

# NATIONAL TRAINING CENTER DRAFT



## GUNNERY SOP

**National Training Center Master Gunner Handbook**  
DEPARTMENT OF THE ARMY  
Headquarters National Training Center  
Fort Irwin, CA 92310

1. References (Annex R)

2. Purpose. The description of the policies and procedures for all units in preparation and conduct of gunnery / live-fire training for major weapon systems at the National Training Center (NTC).

3. Applicability. This SOP applies to all personnel at the National Training Center conducting gunnery training.

4. Concepts and Policy.

a. This Gunnery SOP is not a stand-alone document for range operations and gunnery training. Users of NTC ranges and facilities must be thoroughly familiar with the references listed above and the appropriate FM(s) for the weapon(s) to be fired. When the Gunnery SOP is used in conjunction with the regulations referenced above and the appropriate FM for each weapons system, it serves to supplement and reinforce those areas essential to ensuring realistic and safe operations. Additionally, this Gunnery SOP provides specific guidance that is essential to Fort Irwin training methodology and the distinct training requirements of a contingency division.

b. The Fort Irwin gunnery program is built around the following basic tenets:

1. War Fighting Function, METL, Battle Tasks, and/or platoon battle drills will be used to design gunnery training and scenarios for tables above individual crew qualification.

2. Use existing training devices and simulations to sustain gunnery skills throughout the year. Execute a sustained year round Crew Advanced Gunnery Training Simulator (CAGTS), Unit Conduct of Fire Trainer (UCOFT) training program.

3. Conduct preliminary training/testing (Gunnery Skills Test) and maintenance checks to the standards specified in the applicable FM's / TM's.

4. Conduct crew/squad through platoon qualifications.

5. Provide professional and immediate feedback to the soldiers and crews via interactive AAR's.

6. Safety in training is commander's business.

5. A copy of NTC REG 350-3 and Fort Irwin Gunnery SOP will be present on all live-fire ranges.

\*NOTE – Leave inserted if this is a requirement for Rotational and visiting Units, if not this information should be obtained before signing for the Range.

6. The Fort Irwin Master Gunners are the subject matter experts on gunnery and all gunnery related issues. They are my personal representatives on all NTC ranges. Unit commanders are strongly advised to consider all recommendations concerning the maintaining of gunnery standards.

7. Exception to Policy. Any requests for exception to the requirements of this SOP will be submitted in writing to CofS, G3 National Training Center, ATTN: G3 Training, for approval.

8. Point of contact is the National Training Center G3 Training Master Gunner at 380-3328 / 6776.

**TRAIN THE FORCE!**

TERRY R. FERRELL  
BG, USA  
Commander

## Overview

1. References: See ANNEX R.
2. Purpose. To provide National Training Center's units guidance for the planning and conduct of gunnery training. It also establishes responsibilities for range operations and support. Also as a pocket guide to provide the user with a quick ready reference for the field, in order to assist in developing a training plan. It provides standards and procedures for safe firing of ammunition for training.
3. Objectives: To train and qualify crews on their weapons systems while proofing all weapons systems and platforms. General policies and procedures prescribed by AR 385-63 and NTC Reg. 350-3 applies to the operations of all Armor/Mechanized ranges. Safety precautions are prescribed in NTC Reg. 350-3, pertinent AR's, FM's TM's and sound safety practices are observed by units firing on Fort Irwin Facilities.
  - a. Meet all individual and crew qualification standards specified in DA PAM 350-38, Standards in Weapons Training (STRAC). FM 3-04.140 provides commanders with the information and guidance needed to develop and incorporate gunnery training into the Air Crew Training Program. Units wishing to conduct live fire training at the National Training Center must comply with the requirements outlined in FORSCOM Reg 350-50-1 para 3a(4).
  - b. Qualify all Bradley and Tank platoon's on Table VI annually.
  - c. Bradley and Tank organizations conduct a 3-Day War exercise annually.
  - d. Qualify all Scout and Military Police sections on Table VI annually.
  - e. Qualify all squads and platoon on dismounted squad live-fire exercise.
  - f. Conduct NTC Company Team Live Fire annually.
4. Training precepts. As Fort Irwin, gunnery skills must be sustained throughout the year. We do not have the luxury of allowing gunnery skills to decrease during the period between rotational training exercises. We must sustain perishable gunnery skills by using the following techniques and program.
5. Home Station Unit Training.
  - a. Classroom instruction that teaches crewmembers how their system works.
  - b. Squad Training Exercises allowing company commanders to train their squads prior to live-fire exercises at NTC.
  - c. Movement / weapons training for dismounted infantry

- d. GST / Mortar Skills Test
- e. UCOFT / CAGTS and PGT training requirements
- f. VCE Certification
- g. Instructor / Operator Course
- h. Master Gunner selection and schooling
- i. Excellence in Armor Program

5. Responsibilities.

a. G3

- 1. Assist subordinate units in attaining their gunnery objectives
- 2. Schedule ranges for the execution of gunnery.
- 3. Inspect to ensure compliance with established standards.
- 4. Maintain gunnery-related information to include the daily firing schedule, provide gunnery analysis of qualification statistics.

b. G4

- 1. Coordinate and de-conflict all movement requirements. Provide the PMO with a copy of all road movement requests and approved credits as they become available. Assist in development of the concept for logistical support.
- 2. PAO: Provide media coverage of gunnery densities, to include photographs for publications.

c. CSSB

- 1. Provide CSS support to the participating units
- 2. Issue track and clear all ammunition accounts. Representative will sign for all Ammunition Holding Area (AHA) pads and sub-hand receipt down to MSC's.

d. NTC Safety Office

- 1. Provide staff supervision for safety training, procedures, and issues.
- 2. Conduct periodic safety inspections to ensure compliance with established safety procedures.

3. Update Fort Irwin Master Gunners on all safety information and major violations.

e. Brigade Commanders (11ACR, 916 SB , Separates).

1. Conduct gunnery training and maintenance IAW procedures outlined in this document and appropriate field manuals.

2. Place special emphasis on armament accuracy checks and TOW verification tests, and other validation of mechanical/electronic systems prior to gunnery.

f. Commander, Engineer Brigade / Battalion

1. Conduct gunnery training and maintenance IAW procedures outlined in this document and appropriate field manuals.

2. Provide engineer support for range preparation if needed and gunnery execution.

3. Conduct collective training as task organized when supporting Table VI and NTC LFX.

g. Commander, Artillery Battery / Battalion

1. Conduct gunnery training and maintenance IAW procedures outlined in this document and appropriate field manuals.

2. Conduct collective training as task organized when supporting gunnery training.

## **Responsibilities**

### **Unit Commanders**

a. Commanders are responsible for training and testing their personnel on the weapons systems organic to that organization.

b. Ensures personnel performing duties as OIC/RSO are certified IAW with Fort Irwin Regulation 350-3 and AR/DA PAM 385-63. Unit certification program requirements are outline in DAP PAM 385-63 chapter 16, 1-7 and should be IAW appropriate weapon/gunnery manuals and is valid for one year. Once this certification is completed the commander is required to submit an OIC/RSO unit certification memorandum to Range Control, IAW NTC REG 350-3.

c. Only those personnel, who successfully complete the Range Control OIC/RSO qualification briefing and have a Unit Commanders OIC/RSO Certification memorandum on file with Range Control, are approved to sign for and conduct training and range events.

d. Unit Commanders OIC/RSO Certification Memorandum will remain on file at range Control for one year. Range Control can revoke OIC/RSO certification when warranted.

- e. The commander is responsible for safety during all phases of training; however, he/she designates an OIC/RSO for each range or training area event.
- f. Ensures compliance with DA Pam 385-63, applicable technical manuals (TMs) field manuals (FMs), Fort Irwin Regulation 350-3, and applicable SOP's for safe training and firing for each weapons system within the command.
- g. Ensures OICs/RSOs are knowledgeable on the weapons system for which they are responsible for and in safe ammunition handling.
- h. Ensures OIC/RSO have no additional duties, other than the safe operation of that facility.
- i. Ensure unit has scheduled land and ranges needed IAW NTC REG 350-3.

### **Officer in Charge**

a. Range OIC will:

1. Be a commissioned, warrant, or non-commissioned officer, and meet the OIC rank qualification standards outlined in AR/DA PAM 385-63 and NTC REG 350-3.
2. Assigned to the training/firing unit's chain of command
3. Weapons system qualified as determined by the commander's Command Certification Program.
4. Appoint an RSO who meets the rank and qualification standards outlined in AR/DA PAM 385-63 and NTC REG 350-3.
5. Will verify with Range Control that the range or training facilities he/she will be in charge of have been properly scheduled and approved with Range Control before the day of training.
6. Be responsible for the overall safe conduct of training and proper use of facilities. Range firing will be IAW AR385-63, NTC Reg. 350-3, directives/technical manuals for weapons systems fired.
7. Ensure firing conforms to range limitations and established by range safety panels, markers and range fans.

b. Duties:

1. Ensure the overall safe conduct of training and use of the installation training complex

2. Receives a range safety and orientation briefing from the Fort Irwin Range Control on the use of the training ranges and areas
  3. Ensures the RSO is physically present at the range or training site.
  4. Determines when it is safe to fire in accordance with Fort Irwin range and installation requirements.
  5. Ensure receipt of final clearance to fire from range control.
  6. Ensure proper supervision of personnel performing misfire, hang-fire, and cook off procedures.
  7. Ensure proper range communications are established and maintained.
  8. Ensure adequate medical support is available.
  9. Ensure ammunition and explosives are properly handled, transported, stored, and accounted for within the training complex.
  10. Ensures a written log is maintained of pertinent safety and control data concerning operation of firing ranges, authorized operating times, impact areas entries and exits, and cease fire authorizations.
  11. Ensures plans for firing exercises and maneuvers are coordinated with range control.
  12. Briefs the RSO on the duties to be performed in support of range training event. Clearly establishes the requirements for the RSO to brief OIC on the safety of the facility and the unit.
- c. Before “occupying” any range the OIC will :
1. Ensure following items are present and or actions have been accomplish
  2. Fort Irwin Reg. 350-3 & NTG Gunnery SOP, and unit SOP’s
  3. Current map of Fort Irwin, DMA Edition 03-ITAM, 1:50,000 scale
  4. Compass
  5. Aiming circles (live fire-Artillery/Mortar points)
  6. Appropriate Field Manuals (FMs) Technical Manuals (TMs)

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7. FM Radio communications has been established with Range Control on FM 38.90 (Primary Frequency) RCS channel 295 (Alternate Frequency) and 760-380-3878 subsequent.
  8. Permission has been granted by Range Control to occupy Training Area or Range.
- d. Live Fire Ranges:
1. Red range flag (day) or red blinking light (night) is attached to the top of the range flagpole. Also at night, red light is visible to all firers on the left and right range marker.
  2. No personnel (including target detail) are down range and personnel firing on the range know the firing limits, authorized maneuver box on combat maneuver ranges (marked with red and white triangle boards).
  3. Before firing on any range, the OIC will contact Range Control Operations, using primary means of communications (FM Radio) and request permission to go into a “hot status” Operations will then verify the following required information on file at Range Control.
    - (a.) Unit to fire
    - (b.) Type of weapon (s) to fire.
    - (c.) Ammunition to be fired
    - (d.) Number of personnel at the firing location
    - (e.) OIC’s rank, last name (spelled phonetically), last four of the social security number (SSN).
    - (f.) RSO’s rank, last name (spelled phonetically), last four of the social security number (SSN).
    - (g.) Roadblock NCO has installed/closed all appropriate barriers.
    - (h.) Confirmation that the range flag (s) is are flying (or red blinking light).
  4. Once the range is (hot), the OIC or RSO will continuously monitor the Range Control primary Frequency (FM 38.90) Range Control will initiate all communications checks
  5. Radio communications are to be maintained with range control.
  6. Effective control of firing is maintained and required safety measures are observed, to include both OIC and RSO being present on the range.

7. No firing is directed toward historical monuments, trees or shrubs, dams, lakes, roads, light poles, any form of wild life or habitat designated as an endangered species site or other natural or manmade object except for prescribed targets.
8. Report target malfunctions or facility damage to Range Control Operations immediately.
9. Personnel will use adequate hearing protection.
10. Range control will be notified immediately when OIC or RSO is replaced whether unit is hot or dry status.
11. A cease fire is ordered and /or prescribed when:
  - (a.) Communications with Range Control is Lost.
  - (b.) A weapon or ammunition malfunction occurs.
  - (c.) A safety violation, accident, or incident occurs.
  - (d.) A fire is observed.
  - (e.) When directed by range control.
12. When the unit has completed firing or at 2400 hours, the following closing data will be provided
  - (a.) Number of personnel trained, type/amount of ammunition expended.
  - (b.) Will ammunition, weapons, sensitive items, and/or vehicles and equipment remain on the range?
  - (c.) Are there any rounds in the misfire pit?
  - (d.) Name, rank, and last four of SSN of NCOIC of guard detail and number of guards left on range (guard status).
13. After using any facility, the OIC will ensure:
  - (a.) Weapons are cleared of all ammunition.
  - (b.) Ammunition, simulators, explosives, and pyrotechnics are removed from the facility and not buried/abandoned at the facility.
  - (c.) Misfires are disposed per regulation and local policy.

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- (d.) Expended casing, brass, metal links, and unused ammunition boxes and propellant charge canisters will be turned-in.
- (e.) Packing material and trash are removed from the range/facility.
- (f.) A thorough police call of the facility is made, to include cleaning latrines and any other structure used.
- (g.) Range equipment and targets are removed and turned in/store per specific instruction from facility/range used.
- (h.) Before departure from any range facility or training area, the OIC will contact Range Control to request inspection and clearance of area assigned.
- (i.) Units firing beyond 2400 must re-occupy that facility.

**Range Safety Officer**

## a. The RSO will

- 1. Be a commissioned, warrant, or non-commissioned officer, and meet the RSO rank and qualification standards outlined in AR/DA Pam 385-63 and NTC REG. 350-3.
- 2. Assigned to the training/firing unit's chain of command
- 3. Weapons systems qualified as determined by the commander's Command Certification Program.

## b. Duties:

- 1. Receives range safety briefing from Fort Irwin range control on the use of ranges and training areas.
- 2. All safety regulations are enforced.
- 3. All ammunition is handled correctly.
- 4. Smoking restrictions are enforced.
- 5. Weapons and personnel are properly positioned.
- 6. Authorized ammunition and explosives to include proper charge, fuze and fuze settings are used.

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7. All ammunition is checked for restricted or suspended lots using TB 9-1300-385.
8. Firing settings and weapons systems are within prescribed safety limits and verified.
9. SDZ is clear of all personnel, and equipment.
10. Personnel have eye and hearing protection and are wearing it correctly.
11. Misfires are handled as stated in DA Pam 385-63 and appropriate operators' manual.
12. Weapons remain pointed down range toward the impact area at all times.
13. DA Form 2408-4 (Weapon Record Data) when required are checked for accuracy and gun tube status.
14. Barriers and guards are in place.
15. Check medics to make sure they have all the required medical supplies and a vehicle for transporting casualties.

**Additional Range Personnel**

- a. NCOIC who will supervise details and assist the OIC and RSO.
  1. Coordinate placement of vehicles upon arrival.
- c. Ammunition NCO who will make sure:
  1. All ammunition is delivered and properly stored at the training site.
  2. The correct type and amount of ammunition is present at each training site.
  3. Each Vehicle, crew, or individual receives proper number of rounds, by type, as required IAW weapon qualification standards.
  4. The training Facility is properly policed of brass and packing materials.
  5. All ammunition is checked to make sure no restrictions or suspended lots are used IAW TB 9-1300-385.
- d. Target NCO who will make sure:
  1. Targets are the type and color specified by the OIC and placed in the correct array.

2. The target detail is available when needed.
  3. There are enough spare targets, target mechanisms, and batteries on hand to support the range.
- e. Evaluators who will:
1. Act as instructors during practice exercises.
  2. Act as evaluators during qualification.
  3. Conduct firing, as directed by the OIC.
  4. Ensure compliance with all safety procedures.
- f. Fire-fighting detail:
1. Know who they are.
  2. Know the location of the fire-fighting equipment.
  3. Know how to use the equipment.
- g. Radiotelephone operators (RTO):
1. Be able to operate the radio(s).
  2. Be able to use the ANCD/SKL properly.
  3. Maintain a communications log.
- h. Medics:
1. Have an identification card with a red cross on it, or memorandum for record (MFR) from the battalion commander stating he is a qualified to act as an aid man (combat lifesaver).
  2. Have an aid bag with litter.
  3. Have a vehicle available, designated and have been properly dispatched with fuel and oil levels.
  4. Know how to get to the aid station or hospital (primary and alternate route) and have rehearsed the route.
  5. Be a licensed driver (not a primary driver of his vehicle so he can render aid).

- i. Briefing NCO:
  - 1. Knows how to conduct range operations.
  - 2. Know who is firing.
  - 3. Know the results of the individuals, crews, and or platoons who have completed firing.
  - 4. Knows the location of other key personnel.
- j. Concurrent training NCO:
  - 1. Ensures proper set up and running of the concurrent training site.
  - 2. Maintains control of the personnel on the site.
  - 3. Gathers site information for the OIC.
  - 4. Ensure the training is to standard.
- k. Small arms range unit target computer operators.
  - 1. Unit personnel must be trained by Range Control Support Section to operate those small arms ranges that have computer operated target systems installed in the range tower.
  - 2. Unit can schedule target computer classes by contacting Range Support Section Office by calling 760-380-3724.

