CHAPTER 4
MARKSMANSHIP

This chapter gives guidance for instruction and development of MK 19 gunnery skills. It provides data needed to develop training programs, plans, and lessons used to build the gunner's confidence and skill in firing the MK 19. Marksmanship training ensures that each soldier keeps his combat firing skills at a consistent level with the unit's mission. See Appendix D, Gunnery Tests, for more details concerning diagnostic and intermediate tests.

Section I. PREPARATORY MARKSMANSHIP TRAINING

Preparatory marksmanship training for the MK 19 covers the firing positions, the MK 19 fighting position, use of the T&E mechanism, and manipulation exercises. Thorough instruction during the preparatory training and exercises helps ensure efficient use of time and ammunition during range firing.

4-1. FIRING POSITIONS

Use the basic sitting, standing, and kneeling positions during training and range firing of the MK 19.

a. **Sitting.** When the tripod is used in the low or high position, sit directly behind the gun between the trail legs of the tripod. Extend your legs under the tripod, cross them, or brace your feet on the tripod (Figure 4-1). Place your elbows on the inside of your thighs for support when crossing your legs or bracing your feet on the tripod.

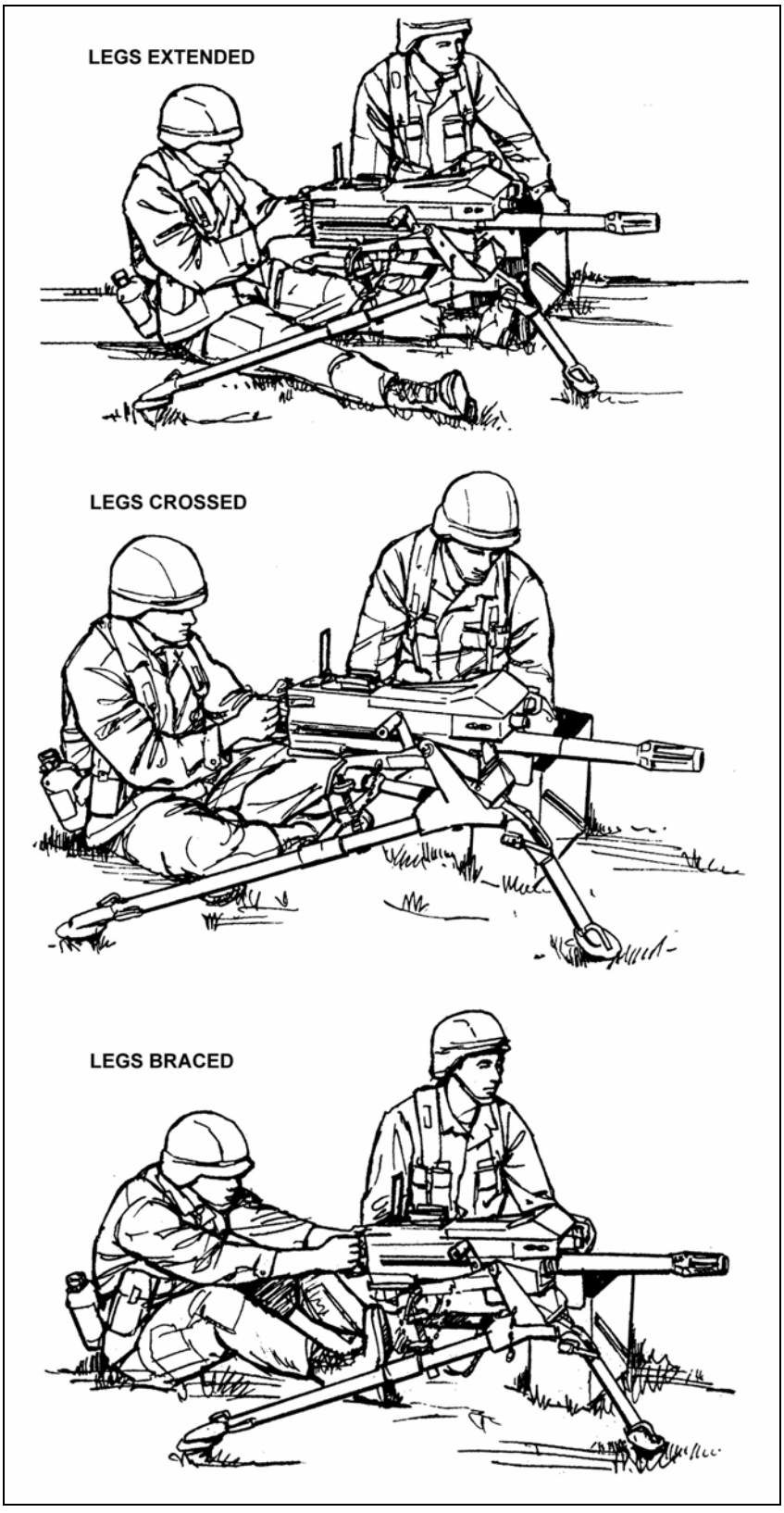

Figure 4-1. Seated firing positions.

b. **Standing.** When the MK 19 is mounted on a vehicle, stand with both of your hands on the control grips and your thumbs resting on the trigger. Keep your elbows against your body, your body forward, and your chest against your hands to brace the gun (Figure 4-2).

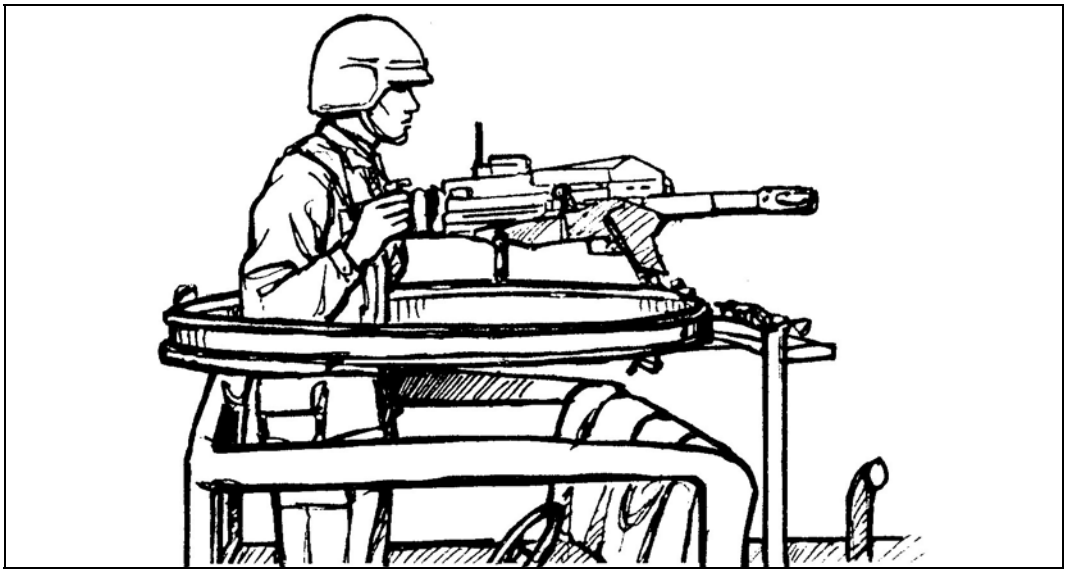

Figure 4-2. Standing position.

c. **Kneeling.** When the MK 19 is in a fighting or hasty tripod-mounted position, kneel and grasp the control grips with your thumbs on the trigger (Figure 4-3).

