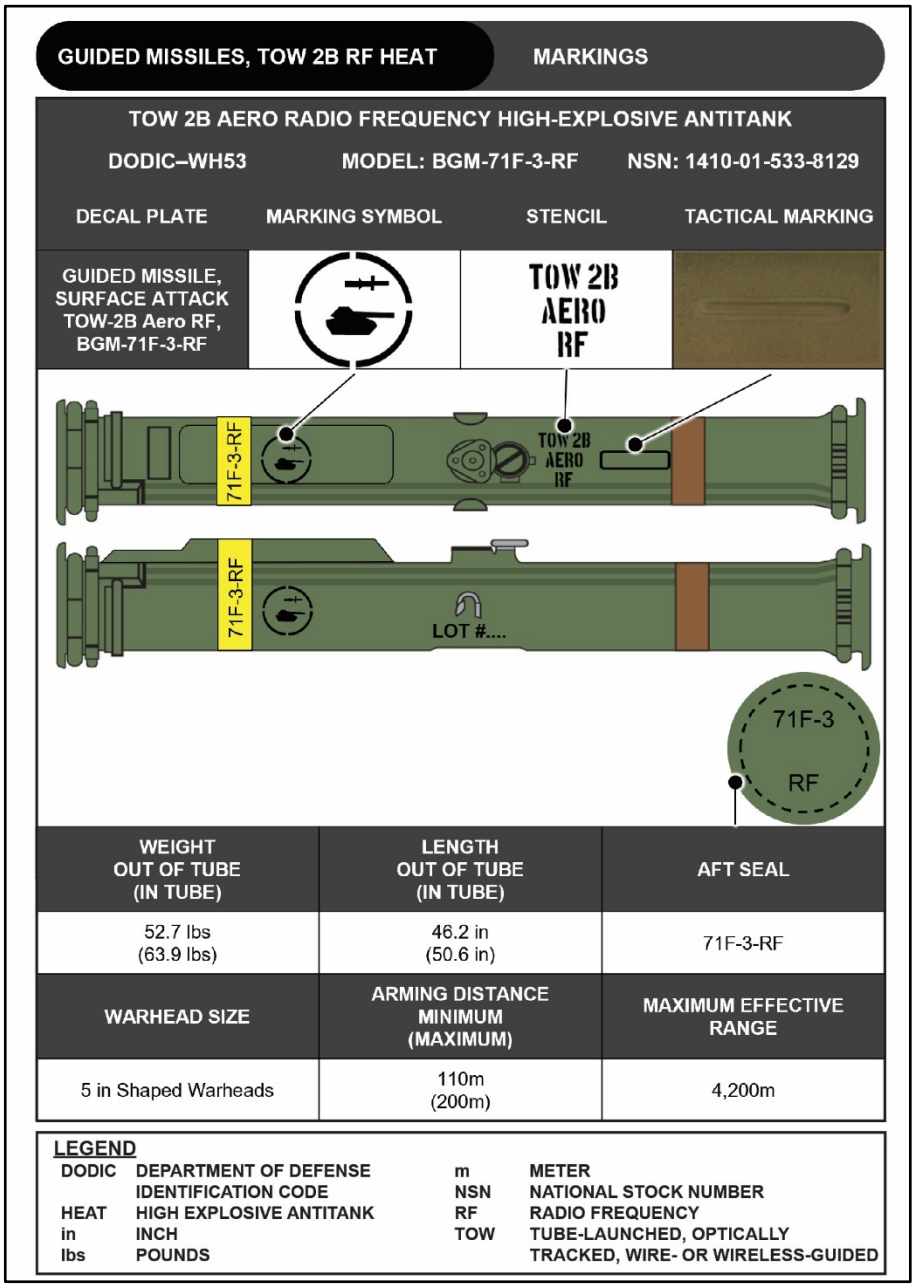


WEIGHT OUT OF TUBE (IN TUBE)	LENGTH OUT OF TUBE (IN TUBE)	AFT SEAL
60.7 lbs (63.7 lbs)	46.2 in (50.6 in)	71H-1-RF
WARHEAD SIZE	**ARMING DISTANCE MINIMUM (MAXIMUM)**	**MAXIMUM EFFECTIVE RANGE (BUNKER APERTURE)**
5 in Shaped Warheads	30m (65m)	4,200m (≤ 3,000m)

LEGEND

BB	BUNKER BUSTER	m	METER
DODIC	DEPARTMENT OF DEFENSE IDENTIFICATION CODE	NSN	NATIONAL STOCK NUMBER
		RF	RADIO FREQUENCY
in	INCH	TOW	TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED
lbs	POUNDS		

Figure A-22. Missile, TOW bunker buster radio frequency



WEIGHT OUT OF TUBE (IN TUBE)	LENGTH OUT OF TUBE (IN TUBE)	AFT SEAL
52.7 lbs (63.9 lbs)	46.2 in (50.6 in)	71F-3-RF
WARHEAD SIZE	**ARMING DISTANCE MINIMUM (MAXIMUM)**	**MAXIMUM EFFECTIVE RANGE**
5 in Shaped Warheads	110m (200m)	4,200m

LEGEND

DODIC	DEPARTMENT OF DEFENSE IDENTIFICATION CODE	m	METER
		NSN	NATIONAL STOCK NUMBER
HEAT	HIGH EXPLOSIVE ANTITANK	RF	RADIO FREQUENCY
in	INCH	TOW	TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED
lbs	POUNDS		

Figure A-23. Missile, TOW, 2B Aero radio frequency high explosive antitank

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Appendix B

Tracking and Manipulation Boards

T&MBs, or panels, are tools to train hand-and-eye, coordination, gun control, speed, and accuracy using the platform's fire control system. In this appendix, there are six variations as examples for units to consider; however, units can create unique layouts, as their training program requires.

T&MBs (more commonly referred to as snake boards) should have a wide variety of designs with horizontal, vertical, and oblique motion in any direction. The panels may also incorporate (along the panel's tracking path) scaled targets that replicate the most effective way to lay on, lase, and engage a target. Paths on the boards can be tracked in all fire control modes and incorporate the use of all sights in most cases.

OVERVIEW–TRACKING AND MANIPULATION BOARDS

B-1. T&MB exercises are used to augment the STX-V or used when no simulator system is available or accessible to the crew. T&MBs are locally manufactured based on the unit need. Completion of the tracking board exercise is the least preferred method of completing Table II for live fire.

B-2. It should only be used in extreme cases (new vehicle with no simulator system, unit is deployed, or retraining is necessary in an austere or field environment) or as opportunity training in the motor pool, training area, or admin area on a range facility.

B-3. The purpose of crew platform, Table II, STX-V, is to ensure the crew possesses the skills and experience necessary to execute live-fire events and exercises safely, which implies a functional understanding of the engagement process, fire commands, engagement techniques, and lethality. This is the culminating test of their abilities and skills on their platform in simulation after completing the appropriate simulations training plan (see figure B-1).

CREW TABLE II	TABLE I	TABLE II	TABLE III	TABLE IV	TABLE V	TABLE VI
	CRAWL	***CRAWL***	*WALK*	*RUN*	*RUN*	*RUN*
	Live	Virtual	Live TADSS	Live-Fire	Live-Fire	Live-Fire
	GST	STX-V	STX	BASIC	PRACTICE	QUAL

Note: Table I, II, and III can be conducted in any order within the T-6 to T-X time frame. This provides flexibility when developing the unit training plan.

LEGEND

GST	GUNNERY SKILLS TEST OR GUNNER'S/FIRE DIRECTION CENTER EXAM	TADSS	TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS
QUAL	QUALIFICATION	T-	TRAINING WEEK/MONTH MINUS [THE NUMBER OF WEEKS/MONTHS TILL EXECUTION (X)]
STX	SITUATIONAL TRAINING EXERCISE		
STX-V	SITUATIONAL TRAINING EXERCISE-VIRTUAL		

Figure B-1. Table II, Situational Training Exercise–Virtual

B-4. Table II, STX-V, is a mandatory prerequisite for any live-fire event, including zero procedures, sub-caliber or in-bore training event, or any live-fire maintenance procedure within the crew training strategy. Table II is completed between T-6 and T-week to support the training events.

B-5. Units use the T&MBs when training in austere environments or when simulation systems are unavailable or unacceptable. This appendix provides general information on the purpose and use of the tracking and manipulation panels.

PURPOSE–TRACKING AND MANIPULATION BOARDS

B-6. Table II, STX-V, is a skills assessment and risk mitigation tool for the commander. It assists the commander in determining the safe and effective use of the platform, its weapons, identification of threats, and common ammunition by the crewmembers in the unit. Further, it identifies shortfalls and training gaps in those gunnery specific skills, which build crew proficiency and unit readiness.

METHOD–TRACKING AND MANIPULATION BOARDS

B-7. Table II is a hands-on, performance-based evaluation of basic gunnery skills to the Army-standard of knowledge or skill in a simulator system (crew shelter). It utilizes experienced evaluators to educate, train, test, and retrain Soldiers to meet or exceed those standards.

END STATE–TRACKING AND MANIPULATION BOARDS

B-8. The VC and gunner assigned as a crew have successfully demonstrated the skills and knowledge required to continue training on the platform through platform qualification. Commanders are confident in their Soldier's abilities in the position assigned.

B-9. The tasks evaluated in Table II provide the commander a means to certify the crew's basic weapons platform proficiency prior to live-fire training. It is used as a guide for identifying individual and crew weapons platform strengths and weaknesses on specific engagement techniques and employment of the vehicle's fire control system capabilities and enablers.

B-10. The goal of this training is for the firer to reach the level of expertise with his or her system at which he or she anticipates movements of the sight and can maintain his or her point of aim while tracking. Examples of tracking boards are in appendix B with sample scripts for use and construction requirements. The tracking panel exercise increase the level of expertise of the firer to manipulate the weapon system rapidly and without hesitation, commonly referred to as switchology.

TASK, CONDITIONS, AND STANDARD–TRACKING AND MANIPULATION BOARDS

B-11. Units maintain specific action, conditions, and standard when using the T&MBs for Table II (see figure B-2).

TABLE II, SITUATIONAL TRAINING EXERCISE-VIRTUAL USING TRACKING AND MANIPULATION BOARDS	
TASK	Navigate tracking boards to increase the level of expertise of the firer to manipulate the weapon system.
CONDITIONS	Given the following: • A stationary vehicle with operational sights. • Six tracking boards spaced, progressing from simple to more difficult. • Tracking boards placed 15 meters from front of vehicle. • Using a scenario developed by the unit Master Gunner.
STANDARD	The firer must successfully complete the unit-developed training between T-6 and T-execution, demonstrating: • Use the appropriate sight to track. • Track each panel route, keeping the reticle in the between the parallel tracking lines. • The aiming point on the reticle should not be outside the shaded area for more than two seconds on each tracking exercise. • When switchology indicator is present within the 1 mil reticle of the optic being used, the gunner successfully manipulates the fire control system as indicated without moving their head from the optic brow pad.

LEGEND

mil	MILLIRADIAN	T-	TRAINING WEEK/MONTH MINUS [THE NUMBER OF WEEKS/MONTHS TILL EXECUTION (X)]

Figure B-2. Table II, Situational Training Exercise-tracking and manipulation boards

SCENARIO REQUIREMENTS–TRACKING AND MANIPULATION BOARDS

B-12. When using the T&MBs to meet Table II testing, units should use no less than 10 separate movements to another panel across the array, complete the series of movements on each panel before assessing the gunner's performance. As the layout, design, and functioning will vary, units must create their own timing and evaluation procedures. However, the standards listed in figure B-2 should not change.

B-13. When used as the GTLF on Table II, the unit should maintain a record of the crew's performance and evaluator notes. The method the unit records the training is up to the design and script developed for training. It should include information like the administrative data on DA Form 8265, including crew roster, evaluator name, and date of training, to name a few.

B-14. Units should provide enough scorecards and performance measures for the evaluators. Maintain these records in the crew's gunnery folder for 12 months.

DESIGN

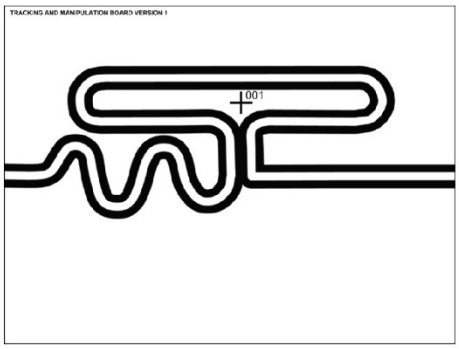
B-15. Platoon sergeants, the 1SG, or the unit Master Gunner will provide the VC training using the primary sight or independent thermal viewer as appropriate. Use of manual controls is not required for the VC's exercise.

B-16. The panels are constructed using 4-foot by 8-foot plywood, target cloth, or other suitable material. Tracking lines are 1-inch-wide black borders with a 2-inch-wide inner white path. Multiple panels can be aligned together by placing the start-point and endpoint of each panel at the height halfway point on the left and right side of the panel.

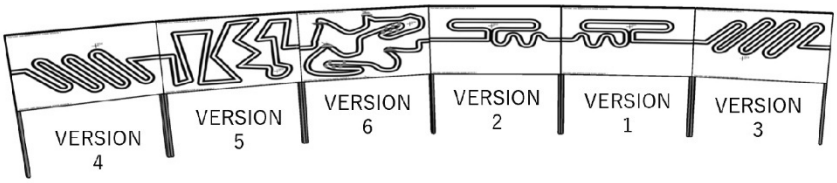
B-17. The design of the panel track is up to the unit. (See example panel designs noted in figure B-3 on page 308 through B-9 on page 312.) Variations should include—

- Vertical track.
- Horizontal track.
- Right oblique to left oblique (diagonal movement).
- Left oblique to right oblique (diagonal movement).
- Random directional changes.
- Targetry that is removable, adjustable.
- Switchology indicators that are removable, adjustable.

TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS (TADSS) TABLE II, SITUATIONAL TRAINING EXERCISE–VIRTUAL (STX-V) AUSTERE ENVIRONMENTS	
DEVICE	**DESCRIPTION**
T&MB-1	Tracking and Manipulation Board, version 1
T&MB-2	Tracking and Manipulation Board, version 2
T&MB-3	Tracking and Manipulation Board, version 3
T&MB-4	Tracking and Manipulation Board, version 4
T&MB-5	Tracking and Manipulation Board, version 5
T&MB-6	Tracking and Manipulation Board, version 6



Example Tracking and Manipulation Board, version 1.



Example layout using all six versions of the Tracking and Manipulation Boards.

Figure B-3. Tracking and manipulation board versions

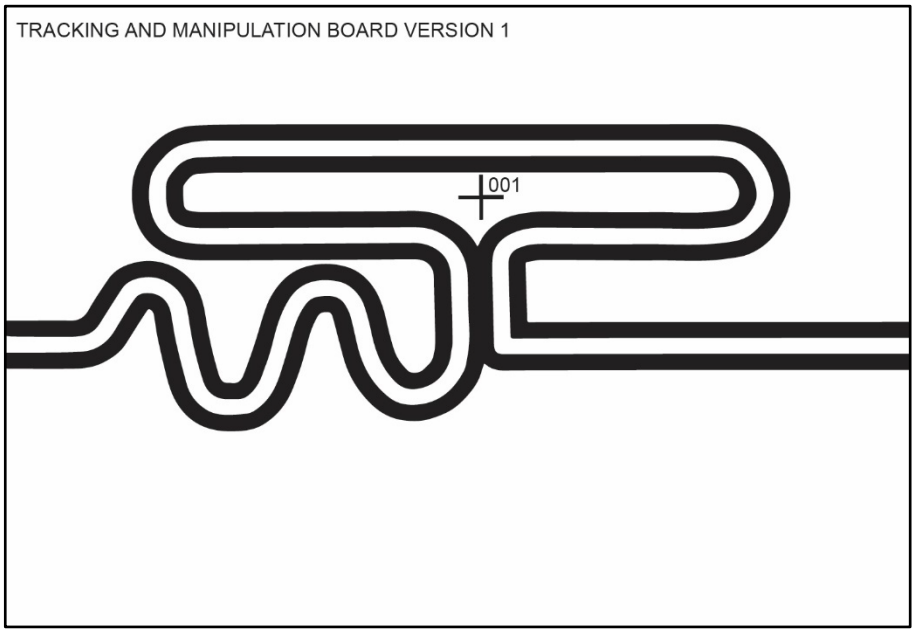


Figure B-4. Tracking and manipulation board, version 1, example

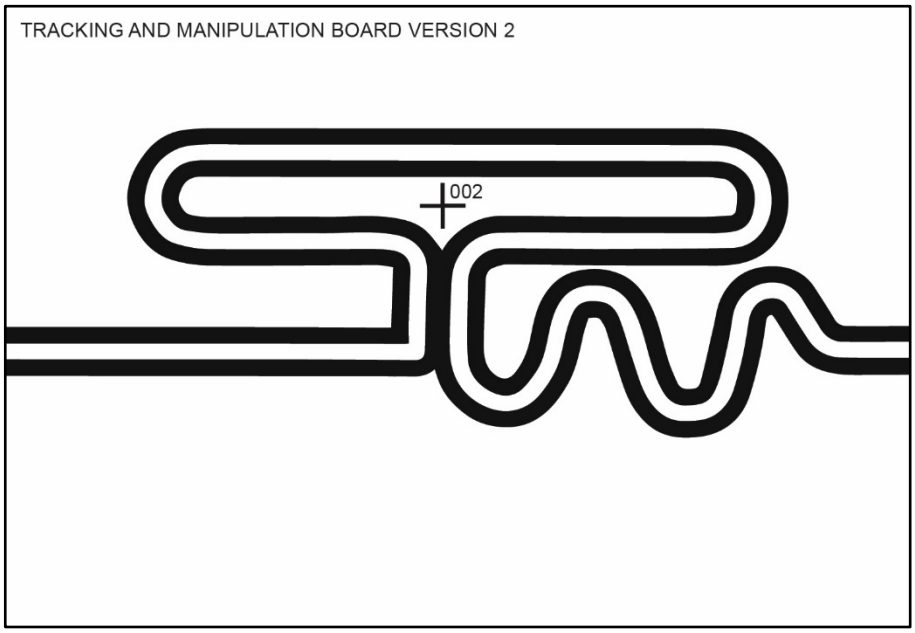


Figure B-5. Tracking and manipulation board, version 2, example

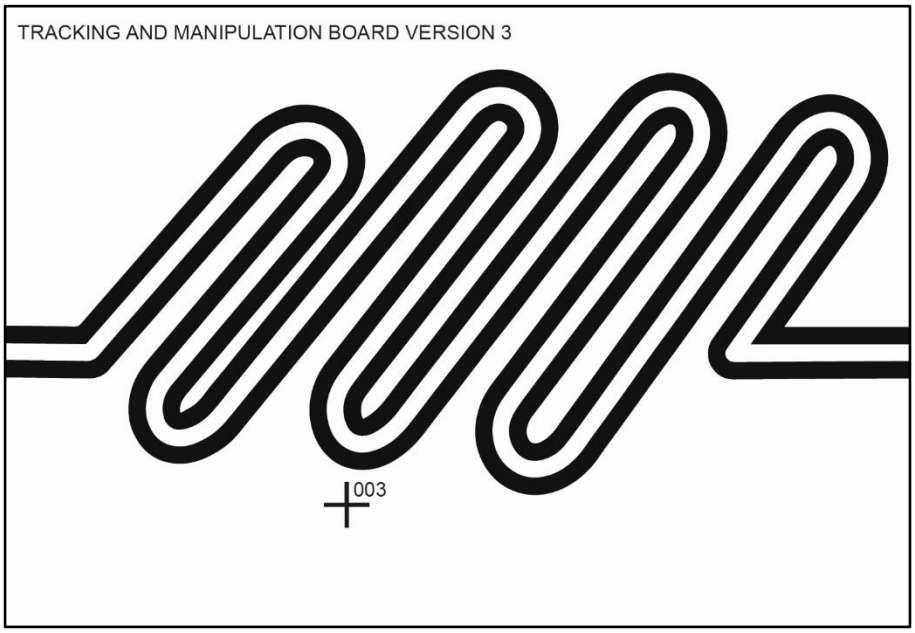


Figure B-6. Tracking and manipulation board, version 3, example

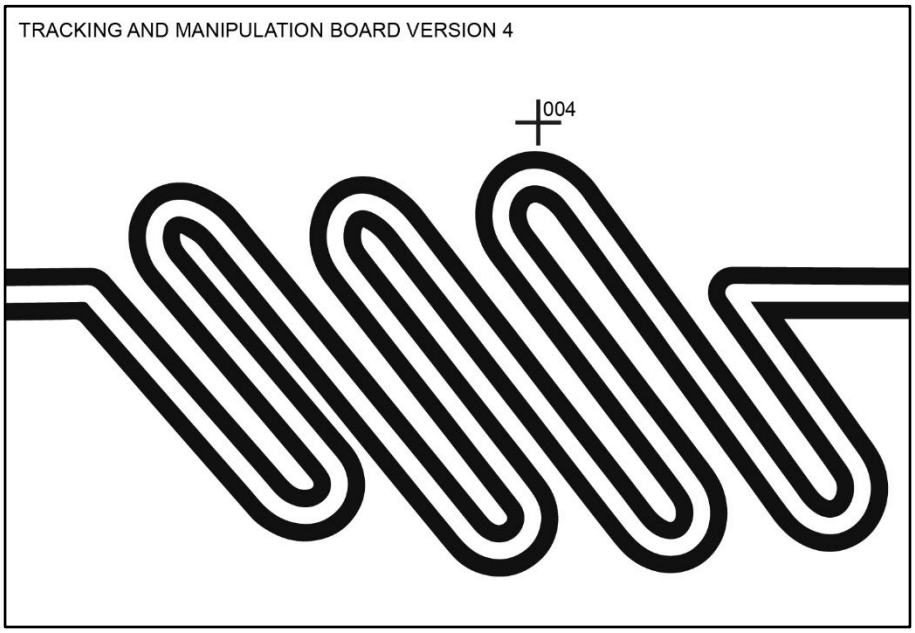


Figure B-7. Tracking and manipulation board, version 4, example

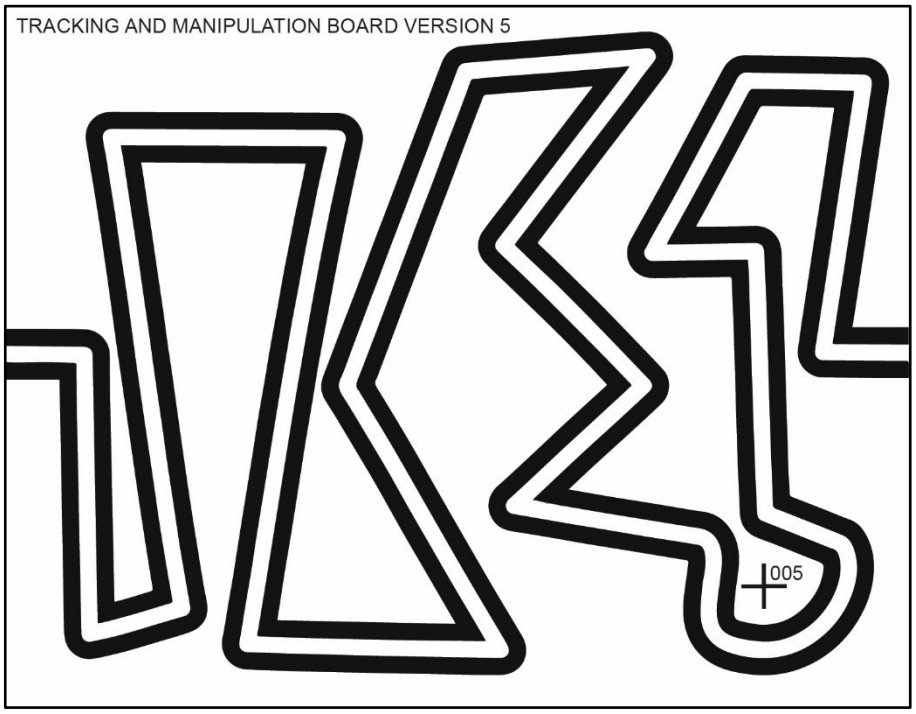


Figure B-8. Tracking and manipulation board, version 5, example

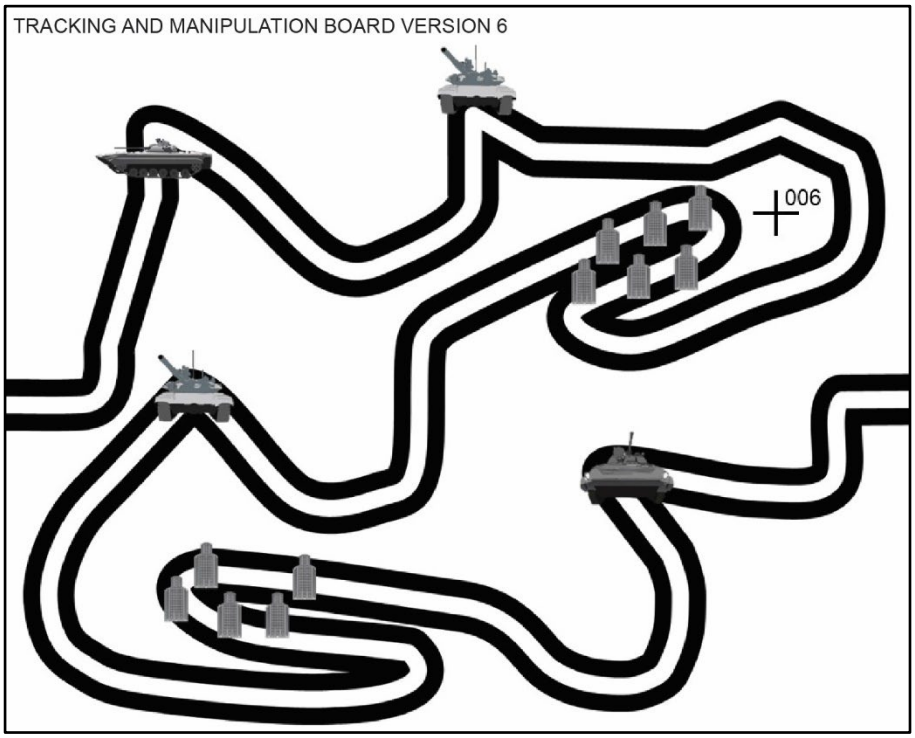


Figure B-9. Tracking and manipulation board, version 6, example

SET UP

B-18. Units add the switchology indicators and targetry to any panel to stimulate the gunner and VC to index or manipulate the fire control system panels appropriately through the most common selections. Units should include a unique target reference point to each panel to support conduct of the event.

B-19. Fire control system capability indicators appear on the T&MBs based on the Master Gunner's concept of training (see figure B-10 for an example), and the established enabling and terminal learning objectives. These indicators can be a permanent part of the panel or can be modular in nature to facilitate rapid alteration of the training to focus on specific skills. The following paragraphs provide an example layout of various capability indicators on a single T&MB.

FIRE CONTROL CAPABILITY	EXAMPLE SWITCHOLOGY INDICATORS			
MAGNIFICATION	LOW MAG	HI MAG		
AMMUNITION	AP	HE	COAX	
WEAPON SAFETY STATUS	TRIGGER SAFE	MAIN		
TARGET REFERENCE POINT	001	002	003	004
DEGRADED	MANUAL	POWER	AUX SIGHT	

LEGEND

AP	ARMOR PIERCING	HE	HIGH EXPLOSIVE
AUX	AUXILIARY	MAG	MAGNIFICATION
COAX	COAXIAL MACHINE GUN		

Figure B-10. Fire control system capability indicator examples

B-20. The application of various indicators on a T&MB (see figure B-11 for an example) can be permanent or temporary to add flexibility and variation to the training.

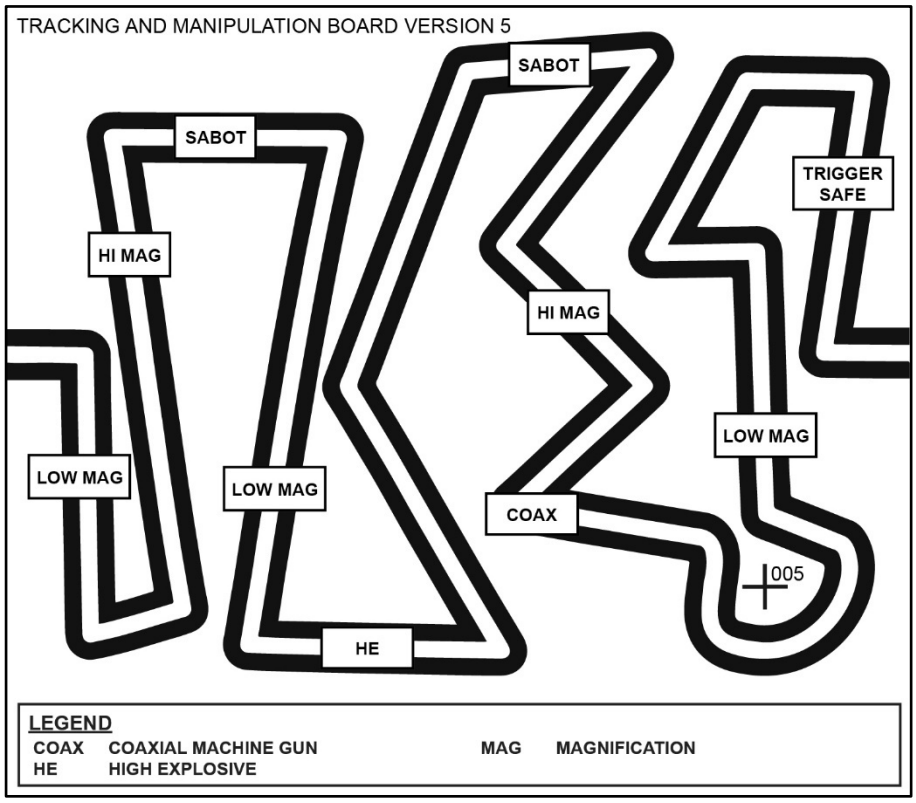


Figure B-11. Tracking and manipulation board with reconfigurable switchology indicators example

SCENARIO EXAMPLE

B-21. In an example scenario using T&MBs (see figure B-13 on page 316 through figure B-23 on page 326), an evaluation is conducted of the 10 engagements for speed and accuracy using power and manual controls, along with the primary and auxiliary sights.

B-22. Once the unit secures the appropriate T&MBs and associated switchology indicators, they set up the training location. The panels are placed approximately 15 meters across the frontal arc of the front slope of the BFV (see figure B-12). The centerline entrance and exit points for each panel are aligned for smooth tracking.

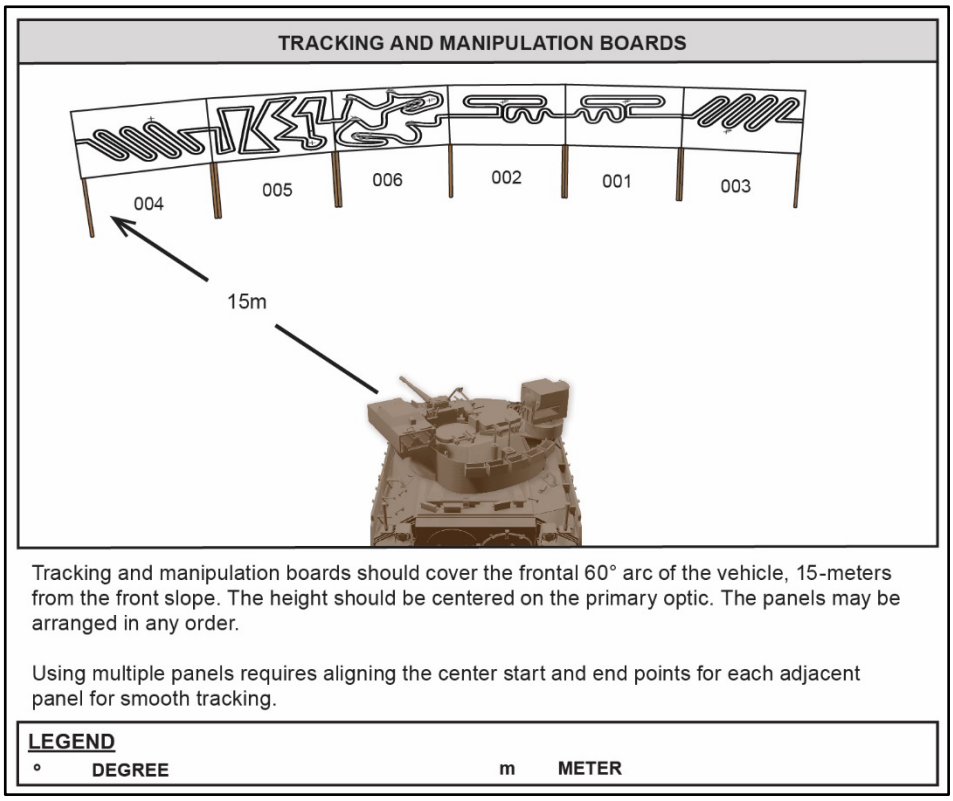
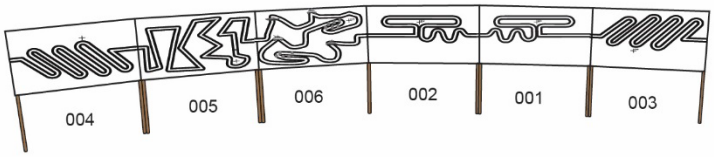


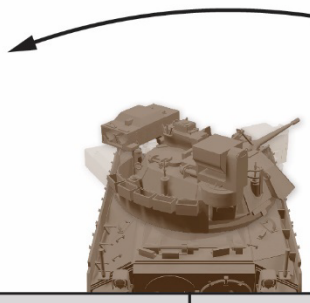
Figure B-12. Establish training site

B-23. The center of the panel should be comparable in height to the primary optic of the vehicle. This allows for limited downward movement of the gun tube. The vehicles will need sufficient space to traverse the turret left and right beyond the limits of the panels. Units should ensure at least 5-meter separation between training vehicles.

TRACKING AND MANIPULATION BOARDS



STEP **0**



REMARKS	TIME	ONCE COMPLETE MOVE TO
IDENTIFY ALL TRPs BEFORE START	20 SECONDS	TRP 004

OPTIONS:

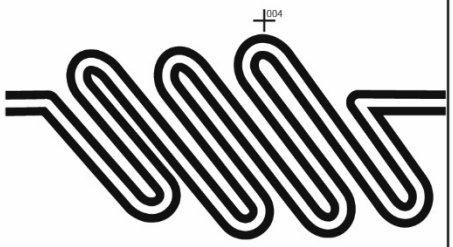
GPS

GAS

POWER CONTROLS

MANUAL CONTROLS, LOW POWER

MANUAL CONTROLS, HIGH POWER



VC directs the gunner to identify all TRPs in sector. Once complete, VC directs the GUNNER off panel (in this example, to the right side of the Tracking and Manipulation Boards).

From off the Tracking and Manipulation Boards, VC directs the gunner to the first exercise by announcing the corresponding Target Reference Point (TRP).

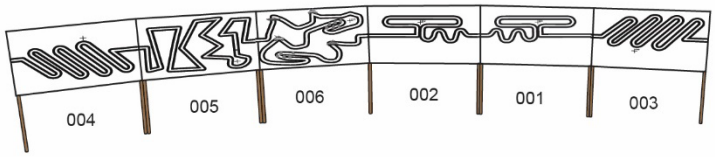
As the GUNNER nears the appropriate TRP, the VC may announce STEADY…STEADY…ON.