### **Unit Master Gunners**

- 1. Will ensure that NTC units comply with the policies and procedures in NTC Gunnery SOP and NTC Reg. 350-3 for the preparation and conduct of gunnery / live-fire for major weapon systems.
- 2. Ensure NTC Ranges, Range Control support personnel, target materials and equipment support has been scheduled and coordinated with NTC Range Control IAW NTC Reg. 350-3.
- 3. Scenarios: Unit master gunner will submit Range 1 gunnery scenarios to Range 1 Supervisor NLT 30 working days before range use. Non-standard range event set-up and firing scenarios for all other fixed ranges or for LFX events are coordinated and submitted to the Range Control Safety Officer IAW NTC Reg. 350-3.
- 4. Ensure ammunition has been forecasted with NTC G3 Ammunition Manager.

### **NTC Requirements:**

- a. Range 1 is operated and maintained by G3 Range Control Contractor personnel.

- b. G3 Range Officer is the point of contact for any unresolved problems between.
  
- c. Unit will conduct NTC training and range operations IAW AR/DA Pam 385-63, NTC REG.350-3 and Range Control individual range OIC instruction books. See ANNEX K for scheduling instructions.
  
- d. The contractor is not authorized to make changes to the unit scenarios. The Battalion Master Gunner will make changes up to and including Table V. Table VI scenarios will be approved by the NTC Master Gunners. A request to Change Scenarios form will be filled out and turned in for approval and will be recorded. This must be done prior to changes being made.
  
- e. The OIC or his designated representative will sign for the range and all equipment used in training. He will ensure all personnel are properly briefed prior to the start of training. He is responsible for the conduct of all military personnel on the range. He is responsible for reporting all incidents, accidents, injuries, fuel/oil spills and any damage to the range or range equipment to the tower operator. The Tower operator will submit a report to Range Control.
  
- f. All military or commercial radios to be used on ranges must only operate on frequencies that the unit has been approved to use by the NTC Spectrum Management Office.
  
- g. The unit is responsible for maintaining and cleaning of the AAR building. No furniture will be removed from the building. No food or drink allowed in the AAR facility to include coffee pots. No Tobacco products will be used in the AAR building. The air conditioning thermostats will not be changed. No sleeping is allowed in the AAR building, no exceptions. Do not sit on the tables. Remove LBE/IBA when entering the building.
  
- h. Latrine will be kept clean at all times, daily cleaning is required in both latrines. No graffiti.
  
- i. It is the unit's responsibility to keep the up-range area policed at all times. All trash will be removed by the firing unit.
  
- j. The Range 1 Supervisor or his representative has full responsibility in determining when to power down/up moving targets or range equipment. The contractor will notify the Unit Senior representative/OIC of the need to power down the range in the event of adverse weather to include high winds, rain and electrical storms.
  
- k. No military personnel will go down range on Range 1 at any time unless they coordinate with Range Control Tower operators; this includes the Master Gunner, No Exceptions.

**Specific Requirements:**

- a. The maximum elevation while firing tank main gun will not exceed 89 mils (5 degrees). The maximum elevation for the CEV M278 is 267 mils (15 degrees). The maximum elevation for the M2/M3 will not exceed 177mils (10 degrees).
- b. At no time will troops be allowed forward of the firing line until all guns have been cleared, verified, elevated and clearance to go down range is obtained from Range Control Operations. Target Operators will not be down range during firing.
- c. A red flag (day) or red light (night) will be displayed on each vehicle when weapons are loaded and during firing, from the stationary position. During daylight hours only, this safety precaution may be waived when the unit is firing tactical move-out scenario. Red lights must be used at night, regardless of the scenario, in the best interest of safety and command and control.
- d. Night firing exercises require maximum control and strict adherence to all safety measures. In addition to the use of red lights, additional safety personnel should be considered. All personnel on the range will be familiar with the course layout.
- e. There will be no smoking allowed in vehicles, or tower, smoking is authorized in designated (marked) smoking areas. No smoking within 50 feet of any ammunition storage area or firing position on the range.
- f. OIC will ensure that only authorized POV's are on the range.
- g. Ammunition Storage and Handling: Units will comply with NTC REG.700-4 and 350-3 for drawing transporting and storing ammunition on ranges or training sites. Only ammunition approved for each individual range storage pad/building is authorized to be stored on range. Temporary administrative ammunition holding areas on ranges or training areas for days the facility was not scheduled for use must be pre-approved by the Range Control Safety Officer.
- h. OIC will provide four person target detail, (One NCO and three personnel) with a military vehicle large enough to transport the entire detail. This detail will be under the control of the tower/target operator.
- i. OIC will provide six person detail, (One NCO and five personnel) with a military vehicle large enough to transport the entire detail. This detail will be under the control of the tower/target operator. Under no circumstances will a unit representative attempt repairs or alterations to any range equipment.
- j. OIC's firing log will indicate shutdown times for and will indicate any range deficiencies. When a mover or target lifter becomes inoperative or the unit has completed training, the Range

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Control personnel will inspect all range equipment. Any Damage noted that indicates misuse and/or neglect by the unit require a damage statement by the OIC before being repaired.

**Basic Conduct of Range Procedures**

1. Unit scheduled for firing will ensure the following is accomplished prior to the first scheduled day of occupation:
  - a. The OIC and RSO have valid Safety Briefing Certificates and Unit Commanders OIC/RSO certification Memorandums on file at Range Operations.
  
2. Prior to firing the OIC will ensure:
  - a. The range is occupied IAW NTC Regulation 350-3 and NTC Gunnery SOP.
  - b. Safety briefing is conducted for all personnel on the range.
  - c. Personnel are in the appropriate uniform.
  - d. OIC is responsible for medical evacuation.
  - e. Communication is established with each firing vehicle.
  - f. Range fan markers are visible and can be identified by OIC/RSO and firing vehicle.
  - g. OIC and RSO are familiar with misfire procedures for weapons and ammunition being fired: location of the misfire pit is known.
  - h. Uncrated projectile ammunition and weapon systems are pointed down range. Main guns are elevated and appropriate safety flags (if applicable) are displayed.
  - i. All personnel are briefed on range facility/areas such as parking area, concurrent training area, ASP (if applicable), smoking area is readily identifiable and special equipment (if required: i.e., fire extinguishers) is present.
  
3. During firing the OIC will ensure that:
  - a. Appropriate uniform and individual equipment is worn / used.
  - b. Weapons on the firing line are pointed down range.
  - c. No one moves forward on the firing line.

- d. All safety markers are clearly visible. OIC will cease fire immediately if safety markers cannot be identified.
  - e. Communications is maintained with firing vehicles.
  - f. Vehicle display the proper flags (if applicable) or lights.
  - g. Communications are maintained with Range Control Operations.
4. After firing is completed, OIC will ensure that:
- a. All weapons are cleared and breach is open/bolts are locked to the rear.
  - b. Proper safety markings are displayed by vehicle.
  - c. All brass and ammunition turned in IAW Fort Irwin ASP and NTC Reg. 350-3.
  - d. Targets are removed and disposed of IAW instructions received during OIC briefing by Range Control Inspector.
  - e. Range is thoroughly policed and facilities cleared.
  - f. Damaged and/or unserviceable range equipment is reported to appropriate section of Range Control.
  - g. Unit equipment is removed from the range.
  - h. Excessive ruts caused by maneuvering of track vehicles are leveled.
  - i. Range is closed IAW NTC Regulation 350-3.

## Developing Scenarios for Gunnery Tables

1. The installation may have specific requirements for scenario development. Check with NTC Range Control or NTC Range SOP before beginning. When planning the scenarios for a qualification range, remember that a minimum of two scenarios per lane must be developed and utilized to be considered a qualification range.
2. The following planning guide is designed to help units develop gunnery table scenarios for gunnery ranges and training areas. This planning guide consists of planning, developing, and proofing process.
3. Planning the Scenario. Include the following when planning the range scenario:
  - a. Identify the minimum proficiency level, which tables, and what tasks are going to be fired.
  - b. Coordinate with the range facility manager to gather information about the facility. Determine if the SDZ diagram is current; construct one; if necessary. As a minimum, you will need to obtain the following information about the facility.
    - A Scaled range diagram (preferably in 100 meter increments) that identifies target pits (by type), battle positions, and firing points or the map of the terrain.
    - A fire/no fire matrix (if available), which is the authorized list of targets allowed to be fired within the SDZ diagram from each firing point/battle position.
  - c. Conduct a reconnaissance of the facility to better prepare yourself for the lay of the land.
    - Identify any restrictions for the facility.
    - Determine the best lanes that allow the most targets to be engaged.
    - Determine if the facility supports dual-lane scenarios or only single lane firing.
    - Determine the layout of the course roads to identify course speed.
    - Determine if the facility supports firing multiple weapons platforms simultaneously.
  - d. Based on the assessment of the lanes to be used, determine a course speed, using the following criteria.

- Each offensive firing task will require approximately 58 seconds for a one or two target engagement or 116 seconds for a three target engagement. These times reflect 7.5 seconds on each end of the engagement for speeding up and slowing
- 
- 
- down of the vehicle. The following shows how far a vehicle will travel at speeds indicated:

(a) 40kmph = 11.11 meters per second (m/s).

(b) 35kmph = 9.72 m/s

(c) 30kmph = 8.33 m/s

(d) 25kmph = 6.94 m/s

(e) 20kmph = 5.56 m/s

(f) 15kmph =4.17 m/s

- Given that 58 seconds is constant for on and two target engagements and 116 seconds is constant for three target engagements, base the calculations on the amount of maneuver space available at the facility. For example, if there is 500 meters firing box you will need to incorporate a course speed of 20kmph for a three target engagement. If you used 25 kmph in your calculation, you would bound beyond the limit of the firing box by 250 meters

$$20\text{kmph} = 5.56 \text{ m/s} \times 116 = 645 \text{ meters}$$

$$25\text{kmph} = 6.94 \text{ m/s} \times 116 = 805 \text{ meters}$$

4. Developing the Scenario. Before developing the scenario, you should be able to answer the following questions:

- How many lanes will be fire?
- What is the maximum distance of the firing box for offensive engagements?
- What is the course speed?
- What is the order of tasks for each scenario?
- Is cross firing allowed on the range?

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5. Once the above questions have been answered, continue to develop the scenario, including the following
  - Identify the first firing position and the first task to be fired.
  - Locate targets within the range band for the required conditions of the task. For offensive tasks with delay target(s), you will need to estimate where the firing tank should be (based on course speed) to determine which target(s) to select. Make sure the targets meet the lateral dispersion requirements. A rule of thumb is to identify the lateral dispersion mid-point for the engagement, then adjust to the targetry available. **Identify alternate targets for each engagement.**
  - If you are firing dual lane scenario, consider where the tanks are in relation to each other when on finishes the engagement. Neither firing tank should be placed in the danger zone of the other while firing.
  - When listing target information, include the following.
    - (a) Target pit number.
    - (b) Target type
    - (c) Tank-to-target range
    - (d) Exposure time (delay time, if applicable)
    - (e) Hostile fire signature (at least five seconds after exposure)
    - (f) Type of ammunition to be fired at the target
    - (g) Number of hits required to kill the target
    - (h) Target speed (if moving)
    - (i) Evasive moving target (plan maneuver)
    - (j) Alternate target number (if applicable)
6. Proofing the Scenario. After the scenario is approved by Range Control, it must be proofed on the facility using a Tank / Bradley / ASV(s). **It is imperative that this be conducted before the unit arrives, to prevent lost time. The effort placed on proofing will reap big benefits when it is time to fire.**
7. If firing a dual lane scenario, proof both lanes at the same time- the range computer program is set up this way. All conditions must be the same as if actually firing.

8. Each target should be checked for validity by making sure it can be viewed through the GAS throughout the entire exposure time. Using only the GPS to proof can lead to dead space within the gun-target line. Verify the exposure times when the targets are presented.

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**ANNEX A (Tank Gunnery)**

1. References: See ANNEX R.
2. Purpose. To provide planning guidance for the conduct of Tank crew, section, and platoon qualification tables and to provide for standardization of the tank gunnery program at NTC.
3. Requirements:
  - a. Home Station Gunnery Program (HSG):

The tank gunnery program begins with individual training, validation of systems and individual qualifications on their weapon systems; progresses through crew qualification and culminates with unit collective training. At NTC units complete Gunnery Tables I-II at local training areas located at or near their home station. Following these tables, units deploy to NTC Training Area to conduct Gunnery Tables III-XII. The unit gunnery program must be progressive and continuous. It must include and balance individual, gunnery, tactical and maintenance training for both crews and support personnel. This home-station training should include C-AGTS, GST, COFT-E, and individual training. NLT the 15th of each month the Brigade/Regiment Master Gunner will submit to Fort Irwin Master Gunners a roll-up of any gunnery related training for the upcoming month.

Maintenance is another important area of the home station gunnery-training program. The proper execution of Preventive Maintenance Checks (PMCS), Prep to fire Checks, Muzzle Boresight Device (MBD) Collimation, Armament Accuracy Checks (AAC's), Special Gunnery Checks and unit level pre-gunnery checks are essential in the early diagnosing of malfunctions and the accuracy of the weapons system.

1. Crew Rosters:
  - a. Only tank crews with three or more battle rostered 19K's are considered a valid crew.
  - b. Tank commanders and gunners will only fire with the crew on which they are battle rostered.
  - c. The CO and XO are prohibited from firing as members of a crew, or as a substitute vehicle for any platoon conducting Gunnery Table XII.
  - d. Crews with 6 months or more stability will successfully complete Group 2 of C-AGTS Advanced Matrix, and the 7 pre live fire exercises prior to live fire.
  - e. Crews with less than 3 months stability will successfully complete the above C-AGTS levels and a gate exercise prior to live-fire.
  - f. Unit stability being an issue, it is the commanders responsibility to place personnel in the seats that will give the unit the most stability. The minimum goal is four-month stability.

## 2. Sustainment Training

- a. Crew Advance Gunnery Training System (C-AGTS). Crews must meet or exceed the prerequisites as outlined in this Annex and FM 3-20.21, before participating live fire exercises.
- b. Gunnery Skills Test (GST). Trained quarterly at company level, tested within 6 months of gunnery. The Company / Troop Master Gunner will keep score sheets on file.
- c. Crew Proficiency Course (CPC / Gunnery Table II). Conducted quarterly IAW FM 3-20.21. TWGSS (Tank Weapons Gunnery Simulation System), PGS (Precision Gunnery System) or MILES (Multiple Integrated Laser Engagement System) is mandatory on all CPC ranges. The AIMTEST or any live fire device is authorized after the initial CPC is conducted.
- d. Platoon Gunnery Training (PGT). Conduct certification exercises prior to Gunnery Table XII IAW NTC REG 350-3 and FM 3-20.21.
- e. Vehicle Crew Evaluator (VCE). Certification / Re-certification, done as necessary to ensure all company / troop maintain at a minimum 9 qualified personnel.

## 3. Crew Advance Gunnery Training System / Conduct of Fire Trainer Enhanced (C-AGTS/COFT-E)

- a. Purpose: To provide units with guidance on the use of the Advance Gunnery Training System (C-AGTS), and Conduct-of-Fire Trainer Enhanced (COFT-E) for the M1 Tank and M2/3 Fighting Vehicle. This SOP is the framework upon which units can build and develop strong, aggressive training programs. The successful utilization of this training aid will significantly enhance our ability to fight our weapon systems with confidence.
- b. General: Each TC / GNR combinations will train in the C-AGTS/COFT-E.
  1. The M1 basic matrix. Allows TC / GNR to master all skills related to range firing. Each crew will successfully complete Group 2 of the basic matrix.
  2. The M1 advanced matrix trains TC / GNR teams in advance combat gunnery skills. TC / GNR combination must complete Group 2 and pass the gate exercise to live fire exercises at the end of the group prior to live fire. Training sessions should not extend beyond three-hour blocks.
  3. New crews receive a minimum of 10 hours of intensive C-AGTS training. The goal is to complete Group 2 during the first week of C-AGTS.
  4. Once a crew completes Group 2, it will receive a minimum of 4 hours per month in the C-AGTS.
- c. Responsibilities:

1. Commanders are responsible for their C-AGTS training programs and the execution of the programs.

2. Master Gunners are responsible for:

a. Monitoring the unit C-AGTS training program.

b. Keeping their commander informed of the status of their C-AGTS program.

c. Brigade / Regiment Master Gunners are responsible for sending the monthly C-AGTS Utilization Report to Fort Irwin Master Gunner, at the end of each month.

d. Tracking Reticle Aim Level progression

d. C-AGTS Operations. The C-AGTS is an excellent tool to increase and sustain critical gunnery skills required by tank commanders and gunners. It must be fully integrated into the unit's training program to complement the use of other gunnery devices and to enhance sustainment and remedial training. The C-AGTS is an excellent training aid that further develops our combat effectiveness and should be one of the focal points of the unit-training program.