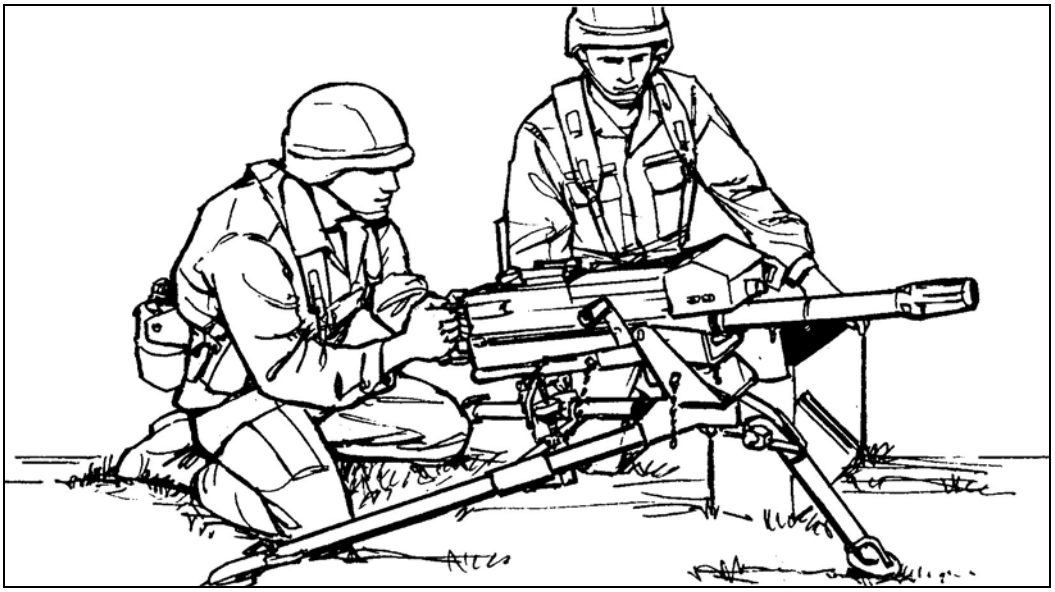

Figure 4-3. Hasty tripod position.

4-2. FIGHTING POSITION

A fighting position is dug when the unit has time to prepare it or is in a defensive position. Make the fighting position according to Figure 4-4.

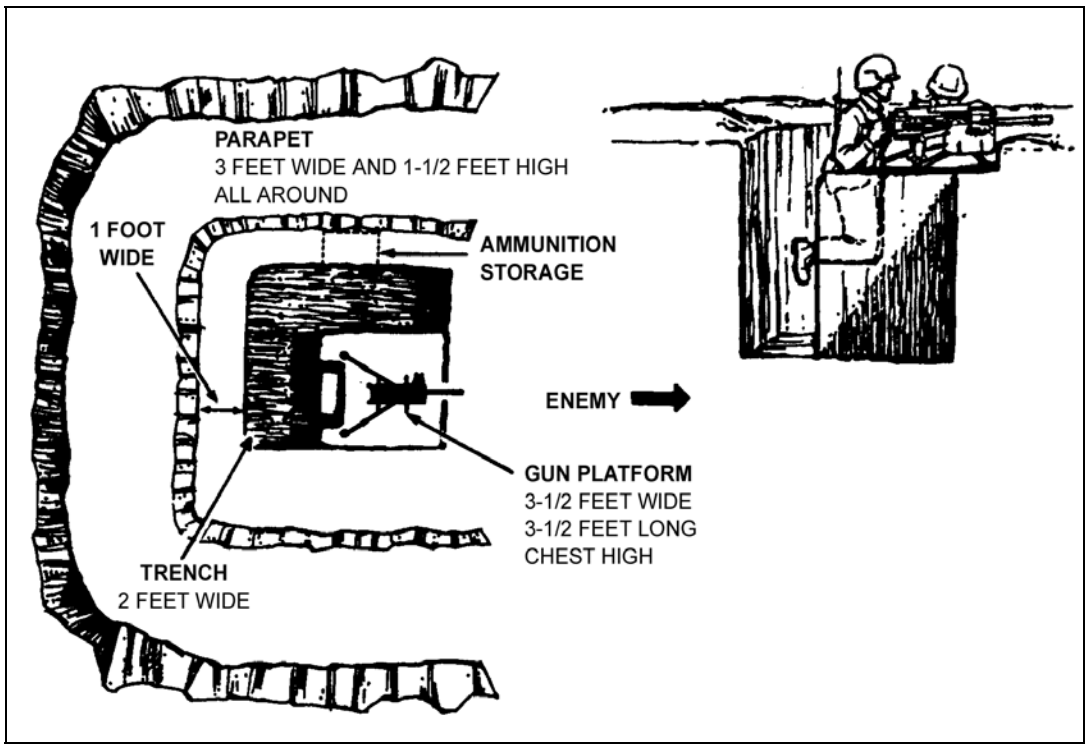

Figure 4-4. Dug-in position.

a. Position the MK 19 so it is oriented on the center of the assigned sector of fire. Mark the position of the tripod legs and trace the outline of the firing platform, which will be dug about 3 inches deep.

b. Dig the position in an "L" shape around the firing platform. The position should be chest-deep and wide enough to allow the MK 19 crew to load, operate, and place effective fire on an assigned sector of fire. The position can be made so that the gunner can fire from the kneeling position by digging the desired depth directly behind the gun.

c. Use the dirt from the hole to build flank parapets 3 feet wide and 1 ½ feet high. Dig the ammunition storage area into the left wall of the "L" and close to the ground.

d. Make sure the wall behind the firing platform is sloped to allow for entrance to and exit from the fighting position.

e. Follow these steps to build overhead cover:

(1) Put flank support logs, 4 to 6 inches in diameter, on top of each other along the entire length of the flank parapets.

(2) Put logs, 4 to 6 inches in diameter, side by side across the support logs as the base for the overhead cover.

(3) Put a waterproof layer over the base logs.

(4) Put 18 inches of dirt on top of the waterproofing material.

(5) Mold and camouflage the cover to blend with the terrain.

f. Camouflage the position with natural materials such as rocks, logs, live bushes, and grass.

4-3. TRAVERSE BAR AND T&E MECHANISM

Use the T&E mechanism to engage preselected target areas at night or during degraded light conditions. Record direction and elevation readings from the traversing bar and T&E mechanism. Record all readings in mils.

a. **Zero the T&E Mechanism.** Before the gunner can use the T&E mechanism to engage targets, he must zero it (Figure 4-5). Refer to section 3-2 for more information on zeroing the T&E mechanism.