LEGEND

GAS GUNNER'S AUXILIARY SIGHT
GPS GUNNER'S PRIMARY SIGHT
VC VEHICLE COMMANDER

Figure B-13. Tracking and manipulation exercise start point, example

TRACKING AND MANIPULATION BOARDS



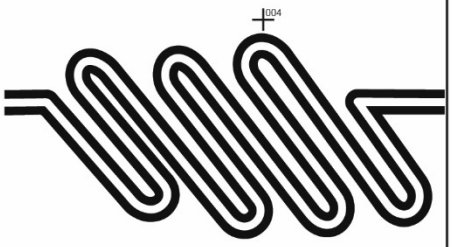
STEP **1**



REMARKS	TIME	ONCE COMPLETE MOVE TO
TRAVERSE RIGHT	10 SECONDS	TRP 003

OPTIONS:

LEFT TO RIGHT
RIGHT TO LEFT
GPS
GAS
POWER CONTROLS
MANUAL CONTROLS, LOW POWER
MANUAL CONTROLS, HIGH POWER



Start point on TRP. Track along path after TRAVERSE command is given.
Announce tracking direction, optic, and controls used. Gunner repeats to confirm instructions.
Once confirmed, VC announces TRAVERSE to begin the exercise.

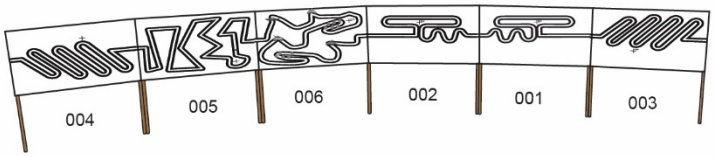
EXAMPLE: RIGHT TO LEFT, GAS, MANUAL, LOW POWER
GNR: RIGHT TO LEFT, GAS, MANUAL, LOW POWER
VC: TRAVERSE

LEGEND

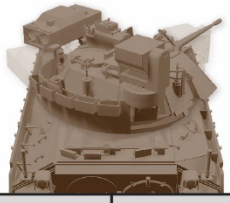
GAS GUNNER'S AUXILIARY SIGHT
GNR GUNNER
GPS GUNNER'S PRIMARY SIGHT
TRP TARGET REFERENCE POINT
VC VEHICLE COMMANDER

Figure B-14. Tracking and manipulation step 1, example

TRACKING AND MANIPULATION BOARDS



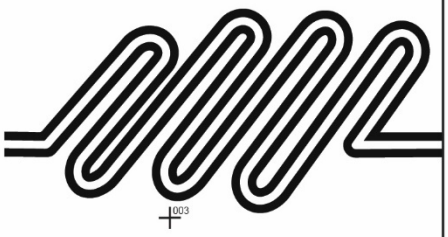
STEP **2**



REMARKS	TIME	ONCE COMPLETE MOVE TO
TRAVERSE LEFT	10 SECONDS	TRP 006

OPTIONS:

LEFT TO RIGHT
RIGHT TO LEFT
GPS
GAS
POWER CONTROLS
MANUAL CONTROLS, LOW POWER
MANUAL CONTROLS, HIGH POWER



Start point on TRP. Track along path after TRAVERSE command is given. Announce tracking direction, optic, and controls used. GUNNER repeats to confirm instructions. Once confirmed, VC announces TRAVERSE to begin the exercise.

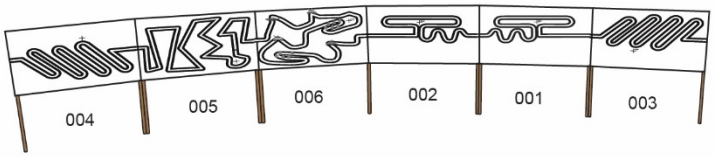
EXAMPLE: LEFT TO RIGHT, GPS, GUNNER CONTROL HANDLES
GNR: LEFT TO RIGHT, GPS, GUNNER CONTROL HANDLES
VC: TRAVERSE

LEGEND

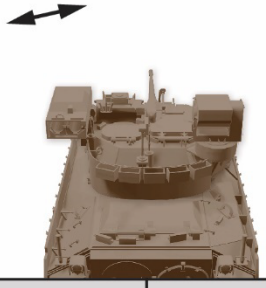
GAS GUNNER'S AUXILIARY SIGHT
GNR GUNNER
GPS GUNNER'S PRIMARY SIGHT
TRP TARGET REFERENCE POINT
VC VEHICLE COMMANDER

Figure B-15. Tracking and manipulation step 2, example

TRACKING AND MANIPULATION BOARDS



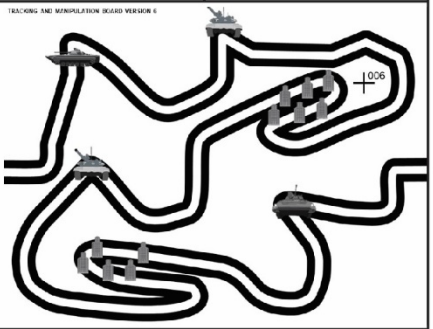
STEP **3**



REMARKS	TIME	ONCE COMPLETE MOVE TO
CHANGE OF WEAPON SYSTEM	20 SECONDS	TRP 005

SWITCHOLOGY OPTIONS:

TROOPS, LEFT TROOPS
TROOPS, RIGHT TROOPS
TANKS, LEFT TANK
TANKS, RIGHT TANK
TANK, PC–TANK FIRST
TANK, PC–PC FIRST
PC
PC, TROOPS–PC FIRST



Once set on TRP, VC announces REDUCED FIRE COMMAND for each target set. GUNNER uses BATTLESIGHT RANGE for the appropriate weapon/ammunition based on the unit SOP.

TANK AND PC, TANK FIRST
IDENTIFIED TANK, TWELVE HUNDRED
FIRE, FIRE AMP
Fire Commands continue through a minimum of 5 target sets of the VC's choosing.

LEGEND

AMP	ADVANCED MULTI-PURPOSE	TRP	TARGET REFERENCE POINT
PC	PERSONNEL CARRIER	VC	VEHICLE COMMANDER
SOP	STANDARD OPERATING PROCEDURE		

Figure B-16. Tracking and manipulation step 3, example

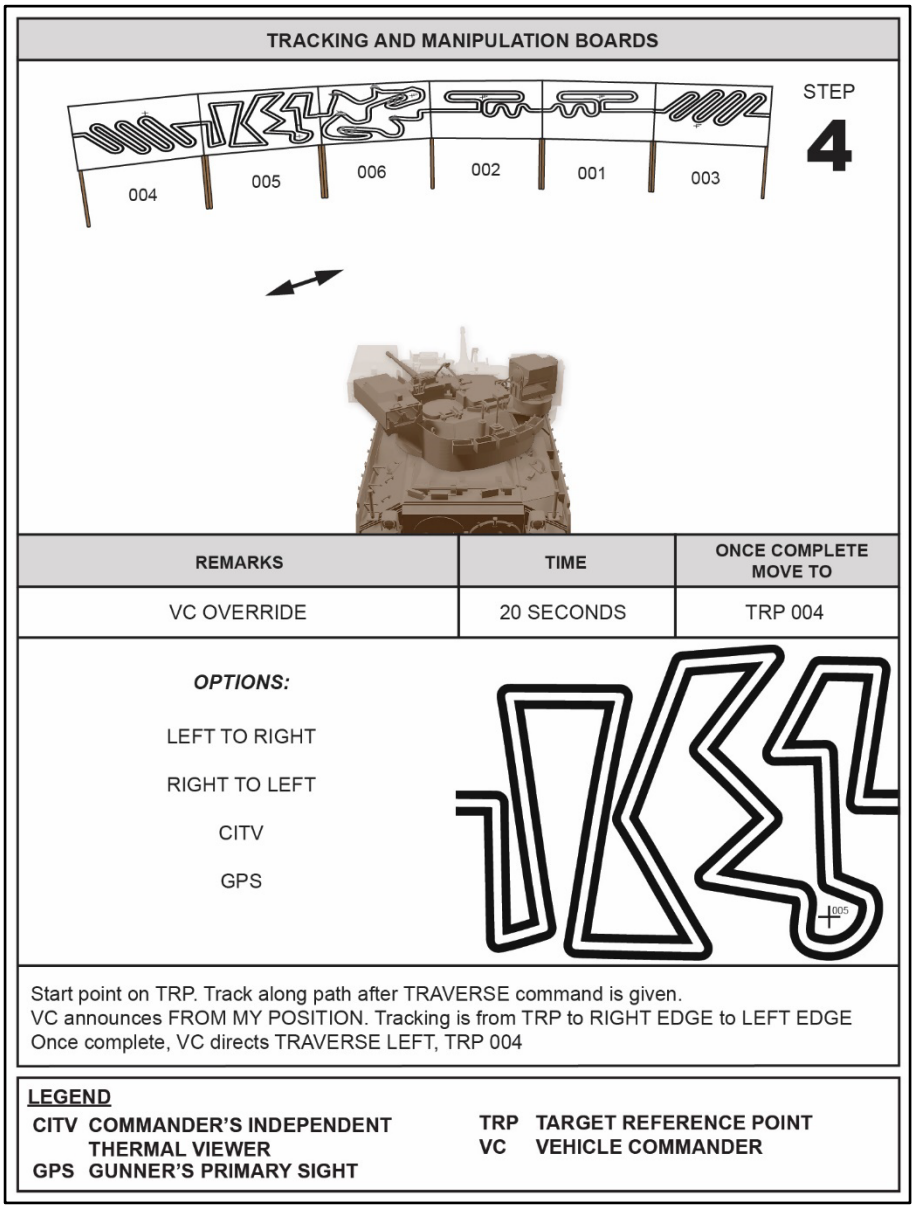
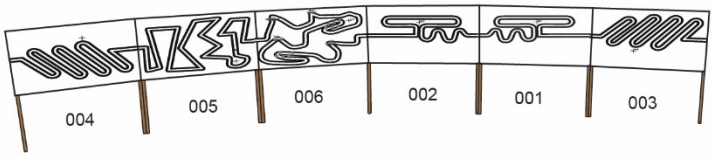


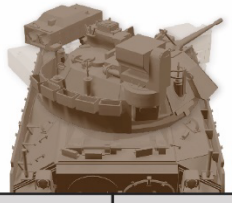
Figure B-17. Tracking and manipulation step 4, example

TRACKING AND MANIPULATION BOARDS



STEP **5**





REMARKS	TIME	ONCE COMPLETE MOVE TO
LONG TRACK RIGHT	60 SECONDS	TRP 003

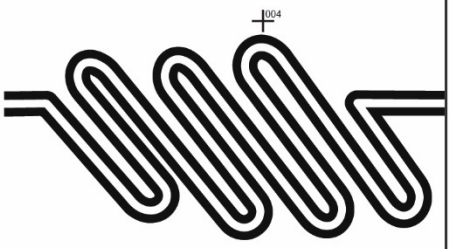
GUNNER TRACKS FROM RIGHT EDGE ALONG TRACK TO THE FAR-LEFT EDGE (ACROSS ALL SIX PANELS)

OPTIONS:

POWER CONTROL HANDLES

MANUAL CONTROLS (LOW)

MANUAL CONTROLS (HIGH)



VC directs gunner to LEFT LIMIT, CONTINUOUS TRACK RIGHT TO TRP 003.

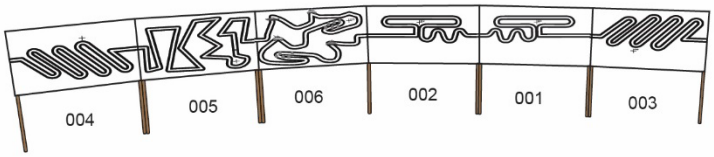
Once GUNNER arrives at TRP 003, move to next event.

LEGEND

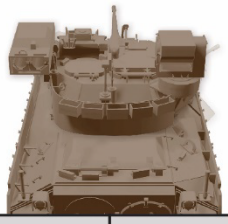
TRP **TARGET REFERENCE POINT** **VC** **VEHICLE COMMANDER**

Figure B-18. Tracking and manipulation step 5, example

TRACKING AND MANIPULATION BOARDS



STEP **6**



REMARKS	TIME	ONCE COMPLETE MOVE TO
LONG TRACK LEFT	60 SECONDS	TRP 006

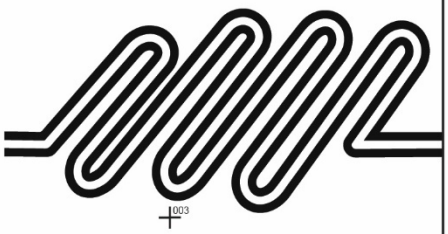
GUNNER TRACKS FROM RIGHT EDGE ALONG TRACK TO THE FAR-LEFT EDGE (ACROSS ALL SIX PANELS)

OPTIONS:

POWER CONTROL HANDLES

MANUAL CONTROLS (LOW)

MANUAL CONTROLS (HIGH)



Once the GUNNER is on TRP 003, the VC directs the GUNNER to track from the far-RIGHT EDGE to the far-LEFT panel EDGE and BACK to TRP 003.

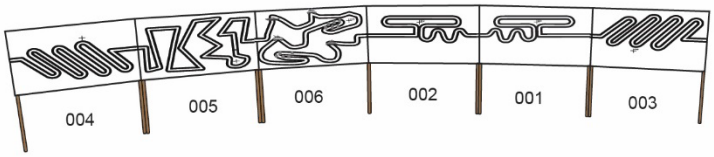
Once complete, VC directs the GUNNER to TRAVERSE LEFT to TRP 006 using POWER CONTROLS.

LEGEND

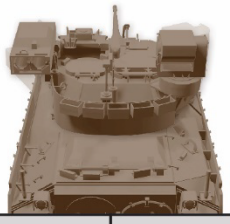
TRP TARGET REFERENCE POINT **VC VEHICLE COMMANDER**

Figure B-19. Tracking and manipulation step 6, example

TRACKING AND MANIPULATION BOARDS

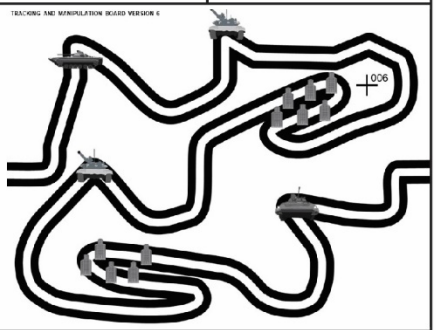


STEP **7**



REMARKS	TIME	ONCE COMPLETE MOVE TO
VC ENGAGEMENTS	60 SECONDS	TRP 002

VC ENGAGES ALL TARGETS
FROM MOST DANGEROUS
TO
LEAST DANGEROUS
USING OVERRIDE



Evaluated by PSG or Master Gunner.

VC engages all threats from MOST DANGEROUS to LEAST DANGEROUS, changing weapon and ammunition as appropriate.

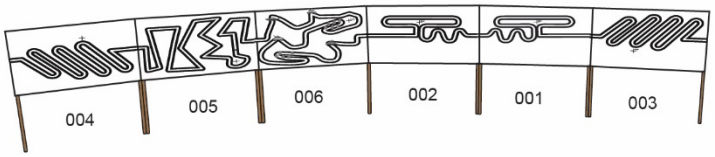
VC uses OVERRIDE for all traversing.

LEGEND

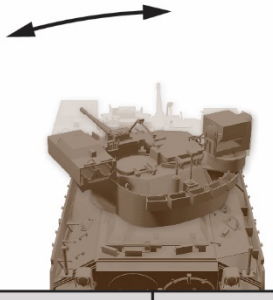
PSG PLATOON SERGEANT **VC VEHICLE COMMANDER**
TRP TARGET REFERENCE POINT

Figure B-20. Tracking and manipulation step 7, example

TRACKING AND MANIPULATION BOARDS



STEP **8**

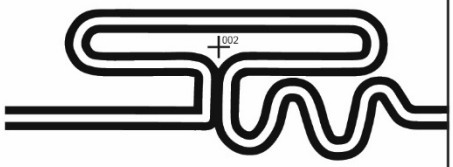


REMARKS	TIME	ONCE COMPLETE MOVE TO
DEGRADED GAS, MANUAL	60 SECONDS	TRP 005

GUNNER USES GAS

MANUAL CONTROLS

ONLY



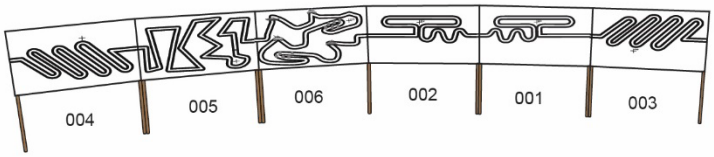
VC directs GUNNER on to TRP 002. Once set, VC directs GUNNER to use MANUAL CONTROLS, GAS to track to RIGHT EDGE to LEFT EDGE.

LEGEND

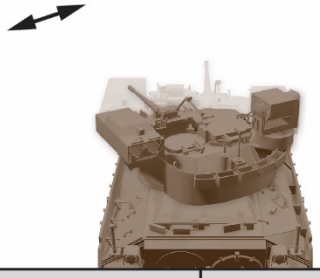
GAS GUNNER'S AUXILIARY SIGHT
TRP TARGET REFERENCE POINT
VC VEHICLE COMMANDER

Figure B-21. Tracking and manipulation step 8, example

TRACKING AND MANIPULATION BOARDS



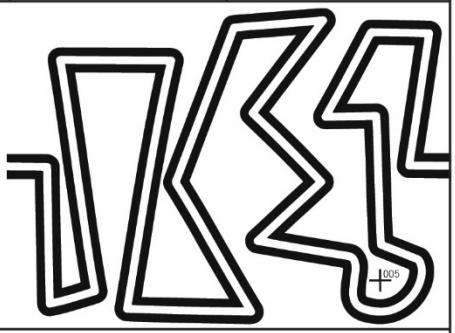
STEP **9**



REMARKS	TIME	ONCE COMPLETE MOVE TO
3X TRACKING (LOW POWER)	60 SECONDS	TRP 004

GUNNER USES 3X FOR TRACKING

POWER CONTROLS



VC directs the GUNNER to use POWER CONTROL, LOW MAG, to track from TRP 005 to RIGHT EDGE to LEFT EDGE to RIGHT EDGE.

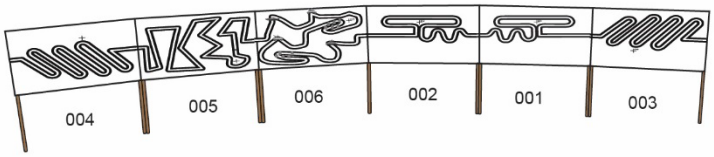
Once complete, VC announces TRAVERSE LEFT TRP FOUR

LEGEND

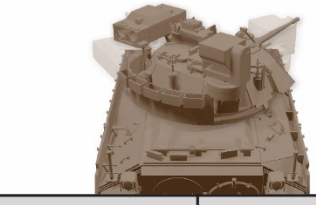
TRP TARGET REFERENCE POINT **VC VEHICLE COMMANDER**

Figure B-22. Tracking and manipulation step 9, example

TRACKING AND MANIPULATION BOARDS



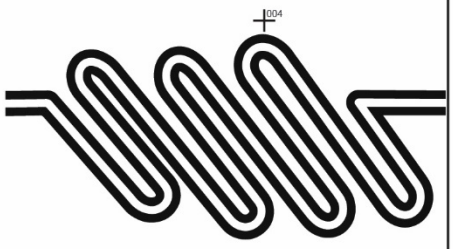
STEP **10**



REMARKS	TIME	ONCE COMPLETE MOVE TO
DEGRADED MANUAL GAS	60 SECONDS	CHECK YOUR WORK

VERTICAL AND HORIZONTAL MANUAL TRACKING SKILLS

GNR USES GAS AND MANUAL CONTROLS ONLY



VC directs GUNNER on to TRP 004. Once set, VC directs GUNNER to use MANUAL CONTROLS, GAS to track to LEFT EDGE to RIGHT EDGE to LEFT EDGE.

Once complete, VC announces CHECK YOUR WORK IN POWER.

GUNNER tracks along the entire track across all six (6) panels (RANGE FAN TO RANGE FAN) for any available targets.

LEGEND

GAS GUNNER'S AUXILIARY SIGHT
GNR GUNNER
TRP TARGET REFERENCE POINT
VC VEHICLE COMMANDER

Figure B-23. Tracking and manipulation step 10, example

EXECUTION–TRACKING AND MANIPULATION BOARDS

B-24. Evaluators utilize the unit provided criteria scoring checklist for the 10 steps of the tracking and manipulation panel exercise. The evaluators will use specified prompts and evaluators may not assist the crew to perform any function.

B-25. Once testing is complete, the evaluator records the results on a locally created roll-up form. As each Soldier finishes or the time limit is up, whichever occurs first, the evaluator checks the Soldier's performance as either GO or NO-GO, informs them of their performance on that task, and directs them to the next station or to retraining.

B-26. The company Master Gunner or designated NCOIC, is responsible for completing unit and maintaining platoon and company roll-up information ensuring the next higher headquarters is informed, if required.

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Appendix C

Table A–Austere Qualification

The austere qualification event, called Table A, is a record course of fire used to determine the live-fire proficiency of a crew platform. Table A serves as the live-fire proficiency event for readiness reporting for units requiring crew qualification in extreme circumstances while deployed. It is used by exception only, with permission from the first general officer in the chain of command.

It serves as the live-fire prerequisite for the crew to move to collective live-fire events. Table A, Austere Qualification, is a live environment-training event under live-fire conditions using full-caliber training ammunition, austere targetry at half distance (1/2-scale range to target) and engagement scenarios, at a combat tempo, conducted on an authorized live-fire facility.

This table reinforces the basic skills trained during previous events but is tailored for use on non-standard, host nation live-fire training facilities that do not meet the scenario requirements in chapter 6

OVERVIEW OF TABLE A

C-1. Table A, Austere Qualification, is conducted from the crew's vehicle and uses full-caliber training ammunition on an authorized live-fire facility or safety certified training area. Table A is used to train and evaluate the crew's ability to engage stationary or moving targets placed in a tactical array, during day and limited visibility conditions, with an operational or simulated degraded fire control system, as applicable. Crews execute these tasks from the offense and defense using full-caliber ammunition with scaled targetry at half-scale distances.

C-2. This table requires each crew to successfully complete the live-fire prerequisites and all screening and zeroing procedures for their platform. The crew may complete this course without any additional live-fire training at an increased risk.

Requires General Officer Authorization
Table A is an alternate means of qualification for BFV crews while deployed where no Army-standard range facilities are available. The first general officer in the chain of command authorizes its use.

C-3. The planning and preparation process, including the uniform, facilities, and range support requirements are the same as Table VI, Qualification. See chapter 6 for detailed information for those processes.

TARGETRY

C-4. The dimensional information and thermal blanket placement for the austere targets used during these engagements (see figure C-1 and figure C-2 on page 332) are nonstandard, locally manufactured targets. They use common building material found internationally to facilitate unit purchase, if necessary.

C-5. They are specific to the half-scale range (range to target) requirements to ensure the course of fire retains its level of complexity while training in austere conditions. Units may not use North Atlantic Treaty Organization standard targets in lieu of the austere targets when executing this course of fire for qualification purposes.

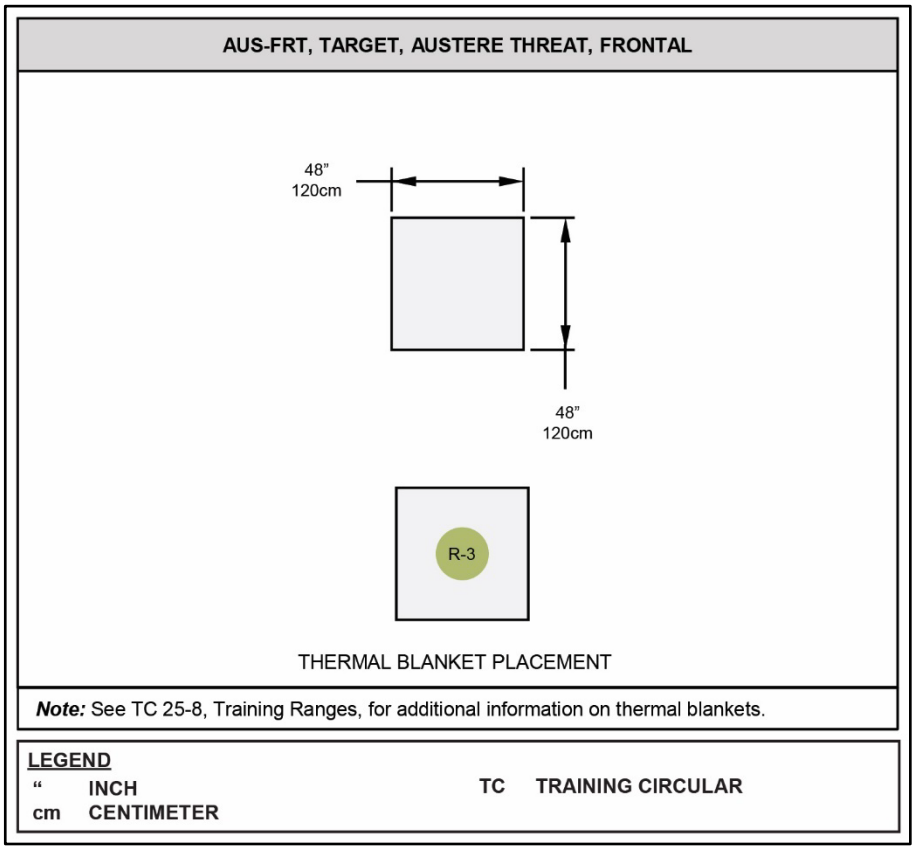


Figure C-1. Austere stationary frontal target design

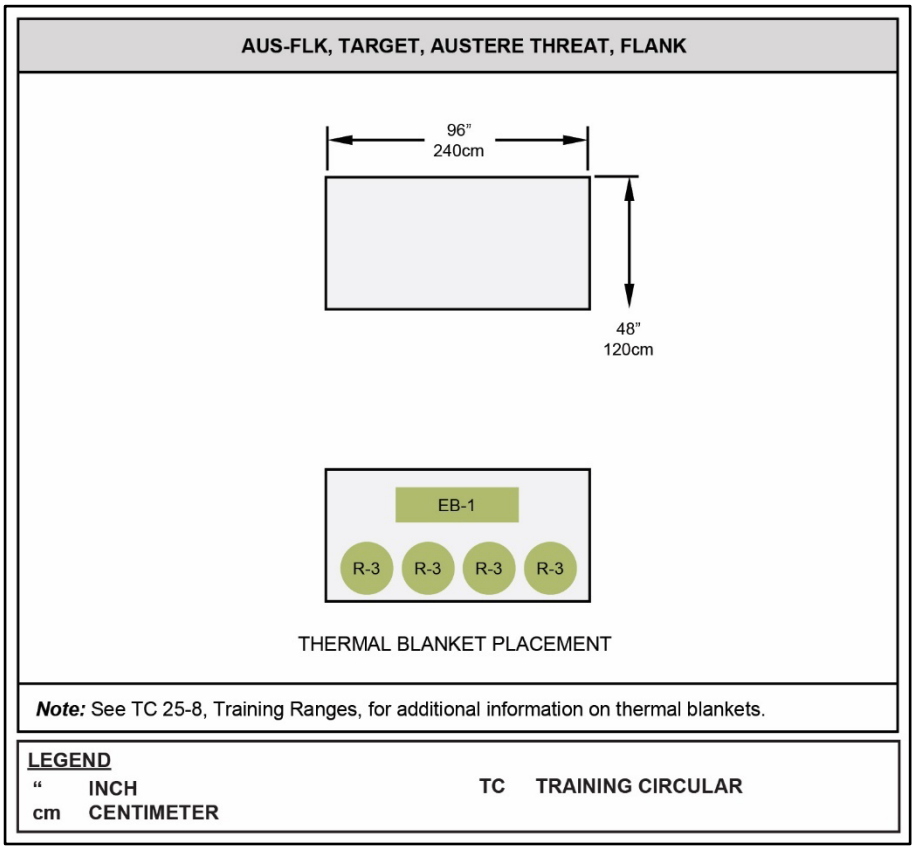


Figure C-2. Austere moving flank target design

AUSTERE QUALIFICATION AMMUNITION REQUIREMENTS

C-6. Each engagement has a separate ammunition requirement. Those requirements are listed for each engagement separately. (See figure C-3 for an overview of all 10 engagement's ammunition requirements.)

TRAINING AMMUNITION REQUIREMENTS
TABLE A, AUSTERE QUALIFICATION

DODIC	MUNITION TYPE	QUANTITY
A940	CTG, 25mm M910 TPDS-T	48
A976	CTG, 25mm M793 TP-T	40
AB86	CTG, 7.62mm 4 ball M80/1 TRCR M62 LNKD	600
LA53	SIM, target hit XM35 (BES)–Steel-on-Steel	14
LA54	SIM, EXP DET XM34 (BES)–Hostile Fire Simulator	14

ADDITIONAL CERTIFICATIONS:



BES SYSTEMS

Certify junior leaders on the components, functioning, hazards, use, and troubleshooting of available Battle Effects Simulator (BES) systems.



PYROTECHNICS

Provides a working understanding of the components, functioning, emplacement, use, troubleshooting, and hazards when:

- Placing BES systems into operation.
- Synchronizing functioning.
- Installing BES cartridges
- Troubleshooting BES systems.
- Removing unused BES cartridges.
- Conducting safe operations of BES systems.

LEGEND

CTG	CARTRIDGE	SIM	SIMULATOR
DODIC	DEPARTMENT OF DEFENSE IDENTIFICATION CODE	TPDS-T	TARGET PRACTICE DISCARDING SABOT-TRACER
EXP DET	EXPLOSIVE DETONATION	TP-T	TARGET PRACTICE-TRACER
LNKD	LINKED	TRCR	TRACER
mm	MILLIMETER		

Figure C-3. Austere qualification munition requirements

AUSTERE QUALIFICATION ENGAGEMENTS

C-7. Units determine the order and day/night engagement composition for the table. (See figure C-4 for a list of engagement conditions in all 10 engagements.)

TABLE A, AUSTERE (AUS) QUALIFICATION ENGAGEMENT REQUIREMENTS

TASK DESCRIPTION		POSTURE	FIRER	WEAPON	TARGET TYPE	TARGET POSTURE	RANGE	EM
A0	VEHICLE COMMANDER	OFFENSE	VC	HE	AUS-FLK	MOV	600m	14
A1	MACHINE GUN PURE	DEFENSE	GNR	COAX	E(3)FRT	STA	200m	7
			GNR	COAX	AUS-FLK	MOV	400m	8
A2	MACHINE GUN PURE	OFFENSE	GNR	COAX	E(7)FRT	STA	200m	11
			GNR	COAX	L1T-FRT	STA	600m	12
			GNR	COAX	E(7)FRT	STA	600m	13
A3	MAIN GUN PURE	DEFENSE	GNR	HE	L2T-FRT	STA	600m	8
			GNR	AP	AUS-FRT	STA	800m	8
A4	MAIN GUN PURE	OFFENSE	GNR	HE	AUS-FRT	STA	600m	12
			GNR	AP	AUS-FRT	STA	1,200m	12
A5	CHANGE OF WEAPON/ AMMUNITION	DEFENSE	GNR	COAX	E(7)FRT	STA	200m	7
			GNR	AP	AUS-FRT	STA	1,000m	8
			GNR	COAX	E(7)FRT	STA	400m	7
			GNR	AP	AUS-FLK	MOV	800m	10
A6	CHANGE OF WEAPON/ AMMUNITION	OFFENSE	GNR	AP	AUS-FRT	STA	200m	9
			GNR	COAX	AUS-FRT	STA	400m	10
			GNR	COAX	E(7)FRT	STA	600m	13
			GNR	HE	AUS-FLK	MOV	1,000m	15
A7	DEGRADED MANUAL	DEFENSE	GNR	COAX	E(7)FRT	STA	400m	7
A8	DEGRADED AUX	OFFENSE	GNR	COAX	E(7)FRT	STA	200m	11
			GNR	AP	AUS-FLK	MOV	1,000m	14
A9	SIMULTANEOUS /MULTIPLE TARGET	DEFENSE	GNR	COAX	E(3)FRT	STA	400m	7
			GNR	HE	AUS-FRT	STA	800m	9

LEGEND

AP	ARMOR PIERCING	GNR	GUNNER
AUX	AUXILIARY SIGHT	HE	HIGH EXPLOSIVE
COAX	COAXIAL MACHINE GUN	m	METER
EM	ENGAGEMENT MODIFIER	MOV	MOVING
FLK	FLANK	STA	STATIONARY
FRT	FRONTAL	VC	VEHICLE COMMANDER

Figure C-4. Table A, Austere qualification engagement requirements

ENGAGEMENT A0

C-8. The VC engagement is fired from the VC's position (using the commander's hand station) at a moving threat (see figure C-5), while on the offense. It trains and evaluates the VC's ability to engage and destroy a moving threat with the main gun.

A0 

TABLE A, AUSTERE QUALIFICATION

TASK TYPE:	VEHICLE COMMANDER	POSTURE:	OFFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1	TARGET 2	TARGET 3	TARGET 4
				
FIRER	VC			
WEAPON/AMMUNITION	HE			
TARGET	TECH TRUCK			
TARGET TYPE	AUS-FLK			
TARGET POSTURE	MOVING			
RANGE TO TARGET	600m			
ENGAGEMENT MODIFIER	14			

⚠ ALL RANGES HAVE BEEN ADJUSTED FOR HALF-SCALE

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
8			1	1

LEGEND

AP	ARMOR PIERCING	m	METER
AUS	AUSTERE	mm	MILLIMETER
FLK	FLANK	VC	VEHICLE COMMANDER
HE	HIGH EXPLOSIVE		

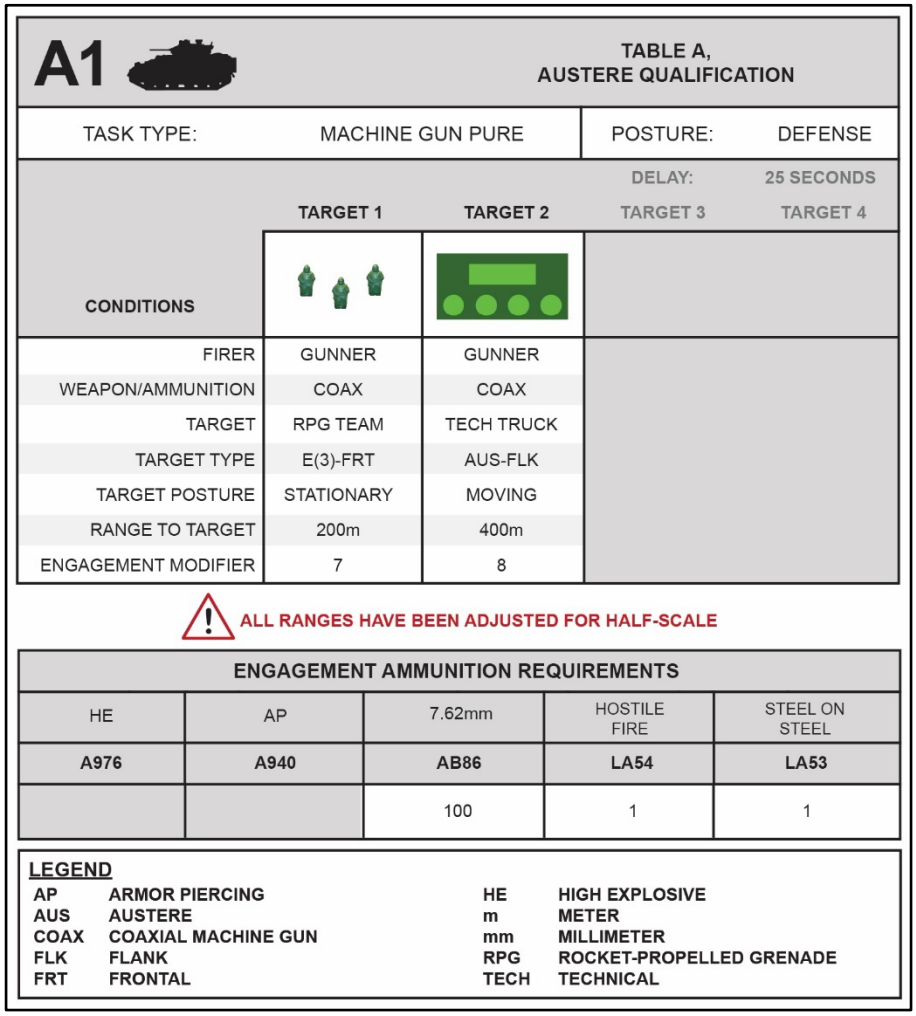
Figure C-5. Engagement A0 overview

Moving Targets Unavailable

When moving targetry is not available, units will use a stationary flank target at the same range to target listed.