1. M1 C-AGTS

a. Required Crew Training: All tank commander / gunner combinations are required to use the C-AGTS. Tank commanders and gunners will be entered into the C-AGTS based on the procedures outlined in Chapter 2 of FKSM 17-12-7-1-COFT (Training in COFT).

b. Certification is the goal of all tank commanders and gunners. Crews will progress through the training matrix (basic or advanced) using only the computer-recommended sequence of exercises. They will shoot the exercises as stipulated by the exercise standards (i.e., wearing a protective mask during NBC conditions, moving vehicle does not use short halt, .50 cal. engagements shoot with .50 cal. etc.).

c. Certification: Computer recommendation is the only certification method allowed.

d. Sustainment. Once a crew reaches 22227 and gate to live fire, the C-AGTS computer will designate the crew as certified. Once the advance matrix certifies crews, they will continue to follow computer-recommended exercises.

e. Minimum Requirements. Prior to live fire, each crew should complete Group 2 basic matrix commander/gunner and commander, group 1 advance matrix, and qualify a gate test / live-fire exercise. If there are time restraints and these requirements cannot be met, the following exercises must be fired successfully: 22221, 22222, 22223, 22224, 22225, 22226, 22227, and the gate-to-live-fire exercise.

f. Instructor / Operator (I/O). I/Os are the key to successful execution of the C-AGTS training program. Unit should attempt to certify all 19Ks in the grade of E-5 and above.

g. Recommended qualifications to be an I/O. Tank commanders and gunners (SGT / E-5) are ideal candidates.

h. Commanders should consider the following qualifications when selecting I/Os:

- Demonstrate fundamental knowledge of gunnery techniques and fire

control systems

- Experience as a tank commander or gunner

- Twelve to eighteen months retainability

- Capable of conducting an AAR

- Demonstrates leadership qualities and potential to be an I/O

- Able to understand and use the technical publications necessary to operate the C-

AGTS

i. Certification / Re-certification:

- Conducted by the unit Senior I / O

- Re-certification must be conducted annually

- Certified IAW Maneuver Center of Excellence exportable training package

- Units will maintain a roster of certified I/Os

j. Crew Records:

1. Battalion / Squadron will maintain a copy of their companies / troops most recent training summary.

2. The most recent copy of training session records will be maintained.

b. Gunnery Principles:

1. It is the commander's responsibility to ensure the unit has optimal crew manning.

2. Qualify on GST prior to departing for gunnery.

3. Qualify all unqualified individuals and crews (crew-served weapons), to include support personnel, on their assigned weapons.

4. Qualify all assigned tank crews on Fort Irwin on Gunnery Table VI annually.

5. Screen all tanks deployed to NTC IAW FM 3-20.21. Any vehicle failing to screen for administrative reasons (i.e., not fully manned, maintenance down, etc.) will be documented by serial number / bumper number / tube number and reported up thru Master Gunner channels.
6. Tank platoons will successfully execute a Close Combat Tactical Trainer exercises before executing a Gunnery Table XII. The specific certification requirements for this gate are found

in the FKSM 17-12-7-1-COFT (training in the COFT), Tank Platoon Gunnery Trainer Gate Certification Program Memorandum of Instruction (MOI).

7. Qualify all platoons on Gunnery Table XII annually. All M1A1 crews must be qualified on Gunnery Table VI before firing Gunnery Table XII / Advanced Cavalry Tables.
8. Ensure all tank crews are qualified on Gunnery Table XII before firing a CALFEX / NTC-LFX. Exceptions must be approved by the CofS.
9. To ensure standardization on Fort Irwin, the following standards apply to our Tank gunnery tables:

- a. An After Action Reviews (AARs) is one of the most important training tools available for us to train our tank crewmen. They must be well organized, professionally executed, and conducted IAW TC 25-20. VCE's will make every attempt to utilize available resources during AARs, i.e. (TV / VCR, sand tables / terrain models and or butcher paper) in order to create a valuable learning experience. The appropriate reference materials will be present at the AAR site. All AARs will conclude with sustain and improvements.

- b. Uniform for all tank crewmembers is complete Nomex while conducting gunnery training.

- c. All tables will be fired IAW FM 3-20.21, dtd Sep 09.

- d. All tables will be conducted using the wingman concept. The wingman tank must be the regular wingman for the firing tank. The wingman tank will not engage targets; it moves tactically with the firing tank, assisting only with sensing and digital transmissions.

- e. Gate guards will have a standardization briefing that will include at a minimum the guards name and rank, what range it is, purpose of the range, and who / where the briefing NCO, Commander and ISG are located.

- f. Briefing NCOs will have a standardized range briefing, know the status of the range, be kept abreast of vehicle scores, keep the tracking charts updated and be capable of giving the visitor task, condition and standards of that range.

- g. Briefing charts will be present on all ranges.

- h. Concurrent / Remedial training will be conducted on all ranges.

i. Gunnery Table VI scenario work sheet will be created and turned in to Range Control specifically range 1 by Fort Irwin Tank Master Gunner. A copy of the approved scenario work sheet will be given to the Brigade / Regiment Master Gunners.

j. There will be no changes to the Table VI scenario work sheet without notification and approval of Fort Irwin Tank Master Gunner.

k. If any Gunnery Table is conducted on the same range as GT VI the range scenario and target array, will not be the same.

l. Gunnery Table VI tower prompts will be of a tactical nature.

m. Firing crews will not be located in a position to conduct reconnaissance of range scenario or targetry, during any crew qualification runs.

n. Only one aft cap “alibi” is given per table IAW FM 3-20.21. Tank commanders should be allowed to make the determination on whether to continue or pull themselves.

o. Local commanders will not to allow “break times” for aft cap jams.

p. Local commanders, with the advice from the Master Gunner will determine when to pull crews due to excessive misfires.

q. Original Gunnery Table VI score sheets will be forwarded to Fort Irwin Master Gunner, within 7 days of completion of Tank Table VI.

r. Alternating scenarios between crews is mandatory when executing wingman concept.

#### 4. Rounds out of Impact (ROI)

##### a. Definition.

1. A round that lands in the buffer zone, violates a grid line restriction, or impacts outside of the impact area. Overhead fire in the down range area of RG 1 is authorized and NOT considered as ROI.

2. A round that impacts outside the limit markers of a range, or whose line of fire or trajectory, if extended, would pass outside the limit markers.

3. Rounds fired at an excessive angle of elevation are considered possible RIO's and treated the same as a ROI.

##### b. The OIC of any range that fires a round out of impact will take the following steps:

1. Bring the range to an immediate “Cease Fire, freeze”.

2. Instruct the suspected crew to move away from the weapon system without touching any of its components. The original firing data must remain to determine the probable impact of the round.

3. Report the following information to range control and Fort Irwin Master Gunners immediately:

Unit, Range, Date, Time.

Type weapon system involved.

Location of weapon system.

Type of ammunition fired.

Number of rounds fired.

Coordinates of impact (if known).

Azimuth fired and elevation of tube in mils.

4. Upon verification of an ROI, the battalion/squadron commander initiates a CIR. This report will be submitted IAW NTC SOP and to Commanding General, NTC, Attn: G3.

**NOTE:** The responsible crew / individual(s) will immediately be disqualified from all further firing until re-certified by the battalion/squadron commander.

5. Safety: This annex used in conjunction with NTC REG 350-1, and National Training Center SOP Annex P, provides safety procedures, restrictions, and requirements for training at Fort Irwin.

a. Accident / Incident Reporting. Any person observing or involved in an accident / incident will report it immediately, by telephone or radio to range control. Example of the types of incidents and the reporting format are listed in NTC REG 350-1.

b. Range safety begins with designing safe range scenarios that meet the commander's training objectives. The two primary tools for designing safe ranges are the scenario work sheet and the training overlay. The training overlay must be posted in the tower for all non-standard training. Non-standard training is defined in NTC REG 350-3.

c. The scenario work sheet provides a written picture of each engagement that will be fired. It describes the weapons system, targets, and timing, location of weapon / target, and ammunition.

d. OIC's will have a copy of the scenario work sheet in the tower when the range is in a wet status. The scenario work sheet will have an original stamp from NTC range control.

e. The training overlay demonstrates that each engagement can be fired safely. The overlay must include unit designation, POC, phone number, date/time group of activity and a detailed description of the training event (including weapons, ammunition, devices, agents, flight paths, number of personnel, etc.). The overlay provides range OIC / Safety Officer and Range Control Safety the information necessary to confirm that each planned engagement can be fired safely. Therefore, once approved they cannot be changed without contacting RG 1 Ops at Range Control.

f. Battalion/Squadron commanders will approve scenario work sheet and training overlays for all ranges, excluding GT VI.

g. OIC's and RSO's will review and understand the training overlay before the range is placed in a "Wet Status".

h. Each firing range will ensure all weapons are cleared prior to the vehicle moving back to the non-firing line.

### c. Preliminary Tables

1. Live Fire Accuracy Screening Test (LFAST): Success of the screening test depends on eliminating mechanical faults and crew errors prior to firing the first round of the screening test.

a. All vehicles will be screened annually, IAW FM 3-20.21.

b. For standardization, ammunition conservation and quality control for all units LFAST will be conducted using the screening flowchart in FM 3-20.21.

c. Proofing teams will be created to troubleshoot tanks that fail to screen initially for mechanical errors.

d. Any vehicle failing to screen because of fire control system mechanical faults and after being evaluated by the proofing team will be reported to Fort Irwin Master Gunner. This report will consist of the vehicles serial number / bumper number / tube number and the malfunction.

e. Screening results (copy of screening sheets, number tanks screened, ammunition count by lot and any ammunition trends) will be forwarded to Fort Irwin Master Gunner, NLT 7 days after each battalion/squadron is completed screening.

### 2. Gunnery Table III & V:

a. Gunnery Table V: designed to develop crew coordination and to train the crew on point and area machine gun engagement techniques.

b. Gunnery table V: designed to train the tank crew to engage moving and stationary, air and ground targets with tank mounted weapons. It requires the crew to use all the knowledge gained and lessons learned during Tables I – IV, and employ those skills against various targets during day and limited-visibility operations. Table V will prepare the crew for Gunnery Table VI (Intermediate Qualification Course) by presenting engagements with fire control and target conditions similar to those on Gunnery Table VI.

c. Tables should be fired in sequence

### 3. Qualification Tables

#### a. Range Operation Standards

1. At the conclusion of each day of training, units are required to submit a closing report to Fort Irwin G3 OPS. This report will include crew scores, number of vehicles fired, ammunition trends and bullet comments on any training trends.

2. Table VI is an installation designed range that is Battalion/Squadron run and supported range. The intent is to allow the firing unit to arrive on the range and focus on qualifying vehicles, with minimum distracters.

3. The Battalion / Squadron Master Gunner will be in charge of tower operations during all Table VI firing periods.

4. Every morning prior to firing the master gunner will proof the targets.

5. The decision to change the conditions of Gunnery Table VI engagements will require the notification and approval of Fort Irwin commander or G3, through G3 OPS. The troop / company master gunners are required to notify Brigade / Regiment Master Gunners of any requests to change the conditions of Table VI engagements.

6. Personnel from the firing unit will have minimal access to the tower. The only personnel authorized in the tower are commanders, 1SGs and master gunners (only after they have fired).

7. VCE evaluation area also has limited access. No one from the firing unit is authorized in this area. The exception is on ranges where the VCE area is also used as the VIP viewing area. In this case, only the minimum numbers of personnel needed to conduct the briefings are allowed.

8. Any conflicts that arise between the computer sensing and the VCEs, on GT VI, will be decided by the head TCE, not the Master Gunners or Commanders. Further discrepancies will be brought up to Fort Irwin Master Gunner.

9. At the conclusion of all Table VI day and night runs, the Battalion / Squadron Master gunner and head VCE, of that shift, will validate score sheets.

10. No changes will be made to any score sheet after that evaluation crew has left the range. If any changes must be made the evaluating VCE must be notified.

11. Gunnery After Action Reviews (AARs) will be turned in to Fort Irwin Master Gunner NLT 7 days after completion of gunnery.

12. As each Battalion / Squadron completes Gunnery Table XII, the Master Gunner will turn-in an overall rating of each platoon to include bullet comments on weak or failed tactical tasks.

## b. GT VI Evaluation Criteria

1. **TASK:** Gunnery Table VI tests the crew's ability to engage moving and stationary targets with tank-mounted weapons during daylight and periods of limited visibility. The firing crew negotiates a course engaging single, multiple, and simultaneous arrays from a moving and stationary tank.

2. **CONDITION:** Gunnery Table VI is designed to test the crew's ability to put steel on target quickly while negotiating a course that presents threat target arrays at realistic ranges. Table VI incorporates a scoring system based on threat capabilities. Various tasks will be presented requiring precision or degraded mode gunnery techniques against main gun targets, and area target engagement techniques against machine gun targets. Table VI consists of five day and five night firing tasks. There are six standardized engagement tasks for stabilized direct fire weapon platform; VC, machine gun pure, main gun pure, change of weapon system, degraded, and simultaneous/multiple target engagements. One day and one night engagement will be fired in an NBC environment. The NBC environment will influence the tank crew's ability to complete a task in the time allocated with the number of rounds provided. Both NBC tasks will be fired with protective mask and the over pressure system "on".

3. **STANDARD:** All defensive tasks will be conducted with the firing tank moving from a turret-down to a hull-down position. All offensive tasks will be conducted with the firing tank on the move traveling at 10 to 15 mph (recommended speed). The recommended number of tasks fired is six-day and four nights unless range constraints, malfunctions, or environmental conditions prevent the firing unit from using the recommended order.

**DISTINGUISHED** – The crew scored at least 70 points on at least 9 of 10 engagements and 900 points of a possible 1000.

**SUPERIOR** – The crew scored at least 70 points on at least 8 of 10 engagements and 800 points of a possible 1000.

**QUALIFIED** – The crew scored at least 70 points on at least 7 of 10 engagements and 700 points of a possible 1000.

**UNQUALIFIED** – The crew failed to achieve 70 points on 4 or more engagements or less than 700 points total of a possible 1000.

## 4. Ammunition allocation per crew for Gunnery Table VI / Validation.

TPCSDS-T: 8                      Cal. 50: 100

HEAT-TP-T: 9                      7.62mm: 400

The above allocation reflects the maximum allocation of rounds for Gunnery Table VI and validating crews. The actual number of rounds used for GT VI will be depended upon the engagements fired.

## 5. Re-Fires

a. Crews will only re-fire failed engagements.

b. Re-fire crews (Q2) will only fire until they achieve the minimal standard of 7 of 10 engagements and 700 points. Validation crews will fire until they achieve 7 of 10 engagements and 700 points.

c. Re-fire crews, once qualified, will receive the minimum points needed to qualify as their final score. (i.e. 700 points for full-up qualifying crews and 700 points for validating crews).

d. Additional engagements will not be fired.

## 6. Alibis

a. Battalion / Squadron commanders are the approving authority for alibis that meet the standard outlined in FM 3-20.21.

b. Battalion / Squadron commanders can delegate final alibi approving authority to their S-3 or Command Sergeants Major. Crews are encouraged to conduct Gunnery Table VI with fully operational vehicles.

c. No alibis will be given for known equipment malfunctions.

## c. Collective Gunnery

1. **TASK:** Gunnery Table XII is the platoon qualification which evaluates the platoon's ability to execute collective tasks in a tactical live-fire environment. Collective task evaluations and target destruction measure the platoon's combat proficiency during both day and night operations.

2. **CONDITION:** Given the following: a fully equipped maneuver element platoon; allocated training ammunition; full-size targets; and OPORD. The target array must adhere to the minimum proficiency levels for collective tables.

3. **STANDARD:** Platoon must achieve an overall rating of Needs Practice (P). The ratings of Gunnery Table XII (day and night) are:

a. **Gunnery scoring:** The gunnery score is determined by dividing the number of targets hit by the number of targets presented.

$$\text{Example: } \frac{\text{Targets Hit}}{\text{Targets presented}} = \text{Gunnery Score}$$

b. **Tactical Scoring:** The tactical score is determined by dividing the number of tasks (and subtasks) scored as T or P by the total number of tasks (and subtasks) evaluated.

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Example: 
$$\frac{\text{Tasks Scored as T or P}}{\text{Total Tactical Tasks Evaluated}} = \text{Tactical Score}$$

c. Overall Scoring: The overall Gunnery Table XII score is determined by adding the gunnery and tactical score together, divide by two and subtract 10% from the total score if any friendly targets were engaged.

Example: 
$$\frac{\text{Gunnery Score} + \text{Tactical Score}}{2} = \text{Overall GT XII}$$

**DISTINGUISHED** – 90% or more of aggregate targets hit.

**SUPERIOR** – 80-89% of aggregate targets hit.

**QUALIFIED** – 70-79% of aggregate targets hit.

**UNQUALIFIED** – 69% or less of aggregate target hit

d. GT XII ammunition allocations will be based off of the following allocations per vehicle:

<b>Vehicle</b>	<b>Ammunition</b>	<b>Allocation per Vehicle</b>
Abrams	120mm TPCSDS-T	7 rounds
	Caliber .50	200 rounds
	7.62mm	350 rounds

e. Battalion / Squadron Commanders will evaluate Gunnery Table XII. The Squadron Cavalry Platoon ARTEPs are incorporated into Unstabilized platform gunnery Table XII.

d. Level II / Validation Gunnery: Is a commander's tool used when time and or ammunition is less than optimal based on unforeseen contingency operations (CONOPS) or Immediate Ready Company (IRC) requirements. It is also a means of verifying the readiness status of crews while harvesting ammunition for collective table shortfalls. It is designed to save main gun rounds by allowing gunner and tank commander combinations that qualified the previous gunnery to shot tables II - VI validation of their training level.

### 1. Guidelines

a. Level II / Validation gunnery will be executed with the authorization of the commander. This validation plan will be briefed during the QTB Gunnery Brief.

b. TC and Gunner combinations that did not fire the previous gunnery together cannot validate.

c. Crews cannot validate two gunneries back to back.

2. Standards. Level II / Validation gunnery consists of the 10 engagements outlined in DA PAM 350-38. Once a crew demonstrates they cannot meet the standard they will be pulled and debriefed. After retraining they will be required to complete GT III/IV, with the intent of qualifying GT V. Once they have qualified GT V they then must qualify GT VI.