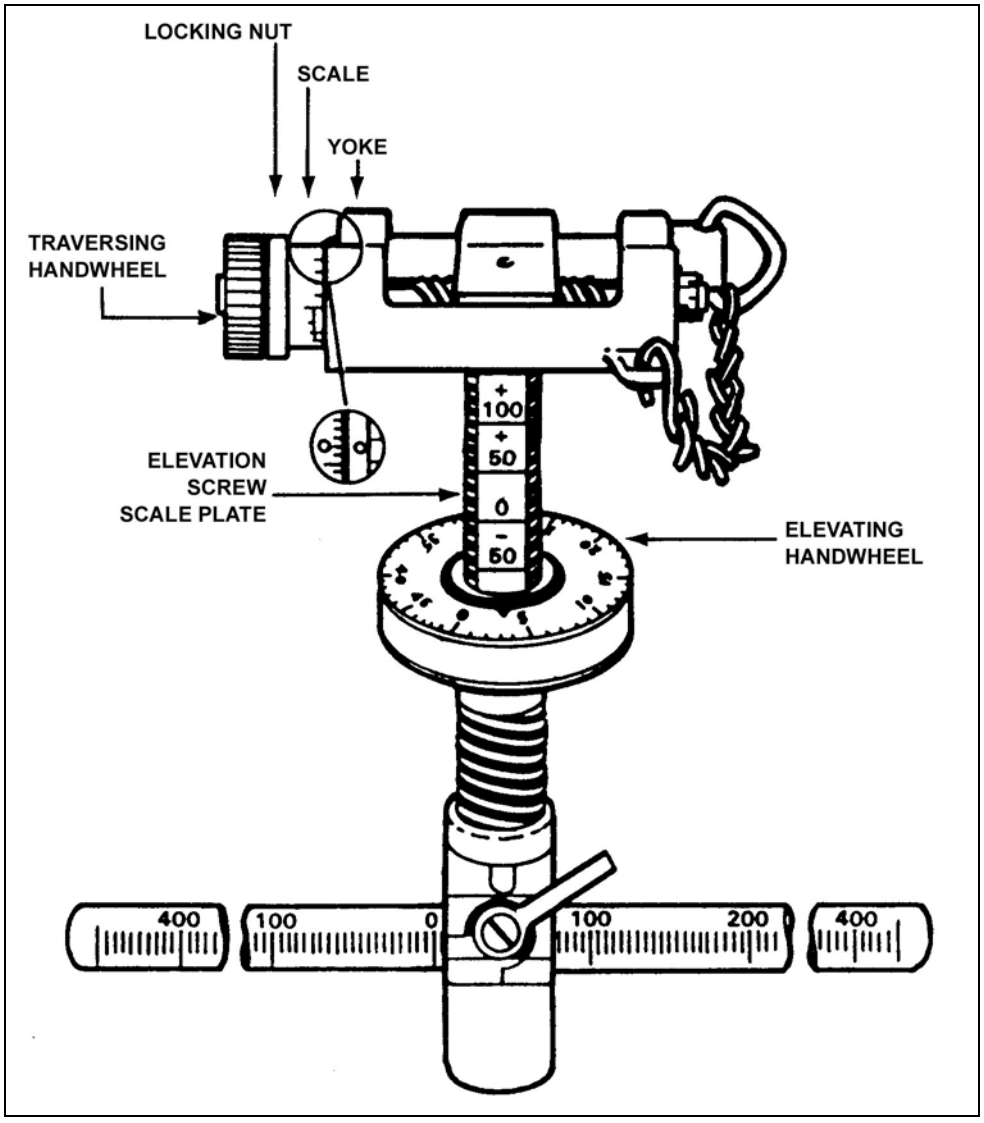

Figure 4-5. Zeroing the T&E mechanism.

b. **Lay the Gun for Direction.** When a sector of fire has been assigned, pick up the rear legs of the tripod and shift the tripod until the muzzle of the weapon points to the center of the sector of fire. Once the MK 19 is laid for direction, firmly stamp in the tripod shoes and place sandbags on the legs. This aids stability and may prevent accidental movement.

c. **Obtain and Record Direction Readings to all Targets Within the Sector of Fire** (Figure 4-6)**.** Loosen the traversing slide lock lever and move the slide along the traversing bar until the MK 19 is laid on the center of a point target or on either flank of a linear target. Lock the traversing bar and read the direction from the scale on the traversing bar. If the left edge of the traversing slide does not fall exactly on a 5-mil tickmark, move the left edge of the traversing bar slide back to the next smaller mil reading. Use the traversing handwheel to complete the initial lay. Obtain a reading to the target by the direction of the MK 19 barrel. If the barrel is moved to the right, record a right reading. Read the number on the traversing bar from the left side of the traversing slide lock. If the barrel is moved to the left and the traversing slide lock is on the right side of the zero, record a left reading. After taking a direction reading for a target, measure the width of the target in mils using the traversing handwheel to move across the target. Reposition the traversing mechanism before moving to another target.

d. **Obtain Elevation Reading.** Ensure the MK 19 is laid on the center base of the target. Read the elevation from two scales: the first, or major, part from the elevating screw plate scale; the second, or minor, part from the elevating handwheel. Separate the two parts of the elevation reading with a slash (for example, -50/3). An elevation reading may not be valid on any other T&E mechanism than the one from which it was read. If the number of threads is increased or decreased after the data is recorded, accurate fire cannot be placed on the target. For example, if a weapon is freed to engage a secondary sector, and the base of the T&E mechanism is rotated, the data is wrong unless the same number of threads is exposed before and after the move.

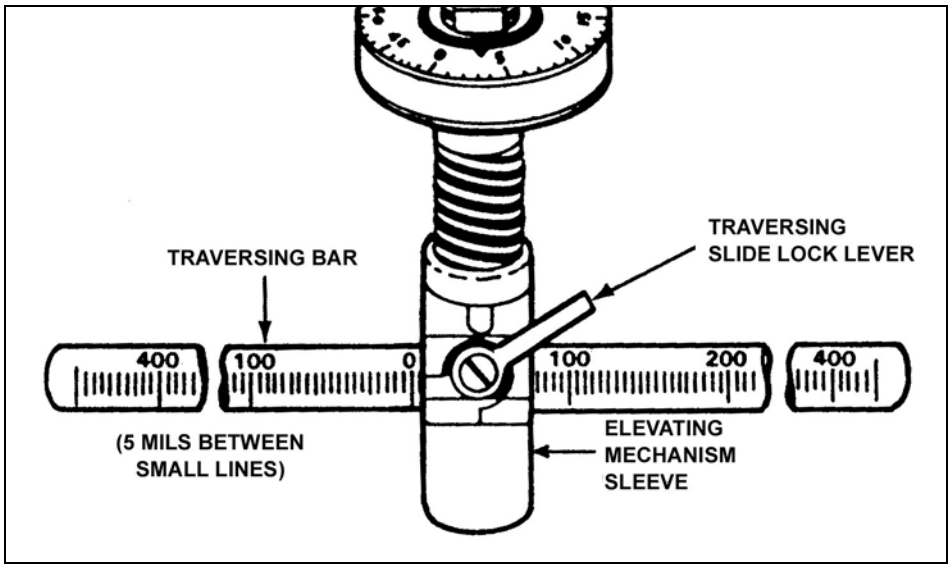

Figure 4-6. Direction reading.