ENGAGEMENT A1

C-9. This is a machine gun pure engagement for the gunner. It trains target detection, acquisition, and machine gun engagement techniques from the defense against a stationary and moving threat (see figure C-6). Range bands are mid- to long-range. Crews must tactically use the battle position and demonstrate stability in their forward and rearward movements.



A1

TABLE A, AUSTERE QUALIFICATION

TASK TYPE:	MACHINE GUN PURE	POSTURE:	DEFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1	TARGET 2	TARGET 3	TARGET 4
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	COAX	COAX		
TARGET	RPG TEAM	TECH TRUCK		
TARGET TYPE	E(3)-FRT	AUS-FLK		
TARGET POSTURE	STATIONARY	MOVING		
RANGE TO TARGET	200m	400m		
ENGAGEMENT MODIFIER	7	8		

ALL RANGES HAVE BEEN ADJUSTED FOR HALF-SCALE

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
		100	1	1

LEGEND

AP	**ARMOR PIERCING**	**HE**	**HIGH EXPLOSIVE**
AUS	**AUSTERE**	**m**	**METER**
COAX	**COAXIAL MACHINE GUN**	**mm**	**MILLIMETER**
FLK	**FLANK**	**RPG**	**ROCKET-PROPELLED GRENADE**
FRT	**FRONTAL**	**TECH**	**TECHNICAL**

Figure C-6. Engagement A1 overview

Moving Targets Unavailable
When moving targetry is not available, units will use a stationary flank target at the same range to target listed.

ENGAGEMENT A2

C-10. While on the offense, the gunner engages multiple machine gun threats at close- and mid-range (see figure C-7). This engagement reinforces machine gun engagement techniques against stationary threats. The unit should observe the vehicle speed in relation to the close-range targets to ensure the firing platform does not bypass the threat.

A2 

TABLE A, AUSTERE QUALIFICATION

TASK TYPE:	MACHINE GUN PURE	POSTURE:	OFFENSE

			DELAY:	25 SECONDS
	TARGET 1	TARGET 2	TARGET 3	TARGET 4
CONDITIONS				
FIRER	GUNNER	GUNNER	GUNNER	
WEAPON/AMMUNITION	COAX	COAX	COAX	
TARGET	TROOPS	CARGO TRUCK	TROOPS	
TARGET TYPE	E(7)-FRT	AUS-FRT	E(7)-FRT	
TARGET POSTURE	STATIONARY	STATIONARY	STATIONARY	
RANGE TO TARGET	200m	600m	600m	
ENGAGEMENT MODIFIER	11	13	14	

ALL RANGES HAVE BEEN ADJUSTED FOR HALF-SCALE

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
		150	1	1

LEGEND

AP	**ARMOR PIERCING**	**HE**	**HIGH EXPLOSIVE**
AUS	**AUSTERE**	**m**	**METER**
COAX	**COAXIAL MACHINE GUN**	**mm**	**MILLIMETER**
FRT	**FRONTAL**		

Figure C-7. Engagement A2 overview

ENGAGEMENT A3

C-11. This engagement provides the gunner main gun engagements with a change of ammunition from a defensive posture (see figure C-8). This engagement requires the crew to coordinate the tactical movement from the defilade to the enfilade firing positions, ensuring appropriate main gun clearance of the berm.

A3 

TABLE A, AUSTERE QUALIFICATION

TASK TYPE:	MAIN GUN PURE	POSTURE:	DEFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1	TARGET 2	TARGET 3	TARGET 4
				
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	HE	AP		
TARGET	TECH TRUCK	BMP		
TARGET TYPE	AUS-FRT	AUS-FRT		
TARGET POSTURE	STATIONARY	STATIONARY		
RANGE TO TARGET	600m	800m		
ENGAGEMENT MODIFIER	8	8		

ALL RANGES HAVE BEEN ADJUSTED FOR HALF-SCALE

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	A940	AB86	LA54	LA53
8	8		2	2

LEGEND

AP	ARMOR PIERCING	HE	HIGH EXPLOSIVE
AUS	AUSTERE	m	METER
BMP	BOYEVAYA MASHINA PYEKHOT	mm	MILLIMETER
FRT	FRONTAL	TECH	TECHNICAL

Figure C-8. Engagement A3 overview

ENGAGEMENT A4

C-12. This is an offensive engagement using the main gun against mid- to long-range threats while executing a change of ammunition (see figure C-9). This task reinforces critical crew coordination within the vehicle to rapidly scan, identify, and engage mid- to long-range targets while on the move.

A4 

TABLE A, AUSTERE QUALIFICATION

TASK TYPE:	MAIN GUN PURE	POSTURE:	OFFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1	TARGET 2	TARGET 3	TARGET 4
				
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	HE	AP		
TARGET	CARGO TRUCK	BMP		
TARGET TYPE	AUS-FRT	AUS-FRT		
TARGET POSTURE	STATIONARY	STATIONARY		
RANGE TO TARGET	600m	1,200m		
ENGAGEMENT MODIFIER	12	12		

 **ALL RANGES HAVE BEEN ADJUSTED FOR HALF-SCALE**

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
8	8		2	2

LEGEND

AP	**ARMOR PIERCING**	**HE**	**HIGH EXPLOSIVE**
AUS	**AUSTERE**	**m**	**METER**
BMP	**BOYEVAYA MASHINA PYEKHOT**	**mm**	**MILLIMETER**
FRT	**FRONTAL**		

Figure C-9. Engagement A4 overview

ENGAGEMENT A5

C-13. This engagement challenges the crew with a change of weapon system and ammunition type from a defensive position (see figure C-10). This is a complex engagement and requires the crew to tactically move from the defilade to the enfilade while managing their switchology, ammunition type, and conduct of fire. This is one of the most complex engagements for the crew to master.

A5 

TABLE A, AUSTERE QUALIFICATION

TASK TYPE:	CHANGE OF WEAPON/AMMUNITION	POSTURE:	DEFENSE

CONDITIONS	TARGET 1	TARGET 2	DELAY: TARGET 3	25 SECONDS TARGET 4
				
FIRER	GUNNER	GUNNER	GUNNER	GUNNER
WEAPON/AMMUNITION	COAX	AP	COAX	AP
TARGET	TROOPS	BMP	TROOPS	BMP
TARGET TYPE	E(7)-FRT	AUS-FRT	E(7)-FRT	AUS-FLK
TARGET POSTURE	STATIONARY	STATIONARY	STATIONARY	MOVING
RANGE TO TARGET	200m	1,000m	400m	800m
ENGAGEMENT MODIFIER	7	8	7	10

 ALL RANGES HAVE BEEN ADJUSTED FOR HALF-SCALE

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
	16	100	1	1

LEGEND

AP	**ARMOR PIERCING**	**FRT**	**FRONTAL**
AUS	**AUSTERE**	**HE**	**HIGH EXPLOSIVE**
BMP	**BOYEVAYA MASHINA PYEKHOT**	**m**	**METER**
COAX	**COAXIAL MACHINE GUN**	**mm**	**MILLIMETER**
FLK	**FLANK**		

Figure C-10. Engagement A5 overview

Moving Targets Unavailable
When moving targetry is not available, units will use a stationary flank target at the same range to target listed.

ENGAGEMENT A6

C-14. This engagement challenges the crew with a change of weapon and ammunition during while on the offense (see figure C-11). This is the most complex and rigorous engagement on this table. Efficient crew coordination skills are critical to the crew's success, including rapid target acquisition and target handoff. This engagement is designed to include the most changes to weapon and ammunition types requiring increased switchology awareness.

A6 

TABLE A, AUSTERE QUALIFICATION

TASK TYPE:	CHANGE OF WEAPON/AMMUNITION	POSTURE:	OFFENSE

CONDITIONS	TARGET 1	TARGET 2	DELAY: TARGET 3	25 SECONDS TARGET 4
				
FIRER	GUNNER	GUNNER	GUNNER	GUNNER
WEAPON/AMMUNITION	AP	COAX	COAX	HE
TARGET	BMP	TECH TRUCK	TROOPS	TECH TRUCK
TARGET TYPE	AUS-FRT	AUS-FRT	E(7)-FRT	AUS-FLK
TARGET POSTURE	STATIONARY	STATIONARY	STATIONARY	MOVING
RANGE TO TARGET	200m	400m	600m	1,000m
ENGAGEMENT MODIFIER	9	10	13	15

 ALL RANGES HAVE BEEN ADJUSTED FOR HALF-SCALE

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
8	8	100	3	3

LEGEND

AP	ARMOR PIERCING	FRT	FRONTAL
AUS	AUSTERE	HE	HIGH EXPLOSIVE
BMP	BOYEVAYA MASHINA PYEKHOT	m	METER
COAX	COAXIAL MACHINE GUN	mm	MILLIMETER
FLK	FLANK	TECH	TECHNICAL

Figure C-11. Engagement A6 overview

Moving Targets Unavailable
When moving targetry is not available, units will use a stationary flank target at the same range to target listed.

ENGAGEMENT A7

C-15. A degraded engagement for the gunner to apply manual engagement techniques (see figure C-12). This requires the gunner to scan, identify, and engage the threat using the manual traverse and elevation handwheels and trigger.

A7 

TABLE A, AUSTERE QUALIFICATION

TASK TYPE:	DEGRADED MANUAL	POSTURE:	DEFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1	TARGET 2	TARGET 3	TARGET 4
				
FIRER	GUNNER			
WEAPON/AMMUNITION	COAX			
TARGET	TROOPS			
TARGET TYPE	E(7)-FRT			
TARGET POSTURE	STATIONARY			
RANGE TO TARGET	400m			
ENGAGEMENT MODIFIER	7			

ALL RANGES HAVE BEEN ADJUSTED FOR HALF-SCALE

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
		50		

LEGEND

AP	**ARMOR PIERCING**	**HE**	**HIGH EXPLOSIVE**
COAX	**COAXIAL MACHINE GUN**	**m**	**METER**
FRT	**FRONTAL**	**mm**	**MILLIMETER**

Figure C-12. Engagement A7 overview

ENGAGEMENT A8

C-16. A degraded engagement where the gunner must engage multiple threats on the offense utilizing the auxiliary sight (see figure C-13). This engagement challenges the crew by using degraded gunnery techniques and reinforces battle carry and battlesight preparation to fire, battlesight gunnery, and advanced target acquisition.

A8 

TABLE A,
AUSTERE QUALIFICATION

TASK TYPE:	DEGRADED AUX	POSTURE:	OFFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1 	TARGET 2 	TARGET 3	TARGET 4
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	COAX	AP		
TARGET	TROOPS	BMP		
TARGET TYPE	E(7)-FRT	AUS-FLK		
TARGET POSTURE	STATIONARY	MOVING		
RANGE TO TARGET	200m	1,000m		
ENGAGEMENT MODIFIER	11	14		

ALL RANGES HAVE BEEN ADJUSTED FOR HALF-SCALE

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	A940	AB86	LA54	LA53
	8	50	1	1

LEGEND

AP	ARMOR PIERCING	FLK	FLANK
AUS	AUSTERE	FRT	FRONTAL
AUX	AUXILIARY SIGHT	HE	HIGH EXPLOSIVE
BMP	BOYEVAYA MASHINA PYEKHOT	m	METER
COAX	COAXIAL MACHINE GUN	mm	MILLIMETER

Figure C-13. Engagement A8 overview

Moving Targets Unavailable
When moving targetry is not available, units will use a stationary flank target at the same range to target listed.

ENGAGEMENT A9

C-17. A change of weapon system and ammunition fired from the defensive posture (see figure C-14). This builds upon previous change of weapon and ammunition tasks and incorporates a transition from short- to long-range targets.

A9 

TABLE A, AUSTERE QUALIFICATION

TASK TYPE:	CHANGE OF WEAPON SYSTEM	POSTURE:	DEFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1	TARGET 2	TARGET 3	TARGET 4
				
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	COAX	HE		
TARGET	TROOPS	TECH TRUCK		
TARGET TYPE	E(3)-FRT	L2T-FRT		
TARGET POSTURE	STATIONARY	STATIONARY		
RANGE TO TARGET	400m	800m		
ENGAGEMENT MODIFIER	7	9		

ALL RANGES HAVE BEEN ADJUSTED FOR HALF-SCALE

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
8		50	1	1

LEGEND

AP	ARMOR PIERCING	m	METER
COAX	COAXIAL MACHINE GUN	mm	MILLIMETER
FRT	FRONTAL	TECH	TECHNICAL
HE	HIGH EXPLOSIVE		

Figure C-14. Engagement A9 overview

Appendix D

Table B–Basic Skills Engagements

Basic skills engagements, called Table B, are designed to assist the commander by providing additional on-demand training for those retically-challenged crews prior to advancing to Table V. These engagements are built as a training stepping stone to Table V for crews experiencing difficulty on specific live-fire capabilities tasks. The basic skills engagements are a menu-based, commander-selected engagements to incorporate into the unit training plan. They augment the engagements on Table IV when retraining on failed tasks will not best prepare the crew for advancement to Table V, Practice, or utilization of a simulator system are unavailable.

These engagements are focused on the five capabilities-based tasks for the BFV, VC, machine gun, main gun, change of weapon system or ammunition, and degraded skills. Commanders select any engagement for integration into their training plan based on available resources (time and training ammunition) to provide experience to struggling crews prior to Table V, Practice.

OVERVIEW OF TABLE B

D-1. Table B provides crews the ability to train on specific capability-based skills they are experiencing difficulty. Rather than refire failed engagements on Table IV, Basic, the commander can select an appropriate Table B engagement that builds additional rigor and skills during retraining opportunities.

D-2. These engagements are not resourced. They are provided as a training tool for commanders to conduct retraining and cross-training opportunities with additional variety and increased rigor to best prepare crews for Table V.

D-3. The planning and preparation process, including the uniform, facilities, targetry, and range support requirements are the same as Table IV, Basic. See chapter 4 for detailed information for those processes.

BASIC SKILLS AMMUNITION REQUIREMENTS

D-4. Each engagement has a separate ammunition requirement. Those requirements are listed for each engagement separately. (See figure D-1 on page 346 for an overview of all 10 engagement’s ammunition requirements.)



TRAINING AMMUNITION REQUIREMENTS
TABLE B, BASIC SKILLS

DODIC	MUNITION TYPE	QUANTITY
A940	CTG, 25mm M910 TPDS-T	56
A976	CTG, 25mm M793 TP-T	48
AB86	CTG, 7.62mm 4 ball M80/1 TRCR M62 LNKD	600
LA53	SIM, target hit XM35 (BES)–Steel-on-Steel	15
LA54	SIM, EXP DET XM34 (BES)–Hostile Fire Simulator	15

ADDITIONAL CERTIFICATIONS:



BES SYSTEMS



PYROTECHNICS

Certify junior leaders on the components, functioning, hazards, use, and troubleshooting of available Battle Effects Simulator (BES) systems.

Provides a working understanding of the components, functioning, emplacement, use, troubleshooting, and hazards when:

- Placing BES systems into operation.
- Synchronizing functioning.
- Installing BES cartridges
- Troubleshooting BES systems.
- Removing unused BES cartridges.
- Conducting safe operations of BES systems.

LEGEND

CTG	CARTRIDGE	SIM	SIMULATOR
DODIC	DEPARTMENT OF DEFENSE IDENTIFICATION CODE	TPDS-T	TARGET PRACTICE DISCARDING SABOT-TRACER
EXP DET	EXPLOSIVE DETONATION	TP-T	TARGET PRACTICE-TRACER
LNKD	LINKED	TRCR	TRACER
mm	MILLIMETER		

Figure D-1. Table B, Basic Skills, ammunition requirements

BASIC SKILLS ENGAGEMENT CONDITIONS

D-5. Units select the engagements for use based on the task type and the training gaps identified for the crew. (See figure D-2 for the engagement conditions listed for all 10 engagements.)

TABLE B, BASIC SKILLS ENGAGEMENT REQUIREMENTS

TASK DESCRIPTION		POSTURE	FIRER	WEAPON	TARGET TYPE	TARGET POSTURE	RANGE	EM
B0	VEHICLE COMMANDER	OFFENSE	VC	COAX	E(7)FRT	STA	400m	11
			VC	HE	L2T-FLK	MOV	600m	14
B1	MACHINE GUN PURE	DEFENSE	GNR	COAX	E(3)FRT	STA	400m	7
			GNR	COAX	E(7)FRT	STA	600m	9
B2	MACHINE GUN PURE	OFFENSE	GNR	COAX	E(7)FRT	STA	400m	11
			GNR	COAX	L1T-FRT	STA	600m	12
B3	MAIN GUN PURE	DEFENSE	GNR	AP	M2T-FRT	STA	400m	5
			GNR	HE	L2T-FLK	MOV	1,200m	11
B4	MAIN GUN PURE	OFFENSE	GNR	HE	L2T-FRT	STA	1,200m	13
			GNR	HE	L1T-FRT	STA	1,200m	13
			GNR	AP	M1T-FLK	MOV	600m	13
B5	CHANGE OF WEAPON/ AMMUNITION	DEFENSE	GNR	AP	M2T-FRT	STA	400m	7
			GNR	COAX	E(7)FRT	STA	600m	9
			GNR	HE	L2T-FRT	STA	1,000m	9
			GNR	COAX	E(7)FRT	STA	600m	9
B6	CHANGE OF WEAPON/ AMMUNITION	OFFENSE	GNR	COAX	E(7)FRT	STA	400m	11
			GNR	COAX	L2T-FRT	STA	600m	12
			GNR	AP	M1T-FRT	STA	1,600m	13
			GNR	AP	M1T-FLK	MOV	600m	13
B7	DEGRADED	DEFENSE	GNR	COAX	E(7)FRT	STA	400m	7
			GNR	AP	M1T-FRT	STA	1,200m	8
B8	DEGRADED	OFFENSE	GNR	COAX	E(7)FRT	STA	400m	11
			GNR	HE	L2T-FRT	STA	600m	12
B9	SIMULTANEOUS /MULTIPLE TARGET	DEFENSE	GNR	COAX	E(7)FRT	STA	400m	7
			GNR	AP	M1T-FLK	MOV	1,600m	11

LEGEND

AP	ARMOR PIERCING	HE	HIGH EXPLOSIVE
COAX	COAXIAL MACHINE GUN	m	METER
EM	ENGAGEMENT MODIFIER	MOV	MOVING
FLK	FLANK	STA	STATIONARY
FRT	FRONTAL	VC	VEHICLE COMMANDER
GNR	GUNNER		

Figure D-2. Basic Skills engagement selection

ENGAGEMENT B0

D-6. This engagement is selected for retraining VCs on their ability to engage multiple stationary threats with the main gun. This engagement is executed on the offense. The VC engagement is fired from their position using the commander's override firing the main gun (see figure D-3).

B0 

TABLE B, BASIC SKILLS

TASK TYPE:	VEHICLE COMMANDER	POSTURE:	OFFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1 	TARGET 2 	TARGET 3	TARGET 4
FIRER	VC	VC		
WEAPON/AMMUNITION	COAX	HE		
TARGET	TROOPS	TECH TRUCK		
TARGET TYPE	E(7)-FRT	L2T-FLK		
TARGET POSTURE	STATIONARY	MOVING		
RANGE TO TARGET	400m	600m		
ENGAGEMENT MODIFIER	11	14		

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
8		50	1	1

LEGEND

AP	**ARMOR PIERCING**	**m**	**METER**
FLK	**FLANK**	**mm**	**MILLIMETER**
FRT	**FRONTAL**	**TECH**	**TECHNICAL**
HE	**HIGH EXPLOSIVE**	**VC**	**VEHICLE COMMANDER**

Figure D-3. Engagement B0 overview

ENGAGEMENT B1

D-7. This engagement is selected for crews having difficulty with machine gun engagement skills in the defense. This is a machine gun pure engagement for the gunner. It trains target detection, acquisition, and machine gun engagement techniques from the defense (see figure D-4).

B1 

TABLE B, BASIC SKILLS

TASK TYPE:	MACHINE GUN PURE	POSTURE:	DEFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1	TARGET 2	TARGET 3	TARGET 4
				
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	COAX	COAX		
TARGET	RPG	TROOPS		
TARGET TYPE	E(3)-FRT	E(7)-FRT		
TARGET POSTURE	STATIONARY	STATIONARY		
RANGE TO TARGET	400m	600m		
ENGAGEMENT MODIFIER	7	9		

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
		100		

LEGEND

AP	**ARMOR PIERCING**	**m**	**METER**
COAX	**COAXIAL MACHINE GUN**	**mm**	**MILLIMETER**
FRT	**FRONTAL**	**RPG**	**ROCKET-PROPELLED GRENADE**
HE	**HIGH EXPLOSIVE**		

Figure D-4. Engagement B1 overview

ENGAGEMENT B2

D-8. While on the offense, the gunner engages multiple machine gun threats at mid-range for the coaxial machine gun (see figure D-5). This engagement continues the gunner's education on machine gun engagement techniques against multiple threats while on the offense.

B2 

TABLE B, BASIC SKILLS

TASK TYPE:	MACHINE GUN PURE	POSTURE:	OFFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1	TARGET 2	TARGET 3	TARGET 4
				
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	COAX	COAX		
TARGET	TROOPS	CARGO TRUCK		
TARGET TYPE	E(7)-FRT	L1T-FRT		
TARGET POSTURE	STATIONARY	STATIONARY		
RANGE TO TARGET	400m	600m		
ENGAGEMENT MODIFIER	11	12		

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
8		50	1	1

LEGEND

AP	**ARMOR PIERCING**	**HE**	**HIGH EXPLOSIVE**
COAX	**COAXIAL MACHINE GUN**	**m**	**METER**
FRT	**FRONTAL**	**mm**	**MILLIMETER**

Figure D-5. Engagement B2 overview

ENGAGEMENT B3

D-9. This is a main gun engagement for the gunner to reinforce basic main gun engagement techniques from the defense (see figure D-6). One short range stationary target and one moving target train the crew on basic target identification, tracking, and use of kinematic lead.

B3 

TABLE B, BASIC SKILLS

TASK TYPE:	MAIN GUN PURE	POSTURE:	DEFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1 	TARGET 2 	TARGET 3	TARGET 4
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	AP	HE		
TARGET	BTR	TECH TRUCK		
TARGET TYPE	M2T-FRT	L2T-FLK		
TARGET POSTURE	STATIONARY	MOVING		
RANGE TO TARGET	400m	1,200m		
ENGAGEMENT MODIFIER	5	11		

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
8	8		2	2

LEGEND

AP	**ARMOR PIERCING**	**HE**	**HIGH EXPLOSIVE**
BTR	**BRONETRANSPORTYOR**	**m**	**METER**
FLK	**FLANK**	**mm**	**MILLIMETER**
FRT	**FRONTAL**	**TECH**	**TECHNICAL**

Figure D-6. Engagement B3 overview

ENGAGEMENT B4

D-10. This is a main gun engagement on the offense against multiple stationary and moving threats (see figure D-7). This teaches the gunner main gun engagement techniques using both types of main gun ammunition. The primary teaching point on the main gun engagements is for the crew to effectively use the speed of their vehicle to their advantage against multiple main gun threats.

B4 

TABLE B, BASIC SKILLS

TASK TYPE:	MAIN GUN PURE	POSTURE:	OFFENSE
		DELAY:	**25 SECONDS**

CONDITIONS	TARGET 1	TARGET 2	TARGET 3	TARGET 4
				
FIRER	GUNNER	GUNNER	GUNNER	
WEAPON/AMMUNITION	HE	HE	AP	
TARGET	TECH TRUCK	CARGO TRUCK	BMP	
TARGET TYPE	L2T-FRT	L1T-FRT	M1T-FLK	
TARGET POSTURE	STATIONARY	STATIONARY	MOVING	
RANGE TO TARGET	1,200m	1,200m	600m	
ENGAGEMENT MODIFIER	13	13	13	

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
16	8		3	3

LEGEND

AP	**ARMOR PIERCING**	**HE**	**HIGH EXPLOSIVE**
BMP	**BOYEVAYA MASHINA PYEKHOTY**	**m**	**METER**
FLK	**FLANK**	**mm**	**MILLIMETER**
FRT	**FRONTAL**	**TECH**	**TECHNICAL**

Figure D-7. Engagement B4 overview

ENGAGEMENT B5

D-11. This engagement challenges the crew with a change of weapon and ammunition during a defensive engagement at shorter ranges. (see figure D-8). This is one of the most complex and rigorous engagement on this table. This engagement is designed to include the changes to weapon and ammunition types requiring increased switchology awareness as well as the crew's cohesive efforts on target acquisition.

B5 

TABLE B, BASIC SKILLS

TASK TYPE:	CHANGE OF WEAPON/AMMUNITION	POSTURE:	DEFENSE

CONDITIONS	TARGET 1	TARGET 2	DELAY: TARGET 3	25 SECONDS TARGET 4
				
FIRER	GUNNER	GUNNER	GUNNER	GUNNER
WEAPON/AMMUNITION	AP	COAX	HE	COAX
TARGET	BTR	TROOPS	TECH TRUCK	TROOPS
TARGET TYPE	M2T-FRT	E(7)-FRT	L2T-FRT	E(7)-FRT
TARGET POSTURE	STATIONARY	STATIONARY	STATIONARY	STATIONARY
RANGE TO TARGET	400m	600m	1,000m	600m
ENGAGEMENT MODIFIER	7	9	9	9

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
8	8	100	2	2

LEGEND

AP	**ARMOR PIERCING**	**HE**	**HIGH EXPLOSIVE**
BTR	**BRONETRANSPORTYOR**	**m**	**METER**
COAX	**COAXIAL MACHINE GUN**	**mm**	**MILLIMETER**
FRT	**FRONTAL**	**TECH**	**TECHNICAL**

Figure D-8. Engagement B5 overview

ENGAGEMENT B6

D-12. This is a change of weapon and ammunition engagement fired while on the offense (see figure D-9). This is a complex engagement and requires the crew to tactically move while managing their switchology, ammunition type, and conduct of fire. This is one of the most complex engagements for the crew to master.

B6 

TABLE B, BASIC SKILLS

TASK TYPE:	CHANGE OF WEAPON/AMMUNITION	POSTURE:	OFFENSE

CONDITIONS	TARGET 1	TARGET 2	DELAY: TARGET 3	25 SECONDS TARGET 4
				
FIRER	GUNNER	GUNNER	GUNNER	GUNNER
WEAPON/AMMUNITION	COAX	COAX	AP	AP
TARGET	TROOPS	TECH TRUCK	BMP	BMP
TARGET TYPE	E(7)-FRT	L2T-FRT	M1T-FRT	M1T-FLK
TARGET POSTURE	STATIONARY	STATIONARY	STATIONARY	MOVING
RANGE TO TARGET	400m	600m	1,600m	600m
ENGAGEMENT MODIFIER	11	12	13	13

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
	16	100	3	3

LEGEND

AP	**ARMOR PIERCING**	**HE**	**HIGH EXPLOSIVE**
BMP	**BOYEVAYA MASHINA PYEKHOTY**	**m**	**METER**
COAX	**COAXIAL MACHINE GUN**	**mm**	**MILLIMETER**
FLK	**FLANK**	**TECH**	**TECHNICAL**
FRT	**FRONTAL**		

Figure D-9. Engagement B6 overview

ENGAGEMENT B7

D-13. A degraded engagement where the gunner must engage multiple threats from a defensive position without turret drive power, using degraded gunnery techniques (see figure D-10). This engagement reinforces manual engagement techniques using the manual traverse and elevation handwheels and manual trigger.

B7 

TABLE B, BASIC SKILLS

TASK TYPE:	DEGRADED MANUAL	POSTURE:	DEFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1 	TARGET 2 	TARGET 3	TARGET 4
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	COAX	AP		
TARGET	TROOPS	BMP		
TARGET TYPE	E(7)-FRT	M1T-FRT		
TARGET POSTURE	STATIONARY	STATIONARY		
RANGE TO TARGET	400m	1,200m		
ENGAGEMENT MODIFIER	7	8		

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
8		50	1	1

LEGEND

AP	**ARMOR PIERCING**	**HE**	**HIGH EXPLOSIVE**
BMP	**BOYEVAYA MASHINA PYEKHOTY**	**m**	**METER**
COAX	**COAXIAL MACHINE GUN**	**mm**	**MILLIMETER**
FRT	**FRONTAL**		

Figure D-10. Engagement B7 overview

ENGAGEMENT B8

D-14. A degraded engagement for the gunner to use the gunner's auxiliary sight and apply the appropriate ballistic reticle for stationary coaxial and main gun threats (see figure D-11). This engagement reinforces scanning techniques and target identification.

B8 

TABLE B, BASIC SKILLS

TASK TYPE:	DEGRADED AUX	POSTURE:	OFFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1	TARGET 2	TARGET 3	TARGET 4
				
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	COAX	HE		
TARGET	TROOPS	TECH TRUCK		
TARGET TYPE	E(7)-FRT	L2T-FRT		
TARGET POSTURE	STATIONARY	STATIONARY		
RANGE TO TARGET	400m	1,000m		
ENGAGEMENT MODIFIER	11	13		

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
8		50	1	1

LEGEND

AP	**ARMOR PIERCING**	**HE**	**HIGH EXPLOSIVE**
AUX	**AUXILIARY SIGHT**	**m**	**METER**
COAX	**COAXIAL MACHINE GUN**	**mm**	**MILLIMETER**
FRT	**FRONTAL**	**TECH**	**TECHNICAL**

Figure D-11. Engagement B8 overview

ENGAGEMENT B9

D-15. A change of weapon system engagement from the defense (see figure D-12). This engagement reinforces target tracking and target designate techniques while forcing the crew to manage their switchology.

B9 

TABLE B, BASIC SKILLS

TASK TYPE:	CHANGE OF WEAPON/AMMUNITION	POSTURE:	DEFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1 	TARGET 2 	TARGET 3	TARGET 4
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	COAX	AP		
TARGET	TROOPS	BMP		
TARGET TYPE	E(7)-FRT	M1T-FLK		
TARGET POSTURE	STATIONARY	MOVING		
RANGE TO TARGET	400m	1,600m		
ENGAGEMENT MODIFIER	7	11		

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
8		50	1	1

LEGEND

AP	**ARMOR PIERCING**	**FRT**	**FRONTAL**
BMP	**BOYEVAYA MASHINA PYEKHOTY**	**HE**	**HIGH EXPLOSIVE**
COAX	**COAXIAL MACHINE GUN**	**m**	**METER**
FLK	**FLANK**	**mm**	**MILLIMETER**

Figure D-12. Engagement B9 overview

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Appendix E

Table C–Complex Engagements

Table C, Complex Engagements, is a course of fire developed for commanders to challenge their best crews. Table C serves as a live-fire check on mastery skills on a BFV platform. It is intended for use after a crew has successfully qualified on their vehicle within the past 6 months.

The engagements were specifically designed by Master Gunners to focus on the capabilities of the BFV, its ammunition, and fire control system functionality. It should only be used for crews that have demonstrated an exceptional level of skill with their vehicle.

This event is scored in the same manner as other engagements in this publication. Units electing to execute this course of fire will require detailed coordination with their supporting range operations branch to build a safe and effective scenario.

OVERVIEW OF TABLE C

E-1. Table C, Complex Engagements, is fired from the crew's vehicle and uses full-caliber training ammunition on an authorized live-fire facility or safety certified training area. The training ammunition required to conduct Table C are not resourced. The unit may use training munitions available in their account or coordinate with their ammunition management office for additional resources, as available.

E-2. Table C is used to train and evaluate the experienced crew's ability to engage stationary or moving targets placed in a tactical array, during day and limited visibility conditions, with an operational or simulated degraded fire control system, as applicable. Crews execute these tasks from the offense and defense using full-caliber ammunition.

E-3. This table requires each crew to successfully complete the live-fire prerequisites, all zeroing procedures for their platform, successfully complete Table VI, Qualification, and are selected by the commander to conduct this event.

Experienced Crews Only

Crews must be selected by the brigade commander or above to conduct this event. This table is designed to train and evaluate complex engagement skills, day and night, while fighting from the defense and during offensive engagements.

PURPOSE OF TABLE C

E-4. Table C provides a series of live-fire engagements to showcase a unit's experienced crews on a BFV, demonstrate their master of their profession, and to demonstrate their lethality in a rigorous, competitive course of fire.

METHOD–TABLE C

E-5. Table C is a performance-based evaluation of advanced gunnery skills in a live environment under live-fire conditions. Conduct of Table C is from the crew's Bradley using full-caliber ammunition and BESs. It utilizes the unit's most experienced evaluators to educate, train, test, and retrain Soldiers to meet or exceed those standards.

END STATE–TABLE C

E-6. The crew demonstrates mastery of their BFV across a series of demanding engagements. The crews are challenged by introducing them to mastery-level engagements designed by Master Gunners based on large-scale combat operations threat dilemmas. The unit receives an exceptionally well-trained crew that trains others on their knowledge and experiences gained.

TASK, CONDITIONS, AND STANDARDS–TABLE C

E-7. Units may not add to the live-fire requirements or tasks associated with Table C. The division commander or equivalent maintains the qualification course of fire standards and approved scenarios. (See figure E-1 for the task, conditions, and standard for Table C, Qualification.)

	TABLE C COMPLEX ENGAGEMENTS
TASK	Engage and destroy stationary and moving targets placed in a tactical array, during day and limited visibility from a stationary or moving vehicle using full-caliber ammunition.
CONDITIONS	Given the following: • An operational platform with weapon or weapon systems. • Allotted ammunition. • Certified vehicle crew evaluators. • Full-scale targets. • Qualified crew on Table VI, selected by the commander.
STANDARD	The crew must: • Score a minimum of 700 of 1,000 points overall. • Score 70 points or more on all targets presented on 7 out of the 10 engagements. • Qualify on at least one day and one limited visibility engagement.

Figure E-1. Table C, Complex Engagements, task, conditions, and standards

PLAN FOR TABLE C

E-8. Table C, Complex Engagements, is a live-fire training environment event using full-caliber and small arms training ammunition, BESs, and specific TADSS. This course of fire requires experienced VCEs and coordination with the higher headquarters for support.

Use Experienced VCEs

Units should consider having experienced Master Gunners serve as VCEs for these engagements due to their inherent complexity.