**ANNEX B (Bradley Gunnery)**

1. References: See ANNEX Q.

2. Purpose. Provide planning guidance for the conduct of Bradley crew, section, and Platoon qualification tables and establish responsibilities for range operations and support.

3. Requirements:

a. Home Station Gunnery Program (HSG): The Bradley gunnery program begins with individual training, validation of systems and individual qualifications on their weapon systems; progresses through crew qualification and culminates with unit collective training. At Fort Irwin units complete Gunnery Tables I-II at local training areas located at or near their home station. Following these tables, units deploy to NTC Training Area to conduct Gunnery Tables III-XII. The unit gunnery program must be progressive and continuous. It must include and balance individual, gunnery, tactical and maintenance training for both crews and support personnel. This home-station training should include GST, COFT-E, BSSE, CPC, BPPC, STX's, buddy-team, fire-team, and squad movement training and individual training. NLT the 15th of each month the Brigade / Regiment Master Gunner will submit to Fort Irwin Master Gunners a roll-up of all gunnery related training for the upcoming month. It must include and balance individual, gunnery, tactical, and maintenance training for both crews and support personnel. The unit gunnery program must be progressive and continuous. It must emphasize training that allows integration of new personnel while maintaining qualified crews. FM 3-20.21 provides commanders with the information and guidance needed to develop and incorporate gunnery training into the Bradley Training Program while meeting the standards in AR 350-1 and DA Pamphlet 350-38, Chapter 5. This program is focused on building war-fighting units that can fight, win, and fight again.

1. Crew Rosters

a. Bradley crewmen will only fire with the crew on which they are battle rostered. Vehicle crewmen will not do any "Hot Bedding" or "Hot Seating" within crews.

b. Company / Troop Commanders or Company / Troop XOs cannot substitute as a firing crew within the platoon on Gunnery Table XII.

2. Conduct of fire Trainer Enhanced (COFT-E) – Crews must meet or exceed COFT-E standards as outlined below.

a. Required Crew Training. All crews are required to use the COFT-E and will progress through the training matrix using the COFT-E recommended sequence of exercises only. Crews will always fire the training exercises as stated and to the exercise standard (i.e., NBC conditions, moving vehicle does not use short halts, etc.)

b. Minimum Exercise Completion. If time does not allow for a crew to certify prior to gunnery, they must use the following exercises to meet the gunnery COFT-E certification requirement. To perform these exercises satisfactorily, the crew must earn an overall rating of "B". This standard is the only exception to the requirement that crews must be certified prior to live-fire gunneries.

<u>Exercises</u>	<u>Description</u>
30133300	GNR, STA/MOV OV, SGL/MULTI TGTs, FO
30133320	GNR, STAT/MOV OV STAT/MOV, SGL/MULT TGTs, MR
30133330	GNR, GNR, STAT/MOV OV STAT/MOV, SGL/MULT TGTs, SF
30133350	GNR, STAT/MOV OV STAT/MOV, SGL/MULT TGTs, ME
30133370	GNR, STAT/MOV OV STAT/MOV, SGL/MULT TGTs, AE
30133380	CDR, STAT/MOV OV STAT/MOV, SGL/MULT TGTs, CE
31333310	GNR/CDR, STAT/MOV OV STAT/MOV, SGL.MULT TGTs,

MPL

**NOTE:** Additional exercises may be fired in preparation of GT VI.

c. Certification: Computer recommendation is the only certification allowed.

d. Sustainment: The company/troop commander, with assistance from the battalion and company master gunners, is responsible for determining what exercise level is necessary to accomplish sustainment training. GT VI qualified crews and crews that reach group 2, basic matrix commander/gunner and commander should continue sustainment-training. This will allow crews to be evaluated and sustain their training level. However, if the training manager (BN/ Co master gunner) determines that the proficiency of the crew has decreased since the last session, then he may re-enter the crew into the matrix as required.

e. I/O: I/Os are the key to the successful execution of COFT-E training programs. As a minimum, each Combine Arms Battalion will maintain 29 fully qualified I/Os (nine per company and two in the S-3 shop). The Cavalry Squadron will maintain four I/Os per ground troop plus one in the S-3 shop, and each ADA Battery will maintain three I/Os (while equipped with Bradley's). However, each unit should attempt to certify all 11Ms, 19Ds, and 14Rs in the grade of E-5 and above.

1. Recommended Qualifications to be an I/O: Experienced Bradley commanders and gunners are ideal candidates; however, all NCOs should be trained as Instructor/ Operator and have one or more of the qualifications below:

- Demonstrate fundamental knowledge of gunnery techniques and fire-control systems
- Experience as a Bradley commander or gunner
- Twelve to eighteen months retainability
- Capable of conducting an AAR
- Demonstrates leadership qualities and potential to be an I/O
- Able to understand and use the technical publications necessary to operate the COFT-E

2. Certification/Re-certification:

- Conducted by the a unit Senior I/O
- Re-certification must be conducted bi-annually

- Certified IAW Maneuver Center of Excellence exportable training package
- Units will maintain a roster of certified I/Os
- Senior I/O. Responsible for training and re-certifying all I/Os and must be Senior I/O

trained by Fort Benning.

3. Gunnery Skills Test (GST) – Trained quarterly at company / troop level, tested within 3 months prior to live fire event at battalion / squadron level. The test will be conducted to standard when crew members change positions. Squad leaders and team leaders should take the GST for cross training purposes. Preliminary gunnery should be conducted prior to GST.

2. Crew Proficiency Course (CPC) – Conducted quarterly at company / troop level, evaluated within 3 months prior to firing full caliber ammunition. PGS (Precision Gunnery System), MILES (Multiple Integrated Laser Engagement System) or COAX sub caliber devices are mandatory on all CPC ranges.

3. Bradley Squad Section Exercise (BSSE) – Conducted within 6 months of gunnery density. Squad and section members will participate in a realistic scenario developed by Fort Irwin Master Gunner and separate battalions / squadrons that integrates war fighting function of squad collective tasks according to the units METL. At a minimum the following tasks will be conducted: Dismount/Mount BFV, (Fire team member) Load the 25mm Ammunition Ready Box (He or AP), React to contact (mounted / dismounted), Break contact (mounted / dismounted), Prepare a section sector sketch, Prepare a squad sector sketch.

4. Bradley Platoon Proficiency Course (BPPC) – Conducted within 6 months of conducting a Bradley Platoon Live Fire Exercise. Mounted and dismounted elements of a platoon will participate in a realistic scenario developed by MSC's and battalions while conducting platoon collective tasks. At a minimum the following tasks will be integrated into scenario development: Perform over watch / Support by fire, Assault mounted/dismounted, Defend, Prepare a platoon sector sketch. BPPC will be conducted under day and night.

5. Bradley platoons will successfully execute Platoon Gunnery Trainer exercises prior to Gunnery Table XII. The specific certification requirements for PGT are found in FKSM 17-12-7-1-COFT (training in the COFT), Platoon Gunnery Trainer Gate Certification Program Memorandum of Instruction (MOI).

b. Range Conduct

1. Objectives:

- a. Qualify all Bradley crews on Gunnery Table VI every six months.
- b. Qualify all Cavalry Scout Crews on Gunnery Table VI every six months.
- c. Qualify all Bradley Stinger Fighting Vehicles (BFSV) on Gunnery Table VI every six months.
- d. Ensure all Bradley crews are qualified on crew qualification Gunnery Table VI before firing Gunnery Table XII.

- e. Qualify all Bradley Platoons on Gunnery Table XII annually.
  - f. Qualify all Cavalry Scout Platoons on Gunnery Table XII annually.
  - g. Ensure all Bradley crews are qualified on Gunnery Table XII before firing a CALFEX/NTC LFX. Exceptions must be approved by the CofS.
  - h. Ensure all Cavalry Scout Sections are qualified on Gunnery Table X before firing a CALFEX/NTC LFX.
  - i. Qualify all unqualified individuals and crews (crew-served weapons), to include support personnel, on their assigned weapons within applicable manuals or other specified guidance (i.e. SOP).
2. To ensure Standardization on the installation, the following standards apply to all Bradley Gunnery Tables:
- a. Uniform for all BFV crewmembers is complete Nomex while conducting gunnery training.
  - b. After Action Review (AARs) is one of the most important training tools available for us to train our Bradley crewmen. They must be well organized, professionally executed, and conducted IAW FM 25-20. BCEs will make every attempt to utilize available resources during AARs, ie. (TV / VCR, sand tables / terrain models and or butcher paper) in order to create a valuable learning experience. The appropriate reference materials will be present at the AAR site. All AAR's will conclude with sustain and improvements.
  - c. All tables will be fired IAW FM 3-20.21
  - d. All tables will be conducted using the wingman concept. The wingman vehicle must be the regular wingman for the firing vehicle. The wingman will not engage targets; it moves tactically with the firing vehicle, assisting only with sensing and digital transmissions.
  - e. Gate guards will have a standardization briefing that will include at a minimum guards name and rank, what range it is, purpose of the range, and who / where the briefing NCO, Commander and 1SG are located.
  - f. Briefing NCOs will have a standardized range briefing, know the status of the range, be kept abreast of vehicle scores, keep the tracking charts updated and be capable of giving the visitor task, condition and standards of that range.
  - g. Briefing charts will be present on all ranges.
  - h. Concurrent / Remedial training will be conducted on all ranges.
  - i. OICs will have a copy of the scenario work sheet in the tower when the range is in a wet status.

- j. Vehicle Crew Evaluator (VCE) – Certification / Re-certification as necessary, ensuring all Co / Trp / Btry maintain at minimum 9 personnel.
- c. GT VI
- 1. Range Operations
    - a. Table VI scenario work sheet will be created to include Rifle Squad and Engineer Squad Qualification by Fort Irwin Master Gunner.
    - b. An approved copy of the scenario work sheet will be given to the Brigade / Regiment Master Gunners.
    - c. Table VI tower prompts will be of a tactical nature. For standardization they will be written by Fort Irwin Master Gunner and distributed to the Brigade / Regiment Master Gunners.
    - d. Original Gunnery Table VI score sheets will be forwarded to Fort Irwin Master Gunner within 7 days of completion of Table VI.
    - e. Tapes / CDs from each of the battalions/squadron “Top Gun” runs will be given to Fort Irwin Master Gunner, along with the score sheets, in order to determine the NTC “Top Gun” awardees.
    - f. There will be no changes to gunnery Table VI scenario without notification and approval of Fort Irwin Master Gunner.
    - g. As each Battalion / Squadron completes Table VI, the Master Gunner will turn-in a roll-up of the GT VI scores by engagement to the Brigade /Regiment Master Gunner. The Brigade / Regiment Master Gunner will forward this roll-up to Fort Irwin Master Gunner. The roll-up must include bullet statements for sustainment training on crew trends for failed engagements. As each Battalion / Squadron completes GT XII, the master gunner will turn-in and overall rating of each platoon to include bullet statements on weak or failed tactical tasks.
    - h. Table VI is a battalion /squadron run and supported range. The intent is to allow the firing unit to arrive on the range and focus on qualifying vehicles, with minimum distracters.
    - i. Personnel from the firing unit will have limited access to the tower. The only personnel authorized in the tower are company commanders, master gunners (only after they have fired) and 1SGs.
    - j. The Battalion / Squadron Master Gunner will be present in the tower during all firing periods of Gunnery Table VI.
    - k. VCE evaluation area also has limited access. No one from the firing unit is authorized in this area. The exception is on ranges where the VCE area is also used as the VIP viewing area.

- l. Any conflicts that arise between the computer sensing and the VCEs will be decided by the head VCE, not the Master Gunners or Commanders.
- m. Every morning prior to firing the Battalion / Squadron Master Gunner will proof the targets.
- n. If any gunnery table is conducted on the same range as GT VI the range scenario, target array, will not be the same.
- o. Firing crewmembers will not be in a position to conduct reconnaissance of the range targetry, during crew qualifications.
- p. Battalion / Squadron Commanders may delegate final alibi approving authority to the S3 or Command Sergeants Major for GT VI.

## 2. Gunnery Table VI Qualification

- a. **TASK:** Gunnery Table VI tests the crew's ability to engage moving and stationary targets with tank-mounted weapons during daylight and periods of limited visibility. The firing crew negotiates a course engaging single, multiple, and simultaneous arrays from a moving and stationery tank.
- b. **CONDITION:** Gunnery Table VI is designed to test the crew's ability to put steel on target quickly while negotiating a course that presents Threat target arrays at realistic ranges. Table VI incorporates a scoring system based on Threat capabilities. Various tasks will be presented requiring precision or degraded mode gunnery techniques against 25mm gun targets, and area target engagement techniques against machine gun targets. Table VI consists of five day and five night firing tasks. There are six standardized engagement tasks for stabilized direct fire weapon platform; VC, machine gun pure, main gun pure, change of weapon system, degraded, and simultaneous/multiple target engagements. One day and one night engagement will be fired in an NBC environment. The NBC environment will influence the tank crew's ability to complete a task in the time allocated with the number of rounds provided. Both NBC tasks will be fired with protective mask.
- c. **STANDARD:** All defensive tasks will be conducted with the firing vehicle moving from a turret-down to a hull-down position. All offensive tasks will be conducted with the firing vehicle on the move traveling at 10 to 15 mph (recommended speed). The recommended number of tasks fired is six-day and four nights unless range constraints, malfunctions, or environmental conditions prevent the firing unit from using the recommended order.

### 1. Ammunition per crew for Gunnery Table VI.

#### **TOTAL**

TPDS-T 40rds

TP-T 40rds

7.62mm 600rds

2. This table does not include ammo for zero confirmation. Crews are allocated 5 additional rounds of 25mm, either TPDS-T, TP-T, or a mix, and 25 rounds of 7.62mm to accomplish this task. However, all zero ammunition will be fired prior to starting the qualification run.

3. The above allocation reflects the maximum number of rounds for GT VI. The actual number of rounds used for day / night will be dependent upon the number of tasks fired during the day or night.

3. Level II / Validation Gunnery. This will be used as a Commander's tool when time and ammunition is critical based on unforeseen contingency operations (CONOPS) or Immediate Ready Company (IRC) requirements. Validation gunnery will be executed only by authorization of the Commanding General.

**NOTE:** BC / Gunner combinations that have never fired together cannot validate. They must fire a complete Gunnery Table XII. Crews cannot validate two (2) gunneries back to back.

#### 4. Re-fires

a. Crews will only re-fire failed engagements.

b. Crews will only fire until they have achieved a minimum of on 7 of 10 engagements, 2 NBC engagements day and night, and 2 night engagements.

c. Extra engagements will not be fired.

#### d. Gunnery Table XII

1. **TASK:** Gunnery Table XII is the platoon qualification which evaluates the platoon's ability to execute collective tasks in a tactical live-fire environment. Collective task evaluations and target destruction measure the platoon's combat proficiency during both day and night operation.

2. **CONDITION:** Given the following: a fully equipped maneuver element platoon; allocated training ammunition; full-size targets; and OPORD. The target array must adhere to the minimum proficiency levels for collective tables.

3. **STANDARD:** Platoon must achieve an overall rating of Needs Practice (P). The ratings of Gunnery Table XII (day and night) are:

a. **Gunnery scoring:** The gunnery score is determined by dividing the number of targets hit by the number of targets presented.

$$\text{Example: } \frac{\text{Targets Hit}}{\text{Targets presented}} = \text{Gunnery Score}$$

b. **Tactical Scoring:** The tactical score is determined by dividing the number of tasks (and subtasks) scored as T or P by the total number of tasks (and subtasks) evaluated.

$$\text{Example: } \frac{\text{Tasks Scored as T or P}}{\text{Total Tasks}} = \text{Tactical Score}$$

## Total Tactical Tasks Evaluated

c. Overall Scoring: The overall Gunnery Table XII score is determined by adding the gunnery and tactical score together, divide by two and subtract 10% from the total score if any friendly targets were engaged.

$$\text{Example: } \frac{\text{Gunnery Score} + \text{Tactical Score}}{2} = \text{Overall GT XII}$$

**DISTINGUISHED** – 90% or more of aggregate targets hit.

**SUPERIOR** – 80-89% of aggregate targets hit.

**QUALIFIED** – 70-79% of aggregate targets hit.

**UNQUALIFIED** – 69% or less of aggregate target hit

## 4. Ammunition allocation per platoon for Bradley Table XII.

Bradley	25mm AP	72 rounds
	25mm HE	40 rounds
	7.62mm	250 rounds
	TOW	1 missile
	Squad individual weapons	Ball and tracer ammunition based on resources available and targets presented STRAC (AR 350-38)

5. Battalion / Squadron commanders will evaluate Gunnery Table XII. The Squadron Cavalry Platoons are evaluated the same.

6. Crews will not progress to subsequent live-fire tables without meeting the standards of the previous tables. The installation master gunner will established the minimum standards for preliminary tables.

7. Alternate crews are on the Platoon Leader's vehicle. The platoon Leader's gunner will become the VC of that vehicle when the platoon leader dismounts. He will have an (E1-E4) in the vehicle that will become the gunner of the BFV, creating the alternate crew. The alternate crew will:

- a. Certify in the UCOfT or as a minimum reach 20 preliminary training matrix commander/gunner and commander, and 7 crew training matrix prior to live fire.
- b. Fire all preliminary tables through GT VI.
- c. Meet all prerequisites of FM 3-20.21, DA Pam 350-38, and NTC 350-3.