(1) ***Major Reading.*** The elevating scale plate is graduated in 50-mil increments from -250 to +100. Except for the zero, each number has a plus or minus sign above it. All numbers, including zero, have an index line below them. To get the major elevation reading, hold the T&E mechanism so that the eyes are even with the top of the elevating handwheel. The major reading (for example, -50) is the first number, with an index line, that is visible above the handwheel (Figure 4-7).

(2) ***Minor Reading.*** The elevating handwheel is marked in 50 increments of 1 mil each (Figure 4-7). The minor reading, which has no plus or minus sign, is the number that lines up with the pointer. The minor reading represents the number of mils the gun is laid below the major reading, for example, 3 mils. Verify a direction elevation reading by firing and adjusting on the target. Use the dry-fire method to get data to targets without live firing and adjusting. Set the rear sight on the range to the target, lay the gun on the center base of the target, and take direction and elevation readings. Use the dry-fire method only when firing is not feasible.

NOTE: Correct range setting is critical since any discrepancy causes an error in the elevation when the target is engaged.

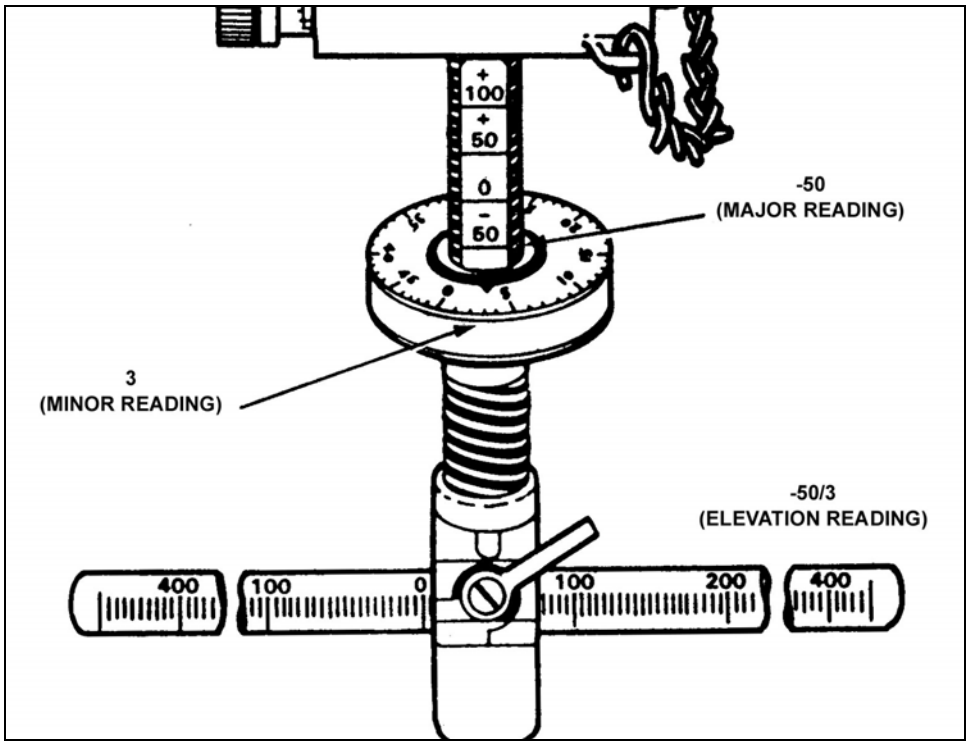

Figure 4-7. Elevation readings.

4-4. EXERCISES

The exercises include sighting and aiming; sight setting and laying; manipulating; determining the range; and preparing a range card.

a. **Sighting and Aiming Exercises.** There are two sighting and aiming exercises. The first calls for the use of the sighting bar.

(1) This exercise teaches how to obtain the correct sight picture, and also teaches alignment methods. Sight alignment means lining up the front and rear sights, with the top center of the front sight blade appearing in the center of the rear sight. Sight picture means lining up the front sight, the rear sight, and the target, with the tip of the front sight blade just touching the bottom center of the target. Gunners must show skill in aligning sights correctly and in getting the correct sight picture, using a sighting bar (Figure 4-8). Gunners must correctly show the point of aim, after sight alignment, 8 out of 10 times.

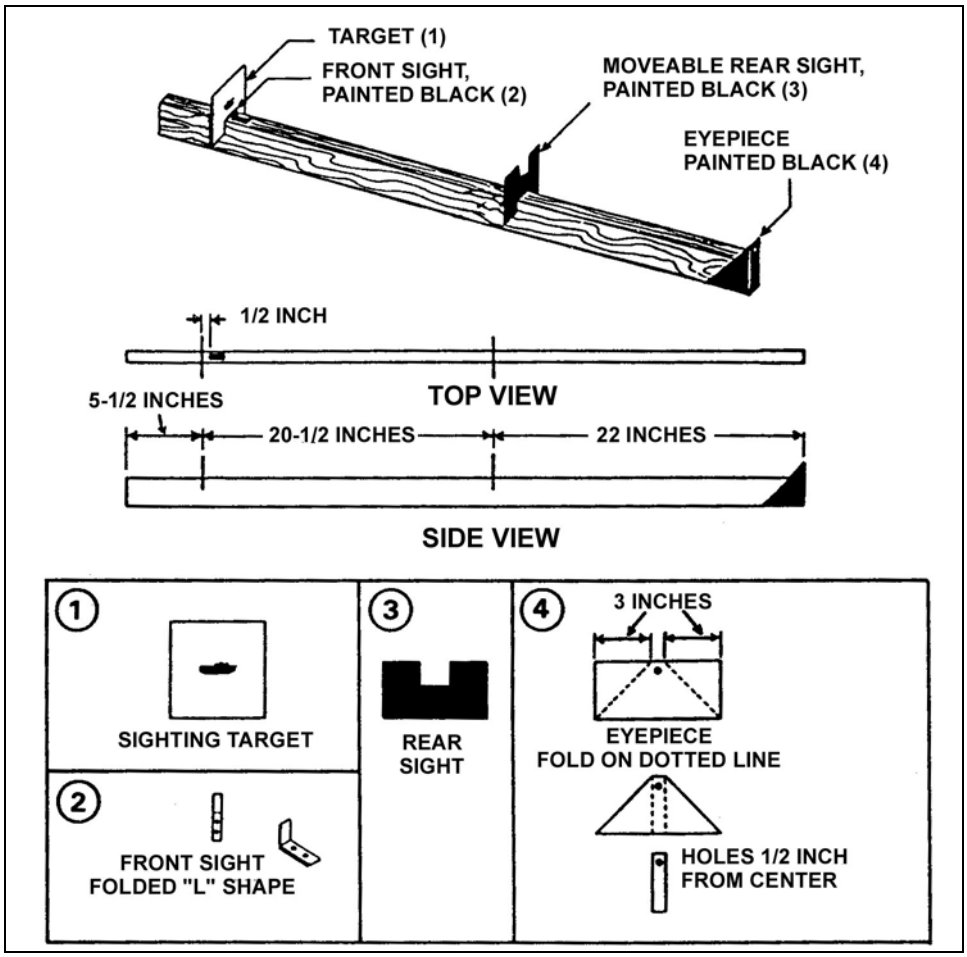

Figure 4-8. Sighting bar.