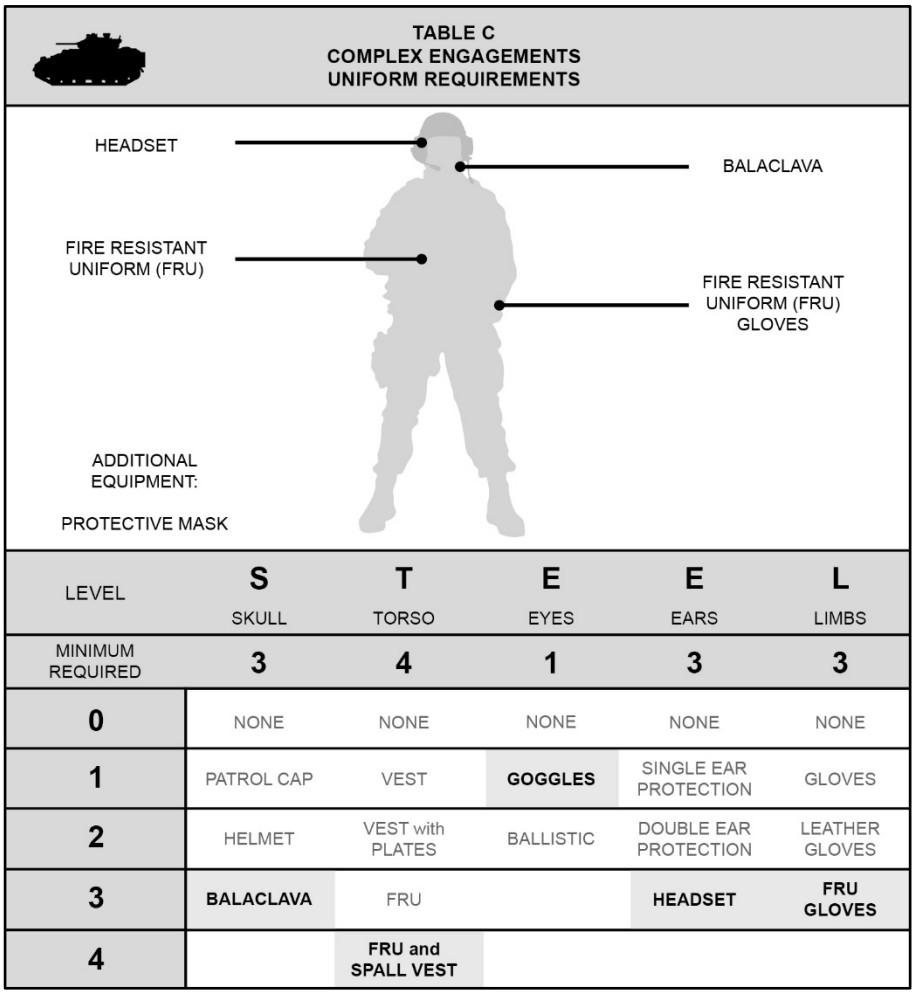
E-9. This section details the resources needed for planning purposes. It includes general information on the following topics for consideration during the planning process, which are—

- Uniform—the minimum requirements for the combat vehicle crewmember's fire-retardant clothing and protective equipment.
- Facilities—available facilities that support the training event.
- Training plan—the minimum tasks, general guidelines, and special instructions for the training event.
- Time and throughput—the estimated time required to complete the training event including throughput considerations for planning.

- Ammunition—any training munitions required to complete the training event.
- TADSS—any available training aids that directly support or augment the training event.

UNIFORM FOR TABLE C

E-10. Crews must be in the appropriate vehicle crewmember uniform or prescribed unit uniform and protective mask. Crews are not required to have any additional body armor, ballistic plates, or gear during the training event unless directed by the commander. (See figure E-2 for the minimum uniform training requirements this event.)



LEVEL	S SKULL	T TORSO	E EYES	E EARS	L LIMBS
MINIMUM REQUIRED	3	4	1	3	3
0	NONE	NONE	NONE	NONE	NONE
1	PATROL CAP	VEST	**GOGGLES**	SINGLE EAR PROTECTION	GLOVES
2	HELMET	VEST with PLATES	BALLISTIC	DOUBLE EAR PROTECTION	LEATHER GLOVES
3	**BALACLAVA**	FRU		**HEADSET**	**FRU GLOVES**
4		**FRU and SPALL VEST**			

Figure E-2. Uniform for live-fire training

FACILITIES FOR TABLE C

E-11. Table C requires the use of a maneuver gunnery range that allows live fire for small and large caliber ammunition. Master Gunners must be familiar with the family of maneuver ranges, the range operations control area, and the specific instrumentation and target sets available on the range facility selected for Table C. (See figure E-3 for the maneuver range facilities recommended as primary and alternate facilities.)



TABLE C
COMPLEX ENGAGEMENTS
AUTHORIZED FACILITIES

FACILITY		
Battle Area Complex	BAX	ALTERNATE
Digital Air Ground Integration Range	DAGIR	ALTERNATE
Digital/Multipurpose Range Complex	D/MPRC	ALTERNATE
Digital/Multipurpose Training Range	D/MPTR	**PRIMARY**
Scout/Reconnaissance Gunnery Complex	SRGC	ALTERNATE

Note: Units should consider using a separate facility to conduct zeroing procedures if it assists with increased throughput.

Figure E-3. Recommended maneuver range facilities to supports Table C

Thru-Sight Video Required

Units are required to utilize the thru-sight video system available for their platform on the qualification event. This is to ensure the highest fidelity AAR and take-home packages are created for the crews and commanders to build future unit training plans.

Lift Line Usage

Several engagements require the use of lift lines within the range operating software. The Master Gunner must coordinate with range operations during the scenario development process to integrate lift lines to present targetry in the appropriate timed sequence during offensive and retrograde engagements.

RANGE SUPPORT FOR TABLE C

E-12. The range support group provides VCE teams to evaluate the course of fire. This requires all gunners and above to certify or recertify as VCEs between T-6 and T-execution of the training event.

E-13. The range support personnel general requirements (see figure E-4) include the most common support required for BFV crew live-fire events.

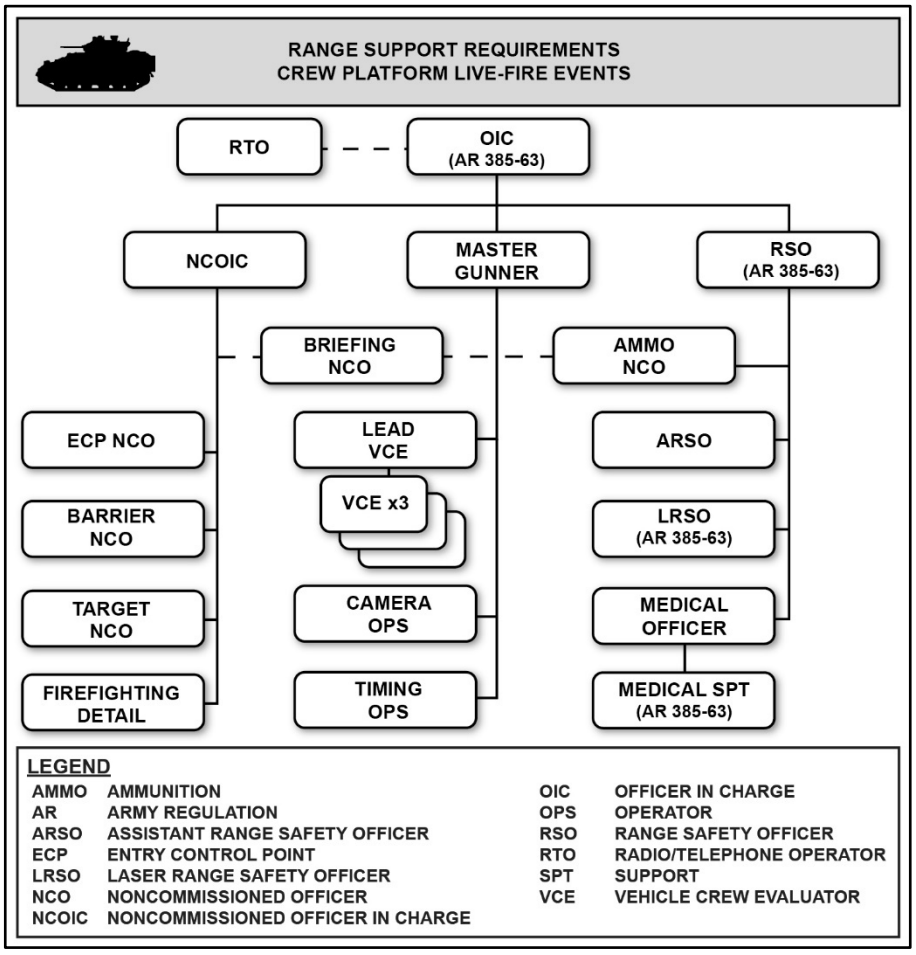


Figure E-4. Range support personnel requirements, example

Use of Experienced VCEs

Due to the complexity and difficulty of the Table C, complex engagements, units should only use very experienced and knowledgeable VCEs that are also experienced VCs on the BFV and/or Master Gunners if available.

TRAINING PLAN FOR TABLE C

E-14. The design of Table C is purposefully challenging to the crews while providing realistic engagements that exercise the crew's ability to utilize the key capabilities of the vehicle's fire control system. Units retrain as necessary with full-caliber ammunition using first-round hit savings (harvested ammunition) from the previous tables in the training strategy.

E-15. All crew platform tables are multiple qualification criteria tables. Crews must score at least 70 points per target according to the target kill standards in TC 3-20.31 on single and multiple target engagements to qualify the engagement. Crews must also score more than 700 points overall with a minimum of 70 points per target during 7 of 10 engagements on the qualification table to be used. Crews must qualify at least one engagement during day and one engagement during limited visibility to be rated as Top Gun.

E-16. Table C uses full-caliber training ammunition on an authorized live-fire facility or safety certified training area that assesses an element's tactical employment proficiency and lethality. Units are required to use full-scale targets at full range for the engagement scenarios unless specifically directed.

Scenario Requirements for Table C

E-17. All engagements are evaluated using certified VCEs using DA Form 8265 and DA Form 8265-1 as the official record of training. Master Gunners must ensure the training records are included in each crew's gunnery packet (see TC 3-20.31).

E-18. The engagements listings are by capability type using the standard engagement naming structure listed in TC 3-20.31. It provides the requirements for each engagement, which are described in paragraphs E-19 through E-28.

Task Description–Table C

E-19. The task description includes both the engagement number (the table number plus engagement task) followed by the system capability trained.

Firing Vehicle Posture–Table C

E-20. The firing vehicle posture establishes the offense or defense condition for the engagement.

Firer–Table C

E-21. The firer column identifies which crewmember is to engage the target listed. Targets defeated by a different crewmember listed as the firer result in an auto-zero penalty, failing to adhere to course conditions.

Weapon (or Ammunition)–Table C

E-22. The weapon column identifies the weapon (coaxial, TOW, or primary armament ammunition type) that is used to defeat the threat. Design of each engagement is for a specific weapon or ammunition type (primary armament) for use, which relates to the crew conduct of fire, optic selection, engagement techniques, or other unique implied tasks. Crews that fail to announce the appropriate weapon or ammunition, or appropriate selection for subsequent or supplemental engagements may be penalized IAW TC 3-20.31.

Target Type–Table C

E-23. The target type column identifies the target required for the presentation, IAW TC 25-8.

Target Posture–Table C

E-24. The target posture establishes if the target is stationary, moving, or evasive for the engagement. See TC 3-20.31 for more information on target postures.

Range (to Target)–Table C

E-25. The range column identifies the required range (full scale or equivalent scaled range) from the firing vehicle to the target. For offensive engagements, this distance calculation is from the center of the movement box to the target. The range to target distance is provided in meters and is displayed as a whole number, such as 600.

E-26. The target may be placed at the distance indicated, plus or minus 200 meters. For example, when the range to target is listed as 600 meters, the target may be placed between 400 and 800 meters. This allows flexibility designing the scenario on varying maneuver range facilities with different capabilities, target counts, emplacement locations, and terrain restrictions.

Engagement Modifier–Table C

E-27. No change to the EM is authorized. The range bands listed with their applied tolerances do not require any adjustment to the EM. Units are not authorized to exceed the target placement tolerances.

E-28. The EM is the time in seconds required to achieve 100 points against the listed threat. To defeat the threat successfully, the crew must achieve the kill standard against the target and have an overall engagement time of no more than the EM plus 20 seconds. See TC 3-20.31 for the evaluation, timing, and scoring procedures.

No Deviations Authorized

Units are not authorized to deviate from the specified target type, posture, range band, firing vehicle posture, or ammunition type. This maintains the standards for the complex engagements across the force.

Engagements–Table C

E-29. No deviation is authorized for any condition of the listed tasks. (See figure E-5 on page 368 for the conditions for each engagement.)

TABLE C, COMPLEX ENGAGEMENTS
ENGAGEMENT REQUIREMENTS

TASK DESCRIPTION		POSTURE	FIRER	WEAPON	TARGET TYPE	TARGET POSTURE	RANGE	EM
C0	VEHICLE COMMANDER AUX	OFFENSE	VC	COAX	E(7)FRT	STA	600m	13
			VC	AP	M1T-FLK	MOV	1,800m	15
C1	MACHINE GUN PURE	DEFENSE	GNR	COAX	E(3)FRT	STA	200m	7
			GNR	COAX	E(3)FRT	STA	800m	10
			GNR	COAX	E(7)FRT	STA	800m	10
C2	MACHINE GUN PURE	OFFENSE RETROGRADE	GNR	COAX	E(7)FRT	STA	200m	11
			GNR	COAX	E(3)FRT	STA	800m	14
C3	MAIN GUN PURE	DEFENSE	GNR	AP	M1T-FRT	STA	200m	5
			GNR	AP	M1T-FLK	EVA	1,800m	12
			GNR	HE	L2T-FRT	STA	1,400m	10
C4	MAIN GUN PURE	OFFENSE	GNR	HE	L2T-FRT	STA	1,000m	13
			GNR	HE	L2T-FLK	EVA	1,400m	17
C5	CHANGE OF WEAPON/ AMMUNITION	DEFENSE	GNR	COAX	E(3)FRT	STA	200m	7
			GNR	HE	L2T-FRT	STA	1,600m	10
			GNR	COAX	E(7)FRT	STA	800m	10
			GNR	AP	M1T-FLK	MOV	2,000m	12
C6	CHANGE OF WEAPON/ AMMUNITION	OFFENSE RETROGRADE	GNR	COAX	E(3)FRT	STA	600m	13
			GNR	AP	M1T-FRT	STA	1,800m	13
			GNR	COAX	E(3)FRT	STA	200m	11
			GNR	HE	L2T-FLK	MOV	1,400m	16
C7	DEGRADED AUX	DEFENSE	GNR	COAX	E(3)FRT	STA	600m	9
			GNR	HE	L2T-FLK	MOV	1,400m	12
			GNR	AP	M1T-FRT	STA	2,000m	10
C8	DEGRADED MANUAL	OFFENSE	GNR	COAX	E(7)FRT	STA	600m	13
			GNR	HE	L2T-FRT	STA	1,200m	13
C9	SIMULTANEOUS /MULTIPLE TARGET	DEFENSE	GNR	COAX	E(7)FRT	STA	600m	9
			GNR	AP	M1T-FLK	MOV	1,800m	11
			GNR	TOW 2A	H1T-FRT	STA	2,800m	5

LEGEND

AP	ARMOR PIERCING
AUX	AUXILIARY SIGHT
COAX	COAXIAL MACHINE GUN
EM	ENGAGEMENT MODIFIER
FLK	FLANK
FRT	FRONTAL
GNR	GUNNER
HE	HIGH EXPLOSIVE
m	METER
MOV	MOVING
STA	STATIONARY
TOW	TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED
VC	VEHICLE COMMANDER

Figure E-5. Table C scenario requirements

TIME AND THROUGHPUT–TABLE C

E-30. The throughput expectation of this table is 14 crews per day. Depending on maintenance or other unforeseen issues, recommend incorporating an additional half training day to the schedule. (See figure E-6 for the expected throughput schedule based on the number of vehicles for firing and the unit's day and night engagement breakdown for the engagements.)

CREW PLATFORM WEAPON SYSTEM THROUGHPUT REQUIREMENTS

		NUMBER OF ENGAGEMENTS					
	DAY	8	7	6	5	4	
	NIGHT	2	3	4	5	6	
NUMBER OF CREWS	10	15.25	16.00	16.50	17.25	18.00	HOURS TO COMPLETE
	11	16.25	17.00	17.75	18.50	19.25	
	12	17.50	18.25	19.00	20.00	20.75	
	13	18.50	19.50	20.25	21.25	22.00	
	14	19.75	20.75	21.50	22.50	23.50	
	15	21.00	22.00	23.00	24.00	25.00	
	16	22.00	23.00	24.25	25.25	26.25	
	17	23.25	24.25	25.50	26.50	27.75	
	18	24.25	25.50	26.75	28.00	29.00	
	19	25.50	26.75	28.00	29.25	30.50	
	20	26.50	28.00	29.25	30.50	32.00	

Note: Overall time requirements are based on a single firing lane and include four hours of range maintenance down time (two blocks of two hours each). This is standard at most facilities. These calculations are for planning purposes only. Units that are more proficient in tower operations may have an increased throughput.

Any time shown exceeding 24 hours will not be possible in a single range day without unit action to conduct the range with a sense of urgency during preparation to fire tasks and execution of the table including tactical movement between engagements.

Figure E-6. Table C throughput expectations

AMMUNITION–TABLE C

E-31. The ammunition requirements for Table C are not resourced and must be coordinated for execution (see figure E-7).



TRAINING AMMUNITION REQUIREMENTS
TABLE C, COMPLEX ENGAGEMENTS

DODIC	MUNITION TYPE	QUANTITY
A940	CTG, 25mm M910 TPDS-T	56
A976	CTG, 25mm M793 TP-T	56
AB86	CTG, 7.62mm 4 ball M80/1 TRCR M62 LNKD	650
WH05	MISSILE, PRACTICE, TOW 2A. BTM-71E-1B	1
LA53	SIM, target hit XM35 (BES)–Steel-on-Steel	15
LA54	SIM, EXP DET XM34 (BES)–Hostile Fire Simulator	15

ADDITIONAL CERTIFICATIONS:



BES SYSTEMS



PYROTECHNICS

Certify junior leaders on the components, functioning, hazards, use, and troubleshooting of available Battle Effects Simulator (BES) systems.

Provides a working understanding of the components, functioning, emplacement, use, troubleshooting, and hazards when:

- Placing BES systems into operation.
- Synchronizing functioning.
- Installing BES cartridges
- Troubleshooting BES systems.
- Removing unused BES cartridges.
- Conducting safe operations of BES systems.

LEGEND

CTG	CARTRIDGE	TOW	TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED
DODIC	DEPARTMENT OF DEFENSE IDENTIFICATION CODE	TPDS-T	TARGET PRACTICE DISCARDING SABOT-TRACER
EXP DET	EXPLOSIVE DETONATION	TP-T	TARGET PRACTICE-TRACER
LNKD	LINKED	TRCR	TRACER
mm	MILLIMETER		
SIM	SIMULATOR		

Figure E-7. Table C, complex engagements, ammunition requirements

Training Munitions not Resourced

When units do not have sufficient munitions remaining in their ammunition account, they must coordinate with their installation ammunition management office to secure the necessary munitions.

TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS –TABLE C

E-32. This course requires the use of the CMU (some installations may refer to the CMU as an IPU for all crews). The CMU is available on the digital range facility scheduled (if equipped). Coordination with the scheduled range facility manager will determine unit responsibilities for installation, troubleshooting, maintenance, and use of the devices ahead of the training day(s). If the range does not have a CMU available, unit may draw the CMUR from the TADSS warehouse. The CMUR differs from the CMU in that it stores all run data on a solid-state drive on the vehicle, for use with the provided AAR suite in the CMUR kit.

E-33. The brigade commander must approve authorization for deviation from this requirement if TADSS are unavailable. Units should focus on training and reinforcing the skills in the direct fire kill chain on this table specifically with their thermal optics, day and night to best prepare them for the follow-on training events. (See figure E-8 on page 372 for the TADSS required or recommended for Table C.)



TABLE C
COMPLEX ENGAGEMENTS
TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS (TADSS) REQUIREMENTS

DEVICE	NOMENCLATURE	REMARKS
HITS	Home Station Instrumentation Training System	RECOMMENDED
CMU	Crew Module Unit/Integrated Player Unit	REQUIRED
CMUR	Crew Module Unit Recorder (Through-Sight Video)	
DDI	CTG, 25MM LINKED M794 (DDI) DODIC–A976	CONCURRENT TRAINING
DDI	CTG, 7.62MM DUMMY M172 (LINKED) DODIC–A159	
SP-1	BORESIGHT PANEL	REQUIRED

LEGEND

CTG	CARTRIDGE	MM	MILLIMETER
DDI	DUMMY DRILL INERT	SP-1	SPECIAL PANEL NUMBER ONE
DODIC	DEPARTMENT OF DEFENSE IDENTIFICATION CODE		

Figure E-8. Table C training aids, devices, simulators, and simulations requirements

PREPARE FOR TABLE C

E-34. Units must coordinate for the appropriate training facility, equipment, targetry, training munitions, TADSS, and pyrotechnics to support Table C. During the preparation phase, the unit should ensure the proofing team, VCEs, and other personnel receive training to standard to support their role as evaluators and trainers. This includes range officers in charge, range safety officers, and ammunition handlers.

TRAIN THE TRAINERS–TABLE C

E-35. Typically, units have certified each VC and gunner as VCEs prior entering the live-fire density. Units must have certified evaluators to ensure the training objectives for the training table are set and to provide effective AARs to each crew.

E-36. Additional information on leader certification and train the trainer actions is found in TC 3-20.31. Units should review and plan for the appropriate training and certifications well in advance of the training event.

VEHICLE CREW EVALUATORS–TABLE C

E-37. A trained and certified VCE team must be available to support prior to live fire to evaluate a gunnery density correctly. After certification, the unit must ensure sufficient VCEs are available to support the live-fire event. Evaluations of crew gunnery always come from outside the firing platoon element, and for qualification purposes, VCEs external to the battalion are required.

E-38. Having the correct number and type of evaluators per firing range maximizes the unit's throughput of firing vehicles on the range, reduce range down time, and provide for the highest quality evaluations. See TC 3-20.31 for more in-depth information on VCEs, the evaluation team, and the evaluation process.

E-39. To prepare the trainers, units provide—

- Commander training objectives.
- Conduct of the range briefing for the training event.
- Scenario and lane concept with crew tasks for training.
- Risk assessments.
- Identification of supporting doctrinal publications for use as primary references.
- TADSS, pyrotechnics, blanks, and BESs used during the training event (see appendix A for the training munitions requirements for the complete training strategy).

RECONNAISSANCE OF THE SITE–TABLE C

E-40. Commanders use an authorized training facility for Table C. Commanders follow the installation's policies and procedures for formally scheduling the training location as far in advance as practical. See TC 3-20.31 for more in-depth information concerning range operations at the unit level.

E-41. Once scheduled, the commander, Master Gunner, platoon leaders, and platoon sergeants conduct a reconnaissance of the training areas to—

- Verify sufficient space is available to support the entire unit through multiple training lanes.
- Ensure multiple iterations or rotations through the scenario are achievable with appropriate retraining opportunities.
- Ensure sufficient administrative areas are available to support group discussions, briefings, and AARs.
- Provide sand table or terrain board.
- Identify the ASP.
- Determine the conduct of the range or the flow of training to maximize the live-fire range time.
- Identify the range operating system and verify the training scenarios have been properly loaded.
- Schedule proofing of the range, based on the higher headquarters OPORD.
- Ensure requested TADSS are available if provided by the range facility.

ISSUE THE ORDER–TABLE C

E-42. Commanders can issue an OPORD, WARNORD, or use the training schedule as necessary. The WARNORD should include the appropriate tasks, required leaders, and equipment needed, as well as the unit's training timeline including walk-through, rehearsals, and AARs. WARNORDs for external organizations must include sufficient reaction time for the appropriate personnel and equipment needed.

REHEARSE–TABLE C

E-43. The unit uses all training resources, materials, and equipment available to conduct rehearsals of training events. During the rehearsal, commanders ensure their unit has sufficient time to train to the specified standard including AARs and retraining time.

E-44. Units should rehearse the training event from start to finish, and confirm the following:

- The VCEs understand the training scenarios and tasks.
- Sufficient space is available to provide appropriate distances for engagements ranges and target dispersion.
- Analog and digital systems are operational within the organization and to the higher headquarters regardless of their location.
- Additional crew training packages (DA Form 8265, DA Form 8265-1, and appropriate computer correction factors [zero] documentation) are complete and provide for multiple iterations.
- Sufficient administrative areas are available.
- Review AAR capabilities and encourage the use of thru-sight video systems to increase the fidelity and quality of the AARs.
- Location of retraining for crews as necessary.

E-45. Once the unit completes the walk-through and training rehearsal, the commander makes any necessary adjustments to the plan and issues FRAGORDs as necessary.

Proofing the Scenario

The proofing of the scenario is a demanding process that requires a minimum of one training day. It should include all targetry, BESs, and sequencing of the approved scenario. Proofing must be completed from the firing vehicle type using the optics described in the conditions of the firing task.

E-46. The Master Gunner is required to proof the scenario from a Bradley using the appropriate optics from the established firing positions and firing boxes from the approved scenario. This is a time-consuming task that will require 1 day to complete to standard. All targets must be 90-percent visible through the optic directed by the conditions of each task. For offensive or retrograde engagements, the targets must be 90-percent visible through 90-percent of the maneuver box, at a minimum.

EXECUTE–TABLE C, COMPLEX ENGAGEMENTS

E-47. This section provides a basic overview of the engagements of Table C during execution. Units should see TC 3-20.31 for comprehensive information on establishing the range, opening instructions, hot and cold times, and other actions necessary to conduct live-fire training.

E-48. Once the unit arrives at the training location, they should—

- Conduct a safety briefing for the training event.
- Provide a conduct of the range briefing to establish the sequence of events for the training day.
- Conduct sensitive item checks prior to executing training.
- Receive briefing from the VCE team.
- Establish the firing order.
- Identify the maintenance support area for any fire control or weapons issues on the range.
- Install, align, and place TADSS into operation, as required.

E-49. The training unit conducts informal AARs of each crew completing a phase of training within the training mission. During training, the commander, executive officer, 1SG, and Master Gunner review the crew's performance. They follow the unit SOP, prescribed tactics, techniques, procedures, and the appropriate T&EOs, and review completed crew score sheets and roll-up documentation for clarity and completeness.

Note. The sequence of the engagements, the number of engagements during the day and night phases, and which engagements are fired in a chemical environment are determined by the evaluation commander.

ENGAGEMENT C0

E-50. This engagement challenges the VCs' under degraded conditions (see figure E-9). It tests their ability to engage and destroy threats using the auxiliary sight and ballistic reticle, while on the offense, using the commanders hand station.

C0 

TABLE C, COMPLEX ENGAGEMENTS

TASK TYPE:	VEHICLE COMMANDER AUX SIGHT	POSTURE:	OFFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1 	TARGET 2 	TARGET 3	TARGET 4
FIRER	VC	VC		
WEAPON/AMMUNITION	COAX	AP		
TARGET	TROOPS	BMP		
TARGET TYPE	E(7)-FRT	M1T-FLK		
TARGET POSTURE	STATIONARY	MOVING		
RANGE TO TARGET	600m	1,800m		
ENGAGEMENT MODIFIER	13	15		

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
	8	50	1	1

LEGEND

AP	ARMOR PIERCING	FRT	FRONTAL
AUX	AUXILIARY	HE	HIGH EXPLOSIVE
BMP	BOYEVAYA MASHINA PYEKHOTY	m	METER
COAX	COAXIAL MACHINE GUN	mm	MILLIMETER
FLK	FLANK	VC	VEHICLE COMMANDER

Figure E-9. Engagement C0 overview

INDUCED ENGAGEMENT COMPLEXITY–C0

E-51. The vehicle crew is presented with several complex issues that require advanced understanding. This engagement introduces the crew to the following advanced topics:

- Fire control system capabilities.
- Auxiliary sight operation and range determination (CHOKE).
- Long range target acquisition.
- Estimating target speed and application of ballistic lead.

E-52. The unit's Master Gunner should leverage the Sabot Academy training materials available on these topics and discussions for the VC. These are available from the Sabot Academy milSuite website.

E-53. BFV crews should rehearse maneuvering while the VC is utilizing the backup sight. This engagement requires an advanced level of crew coordination and ability.

ENGAGEMENT C1

E-54. This is machine gun pure engagement from the defense with multiple rocket propelled grenade teams and standard troop presentations (see figure E-10). This engagement forces the crew to identify and engage challenging target presentations across varying ranges short and long.

C1 

TABLE C, COMPLEX ENGAGEMENTS

TASK TYPE:	MACHINE GUN PURE		POSTURE:	DEFENSE
			DELAY:	25 SECONDS
	TARGET 1	TARGET 2	TARGET 3	TARGET 4
CONDITIONS				
FIRER	GUNNER	GUNNER	GUNNER	
WEAPON/AMMUNITION	COAX	COAX	COAX	
TARGET	RPG TEAM	RPG TEAM	TROOPS	
TARGET TYPE	E(3)-FRT	E(3)-FRT	E(7)-FRT	
TARGET POSTURE	STATIONARY	STATIONARY	STATIONARY	
RANGE TO TARGET	200m	800m	800m	
ENGAGEMENT MODIFIER	7	10	10	

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
		150		

LEGEND

AP	**ARMOR PIERCING**	**m**	**METER**
COAX	**COAXIAL MACHINE GUN**	**mm**	**MILLIMETER**
FRT	**FRONTAL**	**RPG**	**ROCKET-PROPELLED GRENADE**
HE	**HIGH EXPLOSIVE**		

Figure E-10. Engagement C1 overview

INDUCED ENGAGEMENT COMPLEXITY–C1

E-55. Multiple rocket propelled grenade team and troop presentations across a large range band swing presents the crew with several challenges. This engagement will demonstrate the crews' level of proficiency with the following skills:

- Advanced target acquisition.
- Independent search/scan.
- Target designation/target hand off.
- Rapid berm drills, movement to and from defilade and enfilade positions.

E-56. Master gunners need to ensure that there is enough target dispersion to not present to the crew more than one target when in the narrow field of view. Proper dispersion will ensure crews are presented with conditions that force them to utilize advanced engagement techniques.

ENGAGEMENT C2

E-57. This is a retrograde engagement for the gunner using the coaxial machine gun. While on the offense, returning up-range with the main gun over the rear deck of the Bradley, the crew is presented multiple stationary machine gun targets (see figure E-11).

C2 

TABLE C, COMPLEX ENGAGEMENTS

TASK TYPE:	MACHINE GUN PURE	POSTURE:	OFFENSE/ RETROGRADE
		DELAY:	25 SECONDS

RETROGRADE CONDITIONS	TARGET 1	TARGET 2	TARGET 3	TARGET 4
				
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	COAX	COAX		
TARGET	TROOPS	RPG TEAM		
TARGET TYPE	E(7)-FRT	E(3)-FRT		
TARGET POSTURE	STATIONARY	STATIONARY		
RANGE TO TARGET	200m	800m		
ENGAGEMENT MODIFIER	11	14		

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
		100		

LEGEND

AP	**ARMOR PIERCING**	**m**	**METER**
COAX	**COAXIAL MACHINE GUN**	**mm**	**MILLIMETER**
FRT	**FRONTAL**	**RPG**	**ROCKET-PROPELLED GRENADE**
HE	**HIGH EXPLOSIVE**		

Figure E-11. Engagement C2 overview

INDUCED ENGAGEMENT COMPLEXITY–C2

E-58. A retrograde engagement with the vehicle engaging targets with the main armament over the rear deck presents several challenges. This engagement replicates a BFV moving from one battle position to another when the contact occurs.

E-59. The BFV crew is presented with several complex issues that require advanced understanding. This engagement introduces the crew to the following advanced topics:

- Understanding firing inhibits (rear deck no-fire zone).
- Detecting advanced target (fleeting threats).
- Applying advanced machine gun engagement techniques.
- Engaging threats using wide field of view.
- Utilizing driver movement techniques.

E-60. The unit's Master Gunner should leverage the Sabot Academy training materials available on these topics and discussions for the crew, particularly on advanced engagement techniques. These are available from the Sabot Academy milSuite website.

E-61. The Master Gunner must pay particular attention to—

- Ensuring target visibility and thermal signature presented to the firing crew.
- Adjusting the delay time from 25 seconds to reflect the synchronized presentation time of the third target for evaluation purposes.
- Educating the VCEs on the fluid nature of synchronized target evaluation.
- Identifying slow BFV movement results in the second target becoming out of range of the machine gun.

E-62. The critical issues the Master Gunner (as shown in figures E-12 and E-13) should be addressed during planning, preparation, and proofing of the range. The Master Gunner should provide instruction on the variable presentation nature of the targetry based on the tactical movement of the crew.

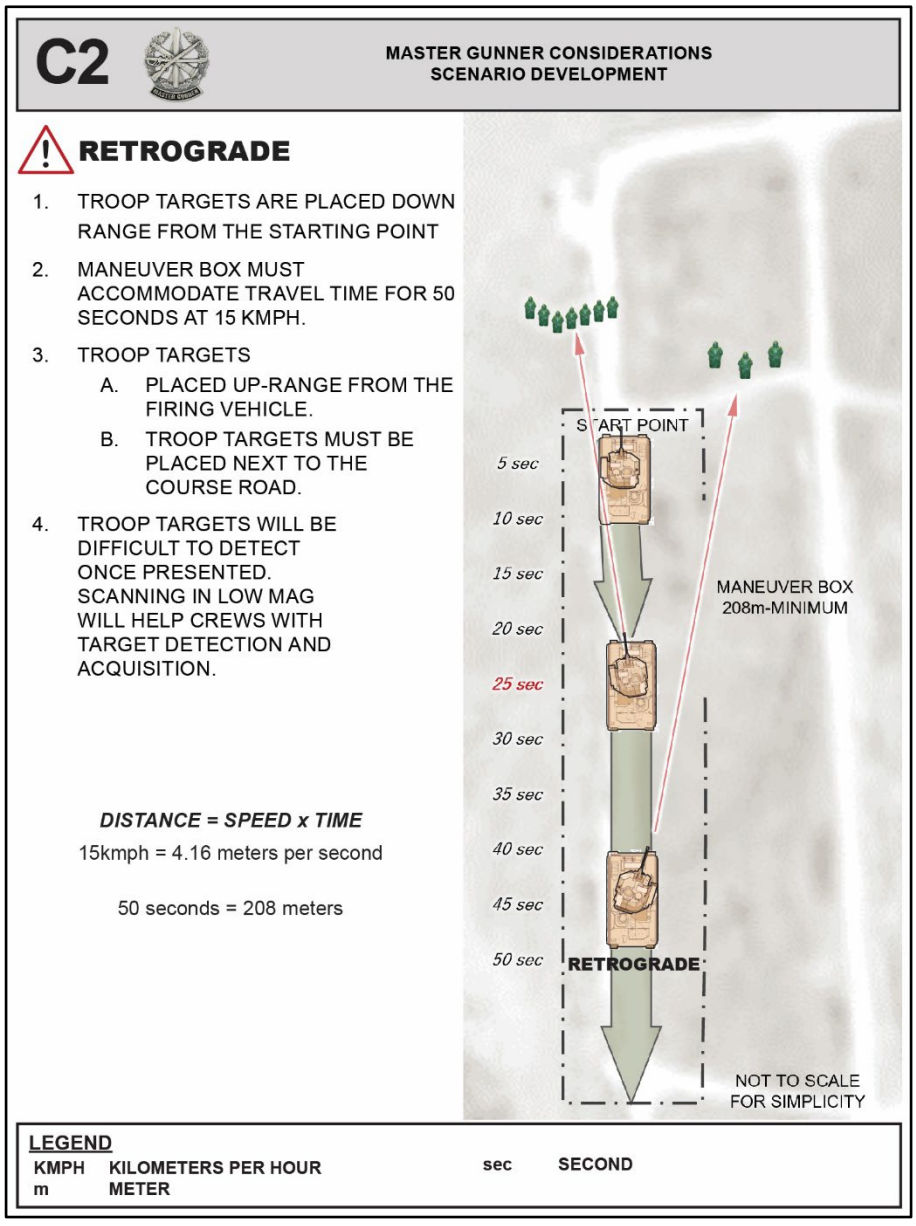


Figure E-12. Engagement C2 Master Gunner discussion

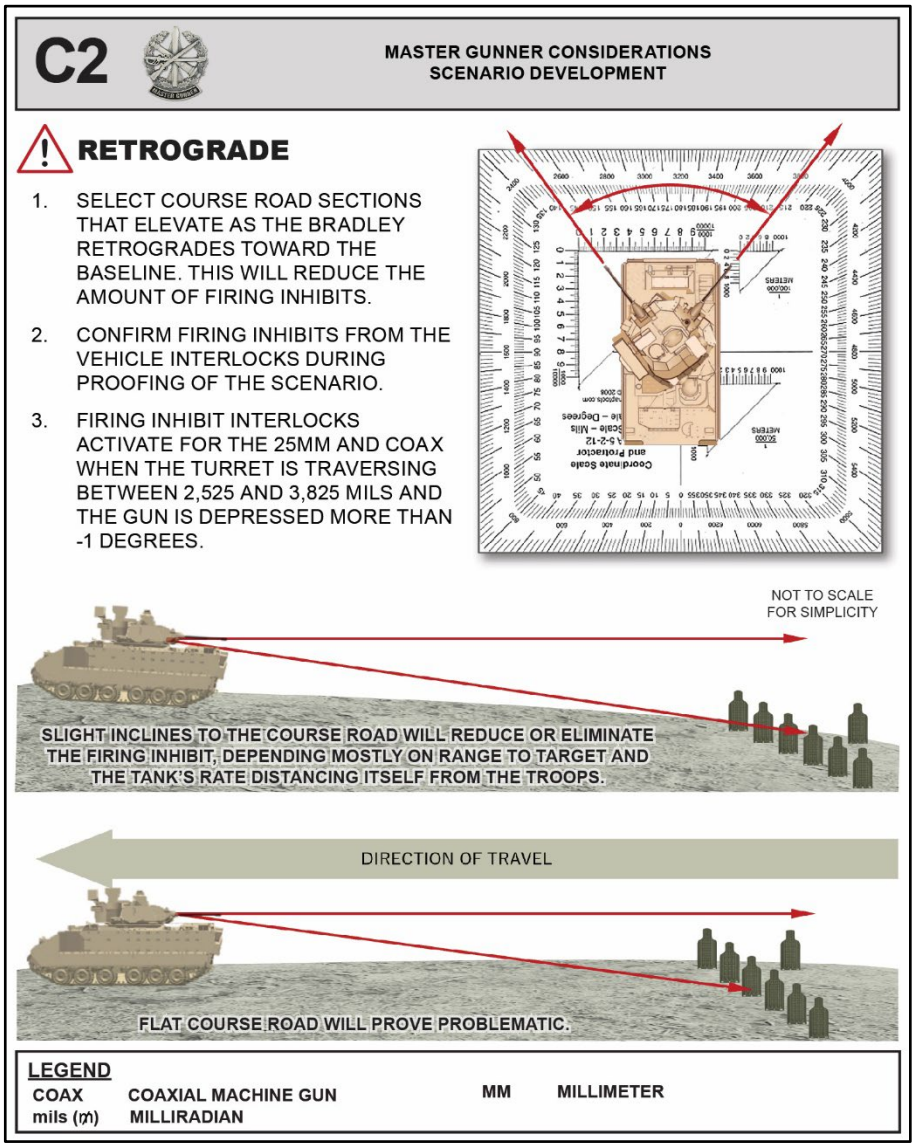


Figure E-13. Master Gunner discussion, continued

E-63. For crews, there are key considerations to address prior to executing this engagement (see figure E-14). VCs should review and discuss these items and the overall engagement with their peers, crew, and Master Gunner to gain a complete understanding of the complex nature of the engagement.