8. Must be conducted live fire using full caliber ammunition.

**ANNEX C (Rifle Squad Gunnery)**

1. References: See ANNEX R.
2. Purpose: To standardize and provide guidance for the conduct of squad gunnery training and qualification.
3. Objectives:
  - a. To establish a realistic, continuous, viable, and standardized squad gunnery program. Squad Gunnery begins with individual qualification and movement training and progresses through squad qualification to unit collective training. At NTC units complete preliminary weapons training, individual / buddy team movement, fire team movement, squad movement, and platoon movement exercises at local training areas located near their home-station. Squad practice, Squad certification, and platoon certification may also be executed during home-station unit training or at NTC live-fire area. Following these tables units deploy NTC Training Area to complete Individual Qualification, Squad qualification and Gunnery Table XII. Additionally, this training strategy must build upon the skills learned by individual squad members during home-station unit gunnery training. The unit gunnery program must be progressive and continuous. It must emphasize training that allows integration of new personnel while maintaining qualified squad members. FM 3-21.71, STP 7-11 B1-SM-TG provide commanders a good base and guidance needed to develop and incorporate gunnery training into the Squad Training Program while meeting the standards in NTC REG 350-3 and DA PAM 350-38.
  - b. Qualify all squad members on assigned weapons.
  - c. Ensure all squad members are qualified on their assigned weapons prior to Squad qualification.
  - d. Conduct AT-4 and Javelin training IAW NTC REG 350-3, DA PAM 350-38 and appropriate FM's.
  - e. Conduct squad qualification every 6 months.
  - f. Ensure all squads qualify prior to GT XII.
4. To ensure standardization within the installation, the following standards apply to all Squad Gunnery Tables:
  - a. The uniform for all squad members is ACU, LBE/LBV, Kevlar, IBA, Eye PRO, Hearing PRO, Gloves, and protective mask.
  - b. Formal AARs will be professionally organized and executed IAW TC 25-20.
  - c. All tables will be fired IAW FM 3-20.21, Appendix D and appropriate FMs.

## 5. Sustainment Training

a. Classes given quarterly on all organic squad weapon systems to include range cards.

b. Demolition Training.

c. Individual / buddy team movement exercises, fire team movement exercises, squad movement exercises, platoon movement exercises, squad practice, squad certification, and platoon certification will be conducted IAW FM 3-20.21 Appendix Delta , STP 7-11 B1-SM-TG, appropriate TMs, and unit SOP.

d. Commanders may use training devices such as MILES to enhance the collective training program.

## 6. Administrative Data.

a. Squad Gunnery Tables are developed by the battalion/squadron to support the WFF. These tables are progressive and they must be done in order. Squad qualification is the only required live fire tab.

b. All small arms qualification must be completed prior to squad qualification.

c. Squads will not progress to subsequent tables without meeting the standards of the previous table. The individual unit establishes the standards for preliminary tables.

d. Squad certification and platoon certification must be live fired IAW FM 3-20.21 Appendix Delta, STP 7-11 B1-SM-TG, and ARTEP 7-8-MTP.

e. Squad qualification: Squad Qualification is the cornerstone of the gunnery program. Squad qualification is a live fire event and a semi-annual requirement.

1. **TASK:** Fire and maneuver to engage / destroy area and point targets in a realistic setting.

2. **CONDITIONS:** The squad uses the proper fire and movement techniques against targets during the day and night.

3. **STANDARDS:** The squad's rating is determined by the scoring criteria established by the battalion using the T, P, and U rating scheme. Commanders and combat trainers will use T & EOs from STP 7-11B1-SM-TG the dismounted infantry target exposure matrix Chapter 8, and evaluation procedure from Chapter 9, and FM 3-20.21 to assist them in accurately assessing the squad.

**ANNEX D (Unstabilized Platform/ Cavalry Gunnery)**

1. References: See ANNEX R.
2. Purpose. To provide planning guidance for the conduct of scout crew and section gunnery tables, also to provide for the training/certification of Vehicle Crew Evaluators (VCE).
3. Objectives.
  - a. The unstabilized platform gunnery program begins with individual qualification on the weapon systems and progresses through crew qualification to unit collective training. The unit training strategy must build upon the skills learned by individual crewmembers during home-station gunnery training. It must include and balance individual, gunnery, tactical, and maintenance training for both crews and support personnel. The unit gunnery program must be progressive and continuous. It must emphasize training that allows integration of new personnel while maintaining qualified crews. FM 3-20.21 provides commanders with the information and guidance needed to develop and incorporate gunnery training into the Light Cavalry Training Program while meeting the standards in NTC 350-3 and DA Pamphlet 350-38, Chapter 2. This program is focused on building war-fighting units that can fight, win, and fight again.
  - b. Ensure all Scout HMMWV crews have qualified within the past 6 months on .50 cal machine guns.
  - c. Qualify all unqualified individuals and crews (crew-served weapons), to include support personnel, on their assigned weapon.
  - d. Ensure all Scout HMMWV MK-19 crews have qualified in the past 6 months.
4. To ensure standardization on the installation, the following standards apply to all Scout Gunnery Tables:
  - a. The uniform for all Scout Crews is ACUs with IBA, LBE/LBV, Kevlar, Eye PRO, Hearing PRO, Gloves, and protective mask.
  - b. Formal AARs will be well organized and professionally executed IAW FM 25-20.
  - c. Standard full-scale targets with TVI thermal blankets found in FM 3-20.21 and TC 25-8 will be used for all live fire training.
  - d. All Tables will be fired IAW FM 3-20.21, no variations are allowed unless approved by the Chief of Staff.
5. Sustainment Training.

a. Each unit will conduct hands-on and classroom instruction to teach new crew members on how their weapon system functions, fundamentals of zeroing, and preliminary gunnery subjects IAW FM 3-20.21 and TC 3-20.21 within 3 months of gunnery density.

b. Train Gunnery Skills Test (GST) quarterly and test at battalion/squadron level semi-annually.

c. Conduct Crew Proficiency Course (CPC) quarterly. The CPC is a prerequisite to live fire.

6. Administrative data.

a. As each Troop / Company completes Gunnery Table VI, the Master Gunner will turn-in a roll-up of the Table VI scores to the Brigade / Regiment Master Gunner. The Brigade / Regiment Master Gunner will forward this roll-up to Fort Irwin Master Gunner. The roll-up must include bullet comments on crew trends for failed engagements.

b. The designated Troop / Company will have a representative in the tower during all firing periods on Gunnery Table VI.

c. Brigade / Regiment Commanders may delegate final alibi approving authority to the S3 or Command Sergeants Major for Gunnery Table VI.

d. Brigade / Battalion / Squadron will evaluate Table X.

e. Crews will not progress to subsequent live-fire tables without meeting the standards of the previous tables. The individual unit establishes the standards for preliminary tables.

7. Manning / Crew Rosters.

a. Scout crewmen will only fire with the crew on which they are battle rostered.

b. Platoons must have six current Gunnery Table VI qualified crews to fire Gunnery Table X.

c. Company /Troop Commanders or Company /Troop XOs cannot substitute as a firing crew within the section.

8. Gunnery Table VI Qualification.

a. **TASK:** Engage and destroy stationary and moving targets from a stationary and moving armed vehicle during both day and night operations.

b. **CONDITION:** The crew is given a fully operational armed vehicle, full scale targets, and allocated ammunition; the crew uses proper engagement techniques against targets from stationery and a moving vehicle during normal and NBC environment using primary and alternate sights.

c. **STANDARD:** The crew must obtain a minimum of 700 of the 1,000 total points and score at least 70 points on 7 of 10 engagements. VC tactical tasks are assessed based upon the commander's guidance. A "Go" must be received on the tactical task (6x) to proceed to collective gunnery.

d. Ammunition allocation per crew for Gunnery Table VI.

Unstabilized Weapon Platform (HMMWV, ASV)		
	Caliber .50	800 rounds
	MK19 40mm	128 rounds
	7.62mm	300 rounds

e. This allocation task does not include ammo for zero confirmation. Crews are allocated 5 additional rounds of 40 mm TP, 15 rounds of .50 CAL day, and 26 rounds of .50 CAL at night to accomplish task. However, all zero ammunition will be fired prior to starting the qualification run.

f. The above allocation reflects the maximum number of rounds for GT VI. The actual number of rounds used for day / night will be dependent upon the scenario fired.

#### 9. Re-Fires.

a. Crews will only re-fire failed engagements.

b. Crews will only fire those engagements necessary to achieve 7 of 10 with 70 points and a combined score of 700 points.

c. Extra engagements will not be fired.

#### 10. Gunnery Table IX.

a. **TASK:** Gunnery Table X conduct selected collective tasks while engaging a threat force during both day and night operations.

b. **CONDITION:** Given a fully equipped maneuver element section, allocated training ammunition, full-size targets, and OPORD.

c. **STANDARD:** Section must achieve an overall rating of Needs practice (P). Scoring of target presentation must adhere to the minimum proficiency levels for collective tables.

- Hit 70% of all targets.

- Achieve a GO on 70% of all tactical tasks.

- d. Each Troop / Company will fire the standardized Brigade / Regiment Table X.
- e. At a minimum the following tactical tasks will be conducted:
  - 1. Assembly Area Activities
  - 2. Execute Actions on Contact
  - 3. Report Enemy Information
  - 4. Call for and Adjust Indirect Fire
  - 5. Employ Indirect Fire Support
  - 6. Conduct Tactical Movement
  - 7. Control Scout Section Fires
  - 8. Conduct a Screen
  - 9. Perform a Passage of Lines
  - 10. Cross an NBC Contaminated Area
  - 11. Perform a Zone Reconnaissance
  - 12. Consolidation and Reorganization Activities/Perform Consolidation and Reorganization

**ANNEX E (Aviation Gunnery)**

1. References: See ANNEX R.
2. Purpose: To standardize and provide planning guidance for the conduct of aerial gunnery training and qualification within the Aviation Brigade.
3. Objective:
  - a. The helicopter gunnery program begins with individual qualification on aircraft weapon systems and progresses through crew qualification to unit collective training. The unit training strategy must build upon the skills learned by individual crewmembers during the aircraft qualification course. It must include and balance individual, gunnery, tactical, and maintenance training for both aviators and support personnel. The unit gunnery program must be progressive and continuous. It must emphasize training that allows integration of new personnel while maintaining qualified crews. FM 3-04.140 provides commanders with the information and guidance needed to develop and incorporate gunnery training into the Air Crew Training Program while meeting the standards in DA Pamphlet 350-38, Chapter 7. This program is focused on building war-fighting units that can fight, win and fight again.
  - b. Qualify all AH 64 crews on table VIII annually.
  - c. Qualify all OH 58D crews on table VIII annually.
  - d. Qualify all M60D door gunners on table VIII annually.
  - e. Ensure all crews are qualified on table VIII prior to Table X and XII.
  - f. Qualify all platoons on Table X annually.
  - g. Qualify all companies on Table XII or in conjunction with a FCX or NTC Live-fire annually.
  - h. Provide support to all Brigade Combat Teams for LFX.
  - i. Provide LNO for Range control during LFX.
  - j. Qualify all unqualified individuals and crews (crew-served weapons), to include support personnel, on their assigned weapons.
4. To ensure standardization within the division, the following standards apply to all aviation gunnery tables.
  - a. Formal AARs will be well organized and professionally executed IAW FM 25-20.
  - b. Standard full-scale targets with TVI thermal blankets found in FM 3-20.12-7 and TC 25-8 will be used for all live fire training.

c. All tables will be fired IAW FM 3-04.140.

5. The aviation training NCOIC / Master gunner will develop Table VIII scenarios for crew qualification and submit a scenario work sheet to NTC Aviation Operations.

6. Helicopter Gunnery Training.

a. Classes given quarterly using FM 3-04.140 (pre-gunnery training).

b. RL progression.

1. To progress to RL 2 and subsequently RL 1, AH 64 and OH 58D aviators must satisfactorily complete tables III, IV per FM 3-04.140. These tables are designed to evaluate the aviator's individual gunnery skills. If tables III/IV are a live fire event and resources are not available during RL progression period, then completing these tables is not required until the unit's next live fire gunnery.

2. After completing live-fire gunnery, AH-64 and OH-58D aviators remain gunnery certified for twelve months. To retain gunnery certification, the aviator must successfully complete live-fire gunnery at least every twelve months.

7. Door Gunnery Training.

a. UH-60 Door Gunners must complete ground qualification prior to progressing to air qualification and full door gunnery qualification.

b. Door gunners will conduct ground qualification IAW FM 3-04.140 annually.

c. Door gunners will complete Table V (Door Gunnery Skill Training) is a mechanism for the commander to determine door gunner readiness to progress to further tables. Per FM-04.140 para A 20 this evaluation may be performed up to 180 days prior to the actual door gunnery.

d. At a minimum Table V will include academic instruction on the subjects outlined in FM 1-140 FM 3-04.140 Figure A-1 and A2 and a Door Gunnery Skills Test of a least fifty questions. Subject areas for the questions will be selected by the commander, but will include questions on the academic instruction with emphasis on weapon function, ballistics, target acquisition, and aircraft procedures.

e. Aircraft orientation is applicable only to door gunners who are not crew chiefs or who are not familiar with the unit aircraft.

f. Commanders will refer to FM 3-04.140, Annex A, for conducting Door Gunnery in all modes of flight.

8. Administrative data.

a. As each Battalion / Squadron completes Table VIII, the training NCOIC / Master Gunner will turn-in a roll-up of the Table VIII scores by engagement to the Brigade / Regiment training NCOIC/

Master Gunner. The Brigade / Regiment training NCOIC / Master Gunner will forward this roll-up to Fort Irwin Master Gunners. The roll-up must include 4 bullet statements for sustainment training on crew trends for failed engagements. As each Battalion / Squadron completes Table X, the training NCOIC / master gunner will turn-in and overall rating of each platoon to include bullet statements on weak or failed tactical tasks.

b. After Action Review (AAR) will be submitted to Fort Irwin G3 OPS prior to out-processing NTC Range Control.

c. The Battalion / Squadron training NCOIC / Master Gunner will be present in the tower during all firing periods on table VIII.

d. The Battalion / Squadron training NCOIC / Master Gunner will be present in the tower during all firing periods on table VIII. In their absence, this position will be delegated to senior aviators at the discretion of the Brigade/Battalion Commander.

e. Battalion / Squadron Commanders will evaluate table XII.

f. Crews will not progress to subsequent live-fire tables without meeting the standards of the previous tables. The individual unit establishes the standards for preliminary tables.

**ANNEX F (Artillery Gunnery)**

1. References: See ANNEX R.
2. Purpose. To provide the policies and procedures for the preparation and the conduct of live fire cannon and MLRS exercises with DIVISION ARTILLERY.
3. Objectives:
  - a. The Paladin gunnery program begins with the individual qualification on the weapon systems and progresses through crew qualification to unit collective training. The unit training strategy must build on the skills learned by individual crewmembers during the home station gunnery training. It must include and balance individual, gunnery, tactical, and maintenance training for both crews and support personnel. The unit gunnery program must be progressive and continuous. It must emphasize training that allows integration of new personnel while maintaining qualified crews. FMs 6-30, 40, 50, and 60 provide commanders with the information and guidance needed to develop and incorporate gunnery training into the Paladin Training Program while meeting the standards in NTC REG 350-3 and DA Pamphlet 350-38, Chapter 3. This program is focused on building war-fighting units that can fight, win, and fight again.
  - b. Train all Artillery MOSs concurrently.
  - c. Provide support to all Brigade Combat Teams for NTC LFX.
  - d. In coordination with the Brigade Combat Teams, evaluate Company Fire Support Teams.
  - e. Conduct cannon and rocket live-fire exercises (Cannon Paladin Tables (PT) 7 – 17 / rocket tables VIII - X).
  - f. Qualify all unqualified individuals and crews (crew-served weapons), to include support personnel, on their assigned weapons.
4. Paladin Gunnery Program:
  - a. The standard for qualification is to accomplish 90 percent of the PALADIN Table 14 tasks to MTP standards using dry-fire techniques.
  - b. A battery must be qualified dry (PT 14) prior to participation in battery live-fire (PT 15) or dry-fire battalion qualification (PT 17).
  - c. Critical leader positions, in addition to the section and platoon critical personnel, must be present during the qualification. These same critical leaders must be present during the battalion qualification (PT 17) for the battery to retain its qualification. Critical leader positions are the battery commander, platoon sergeant and gunnery sergeant. Commanders can designate additional positions as critical.

5. PALADIN Table 17 (Battalion Qualification, LFX) is the battalion's critical gate to proceed to the Battalion Qualification, Live (PT 18), and the BDE FCX / CMTC-LFX.

a. The standard for qualification is to accomplish 90 percent of PT 17 tasks to MTP standards using dry-fire techniques.

b. Train PT 17 as required to certify personnel.

c. Phases. The PALADIN Tables are divided into three phases for each echelon above crew level. These phases are training, qualification (dry), and qualification (live).

#### 1. Training PALADIN Tables:

a. Training tables prepare crews, platoons, batteries, and battalions for dry qualification. The emphasis is on leader training and performing the gunnery tasks safely to standard without using ammunition.

b. Train using these tables with dry-fire procedures. The training tables are PT 1 (individual/crew), PT 3 (crew), PT 5 (crew), PT 6 (crew), PT 7 (crew/platoon), PT 10 (platoon), PT 13 (battery), and PT 16 (battalion).

c. These tables require little training land and operating tempo and no ammunition.

#### 2. Dry Qualification PALADIN Tables:

a. Dry qualification PALADIN Tables prepare individuals, crews, platoons, batteries, and battalions for live-fire qualification. Their purpose is to certify that the echelon can perform the tasks safely to standard before live-fire qualification.

b. Train using these tables with dry-fire procedures. The dry qualification tables are PT 2 (individual), PT 4 (crew), PT 11 (platoon), PT 14 (battery), and PT 17 (battalion).

c. These tables require little use of training land and OPTEMPO, to include some blank ammunition and pyrotechnics.