(2) The second sighting and aiming exercise, used with the MK 19 and target board, allows the gunner to apply lessons learned during the first exercise. Place the target board 10 meters from the muzzle of the MK 19 (Figure 4-9). Use the T&E mechanism to get the correct sight picture on each target that is called out. When the gunner feels he can sight and aim, the coach checks and critiques the gunner's ability to change from the start point on the target board to any new target called by the coach.

NOTE: Continue this exercise until the gunner is skilled in sighting and aiming.

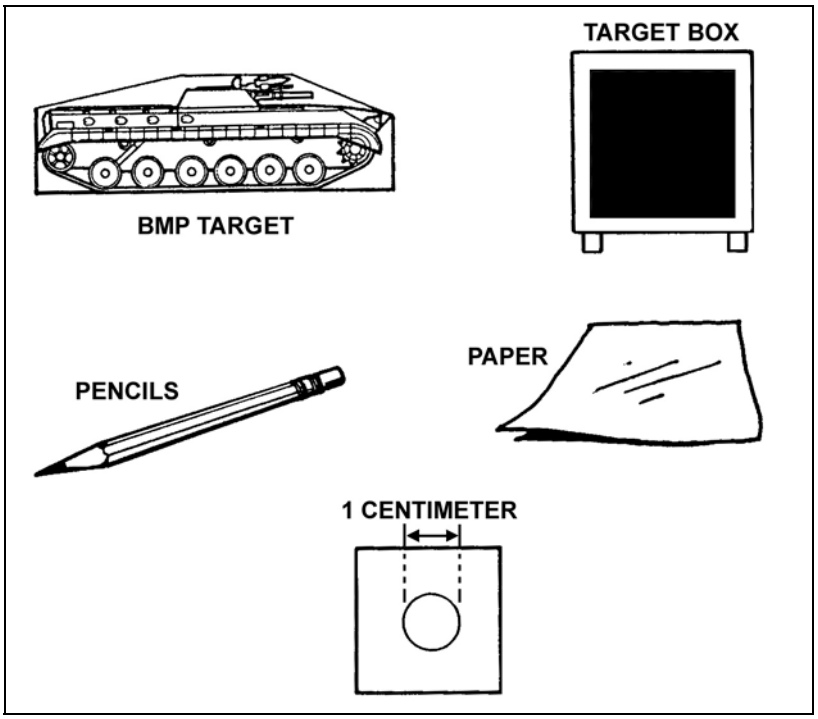

Figure 4-9. MK 19 target board.

b. **Sight Setting and Laying Exercises.** This first exercise teaches the soldier how to set the rear sight quickly and correctly (Figure 4-10). The second builds accuracy and speed in laying the gun on an aiming point, and allows extra practice in sight setting. Explain and show each exercise before beginning instruction.

(1) ***Sight Setting Exercise.*** Explain that, by training the elevating screw knob, the soldier can make minor adjustments in elevation. All major adjustments are made by using the slide release. Have one soldier act as gunner and another act as coach. Announce the range (for example, "EIGHT HUNDRED"). Have the soldier in the gunner's position conduct the following:

- Repeat the range.
- Set the sight at the announced range.
- Assume the correct gunner's position.
- Announce "Up."

The soldier, acting as coach, checks the setting of the slide and points out any errors. The soldiers work in pairs, change roles, and go through the exercise until each one can correctly and rapidly set the sight.

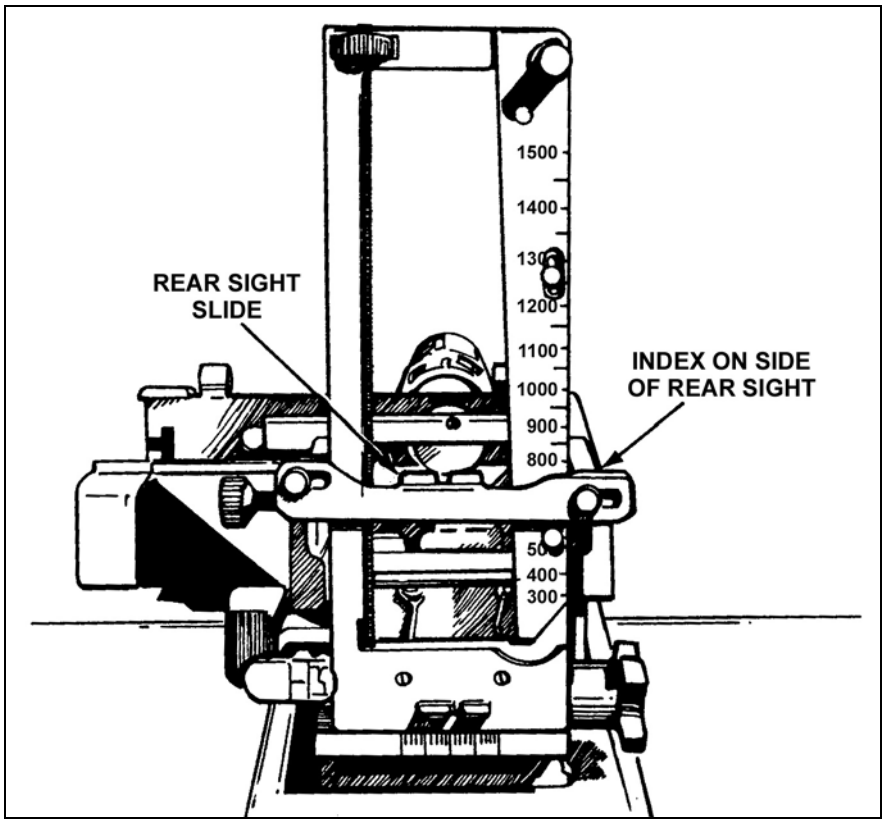

Figure 4-10. Rear sight adjustments.

(2) ***Laying Exercise.*** The MK 19 target board is used in this exercise. Explain that the exercise starts with the sight leaf down and the sight slide at 500 meters. Ranges less than 400 meters or greater than 1,500 meters are not announced. Have one soldier act as the gunner and another act as the coach at the gun. Announce an aiming point and range (for example, "TARGET NUMBER ONE," "ONE TWO HUNDRED"). Pause after each element to allow the gunner time to repeat it. After the gunner repeats each element, have the gunner:

- Set the sights
- Manipulate the gun by turning the T&E handwheels until sights are aligned on the chosen aiming point.
- Assume the correct gunner's position.
- Report "Up."