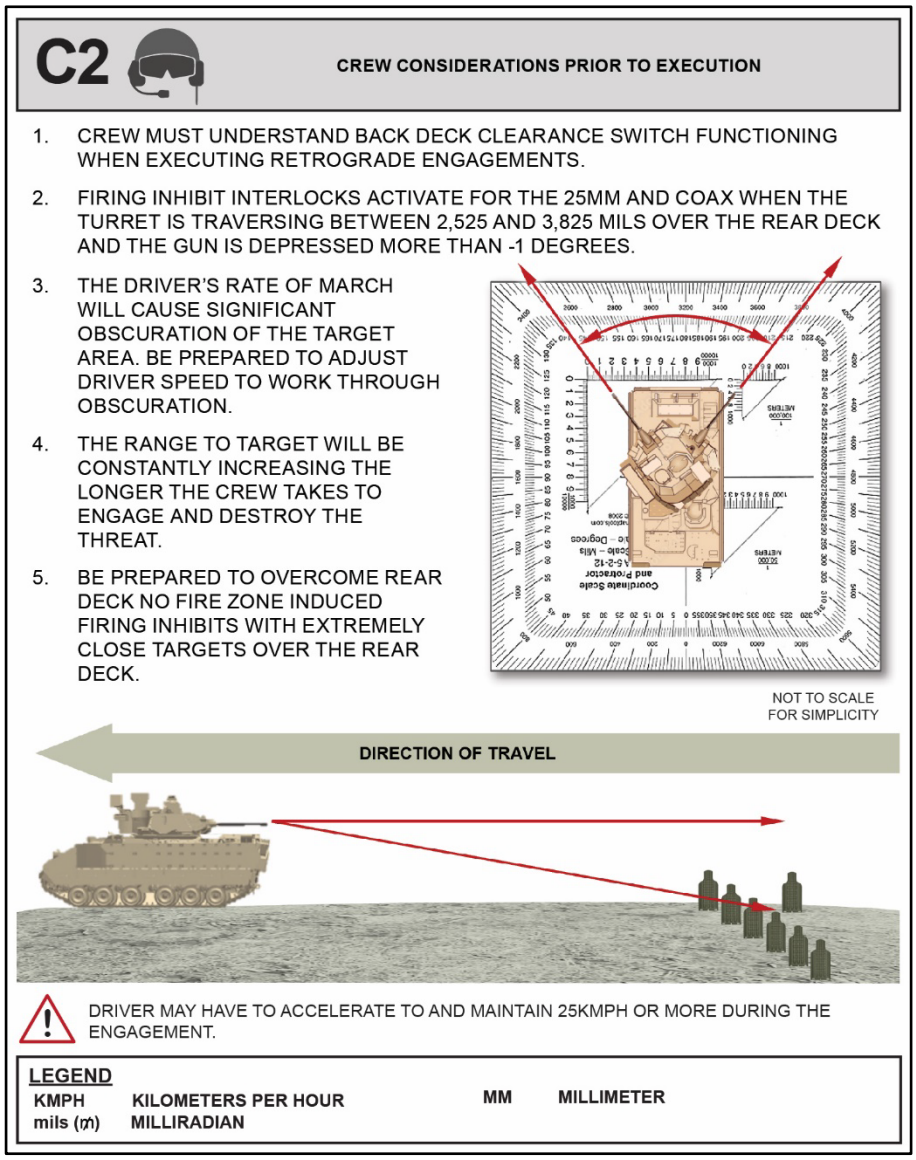


Figure E-14. Crew discussion

ENGAGEMENT C3

E-64. This is a main gun pure engagement for the gunner from the defense. It contains multiple station and evasive moving threat across all range bands. It tests the crew's ability to execute advanced engagement techniques and switchology (see figure E-15).

C3 

TABLE C, COMPLEX ENGAGEMENTS

TASK TYPE:	MAIN GUN PURE		POSTURE:	DEFENSE
			DELAY:	25 SECONDS
	TARGET 1	TARGET 2	TARGET 3	TARGET 4
CONDITIONS				
FIRER	GUNNER	GUNNER	GUNNER	
WEAPON/AMMUNITION	AP	AP	HE	
TARGET	BMP	BMP	TECH TRUCK	
TARGET TYPE	M1T-FRT	M1T-FLK	L2T-FRT	
TARGET POSTURE	STATIONARY	EVASIVE	STATIONARY	
RANGE TO TARGET	200m	1,800m	1,400m	
ENGAGEMENT MODIFIER	5	12	10	

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	A940	AB86	LA54	LA53
	8	50	1	1

LEGEND

AP	ARMOR PIERCING	HE	HIGH EXPLOSIVE
BMP	BOYEVAYA MASHINA PYEKHOTY	m	METER
COAX	COAXIAL MACHINE GUN	mm	MILLIMETER
FLK	FLANK	TECH	TECHNICAL
FRT	FRONTAL		

Figure E-15. Engagement C3 overview

INDUCED ENGAGEMENT COMPLEXITY–C3

E-65. This engagement presents the crew with a challenge target presentation. Targets moving evasively and across all range bands test the crews on several advanced skills, including fire control system capabilities, application of kinematic lead, advanced target tracking, target identification, and target designating/hand off.

E-66. The unit's Master Gunner should leverage the Sabot Academy training materials available on these topics and discussions for the crew. These are available from the Sabot Academy milSuite website.

E-67. The Master Gunner needs to pay close attention to target dispersion to ensure the stationary targets are clear of the moving targets track on either side. (See figure E-16 for the critical issues the Master Gunner needs to address.)

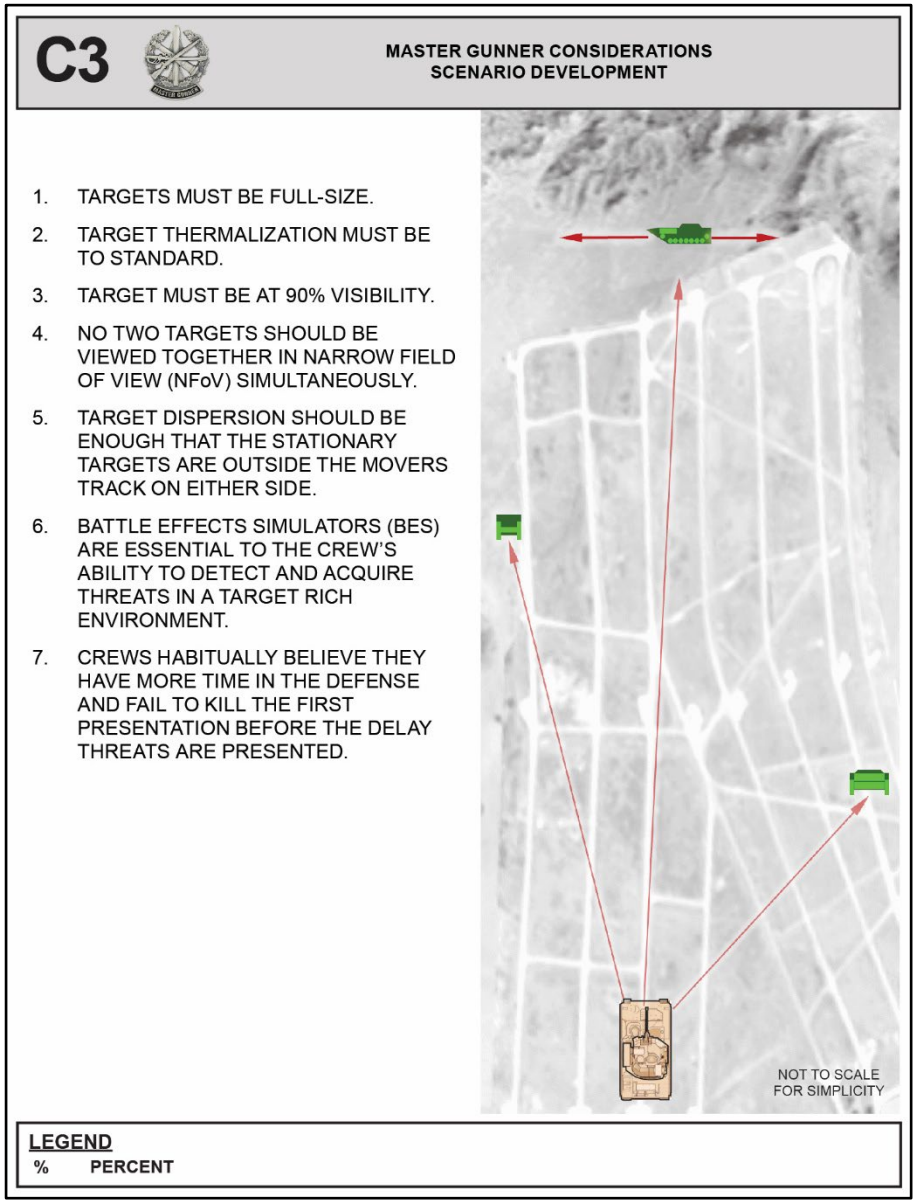


Figure E-16. Engagement C3 Master Gunner discussion

E-68. VCs should review and discuss these items and the overall engagement with their peers, crew, and Master Gunner to gain a complete understanding of the complexity of the engagement. (See figure E-17 for key considerations for the VC and crew prior to executing this engagement.)

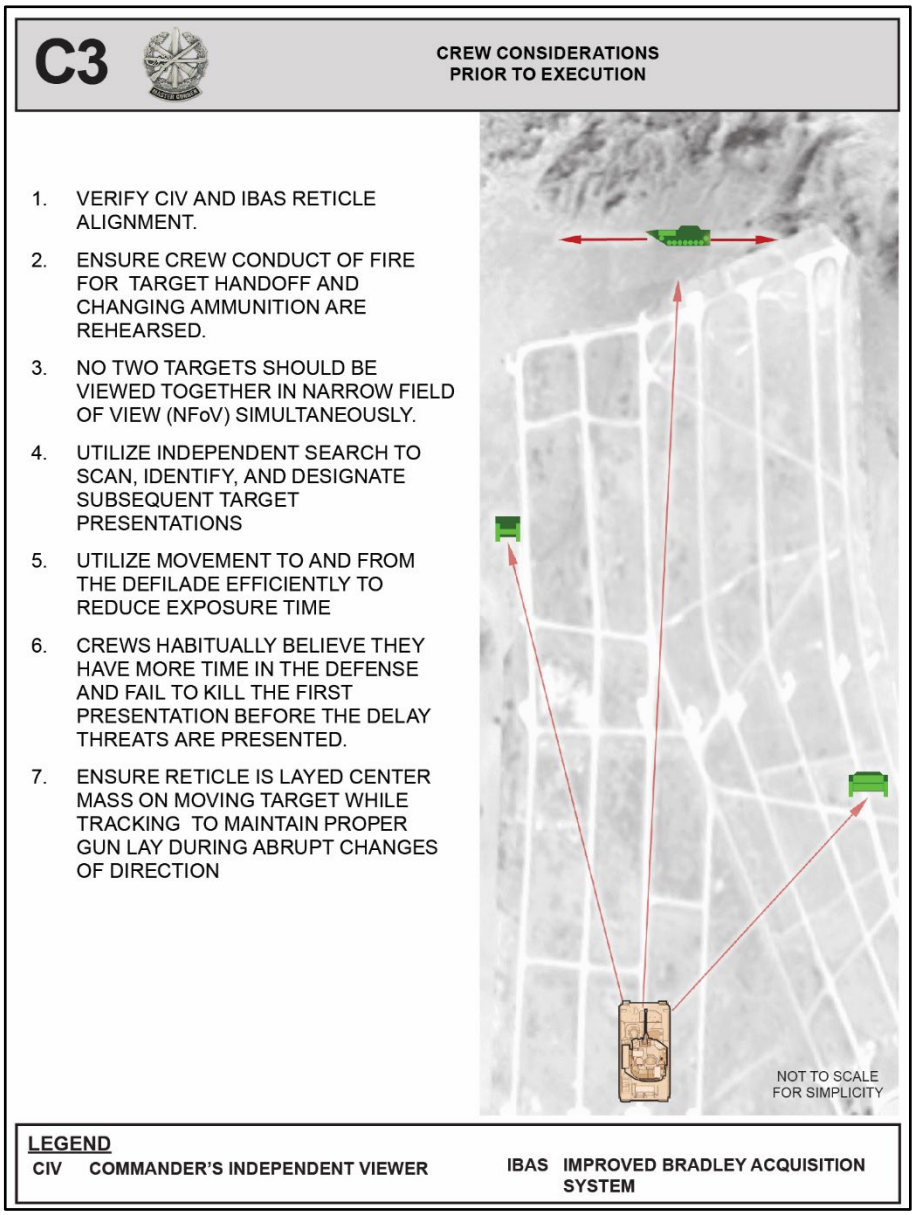


Figure E-17. Engagement C3 crew considerations

ENGAGEMENT C4

E-69. This engagement consists of a stationary and evasive moving threat while in the offense. Threats are presented at mid- and long-range for the crew to engage using chemical energy ammunition (see figure E-18).

C4 

TABLE C, COMPLEX ENGAGEMENTS

TASK TYPE:	MAIN GUN PURE	POSTURE:	OFFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1	TARGET 2	TARGET 3	TARGET 4
				
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	HE	HE		
TARGET	TECH TRUCK	CARGO TRUCK		
TARGET TYPE	L2T-FRT	L2T-FLK		
TARGET POSTURE	STATIONARY	EVASIVE		
RANGE TO TARGET	1,000m	1,400m		
ENGAGEMENT MODIFIER	13	17		

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
16			2	2

LEGEND

AP	**ARMOR PIERCING**	**m**	**METER**
FLK	**FLANK**	**mm**	**MILLIMETER**
FRT	**FRONTAL**	**TECH**	**TECHNICAL**
HE	**HIGH EXPLOSIVE**		

Figure E-18. Engagement C4 overview

INDUCED ENGAGEMENT COMPLEXITY–C4

E-70. This engagement presents the crew with a challenge target presentation. Targets moving evasively and across all range bands test the crews on several advanced skills, including the following:

- Fire control system capabilities.
- Application of kinematic lead.
- Advanced target tracking.
- Target identification.
- Target designating/hand off.
- Driver movement techniques.
- Engaging multiple threats moving evasively while on the move.
- Ammunition ballistics.

E-71. The unit's Master Gunner should leverage the Sabot Academy training materials available on these topics and discussions for the crew. These are available from the Sabot Academy milSuite website.

E-72. The Master Gunner must pay close attention during proofing to ensure that the mover is visible throughout the entirety of the maneuver box, even during its changes of direction (see figure E-19).

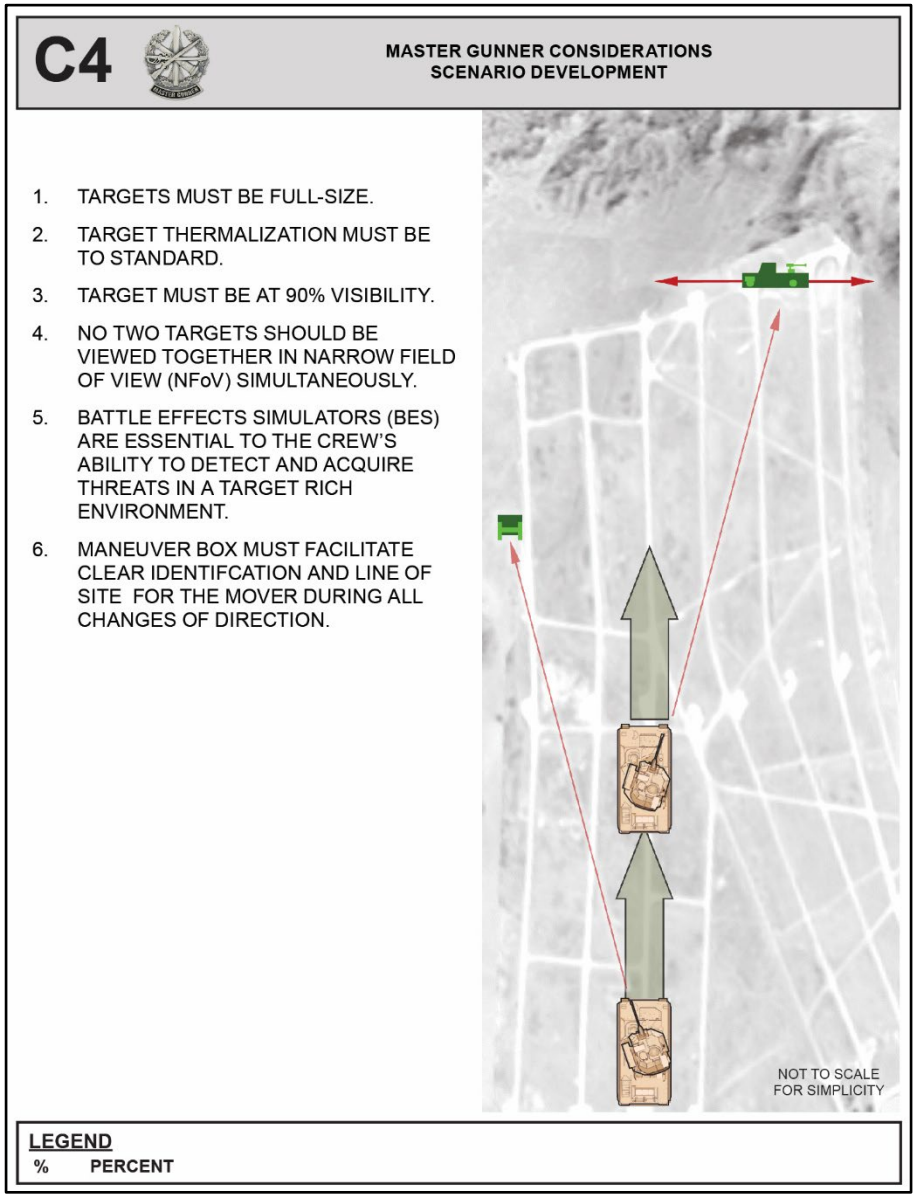


Figure E-19. Engagement C4, Master Gunner considerations

E-73. For crews, there are key considerations for the VC and crew prior to executing this engagement (see figure E-20). VCs should review and discuss these items and the overall engagement with their peers, crew, and Master Gunner to gain a complete understanding of the complexity of the engagement.

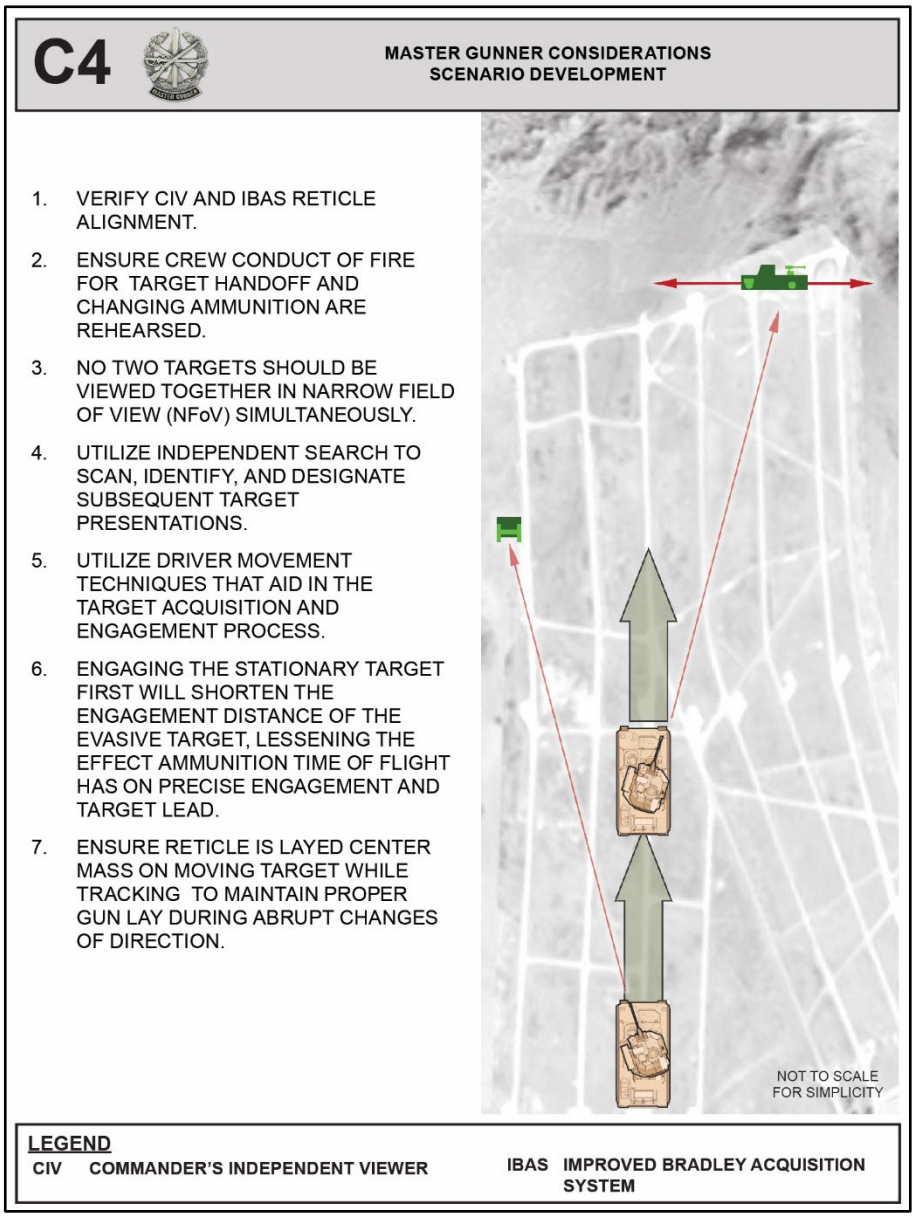


Figure E-20. Engagement C4, crew considerations

ENGAGEMENT C5

E-74. This engagement consists of four stationary targets requiring a change of weapon and ammunition. Targets are presented at all range bands from short- to long-range (see figure E-21).

C5 

TABLE C, COMPLEX ENGAGEMENTS

TASK TYPE:	CHANGE OF WEAPON/AMMUNITION		POSTURE:	DEFENSE
			DELAY:	25 SECONDS
	TARGET 1	TARGET 2	TARGET 3	TARGET 4
CONDITIONS				
FIRER	GUNNER	GUNNER	GUNNER	GUNNER
WEAPON/AMMUNITION	COAX	HE	COAX	AP
TARGET	RPG TEAM	TECH TRUCK	TROOPS	BMP
TARGET TYPE	E(3)-FRT	L2T-FRT	E(7)-FRT	M1T-FLK
TARGET POSTURE	STATIONARY	STATIONARY	STATIONARY	MOVING
RANGE TO TARGET	200m	1,600m	800m	2,000m
ENGAGEMENT MODIFIER	7	10	10	12

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
8	8	100	2	2

LEGEND

AP	**ARMOR PIERCING**	**HE**	**HIGH EXPLOSIVE**
BMP	**BOYEVAYA MASHINA PYEKHOTY**	**m**	**METER**
COAX	**COAXIAL MACHINE GUN**	**mm**	**MILLIMETER**
FLK	**FLANK**	**RPG**	**ROCKET-PROPELLED GRENADE**
FRT	**FRONTAL**	**TECH**	**TECHNICAL**

Figure E-21. Engagement C5 overview

INDUCED ENGAGEMENT COMPLEXITY–C5

E-75. Success on this engagement requires the crew to have exceptional crew coordination, conduct of fire, crew responses, reloading, and engagement skills. Its complexity requires the crew to understand—

- Conduct of fire/fire commands.
- Crew responses.
- Switchology (smooth and timely application of changes to the ballistic solution using the system control box).
- Fire control system capabilities and function.
- Battlesight range use and application.
- Advanced machine gun engagement techniques.
- Engagements with wide field of view, operations under unusual conditions.
- Target acquisition with the commander's independent viewer and designate function.

E-76. The unit's Master Gunner should leverage the Sabot Academy training materials available on these topics and discussions for the VC. These are available from the Sabot Academy milSuite website.

ENGAGEMENT C6

E-77. Engagement C6 is the most challenging and complex engagement on this table (see figure E-22 for an overview of the engagement and required training munitions). Crews will be required to identify, track, and engage four different threat presentations across all range bands.

C6 

TABLE C, COMPLEX ENGAGEMENTS

TASK TYPE:	CHANGE OF WEAPON/AMMUNITION	POSTURE:	OFFENSE RETROGRADE

RETROGRADE CONDITIONS	TARGET 1	TARGET 2	DELAY: TARGET 3	25 SECONDS TARGET 4
				
FIRER	GUNNER	GUNNER	GUNNER	GUNNER
WEAPON/AMMUNITION	COAX	AP	COAX	HE
TARGET	RPG TEAM	BMP	RPG TEAM	TECH TRUCK
TARGET TYPE	E(3)-FRT	M1T-FRT	E(3)-FRT	L2T-FLK
TARGET POSTURE	STATIONARY	STATIONARY	STATIONARY	MOVING
RANGE TO TARGET	600m	1,800m	200m	1,400m
ENGAGEMENT MODIFIER	13	13	11	16

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
8	8	100	2	2

LEGEND

AP	**ARMOR PIERCING**	**HE**	**HIGH EXPLOSIVE**
BMP	**BOYEVAYA MASHINA PYEKHOTY**	**m**	**METER**
COAX	**COAXIAL MACHINE GUN**	**mm**	**MILLIMETER**
FLK	**FLANK**	**RPG**	**ROCKET-PROPELLED GRENADE**
FRT	**FRONTAL**	**TECH**	**TECHNICAL**

Figure E-22. Engagement C6 overview

INDUCED SCENARIO COMPLEXITY–C6

E-78. Success on this engagement requires the crew to have exceptional crew coordination, conduct of fire, crew responses, reloading, and engagement skills. Its complexity requires the crew to understand—

- Conduct of fire/fire commands.
- Crew responses.
- Switchology (smooth and timely application of changes to the ballistic solution using the system control box).
- Fire control system capabilities and function.
- Battlesight range use and application.
- Advanced machine gun engagement techniques.
- Engagements with wide field of view, operations under unusual conditions.
- Target acquisition with the commander's independent viewer and designate function while on the move.

E-79. The unit's Master Gunner should leverage the Sabot Academy training materials available on these topics and discussions for the VC. These are available from the Sabot Academy webpage.

E-80. During scenario development, the Master Gunner must ensure the timing of the targetry is synchronized in time and space where the Bradley does not pass by the second set of troops during tactical movement. This requires the Master Gunner to assess the size of the maneuver box, the expected firing Bradley speed, and the range band requirement.

Synchronize Delay Targets

On the offense, the Master Gunner must take additional time to proof the range based on the expected pace of the firing vehicle. Aggressive movement will result in by-passing delay presentation.

E-81. The Master Gunner must pay particular attention to the visibility of the target and its thermal signature presented to the firing crew. (See figure E-23 and figure E-24 for the critical issues the Master Gunner addresses.)

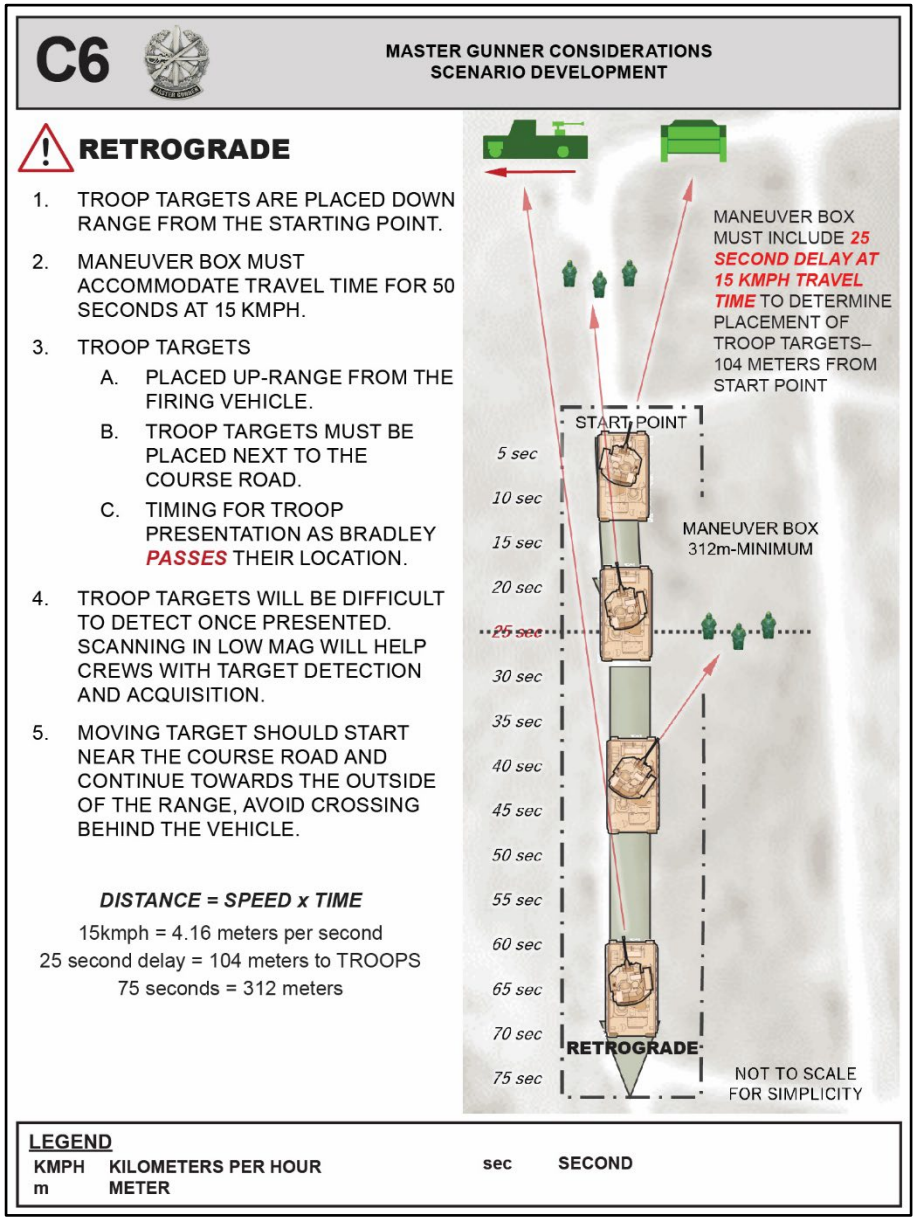


Figure E-23. Engagement C6, Master Gunner considerations

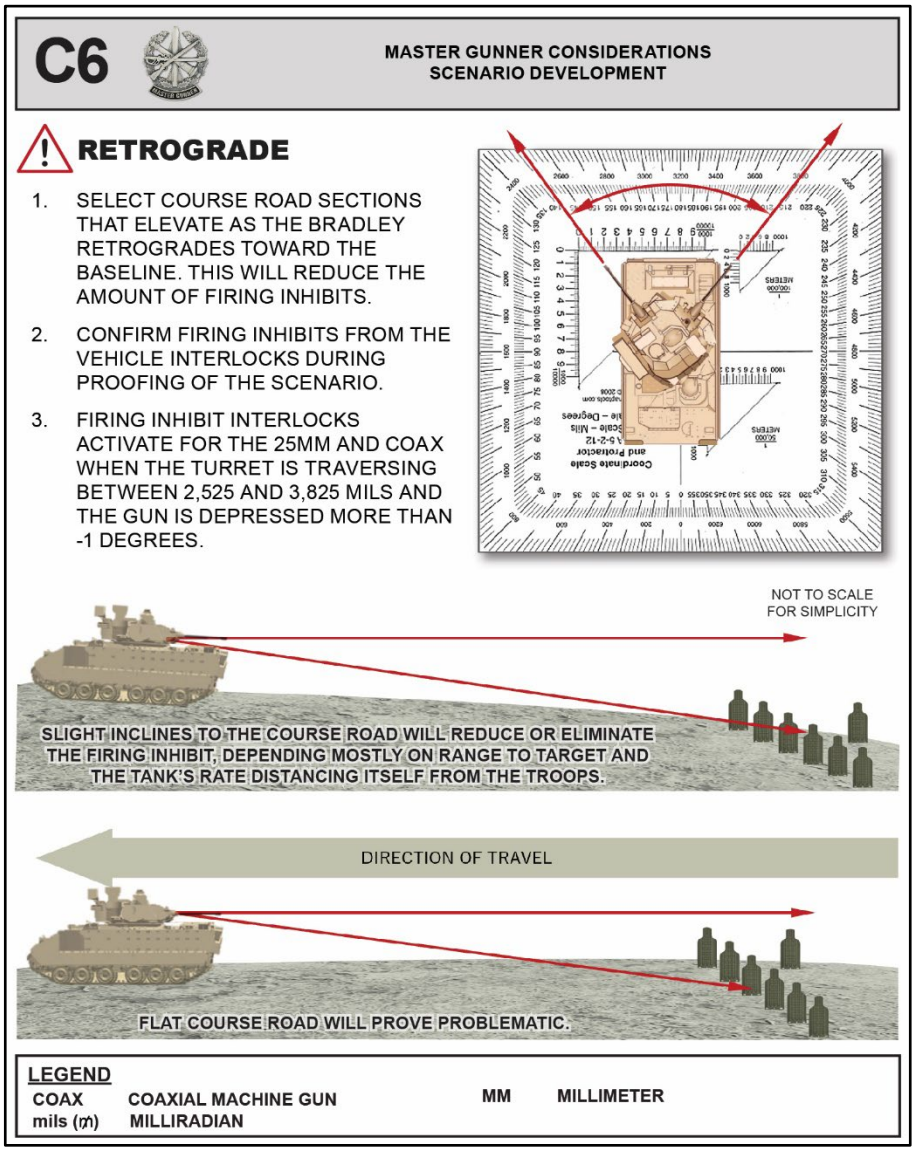


Figure E-24. Engagement C6, Master Gunner considerations, continued

E-82. For crews, there are key considerations for the crew prior to executing this engagement (see figure E-25). VCs should review and discuss these items with the crew and discuss how to overcome the tactical dilemmas.