#### 3. Live Qualification PALADIN Tables:

a. Live qualification tables allow the platoon leader, battery commander, and battalion commander to evaluate their unit's ability to perform the tasks safely and to standard.

b. Units train by using these tables with live-fire procedures. The live qualification tables are PT 8 (crew), PT 12 (platoon), PT 15 (battery), PT 18 (battalion), and PT 20 (BDE FCX/ LFX).

c. The live qualification tables require extensive use of training land, OPTEMPO, and ammunition.

#### 4. Multi-echelon Training.

a. Multi-echelon training is the simultaneous training of more than one echelon on different tasks, the conduct of different exercises by a unit or the training of different tasks by elements of the unit. Multi-echelon training occurs whenever collective training is being conducted. Anytime training above soldier level is going on, multi-echelon training is being done.

b. The PALADIN Tables, by their collective nature, are multi-echelon training. Dry qualification, and live qualification are designed to help train or evaluate training at individual, crew / section, platoon, battery, and battalion levels. All PT's sustain individual MOS proficiency.

#### 5. Individual and Leader Training.

a. The PALADIN Tables address limited individual and leader training. The Common Task Training, MOS training, and leader training must precede crew training (PT 3).

b. Soldiers Manual/ Trainer Guides (SMs/TGs) identify combat critical MOS training requirements. They provide the MOS training plan and references for training individual soldier skills.

c. The SMs / TMs support the army individual training evaluation program (ITEP). The ITEP has three components:

- Commander's evaluation.
- Self-development test.
- Common task test.

d. STP 21-11-MQS and STP 6-1311-MQS provide a description of the MQS program. The two manuals give the FA Company grade officer a list of tasks that he is responsible for learning and mastering. In addition, all incoming officers must attend the Division Artillery PALADIN leaders Training Course.

e. The PALADIN Leaders Course. The course is five days long and conducted in a field environment every quarter. It is designed to train new key leaders on the PALADIN technical operations and doctrine. The goal is to standardize crew drills within the Division Artillery as well as to train leaders on PALADIN TTP's at platoon and section levels. The PALADIN Leaders Course is supervised and run by the Division Artillery Master Gunner.

6. Qualification Scenarios. Leaders at the platoon, battery, and battalion levels must develop a METL-based scenario when using the qualification PT's. This scenario helps make the qualification tables more meaningful, thus making the training more beneficial.

#### 6. MLRS Gunnery Program

- a. The standard for qualification is to accomplish 90 percent of the MLRS Table X tasks to MTP Standards using dry-fire techniques.
- b. A battery must be dry-fire qualified on all Table X tasks prior to participation in battery live-fire (Table X) or battalion-level command field exercise qualification (Table XII).
- c. Critical leader positions, in addition to the section and platoon critical personnel, must be present during the qualification. These same critical leaders must be present during the battalion qualification (Table XII) for the battery to retain its qualification. Critical leader positions are the battery commander, platoon leader, operations officer, and platoon sergeant. Commanders can designate additional positions as critical.
- d. Train MLRS Tables as required in order to certify personnel.
- e. The MLRS Tables are divided into two phases for each echelon above the individual level. These phases are dry-fire practice / qualification and live fire qualification.

#### 1. Dry-fire Practice / Qualification Tables

- a. Practice/Qualification Tables prepare sections, platoons, batteries, and battalions for live fire qualifications. Their purpose is to certify that the echelon can perform the tasks safely to standard before live-fire qualification.
- b. Train these tables with dry-fire procedures. The dry-fire qualification tables are Table III (individual practice), Table IV (section qualification), Table VI (platoon practice), Table IX (battery practice), and Table XI (battalion practice).
- c. These tables require a moderate use of training land and OPTEMPO.

#### 2. Live-fire Qualification Tables

- a. Live-fire qualification tables allow the platoon leader, battery commander, and battalion commander to evaluate their unit's ability to perform the tasks safely and to standard.
- b. Units train by using these tables with live fire procedures. The live-fire qualification tables are Table VIII (Platoon), Table X (Battery), and Table XII (Battalion).
- c. The live-fire qualification tables require extensive use of training land, OPTEMP and ammunition.

#### 3. Multi echelon Training

- a. Multi echelon training is the simultaneous training of more than one echelon on different tasks, the conduct of different exercises by a unit or the training of different tasks by elements of the unit. Multi echelon training occurs whenever collective training is being conducted. Anytime training above soldier level is going on, multi echelon training is being done.

b. The MLRS tables, by their collective nature are multi echelon training. Dry-fire qualification and live-fire qualification are designed to help train or evaluate training at individual, section, platoon, battery, and battalion levels. All MLRS tables sustain individual MOS proficiency.

#### 4. Individual and Leader Training

a. The MLRS tables address limited individual and leader training. The Common Task Training, MOS training, and leader training must precede section qualification (Table V).

b. Soldier's Manual/ Trainer's Guides (SM/TG's) identify combat critical MOS training requirements. They provide the MOS training plan and references for training individual soldier skills.

c. c) The SM/TM's support the army individual training evaluation program (ITEP). The ITEP has three components:

- Commander's evaluation
- Self-development test
- Common task test

d. STP 21-11-MQS and STP 6-1311-MQS provide a description of the MQS program. The two manuals give the FA company grade officer a list of tasks that he is responsible for learning and mastering.

5. Qualification Scenarios. Leaders at the platoon, battery, and battalion levels must develop a METL-based scenario when using the qualification tables. This scenario helps to make the qualification tables more meaningful, thus making the training more beneficial.

**ANNEX G (Engineer Squad Qualification Gunnery)**

1. References: See ANNEX R.
2. Purpose. To standardize and provide guidance for the conduct of engineer gunnery training and qualification.
3. Objectives.
  - a. To establish a realistic, continuous, viable, and standardized engineer gunnery program.
  - b. Execute a company/team obstacle plan.
  - c. Conduct breaching operations.
  - d. Conduct battalion logistics operations.
  - e. Qualify all unqualified individuals and crews (crew-served weapons), to include support personnel, on their assigned weapons.
4. General.
  - a. Training Strategy.
    1. Squad qualification on Table VIII (using the Squad Stakes program to execute this qualification) is the cornerstone of the gunnery program. This qualification is an annual requirement that can be trained either at an LTA (using DES for the live demolition requirements) or at NTC.
    2. During the planning phase for each installation Gunnery Density, commanders decide where they will execute Table VIII (Squad Stakes). Planners then schedule NTC resources as required.
    3. Engineer platoon support for the 3-Day Wars is critical to training the combined-arms team engagement area development and obstacle breaching. Engineer commanders ensure their units are well integrated into the supported maneuver unit's training plan while preparing the scenarios for gunnery. Whenever possible, engineer units evaluate their platoons while they are supporting maneuver units in the execution of Table XII's. This evaluation ensures the appropriate focus on support for the maneuver commander and training for the combined arms team.
  - b. Gunnery Standards. Standards for squads are IAW FM 3-20.21, DA PAM 350-38, and Battalion/Squadron SOP's. Following iterations of squad stakes, the Engineer Company conducts an AAR and then publishes any changes to the standards. These standards guide squad training for the next Squad Stakes. Standard for platoons are based on the sequence in Tables IX-XII in FM 3-20.21, Engineer Qualification Tables, with specific tasks based on unit METL.
  - c. Gunnery Tables. Squad tables follow the sequence prescribed in FM 3-20.21 appendix E (Engineer Qualification Tables), DA PAM 350-38 in training for Table VIII. These tables are progressive,

and they must be done in order. Platoon tables follow the sequence in Tables IX – XII in FM 3-20.21 appendix E, Engineer Qualification Tables, DA PAM 350-38 with specific tasks based on unit METL.

d. **Small Arms and Demolition Qualification.** All small arms qualification must be completed IAW FM 3-20.21 appendix E, DA PAM 350-38 and the appropriate manual prior to squad qualification. Squads use the facilities at NTC to meet the annual live demolition qualification requirements. Units conduct these tasks using realistic battlefield scenarios, consistent with the demolition range procedures and small arms qualification standards.

e. Squads must meet the standards of each table before proceeding to the next one.

f. Squad members will only fire with the squad to which they are assigned/ battle-rostered.

6. **Engineer Squad Table VIII (Squad Stakes) Qualification.** Squad Stakes occur in three phases.

a. During Phase I (Qualification), sapper squads complete CTT, weapons qualification, and the APFT. These events are scored IAW FM 3-20.21, DA PAM 350-38 and Battalion/Squadron SOP's.

b. During Phase II, squads (sapper, ACE, Volcano, etc.) complete the tasks listed below. These tasks are embedded in a realistic, continuous, battalion-developed scenario that places the squad under mental and physical stress. Task Evaluators are platoon sergeants and senior NCOs. Platoon Leaders lead their squads and provide un-graded feedback to the squads on troop-leading procedures.

c. Graded SAPPER Battle Drills include:

1. Breach MF w/ MICLIC
2. Breach MF w/ Explosives
3. Breach Wire Obstacle w/ Bangalore
4. Emplace Row in Row MF
5. Construct 30m TSC
6. Construct 11-Row Wire Obstacle
7. Install MOPM's MF
8. Emplace Hasty Road Crater

d. Graded SAPPER Squad Events include:

1. PCI's
  2. PMCS
  3. React to Indirect Fire
  4. Call for Fire
  5. React to Direct Fire
  6. Evacuate Casualties
  7. Conduct Obstacle and Route Recon
  8. Sweep and Clear Route
  9. Protect against Chemical Attack
  10. MOPP Suit Exchange
  11. Employ M8 Alarm.
- e. Ungraded SAPPER squad events include:
1. Conduct rollover drills
  2. Conduct fire drills
- f. Graded A&O Platoon Battle Drills (ACE) include:
1. Construct a two-tier Fighting Position (Day)
  2. Breach an Anti-tank Ditch (Buttoned Up)
  3. Breach a Road Crater (Buttoned Up)
  4. Construct a Combat Trail
  5. Construct a Tank Ditch
  6. Construct a two-tier Fighting Position (Night)
  7. Install MOPM's MF
- g. Graded A&O Platoon Battle Drills (AVLB) include:

1. Recon a Potential AVLB Launch Site
2. Breach a Gap w/ AVLB
3. Breach an Anti-tank Ditch
4. Breach MF w/ AVLM
5. Install MOPM's MF

h. Graded A&O Platoon Battle Drills (VOLCANO)

1. Emplace a VOLCANO MF (Disrupt or Fix)
2. Emplace a VOLCANO MF (Turn or Block)
3. Conduct Hide Position Operations
4. Conduct Volcano Reload Operations
5. Install MOPM's MF
6. Emplace AIR VOLCANO MF (serve as engineer on air volcano mission)

i. Graded Events (ACE/AVLB/VOLCANO):

1. PCI
2. PMCS
3. React to Indirect Fire
4. Call for Fire
5. Evacuate Casualties
6. Conduct Recon Patrol (MOS Specific; ACE / AVLB / VOLCANO)
7. Conduct Mine sweep Operations (an area large enough to demonstrate the skill and not entire route)
8. React to Chemical Attack
9. MOPP Suit Exchange

10. Employ M8 Alarm.

j. Ungraded safety check events (ACE/AVLB/VOLCANO):

1. Conduct rollover drills
2. Conduct fire drills.

7. PHASE III: This phase consists of a twelve mile, dismounted ruck march that must be completed as a squad. Three hours for completion is the minimum standard.

8. Engineer Platoon Table XII Qualification.

a. Platoon qualification follows the sequence in FM 3-20.21 appendix E, Engineer Qualification Tables, DA PAM 350-38, with specific tasks added or changed based on unit METL.

b. Tables are as follows:

1. Table IX: Advanced react to contact. This table tests fire control and distribution in offensive and defensive engagements. Range 1, 18, 20, and NTC live fire areas are well suited for this table.

2. Tables X-XII: These tables train all members of a combat engineer platoon on those critical mobility and counter-mobility tasks that they will execute in combat. Table X is the Advanced Training Course, Table XI is the Advanced Training (dry), and Table XII is the Advanced Qualification Course.

3. Whenever possible, platoons are evaluated on Tables X-XII while supporting maneuver units in the conduct of Table XII. Planners integrate the required engineer tasks in Tables X-XII with the maneuver unit's tasks. This process ensures the appropriate focus on support for the maneuver commander and on training the combined-arms team. When this training is not possible, platoons are evaluated in these tasks using realistic; battlefield focused scenarios developed by each battalion/squadron.

**ANNEX H (Gunnery Milestones)**

1. The Milestones listed in the appendix do not include all tasks required to complete a gunnery-training program. The listed tasks are only key tasks that must be executed to facilitate a successful gunnery exercise.

<u>DATE</u>	<u>EVENT</u>
Monthly	Mandatory resource conference
5 <sup>th</sup> of the month	Monthly ammunition forecast due
G-240	Draft gunline out to Fort Irwin units
G-240-210	Work gun line issues with unit Master Gunners Gunnery IPR
G-210	CG / G3 Gunnery Decision Brief
G-180	Input Fort Irwin gunline into NTC rotational schedule
G-180-120	Units request small arms ranges and land Final Gunnery IPR
G-120	Units last opportunity for Fort Irwin changes to land and small arms ranges
NTC 4-Week	Every Tuesday 1330 hrs, 4 weeks prior to your units training week, all units must attend a scheduling conference at Fort Irwin G3 to confirm scheduled ranges / land.
4 Weeks out	Schedule PGT use through Brigade/Regiment S3 Training
G-45	OIC / RSO memos must be turned into Range Control two working days prior to running the range or start of training.
G-30	Per NTC 350-3, N-2c Unit Master Gunners will provide the commander's approved firing scenarios for all Gunnery Tables to be conducted on Range 1 NLT 30 working days prior to the unit occupation. Also all VCE training completed.
G-21	Leader's RECON complete
G- 15	ALL scenario work sheet / Overlays turned in to appropriate range control Battalion/Squadron submit 581's to Fort Irwin ammunition manager
G Day	Firing unit begins gunnery at NTC.

1500 hrs daily      Daily Sitrep Report

R+14                      Copies of screening sheets forwarded to Fort Irwin Master Gunner.  
Original GT VI score sheets forwarded to Fort Irwin Master Gunner.

R+30                      Master Gunner Gunnery AAR

NOTE: All times listed are NLT times.      \* G = Start of Fort Irwin Gunline

\* R = Day after completion of unit gunnery

## ANNEX I (VCE SUPPORT)

1. Purpose. External VCE evaluation is required during the conduct of GT VI. This tasking will be issued as a tasking, from Fort Irwin G3 Operations. Fort Irwin gun line will also reflect who is responsible and when to report for VCE support.

### 2. Techniques:

a. External Fort Irwin support: Utilizes 11 ACR, 916, and 1916 as the supporting unit

b. Fort Irwin Evaluation Team: Assembled from personnel that do not meet the commanding general commander's sustainment criteria. The intent is to utilize mostly non-firing personnel, in order to minimize the impact to training units.

c. Internal Fort Irwin evaluation: Units are used to evaluate other units on Fort Irwin.

### 3. VCE personnel requirements (GT VI).

a. 2 VCE NCOIC (Master Gunner) (1 day / 1 night).

b. 10 NTC trained and certified VCE (5 day / 5 night).

c. All VCEs will be certified / re-certified within the last 12 months.

d. Individuals not certified / recertified will be scheduled to attend class, prior to the evaluation period.

### 4. Responsibilities

#### a. Firing unit.

1. In-brief, conducted by the Battalion/Squadron Master Gunner. Items to discuss as a minimum:

a. Evaluation procedures

b. Range Orientation/Operations

c. Verify certification of all VCE

d. Verify personnel understand how to operate the FLIR camera. If not, Battalion/Squadron Master Gunner will coordinate a class thru range control, COM: 380-3878.

#### 2. Equipment

- a. 6 stopwatches / 3 digital timers
- b. 6 Tape players / recorders with batteries
- c. AAR Material
- d. CL I and billeting
- e. Current score sheet packets.
- f. VHS tapes or DVD+RW for each firing vehicle

Note: All numbers for equipment are minimum numbers. Battalion/Squadron Master Gunners are responsible for having the necessary equipment to create a solid range flow.

- b. Evaluating unit.
  - a. Head VCE will keep copies of VCE certificates on the range at all times.
  - b. Will have adequate personnel trained on the FLIR camera. The term "trained," means those personnel understand how to program the FLIR with target locations.
  - c. Ensure that VCE have TMP transportation.
  - d. VCE have the appropriate reference materials at all AAR sites.
- c. Personnel and equipment requirements are METT-T dependent. Coordination between firing and supporting units may decrease requirements. When an agreement cannot be reached, the supporting unit will provide personnel and equipment specified in the SOP.

**ANNEX J (Ammunition Procedures)**

1. References: See ANNEX R.
2. Purpose. Guide NTC units to allocating, forecasting, requesting, drawing and the turning in of training ammunition.
3. Allocation of authorizations.

a. Upon receiving training ammunition authorizations for the fiscal year, Installation Ammunition manager will sub-allocate authorizations to the Battalion/Squadron level units. The unit's authorizations will be based on DA PAM 350-38, Standards in Weapons Training (STRAC) and availability of ammunition and authorized events.

b. Authorization Increases. If units identify a need for additional ammunition they must submit a memorandum to FORSCOM through Fort Irwin G3. The memorandum must include a justification for the increase, the ammunition DODIC's, nomenclatures and quantities. Justifications for additional ammunition include:

1. Received less than STRAC authorizations.
2. Weapons density changes
3. CONOPS Strategies

4. Forecasting Ammunition.

Forecasting is the process units use to determine future ammunition requirements and to ensure the ammunition is available for issue. Accurate unit forecasting is essential to prevent shortfalls or identify in advance additional requirements. IAW AR 5-13, Total Army Munitions Requirements Process and Prioritization System all units, Battalions, squadrons must use TAMIS. Forecasting must reflect quantities required for the next (12) twelve months.