The soldier, acting as coach, checks the sight setting and lay of the gun. The soldiers work in pairs, changing roles until each is skilled in doing the exercise.

c. **Manipulation Exercise.** Manipulation means shifting the direction of the gun from one point to another. There are two manipulation exercises.

(1) The first exercise gives the gunner practice in manipulation. The coach stands 10 paces in front of the gun and uses hand signals to show the direction in which the gunner is to move the muzzle (Figure 4-11). The gunner works the handwheel to manipulate the gun. The coach observes and makes needed corrections. When the gunner reacts quickly and can manipulate the gun as he has been shown, his instruction may continue.

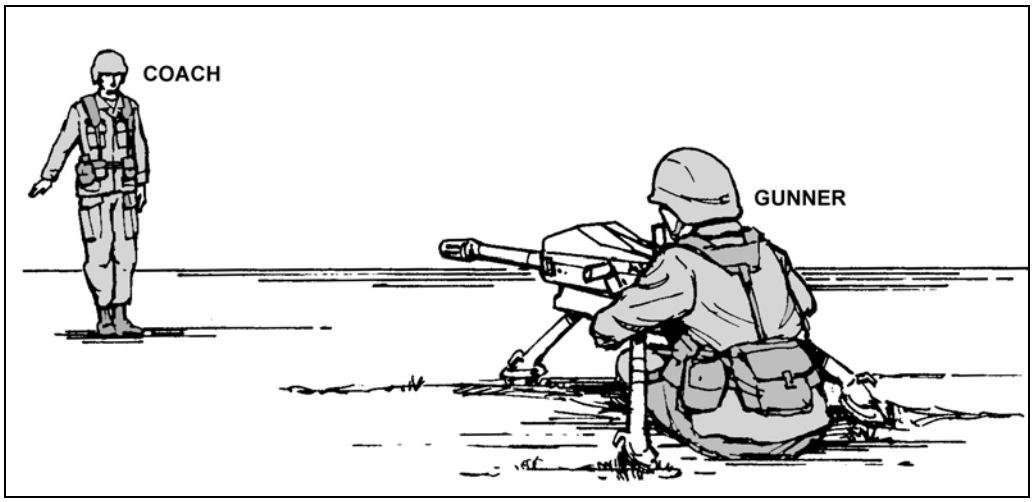

Figure 4-11. Coach and gunner exercise.

NOTE: Continue this exercise until the gunner is skilled in sighting and aiming.

(2) Once the soldier knows the basics of sighting and aiming, and can assume a good firing position, give him the second manipulation exercise. Show him how to manipulate the weapon to get a correct initial lay and how to skillfully shift the direction of the weapon to successive points. Ensure the soldier understands and knows how to perform the following instructions:

(a) Place the MK 19 target board 10 meters from the muzzle of the gun.

(b) Make large shifts in direction by releasing the traversing slide lock lever and moving the slide to the right or left. Make small changes in direction by turning the traversing handwheel with the left hand. One click on either T&E handwheel moves the strike 1 mil (1 cm on the target).

(c) Manipulate for elevation by rotating the elevating handwheel with the left hand (Figure 4-12).

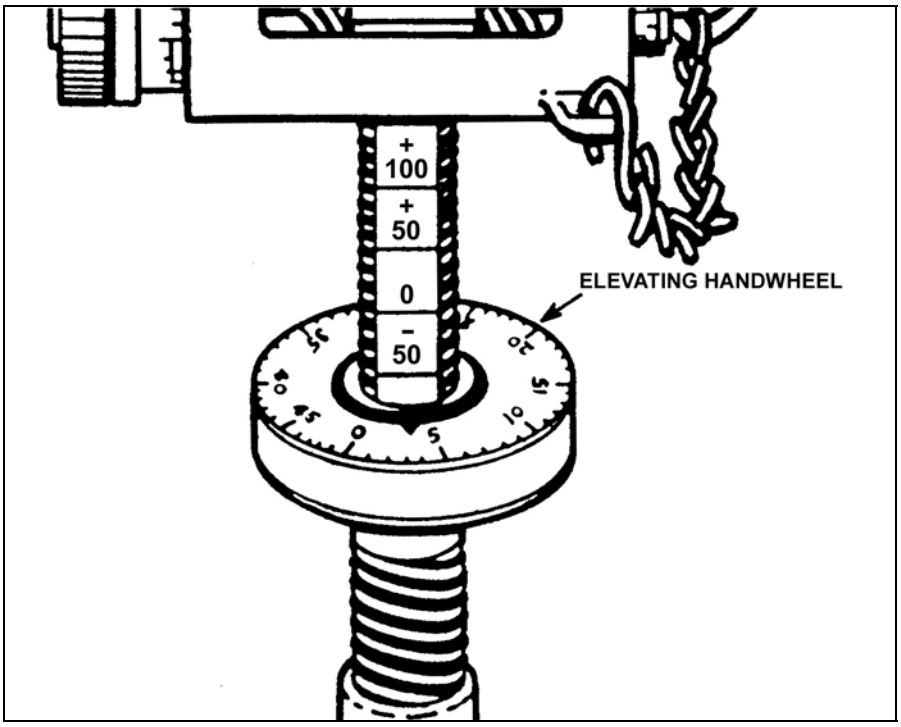

Figure 4-12. Elevating handwheel.

d. **Range Determination Exercise.** Range determination means finding the distance between the gunner's position and his target. The gunner's ability to engage a target depends on his ability to correctly find the range to the target. Under combat conditions, ranges may not be known in advance; the effectiveness of fire depends largely on the accuracy of the range used. There are several methods for finding range. Some of these methods include: estimating visually, firing the weapon, measuring range from a map or aerial photograph, and pacing the distance. Binoculars or laser range finders may be used (see Chapter 5, Techniques of Fire, for more on range determination).

e. **Range Card Exercise.** A range card is a record of the firing data needed to engage predetermined targets within a sector of fire at night or during degraded conditions. The range card may also be used to aid in target engagement during good visibility. It aids the leader in preparing his defense plan. Predetermined targets in the secondary sector are engaged by use of field expedients. A range card has two parts: a sketch section and a data section. Although the sketch is not drawn to scale, the data referring to the targets must be correct. DA Form 5517-R is the standard range card to be used (Figure 4-13).