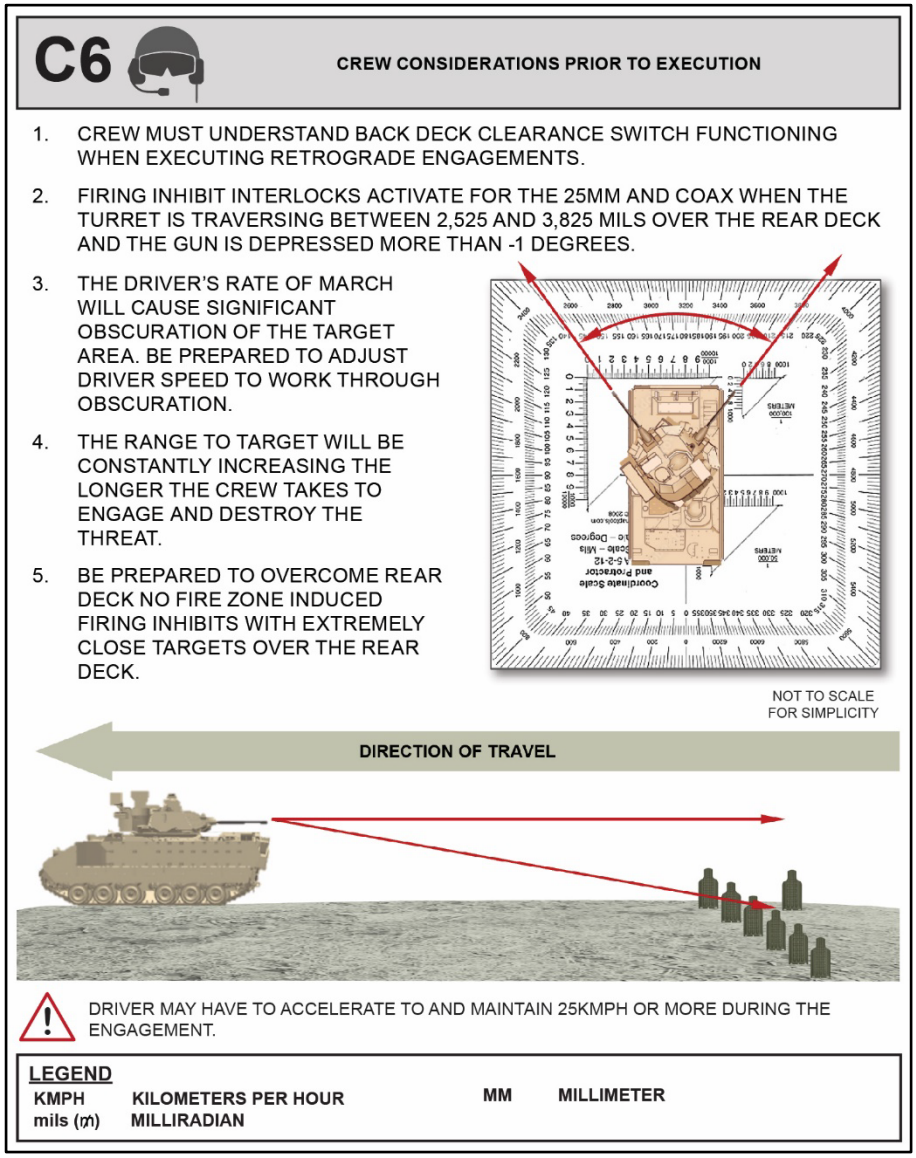


Figure E-25. Engagement C6, crew considerations

ENGAGEMENT C7

E-83. This is a degraded engagement requiring the crew to demonstrate their proficiency utilizing their auxiliary sight and ballistic reticle. (See figure E-26 for an outline of the engagement requirements.)

C7 

TABLE C, COMPLEX ENGAGEMENTS

TASK TYPE:	DEGRADED AUX		POSTURE:	DEFENSE
			DELAY:	25 SECONDS
	TARGET 1	TARGET 2	TARGET 3	TARGET 4
CONDITIONS				
FIRER	GUNNER	GUNNER	GUNNER	
WEAPON/AMMUNITION	COAX	HE	AP	
TARGET	TROOPS	TECH TRUCK	BMP	
TARGET TYPE	E(7)-FRT	L2T-FLK	M1T-FRT	
TARGET POSTURE	STATIONARY	MOVING	STATIONARY	
RANGE TO TARGET	600m	1,400m	2,000m	
ENGAGEMENT MODIFIER	9	12	10	

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	A940	AB86	LA54	LA53
8	8	50	2	2

LEGEND

AP	ARMOR PIERCING	FRT	FRONTAL
AUX	AUXILIARY SIGHT	HE	HIGH EXPLOSIVE
BMP	BOYEVAYA MASHINA PYEKHOTY	m	METER
COAX	COAXIAL MACHINE GUN	mm	MILLIMETER
FLK	FLANK	TECH	TECHNICAL

Figure E-26. Engagement C7 overview

INDUCED ENGAGEMENT COMPLEXITY–C7

E-84. The vehicle crew is presented with several complex issues that require advanced understanding. This engagement introduces the crew to the following advanced topics:

- Fire control system capabilities.
- Auxiliary sight operation and range determination (CHOKE).
- Long-range target acquisition.
- Estimating target speed and apply ballistic lead.

E-85. The unit's Master Gunner should leverage the Sabot Academy training materials available on these topics and discussions for the VC. These are available from the Sabot Academy milSuite website.

ENGAGEMENT C8

E-86. This is a degraded engagement requiring the crew to engage stationary threats using the manual traverse and elevation handwheels while on the offense. This is a challenging degraded engagement requiring advanced gunner skills (see figure E-27).

C8 

TABLE C, COMPLEX ENGAGEMENTS

TASK TYPE:	DEGRADED MANUAL	POSTURE:	OFFENSE
		DELAY:	25 SECONDS

CONDITIONS	TARGET 1 	TARGET 2 	TARGET 3	TARGET 4
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	COAX	HE		
TARGET	TROOPS	TECH TRUCK		
TARGET TYPE	E(7)-FRT	L2T-FRT		
TARGET POSTURE	STATIONARY	STATIONARY		
RANGE TO TARGET	600m	1,200m		
ENGAGEMENT MODIFIER	13	13		

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
A976	**A940**	**AB86**	**LA54**	**LA53**
8		50	1	1

LEGEND

AP	**ARMOR PIERCING**	**HE**	**HIGH EXPLOSIVE**
AUX	**AUXILIARY SIGHT**	**m**	**METER**
COAX	**COAXIAL MACHINE GUN**	**mm**	**MILLIMETER**
FRT	**FRONTAL**	**TECH**	**TECHNICAL**

Figure E-27. Engagement C8, overview

INDUCED ENGAGEMENT COMPLEXITY–C8

E-87. This engagement requires the gunner to demonstrate mastery of scanning, identifying and engaging targets while in a degraded state, using the manual controls in the Bradley. This reinforces the following advanced skills:

- Scanning techniques.
- Driver movement techniques.

- Loss of stabilization.
- Range estimation.
- Target identification and sensing with the commander's independent viewer.

E-88. The unit's Master Gunner should leverage the Sabot Academy training materials available on these topics and discussions for the BFV commander. These are available from the Sabot Academy milSuite website.

E-89. Master Gunners should provide advanced instruction on the target tracking in the offense without power stabilization, driver movement techniques to provide a stable firing platform, and manual engagement techniques.

ENGAGEMENT C9

E-90. Multiple target engagement with a mid-range missile target. If units are unable to resource a missile they may omit that target from the scenario. (See figure E-28 for an overview of the engagement.)

C9 

TABLE C, COMPLEX ENGAGEMENTS

TASK TYPE:	SIMULTANEOUS/MULTIPLE TARGETS	POSTURE:	DEFENSE

CONDITIONS	TARGET 1	TARGET 2	DELAY: TARGET 3	25 SECONDS TARGET 4
				
FIRER	GUNNER	GUNNER	GUNNER	
WEAPON/AMMUNITION	COAX	AP	MISSILE	
TARGET	TROOPS	BMP	TANK	
TARGET TYPE	E(7)-FRT	M1T-FLK	H1T-FRT	
TARGET POSTURE	STATIONARY	MOVING	STATIONARY	
RANGE TO TARGET	600m	1,800m	2,800m	
ENGAGEMENT MODIFIER	9	11	5 (TOF:14)	

ENGAGEMENT AMMUNITION REQUIREMENTS

TOW	HE	AP	7.62mm	HOSTILE FIRE	STEEL ON STEEL
WH05	**A976**	**A940**	**AB86**	**LA54**	**LA53**
1		8	50	2	2

LEGEND

AP	ARMOR PIERCING	HE	HIGH EXPLOSIVE
BMP	BOYEVAYA MASHINA PYEKHOTY	m	METER
COAX	COAXIAL MACHINE GUN	mm	MILLIMETER
FLK	FLANK	TOF	TIME OF FLIGHT
FRT	FRONTAL		

Figure E-28. Engagement C9, overview

INDUCED ENGAGEMENT COMPLEXITY–C9

E-91. This engagement requires the crew to rapidly destroy the first two threats to have time to put the turret into TOW MODE and prepare to engage with a missile. This is an all-encompassing engagement forcing the crew to demonstrate their ability to engage with all weapon systems on the Bradley.

E-92. If units are unable to resource a missile for this engagement, they may execute engagement C9 without the delay target or substitute another main gun delay target.

TOW SERVICES

Master Gunners must ensure TOW launchers have been inspected and serviced using the TOW system evaluation missile (National Stock Number: 4935-01-607-1825) prior to executing any live fire of missiles. Failure to inspect and service the TOW system may result in crew member injury or death.

Appendix F

Table M–Missile Qualification

Table M, Missile Qualification, is a live environment, hands on training event using training aids and devices, and includes the use of pyrotechnics and BESs. Missile qualification is conducted from a defensive firing position. Table M is designed to be conducted with Table III, STX to maximize the unit's time and resources. Table M is conducted in a live environment in a training area with established training lanes. This training event provides training and evaluation to the crew tactically employing their platform as a crew under varying conditions. Table M, Missile Qualification, is not a required table, but commanders should conduct missile qualification if time and resources allow to maximize the proficiency of their BFV crews.

OVERVIEW OF TABLE M

F-1. Table M verifies the crew's ability to complete basic crew engagements using various platform capabilities, provides for day and night driver's training as part of the unit driver's training program, and ensures the crew demonstrates proficiency performing specific missile engagement procedures on their platform. It provides time for training and evaluation of these skills that are the foundation to all maneuver training focused on the ability to move, shoot, and communicate.

F-2. Units should complete Table M for record between T-6 and T-execution (T-week) of the live-fire event. Units can include additional tasks they require to support the training program but cannot eliminate tasks for any weapon system. While not a mandatory part of crew qualification, units should execute Table M during their gunnery density whenever resources will allow. Missile proficiency is a critical aspect of a lethal BFV crew, and commanders should take every opportunity to improve their crews' platform proficiency.

F-3. Table M resides within the BFV training strategy through crew qualification (see figure F-1). This is the missile qualification event which demonstrates the crew's ability to successfully employ their platform integrated missile system and effectively engage and destroy armored threats on the battlefield. It includes a series of safety related tasks related to vehicle safety under various conditions.

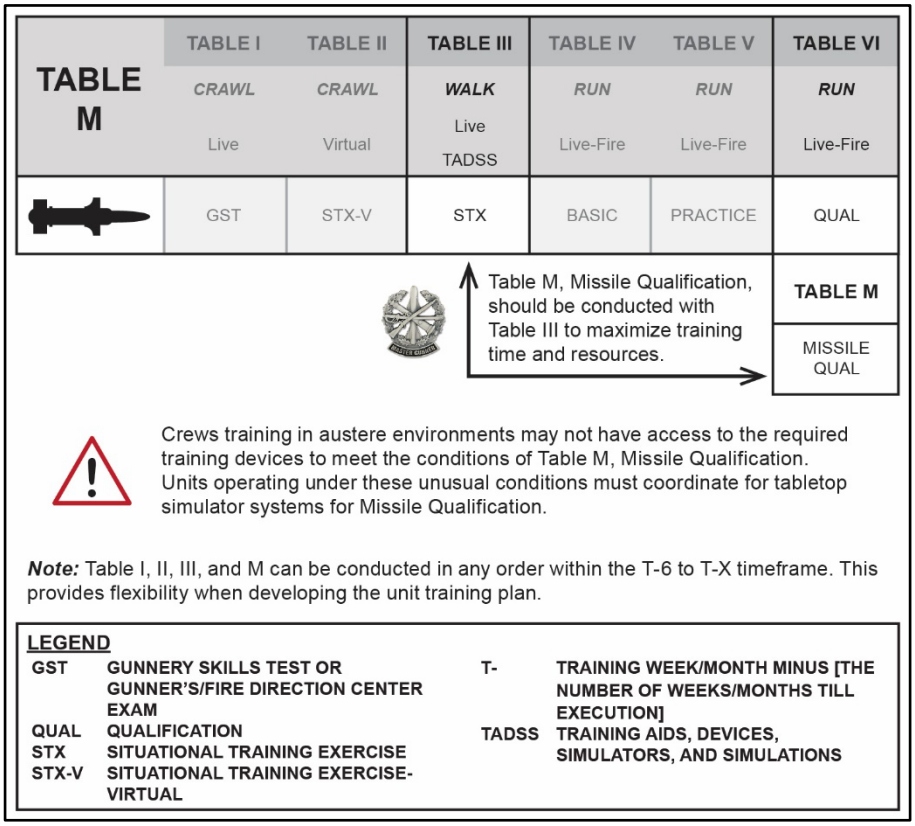


Figure F-1. Table M, Missile Qualification

Conduct Table M with Table III

Table M is designed to be completed with Table III, STX, to maximize time and resources for the unit.

PURPOSE

F-4. The missile qualification event ensures the crew demonstrates critical crew task proficiency in a live environment. The crew executes basic fire and maneuver, integrates indirect and direct fires, conducts critical tasks, and completes various emergency vehicle tasks prior to conducting the more advanced tasks under live-fire conditions.

TABLE M METHOD

F-5. Crew STXs use training areas with multiple training lanes or phases that train crew collective movement and engagement techniques at a real-time, full tempo to build proficiency. Crew STXs use structured scenarios to replicate the basic engagement techniques using the capabilities of their platform. Crews also demonstrate proficiency at emergency procedures on their vehicle to build proficiency and confidence in their ability to react rapidly to various life-threatening situations while maneuvering their platform.

TABLE M END STATE

F-6. Crews demonstrate in a live environment their ability to execute basic and degraded engagement tasks and crew drills in support of decisive action operations. The commander sufficiently validated the unit's vehicle load plan and portions of the SOPs for casualty evacuation. Crews received sufficient day and night administrative and tactical movement that supports the unit driver's training program and use of primary and alternate battle positions, reverse slope defense positions, and other skills.

F-7. The commander is confident in the abilities of the subordinate leaders and elements to execute those trained tasks to standard on demand based on the tactical situation. Live-fire crew training to build experience, proficient, and lethal crews is complete.

TABLE M TASK, CONDITIONS, AND STANDARD

F-8. Units may add additional tasks to the task, conditions, and standard (see figure F-2) for Table M as appropriate to meet the commander's intent, to correct previous training gaps, or to increase the training rigor.



TABLE M MISSILE QUALIFICATION	
TASK	Engage and destroy stationary and moving targets placed in a tactical array, during day and limited visibility from a stationary or moving vehicle and require the use of laser-based training aids, devices, simulators, and simulations for all crews.
CONDITIONS	Given the following: • An operational platform with weapon or weapon systems. • Appropriate laser-based training devices. • Authorized blank ammunition and pyrotechnics. • Certified vehicle crew evaluators (VCE). • Full scale or scaled targets to meet the scenario requirements.
STANDARD	The crew must: • Score a minimum of 700 of 1,000 points overall. • Score 70 points or more on all targets presented on 7 out of 10 engagements. • Qualify on at least one day and one limit visibility engagement. • Successfully pass using the evaluation standards between T-6 and T-week. • Safely execute required reloads in accordance with Gunnery Skills Test standard. • Qualify on at least one day and limited visibility engagement. • If tow on the move (TOTM) equipped, conduct one offensive TOW engagement, day AND night.

LEGEND
TOW TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED

Figure F-2. Table M task, conditions, and standard

PLAN FOR TABLE M

F-9. Table M is a live environment, hands on training event using training aids, devices, and simulators, and includes the use of blank ammunition, pyrotechnics, and BESs. STX is a station-based event that consists of a firing platoon, critical tasks platoon, and training support platoon.

F-10. This section details the resources needed for planning purposes. It includes general information on the following topics for consideration:

- Uniform—the minimum uniform requirements for the training event.
- Facilities—available facilities that support the training event.
- Training plan—the minimum tasks, general guidelines, and special instructions for the training event.
- Time and throughput—the estimated time required to complete the training event including throughput considerations for planning.
- Ammunition—any training munitions required to complete the training event (this includes DDI items that require coordination).
- TADSS—any available training aids that directly support or augment the training event.

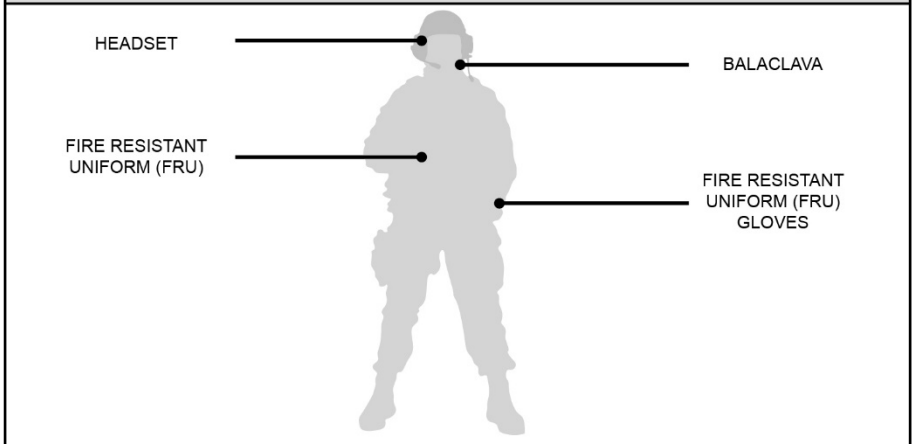
F-11. Table M is the recommended missile qualification within the crew platform strategy. Units should complete Table M between T-6 and T-week to support the training events.

F-12. Units may require coordination with installation support activities such as the TSC for devices or training aids, or the ASP for DDI items. Each installation's policies and procedures vary. Units should reference their supporting installation's training SOPs or policies for detailed information.

TABLE M UNIFORM

F-13. Crews must be in the appropriate vehicle crewmember uniform or prescribed unit uniform and protective mask. Crews are not required to have any additional body armor, ballistic plates, or gear during the training event unless directed by the commander. (See figure F-3 for the minimum uniform training requirements for all training, including the crew critical skills tasks.)

TABLE M
MISSILE QUALIFICATION
UNIFORM REQUIREMENTS



LEVEL	S SKULL	T TORSO	E EYES	E EARS	L LIMBS
MINIMUM REQUIRED	3	3	0	3	3
0	NONE	NONE	**NONE**	NONE	NONE
1	PATROL CAP	VEST	GOGGLES	SINGLE EAR PROTECTION	GLOVES
2	HELMET	VEST with PLATES	BALLISTIC	DOUBLE EAR PROTECTION	LEATHER GLOVES
3	**BALACLAVA**	**FRU**		**HEADSET**	**FRU GLOVES**
4		FRU and SPALL VEST			

Figure F-3. Table M uniform requirements

TABLE M FACILITIES

F-14. The conduct of Table M events is set up for use in a training area. The training unit is responsible for establishing all targetry in the training area. Units coordinate with their supporting TSC and range support for all target lifter, target, thermalization, battery, BES, and other targetry requirements. (See figure F-4 for the primary and alternate facilities authorized for Table M.)



TABLE VI
QUALIFICATION
AUTHORIZED FACILITIES

FACILITY		
Battle Area Complex	BAX	ALTERNATE
Digital Air Ground Integration Range	DAGIR	ALTERNATE
Digital/Multipurpose Range Complex	D/MPRC	ALTERNATE
Digital/Multipurpose Training Range	D/MPTR	**PRIMARY**
Scout/Reconnaissance Gunnery Complex	SRGC	ALTERNATE
Training Area	TA	**PRIMARY**

Note: Training areas should be used to complete Table M, Missile Qualification, for crew platforms. Use of an Army-standard maneuver facility indicated are an alternate use as availability on a case-by-case basis at the installation.

Figure F-4. Table M recommended maneuver range facilities

TABLE M TRAINING PLAN

F-15. Units should maximize the use of the training resources available to conduct as much training, retraining, and cross training as possible during the time available. Table M is designed to integrate into the unit's Table III, STX event. (See figure F-5 for an example layout for a round-robin event by platoon.)

TABLE M, MISSILE QUALIFICATION
CONDUCT OF THE RANGE WHEN CONDUCTED WITH TABLE III

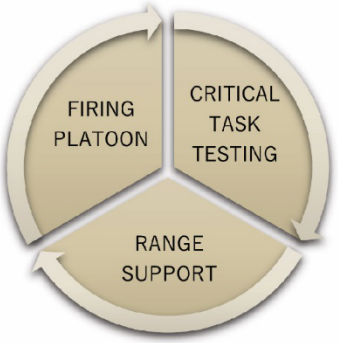
STATION		CREWS/ SOLDIERS	ROTATION	THROUGHPUT SCHEDULE
1	Firing Platoon *Direct Fire Engagement*	4 Crews	3 hours	14 Crews/ 9 hours per day and night phase
2	Critical Tasks	4 Crews 4 Evaluators	3 hours	
3	Range Support *VCE and OC/T*	4 VCE's 10 Support	3 hours	

STATION 1
FIRING PLATOON
Direct Fire Engagement

- 2 Crews per rotation
- Hands-on training
- VCE from Range Support
- Driver training tasks incorporated in the training area

STATION 2
CRITICAL TASKS

- Vehicle Commander evaluated
- Call-For Tasks:
  - CASEVAC
  - MEDEVAC
  - Call-For Fire
  - Call-For Support
- Crew Critical Tasks
  - Evacuate Crew Member
  - React to Engine Fire
  - React to Turret Fire
  - React to Bustle Fire
  - Roll-Over Drills
- Tactical Driver's Training



STATION 3
RANGE SUPPORT
Direct Fire Engagements

- VCE for Firing Platoon
- OC/T for Call-For Tasks
- OC/T for Crew Critical Tasks

Note: Each station requires a platoon leader and platoon sergeant (or equivalent). VCE's must be certified or re-certified within T-6 of training event.

LEGEND

CASEVAC	CASUALTY EVACUATION	T-	TRAINING WEEK/MONTH MINUS [THE NUMBER OF WEEKS/MONTHS TILL EXECUTION (X)]
MEDEVAC	MEDICAL EVACUATION		
OC/T	OBSERVER, COACH, TRAINERS	VCE	VEHICLE CREW EVALUATOR

Figure F-5. Table M round-robin example

Table M Firing Group

F-16. Performance of the direct fire engagements portion of the STX (firing group) is on the crew's vehicle. Table design is set up to train and evaluate the crew's ability to engage stationary or evasive moving targets placed in a tactical array, during day and limited visibility conditions. Crews execute these tasks from the offense and defense.

F-17. The engagements may be full-scale or scaled, depending on the usable area within the training area. Crew's target acquisition skills and engagement techniques, using 3/4-scale targets, is challenged. See TC 25-8 for additional information on target dimensions for scaled ranges.

F-18. All engagements are evaluated using certified VCE's using DA Form 8265 and DA Form 8265-1 as the official record of training. Master Gunners must ensure the training records are included in each crew's gunnery packet.

F-19. The engagements listings are by capability type using the standard engagement naming structure listed in TC 3-20.31. It provides the requirements for each engagement, which are described in paragraphs F-20 through F-28.

Task Description–Table M

F-20. The task description includes both the engagement number (the table number plus engagement task) followed by the system capability trained.

Firing Vehicle Posture–Table M

F-21. The firing vehicle posture establishes the offense or defense condition for the engagement.

Firer–Table M

F-22. The firer column identifies which crewmember is to engage the target listed. Targets defeated by a different crewmember listed as the firer result in an auto-zero penalty, failing to adhere to course conditions.

Weapon (or Ammunition)–Table M

F-23. The weapon column identifies the weapon (coaxial or primary armament ammunition type) that is used to defeat the threat. Design of each engagement is for a specific weapon or ammunition type (primary armament) for use, which relates to the crew conduct of fire, optic selection, engagement techniques, or other unique implied tasks. Crews that fail to announce the appropriate weapon or ammunition, or appropriate selection for subsequent or supplemental engagements may be penalized IAW TC 3-20.31.

Target Type–Table M

F-24. The target type is the target required for the presentation, IAW TC 25-8.

Target Posture–Table M

F-25. The target posture establishes if the target is stationary, moving, or evasive for the engagement. See TC 3-20.31 for more information on target postures.

Range (to Target)–Table M

F-26. The required range (full scale or equivalent scaled range) from the firing vehicle to the target. For offensive engagements, this distance calculation is from the center of the movement box to the target. The range to target distance is provided in meters, and may be displayed as a whole number distance, (for example, 600). The target may be placed at the distance indicated, plus or minus 200 meters. For example, the target may be placed between 400 and 800 meters. No change to the EM is authorized.

Engagement Modifier–Table M

F-27. The EM is the time in seconds required to achieve 100 points against the listed threat. To defeat the threat successfully, the crew must achieve the kill standard against the target and have an overall engagement time of no more than the EM plus 20 seconds. See TC 3-20.31 for the evaluation, timing, and scoring procedures.

Missile Time of Flight

F-28. The missile time of flight section identifies the time of flight for the selected missile based on range to target. This time starts when the ATWESS charge is fired (trigger squeeze plus 1 second built-in test) and ends when a live missile would arrive at the target location. This time is used by the target operator to trigger effects on target through means of a BES and lower the target presentation that has been properly engaged by the crew. During this time the firer of the missile must execute and maintain proper target tracking techniques as assessed by the VCE.

Scenario Requirements

F-29. Units may not deviate from any target type, target posture, range, and weapon system/ammunition type for Table M. Engagements firing may be in any sequence that best supports their training area, flow-of the range, and time available.

F-30. The unit options and requirements are—

- Determining the number of engagements conducted during the day phase and night phase.
- Determining the sequence of the engagements.
- Using BESs as described in TC 3-20.31 for all target panel and troop set presentations.
- Using all target panels at 3/4 scale at full range distances.
- Using available TADSS, including laser-based systems, and LTIDs (additional use of TADSS is at the discretion of the unit commander).

F-31. Additional information concerning the engagements, the terms of reference, or the layout for each event's scenario can be found in TC 3-20.31. (See figure F-6 on page 414 for the engagements for the firing group.)

F-32. This table is designed to be fired from the baseline prior to the crew's day/night run of Table III, STX. The crew executes their day or night TOW engagements prior to executing their day or night Table III iteration.

F-33. The requirements for the missile qualification are—

- Selecting one CBRN engagement day or night.
- Executing the engagement as a stand-alone course of fire, if range and time will allow.
- Performing crew execution of TOW reload procedures from their battle position IAW GST standards.
- Firing one offensive TOW-on-the-move engagement day and night if BFVs have TOW-on-the-move capability.

TABLE M, MISSILE QUALIFICATION ENGAGEMENT REQUIREMENTS

TASK	DESCRIPTION	POSTURE	FIRER	WEAPON	TARGET TYPE	TARGET POSTURE	RANGE	EM	TIME OF FLIGHT
M60	VEHICLE COMMANDER	DEFENSE	VC	TOW	H1T-FRT	STA	2,000m	5	9
M61	SINGLE STATIONARY	DEFENSE	GNR	TOW	H1T-FRT	STA	1,600m	5	7
M62	MULTIPLE STATIONARY	DEFENSE	GNR	TOW	H1T-FRT	STA	2,000m	5	9
			GNR	TOW	H3T-FRT	STA	3,000m	8	15
M63	MULTIPLE STATIONARY WITH DELAY	DEFENSE	GNR	TOW	H1T-FRT	STA	1,400m	5	6
			GNR	TOW	H3T-FRT	STA	2,500m	8	11
			GNR	TOW	H1T-DEF	STA	3,500m	5	18
M64	SINGLE MOVING	DEFENSE	GNR	TOW	H1T-FLK	EVA	2,500m	8	11
M65	STATIONARY/ MOVING	DEFENSE	GNR	TOW	H1T-DEF	STA	1,500m	5	7
			GNR	TOW	M1T-FLK	EVA	3,000m	8	15
M66	STATIONARY/ MOVING WITH DELAY	DEFENSE	GNR	TOW	H3T-FRT	STA	1,200m	8	5
			GNR	TOW	H1T-FLK	EVA	2,400m	8	11
			GNR	TOW	H1T-DEF	STA	2,800m	5	14
M67	DEGRADED DVO	DEFENSE	GNR	TOW	H3T-FRT	STA	1,400m	8	6
			GNR	TOW	H1T-FRT	STA	2,200m	5	10
M68	DEGRADED DVO	DEFENSE	GNR	TOW	H1T-FRT	STA	1,200m	5	5
			GNR	TOW	H1T-FLK	EVA	2,500m	8	11
M69	COMPLEX MULTIPLE WITH DELAY	DEFENSE	GNR	TOW	H1T-DEF	STA	1,200m	5	5
			GNR	TOW	M1T-FLK	EVA	3,200m	8	16
			GNR	TOW	H3T-FRT	STA	2,000m	8	9
			GNR	TOW	H1T-FLK	EVA	4,000m	8	22

LEGEND

DEF	DEFENSE
DVO	DIRECT-VIEW OPTICS
EM	ENGAGEMENT MODIFIER
EVA	EVASIVE
FLK	FLANK
FRT	FRONTAL
GNR	GUNNER
m	METER
STA	STATIONARY
TOW	TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED
VC	VEHICLE COMMANDER

Figure F-6. Table M, Missile Qualification requirements

RANGE SUPPORT–TABLE M

F-34. The range support group provides VCE teams to evaluate the firing platoon. This requires all gunners and above to certify or recertify as VCEs between T-6 and T-execution of the training event. (See figure F-7 for range support personnel general requirements.)

F-35. Certain units may require assistance evaluating the crew critical skills. The support platoon will assist with the appropriate OC/T capabilities to the training platoon.

F-36. The range support group will provide work detail personnel as required to operate the range facility. This may include targetry replacement or repair, briefing noncommissioned officer, range, or training area access, and so on.

TABLE M
MISSILE QUALIFICATION
RANGE SUPPORT REQUIREMENTS

OBSERVER–COACH/TRAINER (OC/T) CREW CRITICAL TASKS PLATOON LEADER	Evaluates the Crew Critical Tasks for record.
OC/T CREW CRITICAL TASKS PLATOON SERGEANT	Evaluates the Call-For Tasks for record.
LEAD VEHICLE CREW EVALUATOR (VCE)	Supervises the vehicle crew evaluation process.
TIMING CONTROLLER	Determines the timing of each engagement based on TC 3-20.31-046.
CAMERA OPERATOR	Controls the recording of the thermal/day optic on all targets within the engagement for AAR playback.
RTO	Maintains communication with Range Operations and the firing unit. Provides instructions and prompts to the firing crew.
PRIMARY EVALUATOR 1	Completes DA Form 8265 and DA Form 8265-1 for each engagement in accordance with TC 3-20.31-046. Provides AARs to the firing crews upon completion of the day or night phase, respectively. Additional Primary Evaluators may be used to ensure the appropriate throughput.
PRIMARY EVALUATOR 2	

LEGEND

AAR	AFTER ACTION REVIEW	TC	TRAINING CIRCULAR
DA	DEPARTMENT OF THE ARMY	VCE	VEHICLE CREW EVALUATOR
RTO	RADIO/TELEPHONE OPERATOR		

Figure F-7. Range support personnel requirements, example

TIME AND THROUGHPUT–TABLE M

F-37. The throughput expectation of this table is 14 crews per day for two consecutive days. This allows for the appropriate amount of training, retraining, and cross training to provide the commander the fullest flexibility for crew management options and talent management opportunities prior to live fire. Depending on maintenance or other unforeseen issues, recommend incorporating an additional half training day to the schedule, although this not resourced as part of the Combined Arms Training Strategy. (See figure F-8 for the expected throughput schedule based on the number of vehicles for firing and the unit's day/night engagement breakdown for the engagements.)

TABLE M THROUGHPUT REQUIREMENTS

		NUMBER OF ENGAGEMENTS					
	DAY	8	7	6	5	4	
	NIGHT	2	3	4	5	6	
NUMBER OF CREWS	10	15.25	16.00	16.50	17.25	18.00	HOURS TO COMPLETE
	11	16.25	17.00	17.75	18.50	19.25	
	12	17.50	18.25	19.00	20.00	20.75	
	13	18.50	19.50	20.25	21.25	22.00	
	14	19.75	20.75	21.50	22.50	23.50	
	15	21.00	22.00	23.00	24.00	25.00	
	16	22.00	23.00	24.25	25.25	26.25	
	17	23.25	24.25	25.50	26.50	27.75	
	18	24.25	25.50	26.75	28.00	29.00	
	19	25.50	26.75	28.00	29.25	30.50	
	20	26.50	28.00	29.25	30.50	32.00	

Note: Overall time requirements are based on a single firing lane and include four hours of range maintenance down time (two blocks of two hours each). This is standard at most facilities. These calculations are for planning purposes only. Units that are more proficient in tower operations may have an increased throughput.

Any time shown exceeding 24 hours will not be possible in a single range day without unit action to conduct the range with a sense of urgency during preparation to fire tasks and execution of the table including tactical movement between engagements.

Figure F-8. Table M throughput expectations

Note. Time requirements overall are based on a single firing lane and include 4 hours of target maintenance down time (two blocks of 2 hours each). These calculations are for planning purposes only. Units that are more proficient in tower operations may have an increased throughput. The critical task and call-for requirements (not shown) are conducted simultaneously with the more time-consuming engagement skills tasks.

AMMUNITION–TABLE M

F-38. Ammunition resourcing for Table M requires a working understanding of the table components (see figure F-9).