- a. TAMIS does not allow increases in ammo for the current month or the next two months i.e., January, February and March forecast. April would be the next month allowed to have forecast changes implemented.
- c. It is imperative ammunition forecasts are accurate. No Forecast = no ammo.
- d. Ammunition managers will meet monthly to discuss ammunition forecast and any related issues.

5. Issue of Ammunition.

a. General. DA PAM 385-64, Training Ammunition Management – Ammunition Services outlines the procedures for the issue of ammunition on DA Form 581.

- b. Ammunition Requests: Request must be within allocated and forecasted quantities. Utilizing TAMIS, electronic 581's will be submitted to Installation Ammunition Manager NLT 15 calendar days prior to required draw date. It is the unit's responsibility to ensure that all related paperwork is in order at all locations (i.e., Current DA Form 1687's, Hazmat stamp, etc.) and to coordinate pick-up/turn-in arrangements with ASP's.
- c. Unforecasted Requests. Unforecasted requests will not be supported.
- d. Late Request: Requests submitted late will be subject to scheduling at the ASP and the unit may have to adjust the requested pick-up date.
- e. Document closure: It is the units responsibility to close out documents and have the appropriate paperwork in TAMIS and at the ASP by the following dates:
  - 1. Documents must be closed NLT 5 calendar days from end of training.
  - 2. Delinquent documents will freeze the concerned units account until reconciled.
- f. Points of contact for ammunition management are:
  - a. Fort Irwin Ammunition Manager, Ms. Zola Parker, 760-380-3883
  - b. ASP 760-380-4257/4000 Fax: 760-380-6367

**ANNEX K (Land Request)**

1. Brigade/Regiment Master Gunners are the POC's for all land and live fire range requests originating in their Brigades/Regiment. Smaller NTC units that do not have Master Gunners will designate appropriate land and range request POC's. Unit POC will forward all requests for land or ranges to the Range Control Scheduler using NTC RFMSS (Range Facility Management Support System). Scheduling request procedures for standard and non-standard requests and unit priority lists are contained in NTC REG 350-3, Chapter 2.

a. Unit POC will also contact the Range Control Safety Officer when submitting RFMSS non-standard range or training area requests to identify what additional information is required by the Range Safety Officer for review to approve unit's plan. Finalized non-standard range safety plans are required to be submitted to Range Control Safety Officer for approval NLT 14 working days before event start date.

b. Unit scheduling POC requesting Range 1 is required to provide all range information and support requirements to Range 1 Supervisor NLT 30 working days before start date.

2. Operations Group and Rotation units have priority for scheduling on Rotation RSOI Week and Rotation Training days. Unit POC's need to review G3 Rotation Schedule calendar when planning unit training events to avoid conflicts when possible. When scheduling conflicts arise with PSMU units and rotation training dates, Unit POC will contact Fort Irwin Master Gunner about issue. G3 Range Officer is POC for final resolution for unresolved scheduling conflicts.

3. Scheduling requests for Rotation LFX Area land and range facilities on non-rotation days requires additional unit coordination with Operations Group Dragon and Phoenix teams (primary owner) and the Range Control Safety Officer when submitting requests to Range Control Scheduler.

4. NTC Fort Irwin unit requests during PSMU (Primary Scheduled MTA Unit)

a. Units will submit requests 180-120 days from the beginning of the installation gun line. This allows priority to be given to specific events (i.e. a Table XII vs. a platoon FTX, priority goes to Table XII). This is to allow Range Control and OPS GRP time to de-conflict range usage.

b. Land and small arms range requests must be submitted to the Range Control Scheduler and G3 Plans between 180-120 days from the beginning of the training date. This is to allow Range Control and OPS GRP time to de-conflict range usage.

c. Unit POC's are responsible for de-conflicting their sub-units internal land requests, prior to the requests being forwarded to Range Control Scheduling. Fort Irwin Master Gunners and OPS GRP are responsible to de-conflict any issues with other units outside the unit's footprint. G3 Range Officer is POC for final resolution for unresolved scheduling conflicts.

d. Changes and additions to land requirements for a scheduled training event will be submitted to Range Control Scheduler as needed. PSMU unit Master Gunners will ensure Fort Irwin Master Gunner's

are kept informed of any changes to the unit gun line. NTC Master Gunner will coordinate conflicts with OPS GRP as needed.

e. Unit POC's must contact Fort Irwin Master Gunner and Range Control Operations Officer 1 week from the day of training. This will ensure that there are no issues prior to the unit training. That day is the final coordination for lock in of the land.

5. Request outside of PSMU status

a. Units under PSMU status have priority for scheduling land/ranges out to 120 days of the date of training.

b. Standard land and range requests must be submitted to the Range Control Scheduler NLT 5 working days before event start date.

c. Unit POC's must contact Fort Irwin Range Control Operations Officer 1 week from the day of training. This will ensure that there are no issues prior to the unit training.

6. Land availability/lock-in can be verified utilizing RFMSS.

a. Submission of a land request is not to be considered ownership. Land is not officially yours until it is reflected on RFMSS as reserved for your unit.

b. NTC G3 Range Officer must approve all non-standard combined maneuver / live fire training events.

c. All units conducting training will in/out-process through Range Control.

d. Units will provide OIC/RSO memorandums and Risk Assessments to the Range Operations Officer NLT 2 working days prior to start of training.

**ANNEX L (MILES Requests)**

1. References: See ANNEX R.
2. Purpose. For National training Center units to use the following procedures to plan the draw and turn-in of MILES for exercises conducted at NTC, i.e. NTC LFX, CALFEX, etc.
3. Brigade/Regiment Master Gunners are the POC's for their BCT concerning all MILES issues relating to NTC / NTC LF. Brigade/Regiment Master Gunners will consolidate and forward those request to the supporting RTSC, and the Fort Irwin G3 916<sup>th</sup> representative. This is for tracking purposes only. The Brigade/Regiment Master Gunners is still responsible for all coordination of resources.
4. Units must submit a memorandum for training aids and a MILES request form NLT 60-90 days prior to training. This form must cover all units attached to the Battalion/Squadron Task Force, ie. medics, engineers, FA, ADA units, etc. Rule of thumb: Any element crossing the LD during live fire must have MILES. Forms can be obtained by calling COM: 380-7743 / 5148.
5. No separate or attached units, participating in NTC LFX, will draw MILES. MILES is issued Task Force complete.
6. The request form must have a desired pick up and turn-in date. Issue and turn-in days start at 0800 hrs. Plan for a two-day turn-in for Battalion/Squadron sized elements. The turn-in dates can be rescheduled at the time of issue with TSC personnel. Once scheduling is locked in, it is imperative that turn-in times are met.
7. MILES will only be issued to MILES certified personnel on a valid signature card. For information on establishing a temporary account and signature card phone COM: 380-7743 / 5148.
8. Velcro and batteries are the unit's responsibility.
9. If units request an erroneous amount of MILES and misses either the pick-up or turn-in times, shows up without proper paperwork or has no MILES certified personnel for issue, the Fort Irwin G3 is notified.
10. Units are considered "NO-SHOWS" when they are 1 hour late of their pick-up and turn-in times. This will result in a cancellation of the appointment. Units must then reschedule turn-in or pick-up dates and or must re-request the MILES. All re-request dates are then based off the time and workload of TSC personnel. Call beforehand, if a problem arises.

**ANNEX M (MG School)**

1. Purpose: To establish a plan for the tracking of future master gunners and a sequence of events for the processing of master gunner packets.

a. Responsibilities:

1. Company Master Gunners

- a. Track Prerequisite Status of E-5 to E-7
- b. Initiates master gunner packet
- c. Gets commanders recommendation letter
- d. Submits complete packet to Battalion/Squadron Master Gunner

1. Battalion/Squadron Master Gunners

- a. Reviews packet for any missing documents
- b. Prepares 1610
- c. Gets commanders endorsement
- d. Forwards complete packet to Brigade/Regiment

3. Brigade/Regiment Master Gunners

- a. Reviews packet for any missing documents
- b. Forwards complete packet to Fort Irwin Master Gunner
- c. Gets commanders endorsement

4. Fort Irwin Master Gunners

- a. Reviews packet for any missing documents
- b. Upon receipt of packets, forwards a copy of the DA Form 1610 to Master Gunner branch to determine if seats available
- c. Forwards complete packet to Fort Irwin G3 for approval and funding
- d. Notifies unit of soldiers scheduled class date
- e. Places personnel in ATRRS (Army Training Required and Resources System)
- f. Notify Fort Irwin units of ATRRS status

b. Procedures:

1. Company/Troop/Battalion Master gunners should have a means to track current status of all NCO's capable of attending master gunner school. Enclosure # 1 is an example of a tracking chart.

2. It is the company/troop master gunners responsibility to ensure that the master gunner packet is complete. All other levels of master gunners are nothing more than quality control. Utilizing the Prerequisite Check list (Enclosure # 2) will ensure that everything needed is present.

3. All packets are verified according to the Prerequisite Checklist enclosed. Listed on the checklist are the documents in the packet that will be used to verify the data.
4. All packets must be complete. Complete refers to having a way to verify all prerequisite data. This is to include all waivers that are applicable.
5. All packets must have the enclosed Fort Irwin coversheet attached (Enclosed 3).
6. Waivers can be given for certain prerequisites; however packets must have the request for waivers present, when submitted.
7. If the individual has not attended, or has failed, the Pre-Master Gunner course a memorandum from the commander is required. This memorandum simply has to state the “he” (the Commander) understands that he didn’t attend or has failed the course, but still want him to attend.
8. Master gunner packets that are incomplete will be returned to the unit and will have to be resubmitted once complete. This could adversely effect the school date. Those packets will have a Prerequisite Checklist attached listing the deficiencies found.
9. Master Gunner packets must be turn-in to Fort Irwin Master Gunner a minimum of 45 days prior to the course they intend on attending.
10. An example of a correctly done DA Form 1610 is enclosed. (Enclosure # 4)
11. Ammunition managers will meet monthly to discuss ammunition forecast and any related issues.



**M1A1 Master Gunner Prerequisites**

(NAME)

- Army/Marine Corps Active Army, National Guard, or Reserve Component
- Possess the rank of SGT (P) to SFC.
- Must volunteer for the course.
- Upon completion of the course, the Soldier must have ten months remaining service commitment. (His unit may request his tour of duty in present unit be extended for up to 24 months.)
- Must possess the 19K MOS prior to attending the M1A1/M1A2 SEP Master Gunner course and have received M1A1/M1A2 SEP base line training.
- Must be personally interviewed by the Battalion Commander to be selected to attend the course.
- Must have one year experience as a Tank Commander, with at least 6 months experience as an M1A1/M1A2 SEP Tank Commander , reflected on your ERB (Waiverable) .
- **Active Component:** Must have qualified as an M1A1/M1A2 SEP tank commander on Gun Table VI within the preceding 12 months. (If the unit has not had the M1A1/M1A2 SEP tank for 12 months, this requirement may be waived by the Battalion Commander providing the student has fired the M1A1/M1A2 SEP tank during NETT.)
- **Reserve Component:** Must have qualified as an M1A1 tank commander on Gun Table V or VI within the preceding 24 months.(For units that have not had the M1A1/M1A2 SEP tank for 24 months, this requirement may be waived by the Battalion Commander providing the student has fired the M1A1/M1A2 SEP tank during NETT.)
- Must be certified by the battalion that the Soldier/Marine has passed the Tank Commander's GST as stated verbatim in FM 3-20.21 within three months or 90 days prior to attending the M1A1/M1A2 SEP Abrams Master Gunner Course.(NON-WAIVERABLE)
- Must have a GT score of 105 (Waiverable) and a CO (Combat) score of 110 (Waiverable). Either GT score or CO score may be waived, by only 5 points. Only one of the two may be waived for a student, not both.
- Secret clearance (Verified by ERB)
- Fort Irwin's school coversheet

**You must have these items in your possession at in processing:**

- GST score sheet, valid within the last 6 months
- ERB (Enlisted Records Brief)
- Any waiver request signed by Master Gunner Commandant only
- Orders (DA-4187/1610) on Hand or Access to DTS to print orders off web

\* Enclosure 2

**M2A2 Master Gunner Prerequisites  
(NAME)**

- Active Army or Reserve Component with MOS 11M, 21B, 13F, 19D or 03 USMC
- DA Forms ERB
- Minimum of 10 copies of orders
- BCE Certificate
- I/O Certificate
- Certified BGST within previous 6-months
- DA Form 705 (PT Test)
- Proof of 100+ GT Score (ERB)
- Recommendation letter from first LTC in Chain of Command.
- Request a Waiver for BT VIII Qualification.
- Student will have a Government Issued Credit Card.
- Waivers signed by authorized Commander as referenced above. (If applicable).
- I/O Course COFT-E (Power Point)
- Fort Irwin's school coversheet
- Meet height and weight standards IAW AR 600-9 upon arrival
- Meet APFT standards IAW TC 3-22.20 upon arrival, without profile.
- ATRRS Information:

\*Enclosure 3



REPLY TO  
ATTENTION OF

# National Training Center Master Gunner Handbook

# DRAFT

**DEPARTMENT OF THE ARMY**  
HEADQUARTERS, V CORPS  
UNIT 29355  
APO AE 09014



AETV-GCT (350)

MEMORANDUM FOR SEE DISTRIBUTION

Subject: Schools request form

- 12. Course requested/Course Number:
- 13. School code:
- 14. Class # and Date:
  - a. Primary:
  - b. Alternate:

- 1. Name:
- 2. SSN:
- 3. Rank:
- 4. DEROS:
- 5. PMOS/Branch

(CA65/CCSF 25 only) CA/CS/CSS:

- 6. Duty Position:
- 7. Para/Line Number
- 8. Unit Address and Phone Number
- 9. E-Mail address:

(CA65/CCSF 25 only) Unit to command/Date of Command:

- 10. Mailing Address and Phone Number
- 11. Sex
- 12. Security Clearance:

- 13. The Soldier meets
  - HT/WT Standards: Y
  - Meets Course Prerequisites: Y
  - Meets Physical standards: Y

\*Enclosure 4

**ANNEX N (Reports)****1. Concepts and Policy.**

a. UCOFT utilization reports will be forwarded from Brigade/Regiment Master Gunners and due in to Fort Irwin Master Gunner, by the 1<sup>st</sup> of every month.

b. NLT the 15th of each month the Brigade/Regiment Master Gunner will submit to Fort Irwin Master Gunners a roll-up of all gunnery related training for the upcoming month.

c. During gunnery densities, Brigade/Regiment Master Gunners are required to submit a daily SITREP by 1000 hrs each day, covering training conducted the day prior. This report is submitted either in person, fax or preferably by e-mail.

d. All tank Battalion/Squadron Master Gunners are required to submit a Screening Report after the battalion has completed the screening process. This must include vehicles screened, not screened (and why), number of rounds fired, by DODIC and lot number, number of dud rounds and any round trends.

e. As each Battalion/Squadron completes Table VI, the Master Gunner will turn-in a roll-up of the scores to the Brigade/Regiment Master Gunner. The Brigade/Regiment Master Gunner will forward this roll-up to Fort Irwin Master Gunner. The roll-up must include bullet statements on crew trends for failed engagements (example, Crews are only acquiring one target).

g. At the completion of Table XII a summary of platoons strengths, weaknesses and trends is submitted to Fort Irwin Master Gunner.

h. At the conclusion of the Battalion's/Squadron's Gunnery density a gunnery AAR will be submitted to Fort Irwin Master Gunner. This should include problems with scenario work sheet, ranges, ammunition, etc. This will be a helpful tool in maintaining the quality of training that units receive.

2. MSC's commanders will submit reports including weapons system used, number personnel fired, ammunition problems / trends.

NOTE: All reports sent by tank units will include a total number of main gun rounds fired by DODIC and lot number.

National Training Center Master Gunner Handbook

**DRAFT**

DEPARTMENT OF THE ARMY  
HEADQUARTERS, UNIT NAME  
CMR APO AE

AETV (350)

DATE

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Company / Battalion Daily Gunnery SITREP (As of 1800)

1. Significant Events: EXAMPLE

B Co completed Table VIII on range 117 (2 crews, 2 "Q2") and scouts completed Table VIII (5 crews, 2 "Q1", 3 "Q2") on range 307.

C Co completed Table VIII on range 117 (5 crews, 4 "Q1", 1 "Q2") and scouts conducted Table VIII (12 crews, 3 "Q1") on range 307.

A Co conducted Table VIII (4 crews, 4 "Q1") on range 117 and scouts conducted Table VII (11 crews) on range 307.

Safety Issues

2. Combat Power:

Vehicle	Authorized	FMC	Firing VEHs.	Sabot fired	Heat fired
M1A1	27	27	26		
M3A2	41	41	40		

3. Significant Events for the next 24 hours:

A Co conducts post Table VI maintenance.

D Co tanks conduct post Table VI maintenance and scouts conduct Table VI on range 307.

B Co conducts Table VI on range 117 and Table VII on range 211.

5. Commander's Assessment: Weather cooperated for a successful day of firing on the four ranges occupied today. The Battalion has qualified 19 M1A1 crews (13 "Q1") and 15 M3A2's (12 "Q1") on Table V.