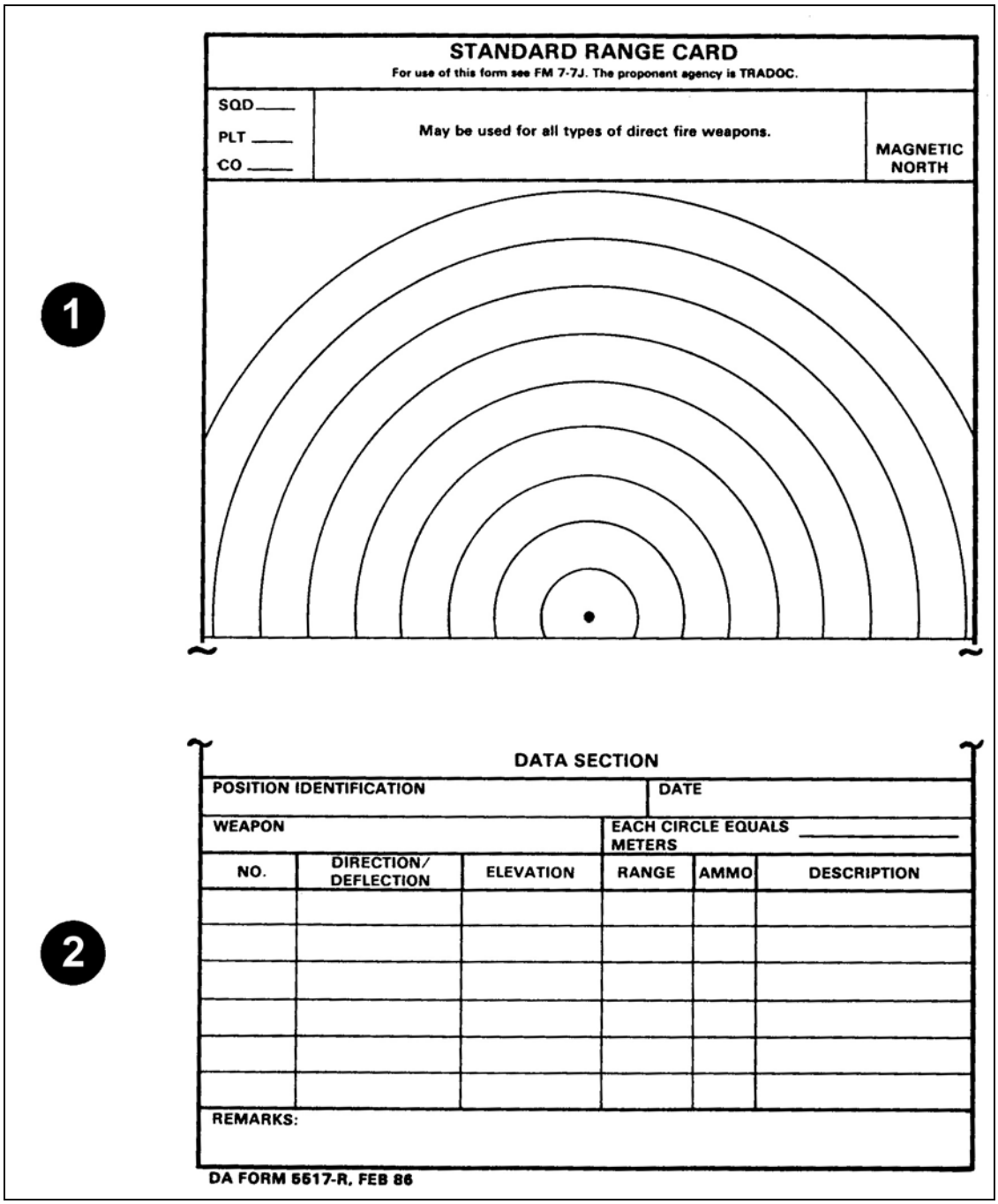

Figure 4-13. Range card sketch (1) and data sections (2).

(1) Range cards are prepared for primary, alternate, and supplementary positions. They are prepared immediately upon arrival in a position, regardless of the length of stay, and are updated as necessary. Range cards are prepared in duplicate. One copy stays at the gun position, and the other is sent to headquarters. Range cards are prepared on arrival in a position, regardless of the planned length of stay. Range cards are revised often during occupation of a position.

(2) Once the leader has decided where the firing position will be, the gunner prepares the range card.

(3) The range card is prepared as follows:

(a) Draw a sector sketch, covering the entire sector. Make the sketch as large as possible, not to exceed the largest circle. For a large area covered by trees or woods, draw only the outline and label the area "woods" or "orchard" (Figure 4-14).

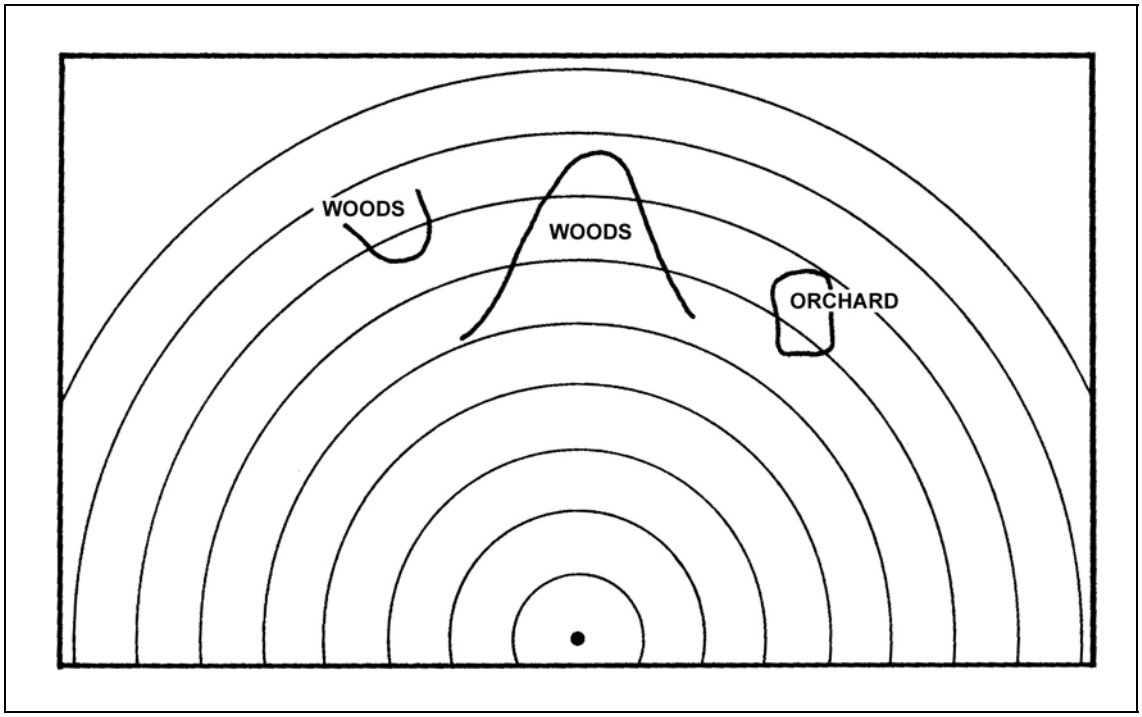

Figure 4-14. Sketch of area on range card.

(b) In the lower center of the sketch section, show the firing position by drawing the symbol for the weapon (Figure 4-15).