TRAINING AMMUNITION REQUIREMENTS
TABLE M, MISSILE QUALIFICATION

DODIC	MUNITION TYPE	QUANTITY
LA77	SIM, Launching, Antitank Missile/Rocket M22	21
LA53	SIM, target hit XM35 (BES)–Steel-on-Steel	21
LA54	SIM, EXP DET XM34 (BES)–Hostile Fire Simulator	21

ADDITIONAL CERTIFICATIONS:



BES SYSTEMS



PYROTECHNICS

Certify junior leaders on the components, functioning, hazards, use, and troubleshooting of available Battle Effects Simulator (BES) systems.

Provides a working understanding of the components, functioning, emplacement, use, troubleshooting, and hazards when:

- Placing BES systems into operation.
- Synchronizing functioning.
- Installing BES cartridges
- Troubleshooting BES systems.
- Removing unused BES cartridges.
- Conducting safe operations of BES systems.

LEGEND

CTG	CARTRIDGE	EXP DET	EXPLOSIVE DETONATION
DODIC	DEPARTMENT OF DEFENSE IDENTIFICATION CODE	mm	MILLIMETER
		SIM	SIMULATOR

Figure F-9. Table M ammunition authorizations

TRAINING AIDS, DEVICES, SIMULATORS, SIMULATIONS–TABLE M

F-39. This course requires the use of laser based TADSS for all crews. Units with TADSS available must incorporate them and may not deviate from the TADSS requirement unless approved by the brigade commander in writing. Units should focus on training and reinforcing the skills in the direct fire kill chain on this table specifically with their thermal optics, day and night, to best prepare them for the follow-on training events. (See figure F-10 for the TADSS required, recommended, and optional for Table M.)



TABLE M
MISSILE QUALIFICATION
TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS (TADSS) REQUIREMENTS

DEVICE	NOMENCLATURE	REMARKS
I-MILES CV-TESS	Instrumentable-Multiple Integrated Laser Engagement System, Combat Vehicle Tactical Engagement Simulations	REQUIRED
LTID	Laser Target Interface Device	
CMU	Crew Module Unit/Integrated Player Unit	Recommended
CMUR	Crew Module Unit Recorder (Thru-Sight Video)	Recommended
SP-1	Boresight Panel	Optional

LEGEND

CTG	CARTRIDGE	MM	MILLIMETER
DDI	DUMMY DRILL INERT	SP-1	SPECIAL PANEL NUMBER ONE
DODIC	DEPARTMENT OF DEFENSE IDENTIFICATION CODE		

Figure F-10. Table M training aids, devices, simulators, and simulations requirements

Instrumentable-Multiple Integrated Laser Engagement System CVTESS–Table M

F-40. The I-MILES CVTESS is a laser-based training device to for use on Abrams, Bradley, medium tank, and opposing forces tanks and fighting vehicles to provide real time casualty effects. I-MILES CVTESS is an evolutionary approach for replacing older systems with equipment that provides better training fidelity. It will reinforce crew duties, reward proper engagement techniques, and develop tactical maneuver skills of armor and mechanized infantry combined arms teams up to brigade level. It provides unit commanders an integrated training system in force-on-force and force-on-target training events at home station training areas through instrumented training. The system interfaces with instrumentation systems at combat training centers.

Laser Target Interface Device–Table M

F-41. For use with I-MILES CVTESS or other laser-based training systems when the unit is conducting force-on-target training, the LTIDs provides the appropriate hit recording at the target emplacement and when stimulated, signals the target lifting mechanism to record a hit. This is a required device on Table III.

Crew Module Unit/Crew Module Unit Recorder–Table M

F-42. The CMU/IPU/CMUR is an advanced eight channel audio/video recording device for combat vehicles. The CMU/IPU/CMUR can simultaneously record up to eight channels of video, one channel of audio, and has the capability to monitor dual 1553 data busses. The CMU/IPU/CMUR is equipped with a Global Positioning System that captures the vehicle's position location information. The CMU/IPU is for use on a digital range complex whereas the CMUR does not require any external support. The CMUR has an integrated AAR suite and stores information on a solid-state drive. The AAR suite uploads the data from the solid-state drive allowing a full AAR presentation.

PREPARE TABLE M

F-43. Units execute the crew STX in a variety of ways. Typically, each platoon conducts training independently prior to the crew STX event, either in the motor pool, simulator system, or in a local training area. The primary trainers during the crew STX are the company commander with OC/Ts providing oversight and assistance as necessary.

TRAIN THE TRAINERS–TABLE M

F-44. Units execute the crew STX in a variety of ways. Typically, each platoon conducts training independently prior to the crew STX event, either in the motor pool, simulator system, or in a local training area. The primary trainers during the crew STX are the company commander with OC/Ts providing oversight and assistance as necessary.

Note. Much like crew platform evaluators, the OC/Ts for any crew exercise provide exceptional training for the OC/T as a leader, second only to executing the task with their organization. Units should dedicate sufficient time to OC/T certification to leaders who can provide experienced mentorship, with the complete understanding that their OC/T task is also exceptional training for them.

F-45. Units provide the following to prepare the trainers:

- Commander's training objectives.
- Scenario and lane concept with crew tasks.
- Conduct of the range briefing for the training event.
- Review of T&EOs and evaluation process for all the tasks.
- Risk assessment.
- Identification of supporting doctrinal publications for use as primary references.
- TADSS, pyrotechnics, blanks, and BESs used during the training event (see appendix A for the training munitions requirements for the complete training strategy).

ENGAGEMENT TASK AND PURPOSE–TABLE M

F-46. The crews, leaders, and evaluators must understand the task and purpose of the engagements, the critical skills tasks, and how they are linked to their training. Each of the engagements should be reviewed to understand what they contain, the standards for each, and how they build from previous training and to the next event's engagements.

RECONNAISSANCE OF THE SITE–TABLE M

F-47. Commanders use an authorized training area or series of training areas for the Table M, STX, Missile Qualification. Commanders follow the installation's policies and procedures for scheduling the training location as far in advance as practical. Once commanders have established the method of training and evaluation, they should secure the training location and appropriate TADSS, equipment, or systems that enhance the training event.

F-48. Once scheduled, the commander, Master Gunner, platoon leaders, and platoon sergeants conduct a reconnaissance of the training areas to—

- Verify sufficient space is available to support the entire unit through multiple training lanes.
- Ensure multiple iterations or rotations through the scenario can be achieved with appropriate retraining opportunities.
- Ensure sufficient administrative areas are available to support group discussions, briefings, and AARs.
- Provide sand table or terrain board.
- Provide terrain board kits.
- Verify the training area can support the unit's training while in a chemical environment, based on the scenario design (protection).
- Verify casualty evacuation and medical evacuation notional capabilities in support of the training scenario, for which units mostly include only—
  - FM reporting.
  - Request procedures for training purposes (sustainment).

ISSUE THE ORDER–TABLE M

F-49. Commanders can issue an OPORD, WARNORD, or use the training schedule as necessary. The WARNORD should include the appropriate tasks, required leaders, and equipment needed, as well as the unit's training timeline including walk-through, rehearsals, and AARs. WARNORDs for external organizations must include sufficient reaction time for the appropriate personnel and equipment needed.

F-50. The OPORD or WARNORD should include the list of tasks that commanders evaluate during the event, and the method of evaluation. Commanders should provide sufficient time for subordinate leaders to train the tasks and skills listed in the order. Commanders should ensure the appropriate training resources are available and accessible. Upon receipt, subordinate leaders that have SOPs for their organizations must ensure their procedures support and complement the higher headquarters publication.

REHEARSE–TABLE M

F-51. The unit uses all training resources, materials, and equipment available to conduct rehearsals of training events. During the rehearsal, commanders ensure their unit has sufficient time to train to the specified standard including AARs and retraining time. Commanders ensure their unit verifies optional scenarios that increase complexity when warranted.

F-52. Commander uses the rehearsal as an opportunity to verify the tasks selected for Table M are consistent with the commander's training guidance.

F-53. Units should rehearse the training event from start to finish, and confirm—

- Sufficient space is available to provide appropriate distances for offensive engagements.
- Analog and digital systems are operational within the organization and to the higher headquarters regardless of their location.
- Sufficient administrative areas are available.
- AAR capabilities are reviewed.
- The unit is aware of methods and actions required to provide fire support (notional).
- Integration of attack aviation and close air support during the scenario (notional inclusion for call-for tasks).
- Location of retraining for crews as necessary.
- VCE certification on tasks associated with missile engagements.

F-54. Once the unit completes the walk-through and training rehearsal, the commander makes any necessary adjustments to the plan and issues FRAGORDs as necessary.

EXECUTE –TABLE M

F-55. Once the unit arrives at the training location, they should—

- Conduct a safety briefing for the training event.
- Provide a conduct of the range briefing to establish the sequence of events for the training day.
- Conduct sensitive item checks prior to executing training.
- Assign VCEs as appropriate.
- Issue the OPORD for the training mission.
- Execute the training scenario.

F-56. The training unit conducts informal AARs of each crew completing a phase of training within the training mission. During training, the assigned VCE, executive officer, 1SG, and Master Gunner review the subordinate unit's performance. They follow the unit SOP, prescribed TTP, and the appropriate T&EOs, and review completed crew score sheets and roll-up documentation for clarity and completeness.

F-57. The unit's scenario sequence will vary based on the training area available, time, day/night mix of engagements, and determination of which day and night engagements include operating in a chemical environment. (See figure F-11 on page 424 through F-30 on page 443 for the task, conditions, and standards for each engagement sequentially.)

F-59. The daytime VC's engagement fired from the commander's hand station using the primary optic (see figure F-11 and figure F-12) trains the VCs ability to identify, track, and destroy a heavily armored threat with the TOW missile system.

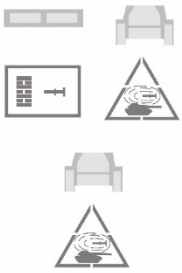
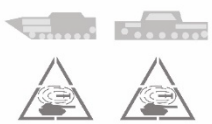
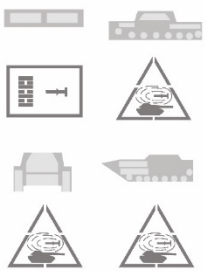
M60

TABLE M, MISSILE QUALIFICATION SITUATIONAL TRAINING EXERCISE (STX)

TASK TYPE:	VEHICLE COMMANDER	POSTURE:	DEFENSE

CONDITIONS	TARGET 1	TARGET 2	DELAY: TARGET 3	TARGET 4
				
FIRER	VC			
WEAPON/AMMUNITION	TOW			
TARGET	TANK			
TARGET TYPE	H1T-FRT			
TARGET POSTURE	STATIONARY			
RANGE TO TARGET	2,000m			
ENGAGEMENT MODIFIER	5			
TIME OF FLIGHT	9			

MISSILE ENGAGEMENT PROGRESSION

SINGLE STATIONARY	MULTIPLE STATIONARY	SINGLE/MULTIPLE MOVING	COMPLEX WITH RELOAD
			

LEGEND

FRT	FRONTAL	VC	VEHICLE COMMANDER
m	METER	TOW	TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED

Figure F-11. Engagement M60 overview

M60

TARGET 1 | TARGET 2 | TARGET 3 | TARGET 4

VEHICLE COMMANDER

DEFENSE



ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	TOW	7.62mm	HOSTILE FIRE	STEEL ON STEEL
SIMS	**SIMS**	**LA77**	**A111**	**LA54**	**LA53**
		1		1	1

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

YOUR GUNNER'S HAND STATION IS INOPERATIVE. CONTINUE TO FIGHT. INDEX MISSILE. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	MISSILE
TARGET DESCRIPTION	TANK
METHOD	
LOCATION	VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**SIMS**	**SIMULATION**
HE	**HIGH EXPLOSIVE**	**TOW**	**TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED**
mm	**MILLIMETER**		
REDCON	**READINESS CONDITION**		

Figure F-12. Engagement M60 munitions and script worksheet

ENGAGEMENT M61

F-60. Engagement M61 is a single target engagement for the gunner utilizing the TOW missile system (see figure F-13 and figure F-14). This engagement tests basic engagement skills against a single stationary threat.

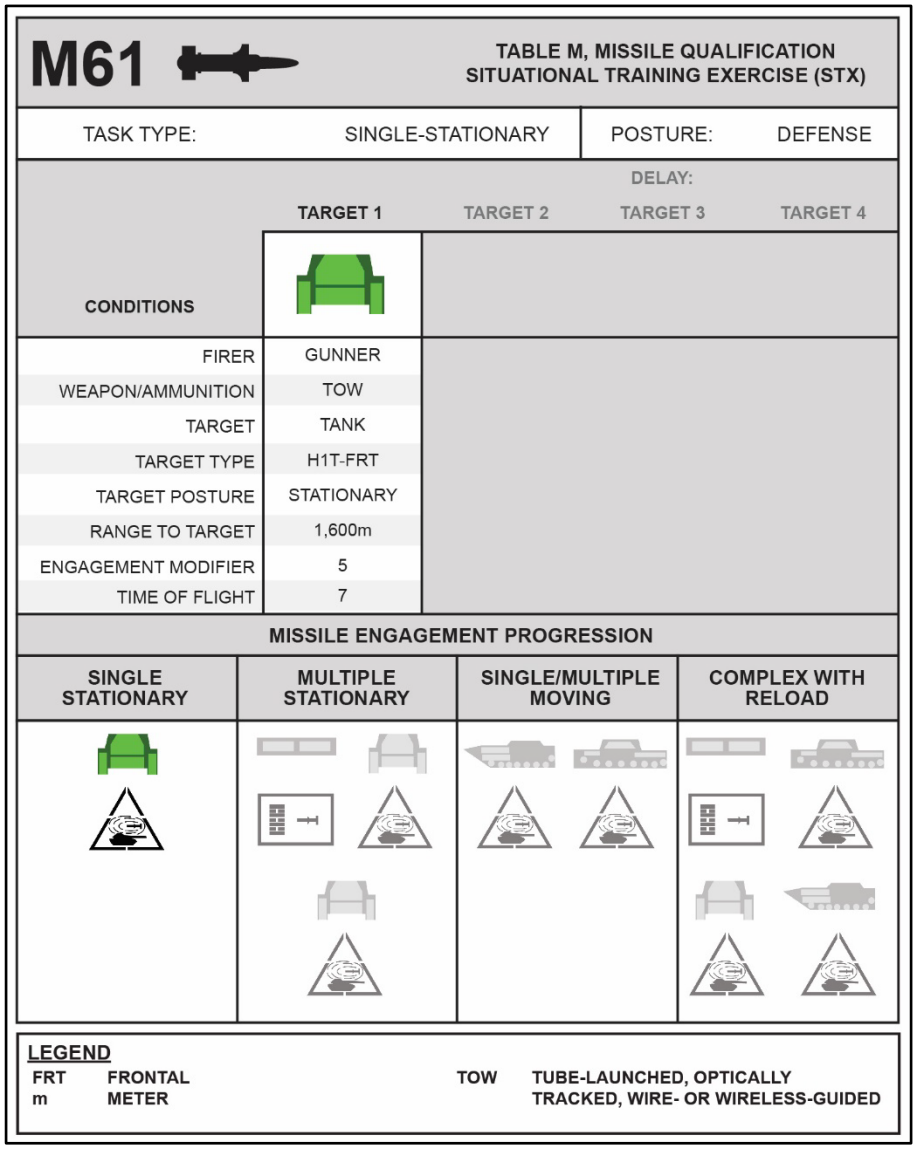


Figure F-13. Engagement M61 overview

M61

TARGET 1 | TARGET 2 | TARGET 3 | TARGET 4

SINGLE-STATIONARY

DEFENSE



ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	TOW	7.62mm	HOSTILE FIRE	STEEL ON STEEL
SIMS	**SIMS**	**LA77**	**A111**	**LA54**	**LA53**
		1		1	1

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

INDEX MISSILE. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	MISSILE
TARGET DESCRIPTION	TANK
METHOD	
LOCATION	VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**SIMS**	**SIMULATION**
HE	**HIGH EXPLOSIVE**	**TOW**	**TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED**
mm	**MILLIMETER**		
REDCON	**READINESS CONDITION**		

Figure F-14. Engagement M61 munitions and script worksheet

ENGAGEMENT M62

F-61. Gunners' missile engagement with a multiple stationary threat presentations (see figure F-15 and figure F-16) is an increased difficulty missile engagement requiring the crew to identify, track and engage multiple threats including a long-range fortified bunker. This engagement builds on independent search, scan, and target designation crew drills.

M62

TABLE M, MISSILE QUALIFICATION SITUATIONAL TRAINING EXERCISE (STX)

TASK TYPE:	MULTIPLE-STATIONARY	POSTURE:	DEFENSE

CONDITIONS	TARGET 1	TARGET 2	DELAY: TARGET 3	TARGET 4
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	TOW	TOW		
TARGET	TANK	BUNKER		
TARGET TYPE	H1T-FRT	H3T-FRT		
TARGET POSTURE	STATIONARY	STATIONARY		
RANGE TO TARGET	2,000m	3,000m		
ENGAGEMENT MODIFIER	5	8		
TIME OF FLIGHT	9	15		

MISSILE ENGAGEMENT PROGRESSION

SINGLE STATIONARY	MULTIPLE STATIONARY	SINGLE/MULTIPLE MOVING	COMPLEX WITH RELOAD

LEGEND

FRT	FRONTAL	TOW	TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED
m	METER		

Figure F-15. Engagement M62 overview

M62	TARGET 1	TARGET 2	TARGET 3	TARGET 4
MULTIPLE-STATIONARY DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS					
HE	AP	TOW	7.62mm	HOSTILE FIRE	STEEL ON STEEL
SIMS	**SIMS**	**LA77**	**A111**	**LA54**	**LA53**
		2		2	2

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

INDEX MISSILE. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	MISSILE
TARGET DESCRIPTION	TANK AND BUNKER
METHOD	
LOCATION	VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**SIMS**	**SIMULATION**
HE	**HIGH EXPLOSIVE**	**TOW**	**TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED**
mm	**MILLIMETER**		
REDCON	**READINESS CONDITION**		

Figure F-16. Engagement M62 munitions and script worksheet

ENGAGEMENT M63

F-62. This engagement is a complex missile engagement requiring the crew to execute a missile reload and continue to engage (see figures F-17 and figure F-18). Multiple stationary threats with a delayed presentation, at medium to long range.

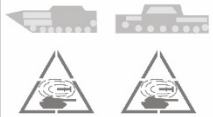
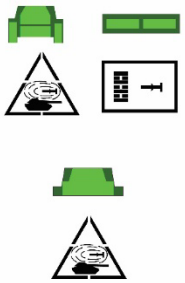
M63

TABLE M, MISSILE QUALIFICATION SITUATIONAL TRAINING EXERCISE (STX)

TASK TYPE:	MULTIPLE-STATIONARY WITH DELAY	POSTURE:	DEFENSE

CONDITIONS	TARGET 1	TARGET 2	TARGET 3	DELAY: 240 SECONDS TARGET 4
FIRER	GUNNER	GUNNER	GUNNER	
WEAPON/AMMUNITION	TOW	TOW	TOW	
TARGET	TANK	BUNKER	TANK	
TARGET TYPE	H1T-FRT	H3T-FRT	H1T-DEF	
TARGET POSTURE	STATIONARY	STATIONARY	STATIONARY	
RANGE TO TARGET	1,400m	2,500m	3,500m	
ENGAGEMENT MODIFIER	5	8	5	
TIME OF FLIGHT	6	11	18	

MISSILE ENGAGEMENT PROGRESSION

SINGLE STATIONARY	MULTIPLE STATIONARY	SINGLE/MULTIPLE MOVING	COMPLEX WITH RELOAD
			

LEGEND

DEF	DEFENSE	TOW	TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED
FRT	FRONTAL		
m	METER		

Figure F-17. Engagement M63 overview

M63	TARGET 1	TARGET 2	TARGET 3	TARGET 4
MULTIPLE-STATIONARY DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS					
HE	AP	TOW	7.62mm	HOSTILE FIRE	STEEL ON STEEL
SIMS	**SIMS**	**LA77**	**A111**	**LA54**	**LA53**
		3		3	3

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

INDEX MISSILE, RELOAD AS REQUIRED. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	MISSILE
TARGET DESCRIPTION	TANK AND BUNKER WITH TANK SUPPORT
METHOD	
LOCATION	VICINITY _____ AND VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**SIMS**	**SIMULATION**
HE	**HIGH EXPLOSIVE**	**TOW**	**TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED**
mm	**MILLIMETER**		
REDCON	**READINESS CONDITION**		

Figure F-18. Engagement M63 munitions and script worksheet

ENGAGEMENT M64

F-63. The basic missile engagement against a single moving threat (see figure F-19 and figure F-20) requires the gunner to scan, identify, track, and engage a single moving armored threat at medium range from the defense.

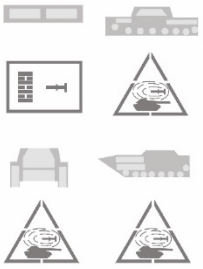
M64

TABLE M, MISSILE QUALIFICATION SITUATIONAL TRAINING EXERCISE (STX)

TASK TYPE:	SINGLE-MOVING	POSTURE:	DEFENSE

			DELAY:	240 SECONDS
	TARGET 1	TARGET 2	TARGET 3	TARGET 4
CONDITIONS				
FIRER	GUNNER			
WEAPON/AMMUNITION	TOW			
TARGET	TANK			
TARGET TYPE	H1T-FLK			
TARGET POSURE	EVASIVE			
RANGE TO TARGET	2,500m			
ENGAGEMENT MODIFIER	8			
TIME OF FLIGHT	11			

MISSILE ENGAGEMENT PROGRESSION

SINGLE STATIONARY	MULTIPLE STATIONARY	SINGLE/MULTIPLE MOVING	COMPLEX WITH RELOAD
			

LEGEND

FLK	FLANK	TOW	TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED
m	METER		

Figure F-19. Engagement M64 overview

M64

TARGET 1 | TARGET 2 | TARGET 3 | TARGET 4

SINGLE-MOVING

DEFENSE



ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	TOW	7.62mm	HOSTILE FIRE	STEEL ON STEEL
SIMS	**SIMS**	**LA77**	**A111**	**LA54**	**LA53**
		1		1	1

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

INDEX MISSILE. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	MISSILE
TARGET DESCRIPTION	TANK
METHOD	
LOCATION	VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**SIMS**	**SIMULATION**
HE	**HIGH EXPLOSIVE**	**TOW**	**TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED**
mm	**MILLIMETER**		
REDCON	**READINESS CONDITION**		

Figure F-20. Engagement M64 munitions and script worksheet

ENGAGEMENT M65

F-64. Engagement M65 is a difficult missile engagement with both single and stationary threat presentations (see figure F-21 and figure F-22). This engagement reinforces critical target identification, tracking, and engagement skills with the TOW missile system.

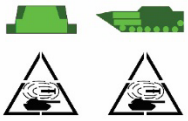
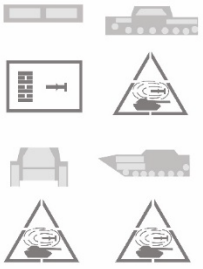
M65

TABLE M, MISSILE QUALIFICATION SITUATIONAL TRAINING EXERCISE (STX)

TASK TYPE:	STATIONARY-MOVING	POSTURE:	DEFENSE
		DELAY:	240 SECONDS

CONDITIONS	TARGET 1	TARGET 2	TARGET 3	TARGET 4
				
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	TOW	TOW		
TARGET	TANK	PC		
TARGET TYPE	H1T-DEF	M1T-FLK		
TARGET POSTURE	STATIONARY	EVASIVE		
RANGE TO TARGET	1,500m	3,000m		
ENGAGEMENT MODIFIER	5	8		
TIME OF FLIGHT	7	15		

MISSILE ENGAGEMENT PROGRESSION

SINGLE STATIONARY	MULTIPLE STATIONARY	SINGLE/MULTIPLE MOVING	COMPLEX WITH RELOAD
			

LEGEND

DEF	DEFENSE	PC	PERSONNEL CARRIER
FLK	FLANK	TOW	TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED
m	METER		

Figure F-21. Engagement M65 overview

M65	TARGET 1	TARGET 2	TARGET 3	TARGET 4
STATIONARY-MOVING DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	TOW	7.62mm	HOSTILE FIRE	STEEL ON STEEL
SIMS	**SIMS**	**LA77**	**A111**	**LA54**	**LA53**
		2		2	2

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

INDEX MISSILE. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	MISSILE
TARGET DESCRIPTION	TANK AND PC
METHOD	
LOCATION	VICINITY _____ AND VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**REDCON**	**READINESS CONDITION**
HE	**HIGH EXPLOSIVE**	**SIMS**	**SIMULATION**
mm	**MILLIMETER**	**TOW**	**TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED**
PC	**PERSONNEL CARRIER**		

Figure F-22. Engagement M65 munitions and script worksheet

ENGAGEMENT M66

F-65. This engagement is a complex missile engagement against both stationary and moving threats, a missile reload, and a delayed threat presentation (see figure F-23 and figure F-24). This tests the crew's ability to engage using both available missiles, execute a missile reload and then continue to engage.

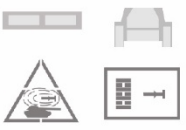
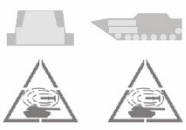
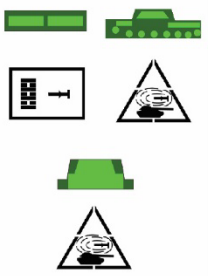
M66

TABLE M, MISSILE QUALIFICATION SITUATIONAL TRAINING EXERCISE (STX)

TASK TYPE:	STATIONARY-MOVING WITH DELAY	POSTURE:	DEFENSE

CONDITIONS	TARGET 1	TARGET 2	DELAY: TARGET 3	240 SECONDS TARGET 4
FIRER	GUNNER	GUNNER	GUNNER	
WEAPON/AMMUNITION	TOW	TOW	TOW	
TARGET	BUNKER	PC	TANK	
TARGET TYPE	H3T-FRT	H1T-FLK	H1T-DEF	
TARGET POSTURE	STATIONARY	EVASIVE	STATIONARY	
RANGE TO TARGET	1,200m	2,400m	2,800m	
ENGAGEMENT MODIFIER	8	8	5	
TIME OF FLIGHT	5	11	14	

MISSILE ENGAGEMENT PROGRESSION

SINGLE STATIONARY	MULTIPLE STATIONARY	SINGLE/MULTIPLE MOVING	COMPLEX WITH RELOAD
			

LEGEND

DEF	DEFENSE	PC	PERSONNEL CARRIER
FLK	FLANK	TOW	TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED
m	METER		

Figure F-23. Engagement M66 overview

M66	TARGET 1	TARGET 2	TARGET 3	TARGET 4
STATIONARY-MOVING WITH DELAY DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	TOW	7.62mm	HOSTILE FIRE	STEEL ON STEEL
SIMS	**SIMS**	**LA77**	**A111**	**LA54**	**LA53**
		3		3	3

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

INDEX MISSILE, RELOAD AS REQUIRED. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	MISSILE
TARGET DESCRIPTION	BUNKER AND TANK WITH ARMOR SUPPORT
METHOD	
LOCATION	VICINITY _____ AND VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**SIMS**	**SIMULATION**
HE	**HIGH EXPLOSIVE**	**TOW**	**TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED**
mm	**MILLIMETER**		
REDCON	**READINESS CONDITION**		

Figure F-24. Engagement M66 munitions and script worksheet

ENGAGEMENT M67

F-66. This engagement is a degraded TOW missile engagement utilizing the DVO against multiple stationary threats at medium to long range (see figure F-25 and figure F-26). The crew must identify and track heavily armored threats while operating in a degraded state.

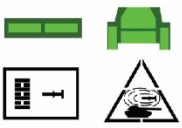
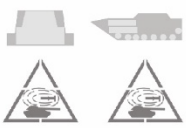
M67 

TABLE M, MISSILE QUALIFICATION SITUATIONAL TRAINING EXERCISE (STX)

TASK TYPE:	DEGRADED-DVO	POSTURE:	DEFENSE
		DELAY:	240 SECONDS

CONDITIONS	TARGET 1	TARGET 2	TARGET 3	TARGET 4
				
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	TOW	TOW		
TARGET	BUNKER	TANK		
TARGET TYPE	H3T-FRT	H1T-FRT		
TARGET POSTURE	STATIONARY	STATIONARY		
RANGE TO TARGET	1,400m	2,000m		
ENGAGEMENT MODIFIER	8	5		
TIME OF FLIGHT	6	10		

MISSILE ENGAGEMENT PROGRESSION

SINGLE STATIONARY	MULTIPLE STATIONARY	SINGLE/MULTIPLE MOVING	COMPLEX WITH RELOAD
			

LEGEND

DVO	DIRECT-VIEW OPTICS	TOW	TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED
FRT	FRONTAL		
m	METER		

Figure F-25. Engagement M67 overview

M67

TARGET 1 | TARGET 2 | TARGET 3 | TARGET 4

DEGRADED-DVO

DEFENSE





ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	TOW	7.62mm	HOSTILE FIRE	STEEL ON STEEL
SIMS	**SIMS**	**LA77**	**A111**	**LA54**	**LA53**
		2		2	2

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

YOUR IBAS HAS BEEN DAMAGED, SWITCH TO DVO, INDEX MISSILE, REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	MISSILE
TARGET DESCRIPTION	BUNKER AND TANK
METHOD	
LOCATION	VICINITY _____ AND VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**mm**	**MILLIMETER**
DVO	**DIRECT-VIEW OPTICS**	**REDCON**	**READINESS CONDITION**
HE	**HIGH EXPLOSIVE**	**SIMS**	**SIMULATION**
IBAS	**IMPROVED BRADLEY ACQUISITION SYSTEM**	**TOW**	**TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED**

Figure F-26. Engagement M67 munitions and script worksheet

ENGAGEMENT M68

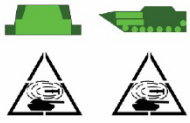
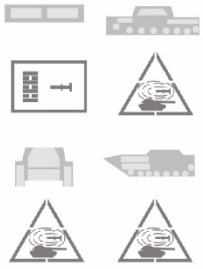
F-67. Engagement M68 is a difficult degraded missile engagement utilizing the DVO against a stationary and moving threat presentation at medium range (see figure F-27 and figure F-28). The engagement is a complex missile engagement requiring the crew to identify, track, and engage multiple threats while operating in a degraded state.

M68 TABLE M, MISSILE QUALIFICATION SITUATIONAL TRAINING EXERCISE (STX)

TASK TYPE:	DEGRADED-DVO	POSTURE:	DEFENSE
		DELAY:	240 SECONDS

CONDITIONS	TARGET 1	TARGET 2	TARGET 3	TARGET 4
				
FIRER	GUNNER	GUNNER		
WEAPON/AMMUNITION	TOW	TOW		
TARGET	TANK	TANK		
TARGET TYPE	H1T-FRT	H1T-FLK		
TARGET POSTURE	STATIONARY	EVASIVE		
RANGE TO TARGET	1,200m	2,500m		
ENGAGEMENT MODIFIER	5	8		
TIME OF FLIGHT	5	11		

MISSILE ENGAGEMENT PROGRESSION

SINGLE STATIONARY	MULTIPLE STATIONARY	SINGLE/MULTIPLE MOVING	COMPLEX WITH RELOAD
			

LEGEND

DVO	DIRECT-VIEW OPTICS	m	METER
FLK	FLANK	TOW	TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED
FRT	FRONTAL		

Figure F-27. Engagement M68 overview

M68

TARGET 1 | TARGET 2 | TARGET 3 | TARGET 4

DEGRADED-DVO

DEFENSE





ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	TOW	7.62mm	HOSTILE FIRE	STEEL ON STEEL
SIMS	**SIMS**	**LA77**	**A111**	**LA54**	**LA53**
		2		2	2

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

YOUR IBAS HAS BEEN DAMAGED, SWITCH TO DVO, INDEX MISSILE, REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	MISSILE
TARGET DESCRIPTION	TANKS
METHOD	
LOCATION	VICINITY _____ AND VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**mm**	**MILLIMETER**
DVO	**DIRECT-VIEW OPTICS**	**REDCON**	**READINESS CONDITION**
HE	**HIGH EXPLOSIVE**	**SIMS**	**SIMULATION**
IBAS	**IMPROVED BRADLEY ACQUISITION SYSTEM**	**TOW**	**TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED**

Figure F-28. Engagement M68 munitions and script worksheet

ENGAGEMENT M69

F-68. This engagement is a complex missile engagement with a high level of difficulty against multiple stationary and moving threat presentations with a missile reload (see figure F-29 and figure F-30). This engagement tests the crew's ability to use all critical crew drills while engaging multiple threats, both stationary and moving, executing a reload, and continuing to engage.

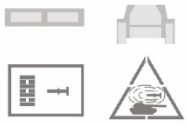
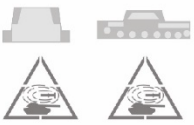
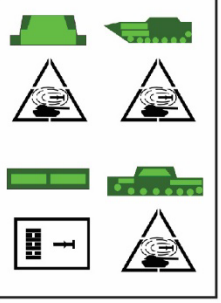
M69 

TABLE M, MISSILE QUALIFICATION SITUATIONAL TRAINING EXERCISE (STX)

TASK TYPE:	COMPLEX MULTIPLE WITH DELAY	POSTURE:	DEFENSE

CONDITIONS	TARGET 1	TARGET 2	DELAY: TARGET 3	240 SECONDS TARGET 4
				
FIRER	GUNNER	GUNNER	GUNNER	GUNNER
WEAPON/AMMUNITION	TOW	TOW	TOW	TOW
TARGET	TANK	PC	BUNKER	TANK
TARGET TYPE	H1T-DEF	H1T-FLK	H3T-FRT	H1T-FLK
TARGET POSTURE	STATIONARY	EVASIVE	STATIONARY	EVASIVE
RANGE TO TARGET	1,200m	3,200m	2,000m	4,000m
ENGAGEMENT MODIFIER	5	8	8	8
TIME OF FLIGHT	5	16	9	22

MISSILE ENGAGEMENT PROGRESSION

SINGLE STATIONARY	MULTIPLE STATIONARY	SINGLE/MULTIPLE MOVING	COMPLEX WITH RELOAD
			

LEGEND

DEF	DEFENSE	m	METER
DVO	DIRECT-VIEW OPTICS	PC	PERSONNEL CARRIER
FLK	FLANK	TOW	TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED
FRT	FRONTAL		

Figure F-29. Engagement M69 overview

M69	TARGET 1	TARGET 2	TARGET 3	TARGET 4
COMPLEX MULTIPLE WITH DELAY DEFENSE				

ENGAGEMENT AMMUNITION REQUIREMENTS

HE	AP	TOW	7.62mm	HOSTILE FIRE	STEEL ON STEEL
SIMS	**SIMS**	**LA77**	**A111**	**LA54**	**LA53**
		4		4	4

PREPARE FOR ENGAGEMENT

_____ THIS IS _____

PREPARE FOR DEFENSIVE OPERATIONS IN BATTLE POSITION _____

INDEX MISSILE, RELOAD AS REQUIRED. REPORT REDCON ONE, OVER.

PROMPT

ALERT	_____ THIS IS _____
WEAPON/AMMO	MISSILE
TARGET DESCRIPTION	TANKS, LIGHT ARMOR AND BUNKER
METHOD	
LOCATION	VICINITY _____ AND VICINITY _____
RANGE	
CONTROLS	ENGAGE UPON POSITIVE IDENTIFICATION.
EXECUTION	WEAPONS FREE, WEAPONS FREE.
CONTROLS	REPORT WHEN SECTOR CLEAR, OVER.