6. Issues/Concerns: Dud Ammunition / Safety Incidents

LTC, AR  
Commanding

**National Training Center Master Gunner Handbook**

**DRAFT**

DEPARTMENT OF THE ARMY  
HEADQUARTERS, 1<sup>ST</sup> INFANTRY DIVISION  
CMR 475, APO AE 09036

AETV-BGC

Date

MEMORANDUM FOR  
SUBJECT:

- 1.
- 2.
- 3.

Point of Contact for this memorandum is SFC MOSES at 350-7186.

CPT, AG  
Commander

Sample Gun Line

(MARCH 09)						APRIL 09																											
Unit	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23				
A Co	SAZ				RCA														RCE														
	GT II				GT III	M	GT IV	M	GT V	M	GT VI									SLF	SLF												
B Co																			M	RCA													
																				GT III	M	GT IV	M	GT V	M	GT VI	M	GT VII					
																				SLF	SLF												
C Co																				RCH					M								
																				GT II	M	GT III	M	GT IV	M	GT V	M	GT VI					
																				C/D	M	C/D	M	C/D	M	C/D	M	C/D					
D Co																				RCH					M								
																				GT II	M	GT III	M	GT IV	M	GT V	M	GT VI					
																				D/C	M	D/C	M	D/C	M	D/C	M	D/C					
E Co	SAZ				RCA																	EQA					RCE						
(Firing w/A Co)	GT II				GT III	M	GT IV	M	GT V	M	GT VI									EQT					SLF	SLF							
HHC																			M	RCA													
(M2/M3 w/B Co)																				GT III	M	GT IV	M	GT V	M	GT VI	M	GT VII					
(M1 w/C Co)																																	

As a general rule of thumb:

Tanks

CPC is to be conducted at the corresponding LTA.

- 1 day per company/troop    CPC –GT II
- 2 days per company/troop    GT III – GT VI
- 2 days per company/troop    GT XII

M2 Bradley

CPC is to be conducted at the corresponding LTA.

- 1 day per company/troop    CPC – GT II
- 2 days per company/troop    GT III - XII

Small Arms Ranges

Attempts will be made to de-link the small arms gunnery from the main gunline. This will give platoon leaders the opportunity to oversee both events.

**ANNEX N (Close Combat Tactical Trainer / Simulations Network)**

1. References: See ANNEX R.
2. Purpose. Establish the procedures and responsibilities for scheduling and coordinating the use of the Close Combat Tactical Trainer (CCTT) and Simulations Network (SIMNET) for home station training.
3. Objective. To meet platoon qualification standard directed in NTC REG 350-3 and FM 3-20.21, The Close Combat Tactical Trainer and SIMNET trainers are high-resolution trainers that use visual, optical, and acoustical effects to realistically simulate the battlefield environment for Bradley and Tank platoons. The trainer presents the opportunity for commanders and platoon leaders to train their platoon on tactics, precision gunnery, fire control, and fire distribution techniques. The CCTT/PGT offers platoon leaders and vehicle commander's tough, realistic training in decision making at platoon level, and is excellent preparatory training for Bradley or Tank Table XII.
4. Responsibilities
  - a. CCTT Staff provide the following:
    15. Provide I/O support for training units
    16. Provide training units' pre-briefing.
    17. Provide CVC Helmets and cords for the simulators.
    18. Assist unit commanders conducting AAR, by providing them PL's I/O notes, AAR Room, videotape of the platoon exercise.
    19. Facilitate PGT Gate Certification as required for Tank and Bradley Table XII.
    20. Maintain certification paperwork on file for two years.
    21. Provide updated copies to units at the conclusion of the training sessions.
  - b. Training Units:
    14. Coordinate with the PGT Staff ten working days before scheduled training dates for any changes on time or dates and reconfirm usage.
    15. Complete the following before arriving at the PGT:
      - a. Platoon OPORD
      - b. Overlays and Graphics

c. Send a current Battle Roster reflecting the vehicle commander and gunner combination as soon as possible to the PGT. Battle Roster must be signed by the BN/SQD CDR, BN/SQD XO, or the S-3, and send a Trained, Practice, Untrained, (T, P, U) Status Memorandum signed by the BN/SQD CDR, BN/SQD XO, or S-3. Both of these documents are a requirement for any platoon firing for Gate Certification.

3. Bring the following equipment to the PGT:

c. Tennis shoes

d. Platoon TACSOP, Overlays, Tactical Manuals, and any reports needed to conduct platoon tactical operation.

e. NBC gear complete

f. Arrive at a minimum 30 minutes before training session. After a short in-brief and safety brief (10 min.) an additional 20 minutes will be given for changing shoes and covering last minute instructions and checks needed prior to starting training.

g. Unit Commanders or their representative (XO) or (MG), familiar with the units' battle plans and SOPs will conduct the AAR's. Certification will not start until the commander or his representative is present.

h. Using units are responsible for clearing of the PGT's, AAR Room, Latrines, and Break Area at the end of the training day.

i. Units will only bring battle rostered vehicle commanders and gunners to the PGT site during gate certification.

j. Units will ensure a copy of the platoon's performance analysis printout is on file at the PGT for any platoons that certified the PGT facility. The only acceptable proof of PGT certification is the platoons performance analysis, signed by the Platoon Leader's I / O during the certification attempts, with the NBC information on it.

5. Procedures

a. Battalions/Squadron will schedule CCTT/SIMNET usage using the following priorities:

CONOPS/KFOR/SFOR/AFGAN/IRAQ preparation

CONOPS/KFOR/SFOR/AFGAN/IRAQ re-integration

Central Region gunnery densities (NTC, CMTC / NTC, CMTC Live Fire units)

Central Region gunnery densities (non-NTC, CMTC / NTC, CMTC Live Fire units)

Home station Training

b. Battalions/Squadron will request training through the TRMS website, forwarding them through the Brigade/Regiment and Fort Irwin G3 for approval. The request will be based off the following milestones:

1. D-120 PSMU units by priority a and b may request training
2. D-90 Units by priority c may request training
3. D-60 Units by priority d may request training
4. D-21 Any unit may schedule training on a first come first serve basis
5. D-14 Last day for exercise coordination with site manager. Uncoordinated training will

be cancelled as of D-10 by the virtual training center (VTC). The VTC will provide a copy furnished to Fort Irwin G3 and the unit.

d. Brigade/Regiment and the unit will endorse the training request memorandum and forward to Fort Irwin G3. This can be done electronically. Each entity will maintain any signed originals.

e. Upon receipt, the Fort Irwin Master Gunner will process the request and notify the unit of the approval/disapproval status.

f. When training is requested through the website, notification of location of the request and its approval/disapproval status is sent to the requesting unit via e-mail.

g. The Fort Irwin Master Gunner will publish an updated schedule bi-monthly on the 15<sup>th</sup> and 30<sup>th</sup> of the month.

h. Coordinating Training: Once approved training will be accomplished between the unit and the Virtual Training Center (VTC) office NLT 14 calendar days (10 working days) prior to the execution of training. Training that has not been coordinated by D-14 shall be cancelled and opened to all units.

i. Cancellations: Units may cancel their training, in memorandum format, up to D-29. IAW Fort Irwin Command Policy Letter #4, training will be locked in NLT 4 weeks out. Cancellations after the D-28 period will be considered a late cancellation. Units that fail to show for training will be considered a no-show and will require a memorandum from the Brigade/Regiment Commander justifying the no-show.

j. Co-usage: Units requesting co-usage will have to use the same database as the primary unit. The co-using unit will not receive an AAR.

k. Weekend/After-hour training: Normal operating hours are Monday through Friday, 0800-1700 hrs. Weekend and after-hour training can be accomplished with prior approval. Units will be required to request the weekend/after-hour training a minimum of 30 days prior to the training date.

6. Additional information can be found on the TRMS website, or contact Fort Irwin Simulation Scheduler, Mr. Sam Hunter, COM: 714-822-9109 or Mr. Jesus Mendoza 714-699-6227.

**ANNEX O (NTC Live Fire)**

1. References: See ANNEX R.
2. Purpose: To provide information for use of NTC Live Fire Exercise Area (NTC/LFX) range area and facilities.
3. NTC/LFX area range complex is set up, designed and staffed to support live fire exercise events for rotation units during rotation training days.
3. Operations Group will schedule rotation NTC/LFX land with Range Control IAW NTC REG. 350-3 and will control all Rotation units conducting rotation training Live Fire Exercises. Rotation unit NTC/LFX Area range events will be conducted IAW Operation Group range rules.
4. All vehicles executing Rotation NTC/LFX will be instrumented for tracking purposes.
5. Non-rotation units requesting use of NTC/LFX range area is a non-standard range event request and unit must be scheduled and coordinate approval IAW NTC REG. 350-3, chapter 2.
6. NTC PSMU gunnery units will use directions in ANNEX “K” to request use of NTC/LFX Area.
7. Scheduling requests for NTC/LFX Area land and range facilities by non-rotation units requires additional unit coordination with Operations Group Dragon and Phoenix teams (primary owner) and the Range Control Safety Officer when submitting requests to Range Control Scheduler.
8. All tank units will conduct boresighting procedures prior to conducting NTC / LFX.
9. All soldiers and weapon systems crews who will fire individual or crew weapons during live fire exercises must have qualified with the weapons they will fire within the prior six months. Qualification must be IAW STRAC and the appropriate FM.
10. Non-rotation unit NTC/LFX Area range plans will be developed IAW D.A. PAM 385-63 range and LFX requirements.

**ANNEX P (Safety)**

1. References: See ANNEX R.

2. Purpose. This annex used in conjunction with NTC REG 350-3 chapter 5, provides safety procedures, restrictions, and requirements for training at NTC.

3. Planning.

a. Range safety begins with designing safe range scenarios that meet the commander's training objectives. The two primary tools for designing safe ranges are the Scenario Work Sheet, Safety plan and the Range Fan SDZ overlays. Both of which the Range OIC needs to have on site during range operations. Non-standard training planning requirements are defined in NTC REG 350-3, chapter 2.

b. The Range Scenario work sheet and Safety Plan is a written picture of the conduct of the range from start to finish including each engagement that will be fired. It describes the weapons system, targets, timing, location of weapon/target, and ammunition, date/time group of activities and a detailed description of the training event.

c. OIC's will have a copy of the Range Control Safety Officer's approved unit Range Scenario work sheet, Safety Plan, and Range Fan SDZ's with them on the Range.

d. The Range Fan SDZ overlays demonstrate that each engagement can be fired safely. The overlay provides range OIC/Safety Officer and Range Control Safety the information necessary to confirm that each planned engagement can be fired safely.

e. Battalion/Squadron commanders will approve scenario work sheet and training overlays for all ranges.

f. OIC's and RSO's will review and understand the Range Plan and Range Fan overlays before the range is placed in a "HOT" Firing Status.

g. OIC's and RSO's will ensure all Range Control requirements and instructions are followed during conduct of range operations.

4. Communications.

a. Communication between units and range control is essential to ensure safe operations within training areas/ranges. Radios are the primary use of communications for all ranges and phones are the alternate. The range control Radio and Phone nets must be monitored at all times. The following are permanently assigned frequencies.

Range Net:            Primary:        FM 38.900            Alternate:        RCS Channel 295

Range Phone Net:    Primary:        760-380-3878        Alternate:        760-380-3637

#### MEDEVAC

c. These nets operate 24 Hrs a day, controlling direct and indirect weapons firing, monitoring occupational status of training facilities, and the conduct of aerial operations.

d. Units will use SOI frequencies and call signs for internal communications at NTC.

#### 5. Range Bulletin.

a. The range bulletin is a daily warning order, published under the provisions of chapter 2, AR 385-63, dated 4 AUG 09, specifying all scheduled training activities at NTC.

b. All range OIC's must have a current range bulletin in their possession. NTC provides copies of the range bulletin to training units at BLDG. 6100, in the building entrance.

#### 6. Rounds out of Impact.

##### a. Definition.

1. A round that lands in the buffer zone, violates a grid line restriction, or impacts outside of the impact area. Overhead fire in the down range area of live fire area is authorized and NOT considered as ROI. Also, during the live fire of MLRS, the rocket warhead events occurs vicinity of grid line NV 1030. This is not a ROI.

2. A round that impacts outside the limit markers of a range, or whose line of fire or trajectory, if extended, would pass outside the limit markers.

3. Rounds fired at an excessive angle of elevation are considered possible RIO's and treated the same as a ROI.

##### b. The OIC of any range that fires a round out of impact will take the following steps:

1. Bring the range to an immediate "Cease Fire, freeze".

2. Instruct the suspected crew to move away from the weapon system without touching any of its components. The original firing data must remain to determine the probable impact of the round.

3. Report the following information to range control immediately:

Unit, Range, Date, Time.

Type weapon system involved.

Location of weapon system.

Type of ammunition fired.  
Number of rounds fired.  
Coordinates of impact (if known).  
Azimuth fired and elevation of tube in mils.

- c. Range control, upon notification of an ROI, dispatches an investigating team to determine the validity of the report and collect additional relative data.
- d. Upon verification of an ROI, the battalion/squadron commander initiates a CIR. This report will be submitted IAW NTC gunnery SOP and to Commanding General, Fort Irwin, ATTN: G3.
- e. The responsible crew/individual (s) will immediately be disqualified from all further firing until re-certified by the battalion/squadron commander.

7. Alcoholic Beverages. Alcoholic beverages are not permitted on any range or training area at NTC. During gunnery rotations, unit Soldiers are not authorized the consumption of alcoholic beverages.

8. Accident/Incident Reporting. Any person observing or involved in an accident/incident will report it immediately, by telephone or radio to range control.

a. Reportable accidents/incidents as defined by AR 385-40 include, but are not limited to the following:

- 1. Death or injury to any military or civilian personnel at NTC.
- 2. Significant property damage.
- 3. Any accident/incident reducing combat capability or security.
- 4. Any occurrence that might result in adverse media coverage.
- 5. Fires or arson
- 6. Missing aircraft
- 7. Suicide attempt
- 8. Round out of Impact (ROI)
- 9. Discharge of a weapon in a field camp or post area
- 10. Unauthorized aircraft/vehicle/personnel in danger areas
- 11. Negligent weapon discharge

12. Environmental incident to include POL spills

b. Report Format.

I. **MALFUNCTION/MISHAP REPORT**

Control Number: \_\_\_\_\_ Date: \_\_\_\_\_

Range/Training Area: \_\_\_\_\_

OIC Rank/Name: \_\_\_\_\_

1. Type of ammunition/weapon problem:

- (a). Round stuck in gun tube YES / NO
- (b). Weapon system damaged while firing YES / NO
- (c). Personnel injured while firing YES / NO
- (d). High dud misfire rate YES / NO
- (e). Other (describe):

2. Describe injury(s):

3. Describe malfunction/ damage/ problem:

4. Weapon: \_\_\_\_\_ Type Ammunition:

5. Ammo Lot #: \_\_\_\_\_ Quantity on hand:

6. What was the cause?

Ammunition? YES / NO Weapon? YES / NO Unknown? YES / NO

Notified (Name/Date/Time): RO/ RSO/ RI

QASAS: \_\_\_\_\_ LAO:

EOC (After hours)

Firing Desk (Name): \_\_\_\_\_ Date:

**NOTE:** For 1(b), 1(c), or 1(e) incidents, immediately go into a “COLD” status. Suspend other ranges from firing the same LOT number. Follow notification procedures outlined in Firing Desk SOP 04-05-4-001.

RSO Faxed: \_\_\_\_\_

## **ANNEX R (References)**

### ARMY REGULATIONS

AR 210-21, Ranges and Training Areas  
AR 385-10, Army Safety Program  
AR 385-62, Firing Guided Missiles and Heavy Rockets for Training  
AR 385-63, Policies and Procedures for Firing Ammunition for Training, Target Practice and Combat  
AR 385-64, Ammunition and Explosive Safety Standards

### DA PAM

DA PAM 350-38, Standards in Weapons Training (STRAC)  
DA PAM 385-1, Unit Safety Management  
DA PAM 385-40, Accident Reporting & Record  
DA PAM 385-63, Range Safety  
DA PAM 385-64, Ammunition & Explosive Safety Standards

### FORSCOM REGULATIONS

FORSCOM REG 350-50-1, Training at the NTC

### NATIONAL TRAINING CENTER (NTC) REGULATIONS

NTC REG 105-1, Request for Radio Frequency Assignment  
NTC REG 115-1, Weather Reporting at NTC  
NTC REG 350-3, National Training Center & Fort Irwin Ranges & Training Areas  
NTC REG 385-10, NTC Safety Regulation  
NTC REG 700-4, Ammunition Management  
NTC APC, NTC Aviation Procedure Guide

### FIELD MANUALS

FM 3-04.140, Helicopter Gunnery  
FM 3-09.70, M109A6 Howitzer (Paladin) Operations  
FM 3-20.21, Heavy Brigade Combat Team (HBCT) Gunnery  
FM 3-22.68, Machine Gun, 7.62 MM  
FM 3-23.25, Light Anti-Armor Weapons  
FM 3-23.30, Grenade and Pyrotechnic Signals  
FM 4-25.11, First Aid for Soldiers  
FM 5-25, Explosives and Demolitions  
FM 6-30, Observer Fire  
FM 6-50, Field Artillery Cannon Battery  
FM 6-60, Multiple Launch Rocket System  
FM 23-9, M16 Rifle Marksmanship

FM 23-14, Squad Automatic Weapon (SAW), M249  
FM 23-27, MK19, 40mm Grenade Machine Gun  
FM 23-31, 40 MM Grenade Launcher  
FM 23-34, TOW Weapons System  
FM 23-65, Browning Machine Caliber .50 HB, M2  
FM 23-91, Mortar Gunnery