LEGEND

AP	**ARMOR PIERCING**	**SIMS**	**SIMULATION**
HE	**HIGH EXPLOSIVE**	**TOW**	**TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED**
mm	**MILLIMETER**		
REDCON	**READINESS CONDITION**		

Figure F-30. Engagement M69 munitions and script worksheet

ASSESS TABLE M

F-69. The intent of STXs is to train the crews within the organization on the appropriate conduct of fire skills, various crew critical skills, and emergency procedures across two training days. Proper evaluation and assessment of crew performance is key to improving individual and crew skills prior to moving to the live-fire events.

F-70. Units can maximize their AARs and assessments of training by fully integrating CVTESS, HITS, LTIDs, and CMU/IPU/CMUR systems in the training event. These systems used together provide a near-digital range facility capability at the company and battalion level.

MISSILE ENGAGEMENT TIMING EVENTS AND SCORING

F-71. For accurate timing and evaluation of the crew's missile engagement and target tracking techniques, some form of thru-sight video must be used. If no thru-sight video is available, the VCE will be in the back of the vehicle, provided the squad leaders display is functional.

F-72. Missile engagement timing events (see figure F-31) and a DA Form 8265 (see figure F-32 on page 446 through figure F-35 on page 450) are demonstrated.

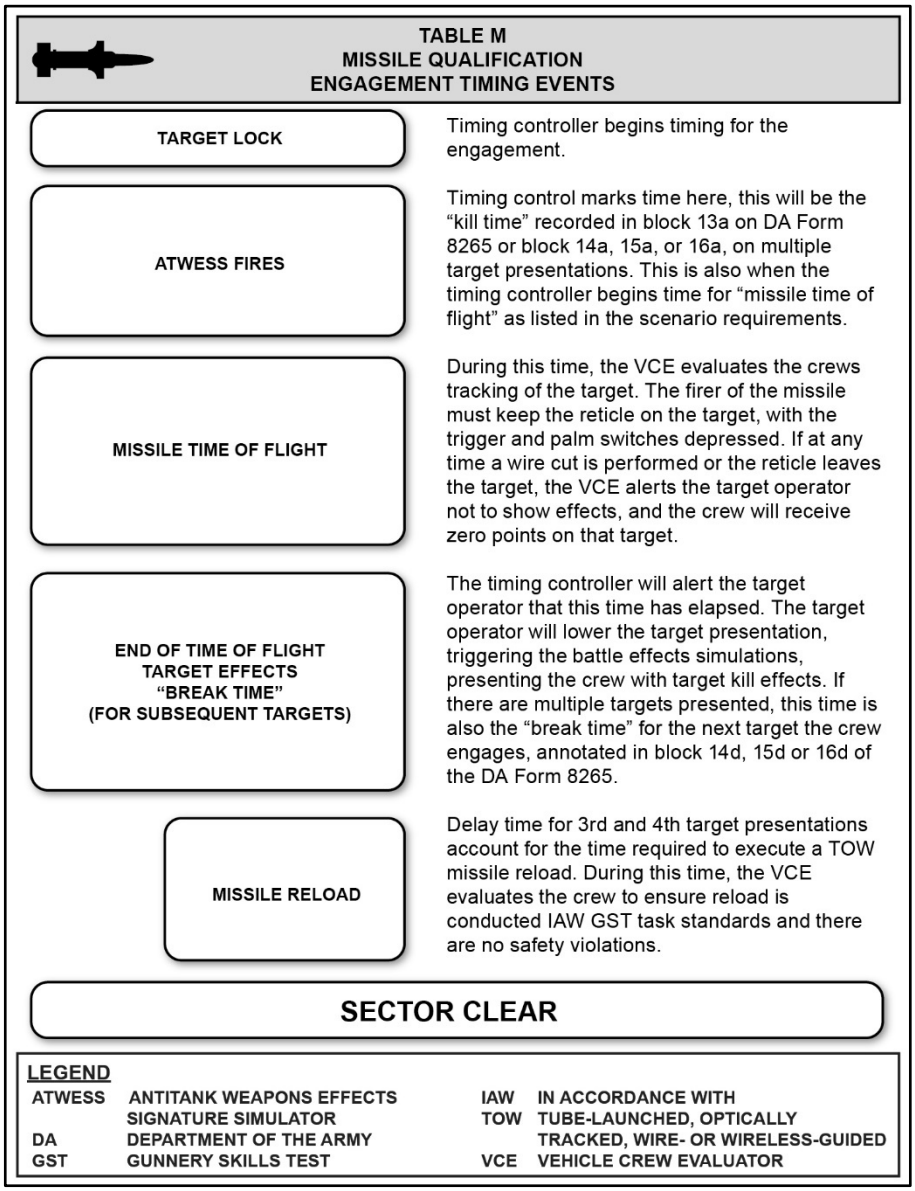


Figure F-31. Missile engagement timing events

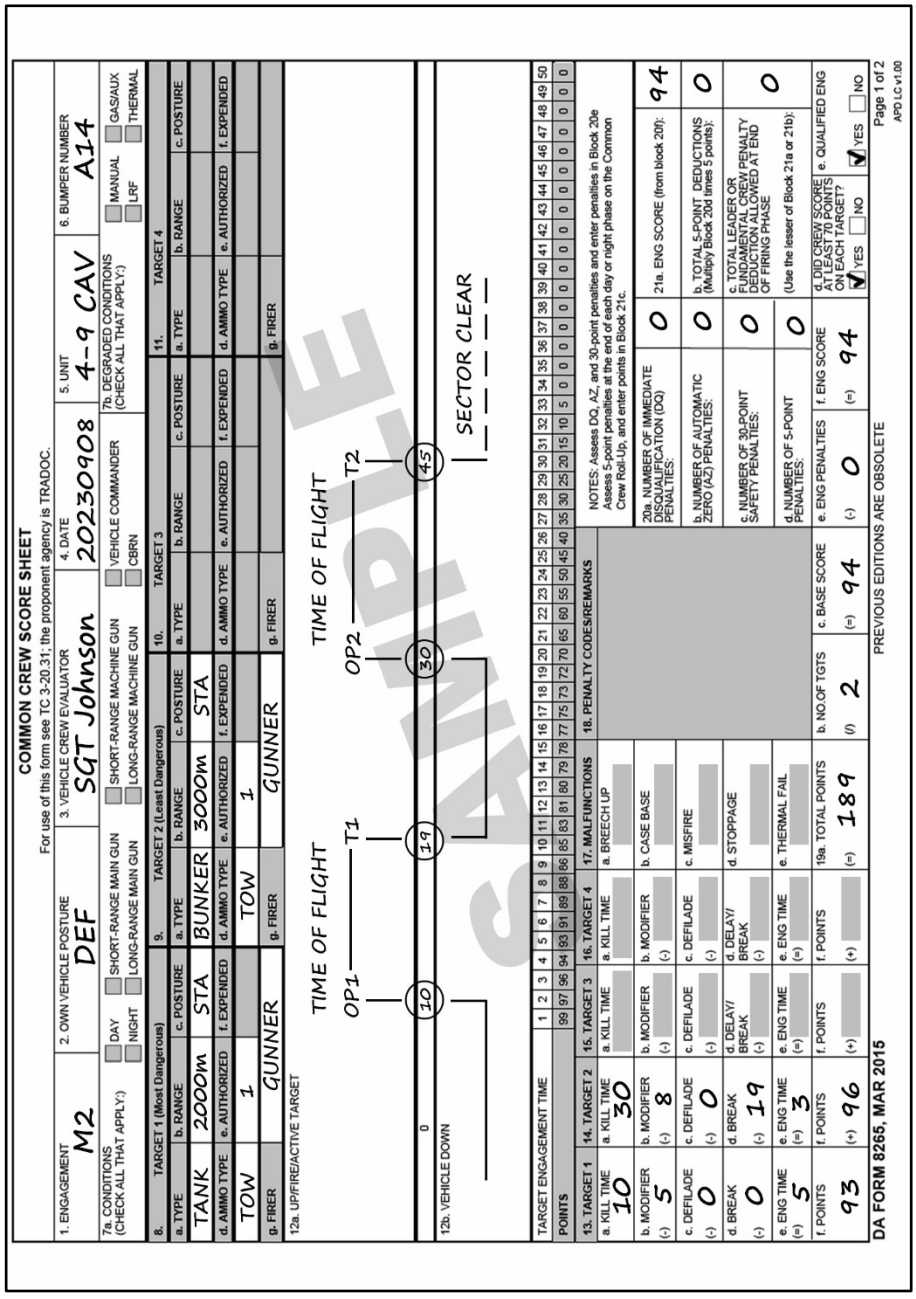


Figure F-32. DA Form 8265 (Common crew score sheet) example

Kill Time

F-73. Kill times, box 13a and 14a for targets 1 and 2 in this example, are shown in figure F-33. This time is determined by the time elapsed from target lock until the crew has engaged the target and the ATWESS charge has fired.

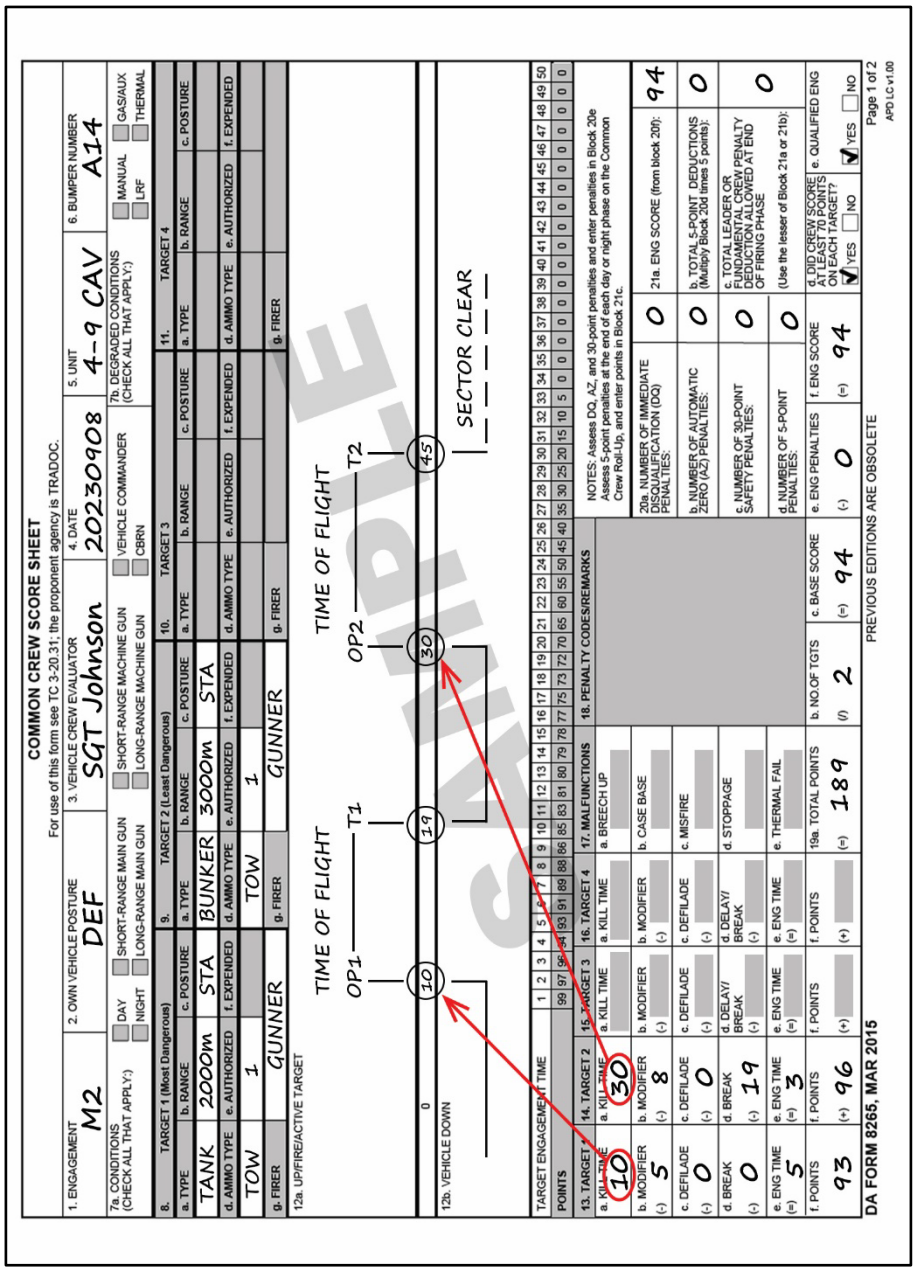


Figure F-33. DA Form 8265 (Common crew score sheet)–kill time, example

Engagement Modifier–Table M

F-74. The EM for a missile engagement is calculated using Bradley as the firer in DA Form 8265 page 2, block 1. Blocks 2-4 are used in the calculation of the EM. Block 5 on DA Form 8265 page 2, range to target is not used when calculating EMs for missile engagements. The EMs for Table M, Missile Qualification are included in the scenario requirements and no deviations are authorized.

Defilade

F-75. Missiles can be fired from the defilade, and no defilade time is authorized, regardless of if the crew chooses to move to the enfilade position prior to firing or not.

Break

F-76. Break or target break time on missile engagements applies only to multiple target presentations. No target break time is authorized on single target presentations or for the first target engaged in multiple target engagements. The break time for second, third, and fourth target presentations is the calculated using the time elapsed at the moment the crew has destroyed the previous target engaged.

F-77. The break time for Target 2, is recorded as the time the crew destroyed Target 1 (see figure F-34). The timing controller marks this time when the target operator indicates a successful target destruction to the crew by firing the BES and lowering the target engaged. Assuming the crew has successfully engaged and destroyed the target, this should be the kill time from block 13a plus the time of flight for the missile listed in the scenario requirements.

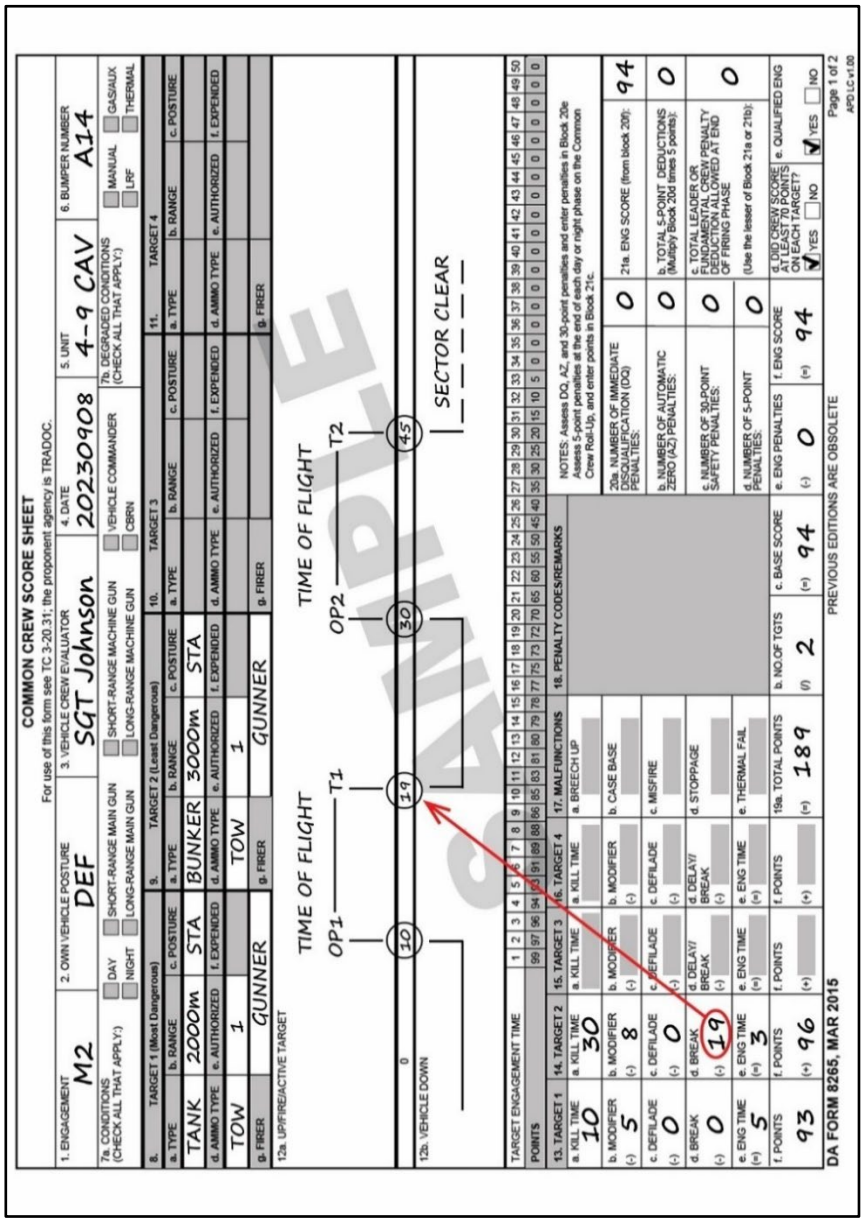


Figure F-34. DA Form 8265–(Common crew score sheet) Break Time, example

Engagement Time

F-78. Engagement time is calculated by following the instructions on the DA Form 8265 and subtracting the modifier, defilade, and break times from the kill time. The values are then aligned with the corresponding point values below the target engagement time shown (see figure F-35).

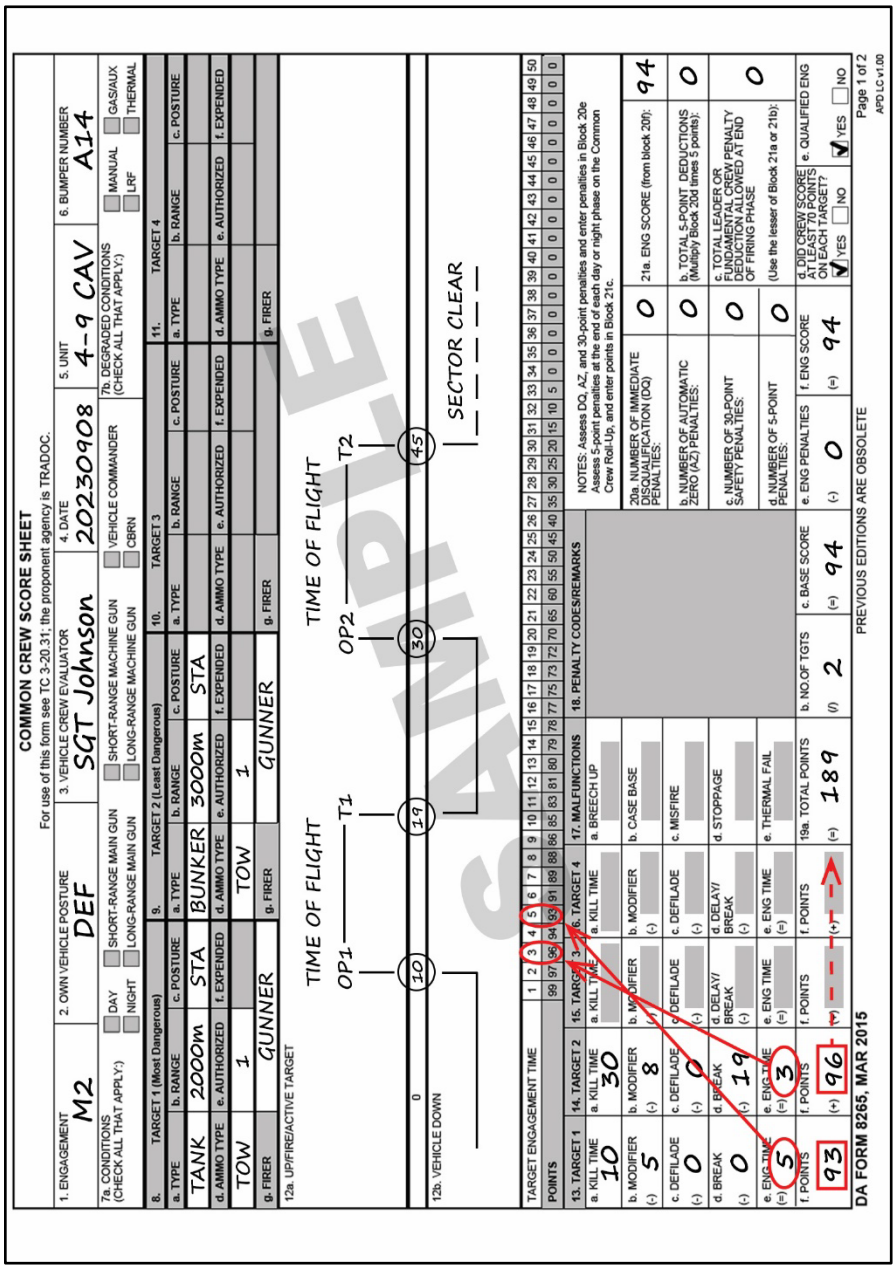


Figure F-35. DA Form 8265–(Common crew score sheet) ENG Time, example

Crew Evaluation During Missile Time of Flight

F-79. The most critical events of a missile engagement take place after the trigger squeeze. During the missile time of flight, the VCE is evaluating the missile firer on their ability to maintain their reticle on the target. If at any time the reticle is removed from the target, the firer will have failed to destroy the target and will have to attempt to reengage.

F-80. If during the missile time of flight, the firer, or VC perform a wire cut and aborts the missile flight, the crew will have failed to destroy the target and will have to attempt to reengage.

F-81. If the crew fails to track the target or performs a wire cut, the VCE will announce to the target controller that this has occurred, and the operator will not trigger the effects simulator or lower the target presentation. No reengagement of a target is authorized, and the crew will receive zero points for any missed targets.

F-82. If target exposure time ends prior to the completion of the prescribed missile time of flight for the engaged target, the crew will have failed to destroy the target and will receive zero points on that target presentation.

Missile Reloads

F-83. Reloading the TOW missile is a critical task associated with missile engagements and proficiency. Crews must demonstrate their ability to quickly and safely reload their own missiles and continue to engage the threats presented. The VCE will evaluate this task and record points of success or failure on the DA Form 8265 and review them with the crew during the AAR. Any safety violation will result in the crew receiving an auto-zero for that engagement.

FIRING GROUP AFTER ACTION REVIEWS–TABLE M

F-84. For the firing group, each crew is given an AAR at the completion of the day phase and night phase by a qualified VCE. Use DA Form 8265-1 to record and track the results of each crew's performance on each engagement at the completion of each phase. Tracking crew and platoon statistics on each engagement allow the unit leadership to identify areas for improvement.

Note. VCEs must be certified or recertified as described in TC 3-20.31. Performing the duties as a VCE during the conduct of Table III, STX is a significant part of building experience and knowledge of those gunners and VCs without firing.

F-85. Units should track the various firing information from the score sheets to identify where in the conduct of fire crews and the overall unit should apply additional training effort. Some of those indicators are—

- Target acquisition, detection, and identification.
- Time to fire.
- Time to kill.
- Opening and closing times for machine gun engagements.

- Gunner lay errors.
- Scanning techniques.
- Engagement techniques.
- Conduct of fire issues.
- Penalties by type.

F-86. Each crew should receive a formal AAR following the guidelines found in TC 3-20.31. Each evaluator should use DA Form 8265 and DA Form 8265-1 as the basis for their evaluation, identifying the firing occasional information from the score sheet timelines. The evaluator and VC each review and sign the DA Form 8265-1.

CRITICAL SKILLS TASK AFTER ACTION REVIEWS–TABLE M

F-87. OC/Ts should provide clear and articulate comments and insight about the positive and negative actions of the crews they observed. OC/Ts should use the T&EOs to guide them through the evaluation process and use the doctrinal publications to support their comments.

F-88. The OC/T and unit leadership should review the T&EOs and training notes and observations to determine which tasks require additional attention through the remainder of the training density.

F-89. The OC/T should share the overall performance of the unit, including the observations, with the entire training unit. This allows the subordinate units to learn from other unit's best practices, procedures, and tactics, and at times from their shortcomings or mistakes. The commander should identify crews within the organization that demonstrate superior performance.

F-90. At the completion of this portion of crew Table M, Missile Qualification, commanders, executive officers, and 1SGs should gain insight to where their unit's SOPs are working and where they need additional attention. If time is available, commanders should update and provide those changes or revisions to the unit prior to executing any live-fire event. Of particular interest is the drivers' training program, vehicle load plans, stowage of individual tactical gear, crew evacuation procedures, and medical evacuation procedures.

RETRAIN–TABLE M

F-91. The unit Master Gunner maintains the unit roll-up by engagement. A subcategorized roll-up by platoons provides the commander a snapshot of training trends, strengths, and weaknesses. The Master Gunner should not only identify crews that did not achieve a passing standard, but also crews that struggled on specific engagement tasks. Once done, the unit can establish and conduct the appropriate focused retraining followed by a subsequent evaluation.

F-92. All crews must successfully complete the course of fire based on the standards for the engagements listed earlier in this chapter. No crew may proceed to Table IV or any other live-fire event, including zeroing, or sub-caliber events until they have achieved the minimum standard on Table III.

F-93. Platoon sergeants and platoon leaders should identify crews that require additional training on the various crew critical skills. Although the evaluation may be completed,

units should integrate sustainment training into their unit training plans, particularly when environmental conditions change, movement during limited visibility is required, or planning or expecting tactical movement through restricted or rugged terrain.

DRIVER'S TRAINING–TABLE M

F-94. Leaders should determine the number of miles driven during the day and night phases for their assigned drivers. This information should be recorded, including the miles driven, miles driven with the enhanced viewer, and any tactical (off-road) miles driven.

CREW GUNNERY FOLDER RECORDS–TABLE M

F-95. Once testing is complete, the Master Gunner records the results of all training completed in the crew gunnery folder. The records must be maintained for a minimum of 12 months.

RECORD INDIVIDUAL TASK PERFORMANCE–TABLE M

F-96. Leaders track and train their Soldier's individual and collective tasks trained and evaluated using tools provided by the ATN such as the SULT and the DJB. These systems interface directly with the DTMS to record training and evaluation results.

Note. Leaders must be granted access first by their commander or DTMS manager to enroll or assign their Soldiers the specific tasks from the ICTL that are trained and tested during the training event.

F-97. From within the SULT, the authorized leader is enabled to view, maintain, and update—

- Warrior tasks and battle drills.
- MOS-specific individual critical tasks.
- Unit-mandated training tasks.
- Supporting T&EOs (access dependent on proponent distribution restrictions).

F-98. Leaders should update their Soldier's individual training records for training and evaluation of the following tasks, based on their assigned position. This is not an all-inclusive list of the trained and tested tasks for this event. Leaders should adjust based on the unit's additions to the event.

F-99. This ensures historical data is available throughout the Army force generation training cycle for the chain of command to assess strengths and weaknesses of crews and address these concerns in upcoming GST training. The most current GST records must accompany the unit or crew throughout the entire weapons training density.

UPDATING INDIVIDUAL TRAINING RECORDS–TABLE M

F-100. Leaders update their SULT application with the appropriate training and evaluation outcomes for their crewmembers. The lists provided show the touch points associated with completing Table M.

F-101. Leaders must determine if the tasks were effectively trained to the Soldier and the level of proficiency based upon their performance. Leaders then update the tasks for each Soldier based on their assessment. (See tasks that are included within this event for the crew in figure F-36 through page 458.)



TABLE M, QUALIFICATION INDIVIDUAL TASK TOUCH POINTS

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-091-1023	Conduct Vehicle Resupply	Yes		
171-121-3009	Control Techniques of Movement	Yes		
171-121-4021	Plan Range Operations	Yes		
171-121-4028	Plan Occupation of a Battle Position	Yes		
171-121-4030	Conduct Vehicle Tactical Navigation	Yes		
171-121-4041	Conduct Combat Table Operations	Yes		
171-121-4051	Prepare a Situation Report (SITREP)	Yes		
171-121-4057	Perform Techniques of Movement	Yes		
171-121-4062	Issue an Oral Operation Order (OPORD)-Fragmentary Order (FRAGORD)	Yes		
171-121-4064	Prepare Logistical Status (LOGSTAT) Reports	Yes		
171-121-4065	Direct Vehicle Tactical Movement	Yes		
171-121-4067	Execute Platoon Precombat Operations	Yes		
171-122-1061	Maintain Property Accountability	Yes	Yes	Yes
171-123-1000	Occupy of a Vehicle Fighting Position	Yes		

Figure F-36. Table M, Missile Qualification, task touch points



TABLE M, QUALIFICATION INDIVIDUAL TASK TOUCH POINTS				
TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-123-1023	Maintain Operator's Part of Equipment Record Folder		Yes	Yes
171-123-1090	Perform Preventative Maintenance on Basic Issue Items (BII)		Yes	Yes
171-123-3001	Supervise Personnel Handling Ammunition	Yes		
171-123-4020	Perform Operator Maintenance on Global Positioning System (GPS)		Yes	Yes
171-131-2017	Identify Ammunition Container Markings	Yes	Yes	
171-131-2018	Identify the Components of Main Gun and Small Arms Ammunition	Yes	Yes	
171-136-0002	Mount Combat Identification Panels (CIPs) on a Bradley Fighting Vehicle (BFV)	Yes	Yes	Yes
171-138-0009	Troubleshoot Operational Malfunctions on Multiple Integrated Laser Engagement System (MILES)	Yes	Yes	
171-138-0015	Conduct Advanced Vehicle Identification	Yes	Yes	
171-138-0017	Identify Restricted and Suspended Ammunition	Yes	Yes	
171-138-0021	Conduct Individual Weapon and Crew Served Ranges	Yes	Yes	Yes
171-138-0022	Demonstrate Target Acquisition Methods	Yes	Yes	Yes
171-138-0028	Identify Combat Vehicles and Aircraft	Yes	Yes	Yes
171-151-0009	Maintain the AN/VAS-5B Driver's Vision Enhancer (DVE)			Yes
171-19K-2237	Conduct Alternative Range Determinations on an M1 Series Tank	Yes	Yes	

Figure F-36. Table M, Missile Qualification, task touch points, continued



TABLE M, QUALIFICATION
INDIVIDUAL TASK TOUCH POINTS, CONTINUED

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-300-0083	Enforce Rules of Engagement (ROE)	Yes		
171-309-0650	Inspect DA Form 5988-E or DA Form 2404	Yes	Yes	
171-610-0001	Perform a Map Reconnaissance	Yes	Yes	Yes
171-610-0002	Recognize Threat Tactics and Battlefield Organization	Yes	Yes	Yes
171-620-0123	Employ Common Operational Terms and Graphics	Yes		
171-905-0002	Install a Multiple Integrated Laser Engagement System (MILES) on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-924-0015	Perform Duties as a Vehicle Crew Evaluator (VCE)	Yes		
171-928-0002	Remove Crew Module Unit Recorder (CMUR) the on an M1-Series Tank	Yes	Yes	
171-928-0003	Install the Thru-Sight Video-Recorder (TSV-R) Subsystem of the Thru-Sight Video (TSV) System on a Bradley Fighting Vehicle (BFV)	Yes	Yes	Yes
171-928-0005	Install the Crew Module Unit Recorder (CMUR) on a Stryker Mobile Gun System (MGS)	Yes	Yes	Yes
171-928-0009	Perform Pre-Operational Set-Up Procedures for the Thru-Sight Video-Recorder (TSV-R) Subsystem of the Thru-Sight Video (TSV) System	Yes		
171-928-0010	Operate the Crew Modular Unit Recorder (CMUR)	Yes	Yes	
171-928-0011	Perform Preventive Maintenance Checks & Services (PMCS) on the Thru-Sight Video (TSV) System	Yes	Yes	

LEGEND
DA DEPARTMENT OF THE ARMY

Figure F-36. Table M, Missile Qualification, task touch points, continued



TABLE M, QUALIFICATION
INDIVIDUAL TASK TOUCH POINTS, CONTINUED

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-928-0012	Troubleshoot the Thru-Sight Video (TSV) System	Yes	Yes	
171-928-0013	Conduct an After Action Review Using the Thru-Sight Video (TSV) System	Yes		
171-BFV-0001	Maintain the Hull on a Bradley Fighting Vehicle (BFV)	Yes	Yes	Yes
171-BFV-0002	Maintain the Turret on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0004	Drive a Bradley Fighting Vehicle (BFV)			Yes
171-BFV-0010	Slave Start an M2A3 Bradley Fighting Vehicle (BFV)			Yes
171-BFV-0013	Operate the Driver's Vision Enhancer-Wide (DVE-W) on the M2A4 Bradley Fighting Vehicle (BFV)			Yes
171-BFV-0016	Stow Ammunition on an Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-0300	Load the TOW Missile Launcher on a Bradley Fighting Vehicle (BFV)			
171-BFV-0301	Fire the TOW Missile on a Bradley Fighting Vehicle (BFV)			
171-BFV-0303	React to a Misfire of the TOW System on a Bradley Fighting Vehicle (BFV)			
171-BFV-0305	Unload the TOW Missile Launcher on a Bradley Fighting Vehicle (BFV)			
171-BFV-1200	Engage Targets using the Weapon Systems on a Bradley Fighting Vehicle (BFV)	Yes	Yes	
171-BFV-3000	Direct Engagements from the Commander's Position on a Bradley Fighting Vehicle (BFV)	Yes		

LEGEND
TOW TUBE-LAUNCHED, OPTICALLY TRACKED, WIRE- OR WIRELESS-GUIDED

Figure F-36. Table M, Missile Qualification, task touch points, continued



TABLE M, QUALIFICATION
INDIVIDUAL TASK TOUCH POINTS, CONTINUED

TASK NUMBER	TITLE	VEHICLE COMMANDER (VC)	GUNNER	DRIVER
171-COM-0302	Conduct Occupation of an Assembly Area	Yes		
171-COM-4079	Send a Situation Report (SITREP)	Yes	Yes	
171-COM-4080	Send a Spot Report (SPOTREP)	Yes	Yes	Yes

Figure F-36. Table M, Missile Qualification, task touch points, continued

Glossary

The glossary lists acronyms.

ACRONYMS AND ABBREVIATIONS

1SG	first sergeant
AAR	after action review
AR	Army regulation
ASP	ammunition supply point
ATN	Army Training Network
ATWESS	antitank weapons effect signature simulator
AUX	auxiliary
BES	battle effects simulator
BFV	Bradley fighting vehicle
CBRN	chemical, biological, radiological, or nuclear
CMU	crew module unit
CMUR	crew module unit recorder
DA	Department of the Army
DDI	dummy, drilled, inert
DJB	digital job book
DTMS	Digital Training Management System
DVO	direct view optic
EM	engagement modifier
FM	field manual, frequency modulation
FRAGORD	fragmentary order
GST	gunnery skills test
GTLF	gate to live fire
HITS	home station/Army mobile instrumentation training system
I-MILES CVTESS	instrumentable–multiple integrated laser engagement system combat vehicle tactical engagement simulation system
IAW	in accordance with
ICTL	individual critical task list
IPU	integrated player unit

KE	kinetic energy
LTID	laser-target interface device
mm	millimeter
MOS	military occupational specialty
NCOIC	noncommissioned officer in charge
OC/T	observer-coach/trainer
OPORD	operation order
Pam	pamphlet
SOP	standard operating procedure
STX	situational training exercise
STX-V	situational training exercise-virtual
SULT	small unit leader tool
T&EO	training and evaluation outline
T&MB	tracking and manipulation board
T-	training week/month minus (the number of weeks/months) until execution
T-execution	training execution (commencement day)
TADSS	training aids, devices, simulators, and simulations
TAS	target acquisition system
TC	training circular
TOW	tube launched, optically tracked, wire or wireless guided
TPDS-T	target-practice, discarding sabot with tracer
TSC	training support center
TTP	tactics, techniques, and procedures
T-week	week of training execution
U.S.	United States
VC	vehicle commander
VCE	vehicle crew evaluator
WARNORD	warning order

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23 July 2025

By Order of the Secretary of the Army:

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General, United States Army
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PIN: 221259-000