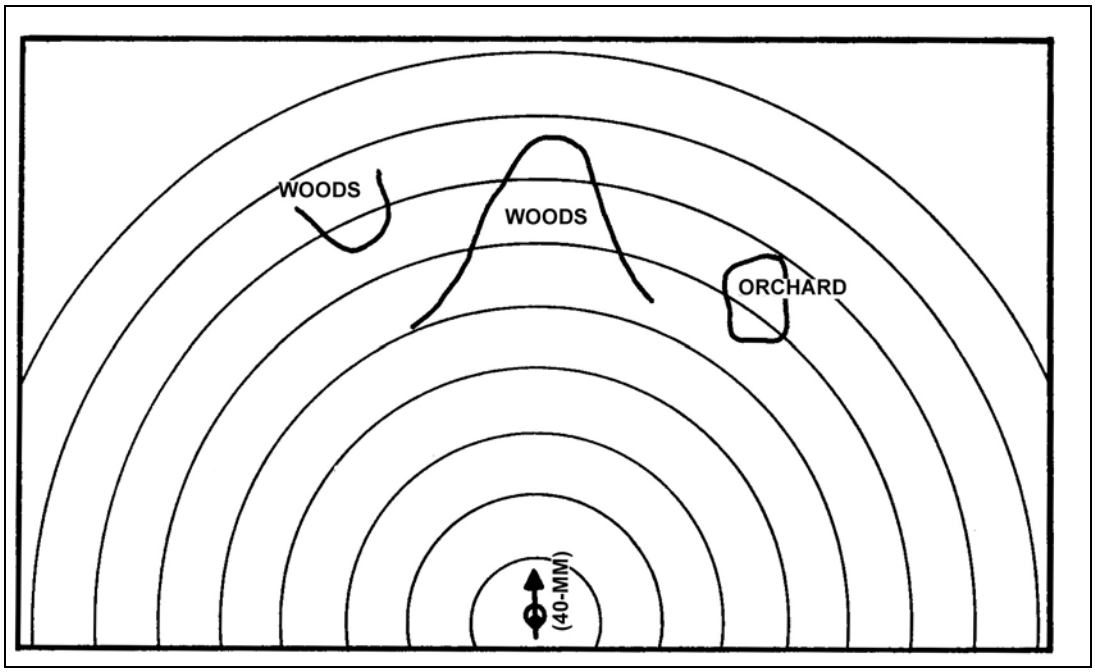

Figure 4-15. MK 19 symbol on range card.

(c) Show the location of the firing position by drawing a sketch of a nearby recognizable terrain feature. Label it and draw an arrow to the weapon symbol. Add the distance and azimuth from the terrain feature to the firing position (Figure 4-16).

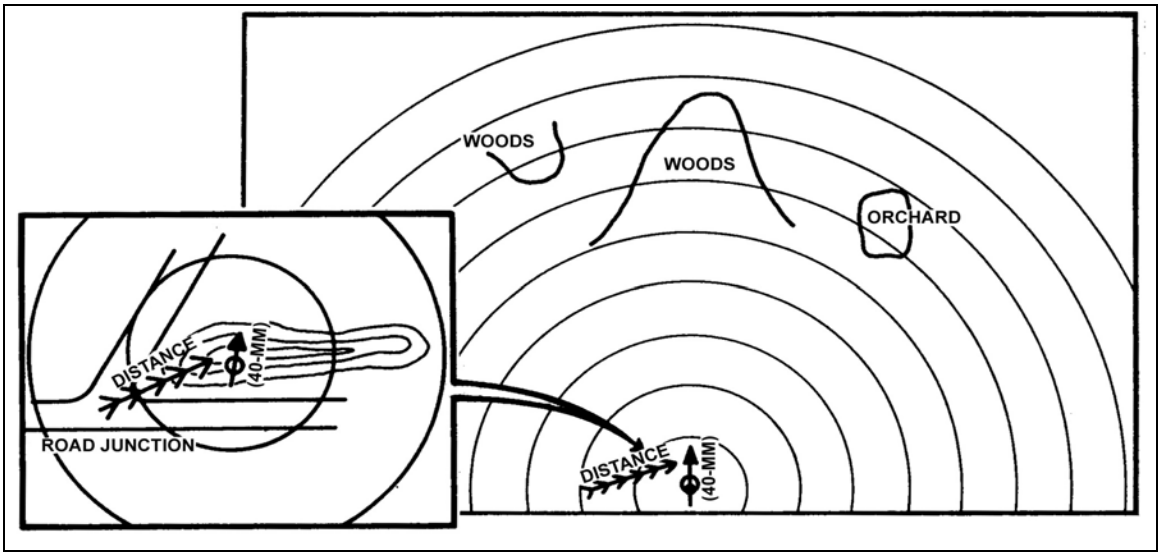

Figure 4-16. Distance and azimuth to terrain feature.

(d) Draw lines from the weapon symbol to reflect the left and right limits (Figure 4-17).

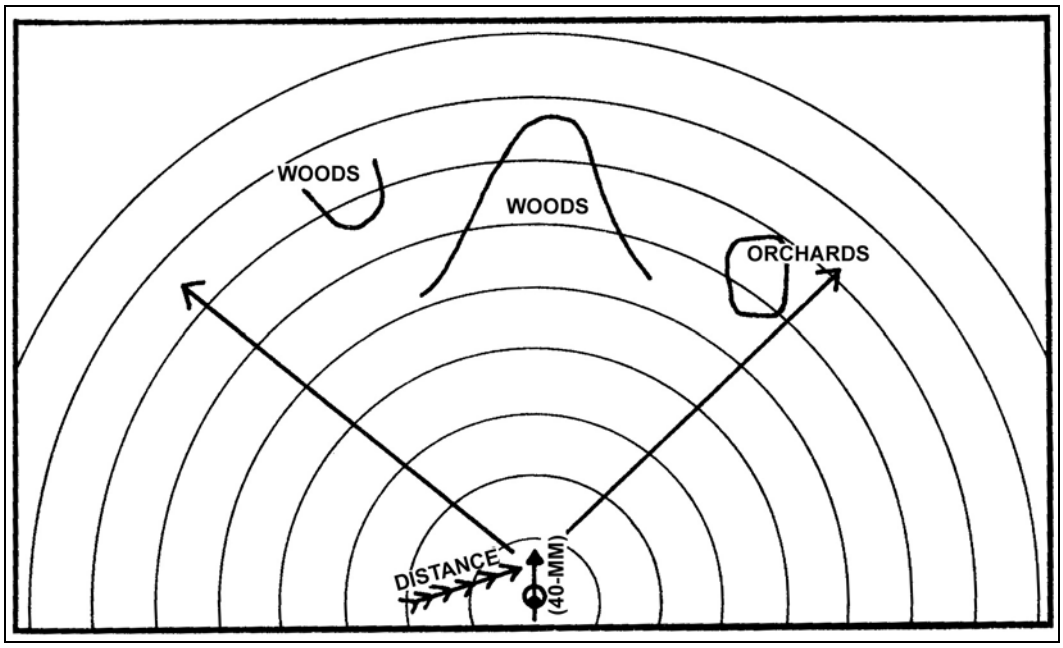

Figure 4-17. Sector of fire.

(e) Number the planned target engagement locations from left to right, and write them on the range card (Figure 4-18).

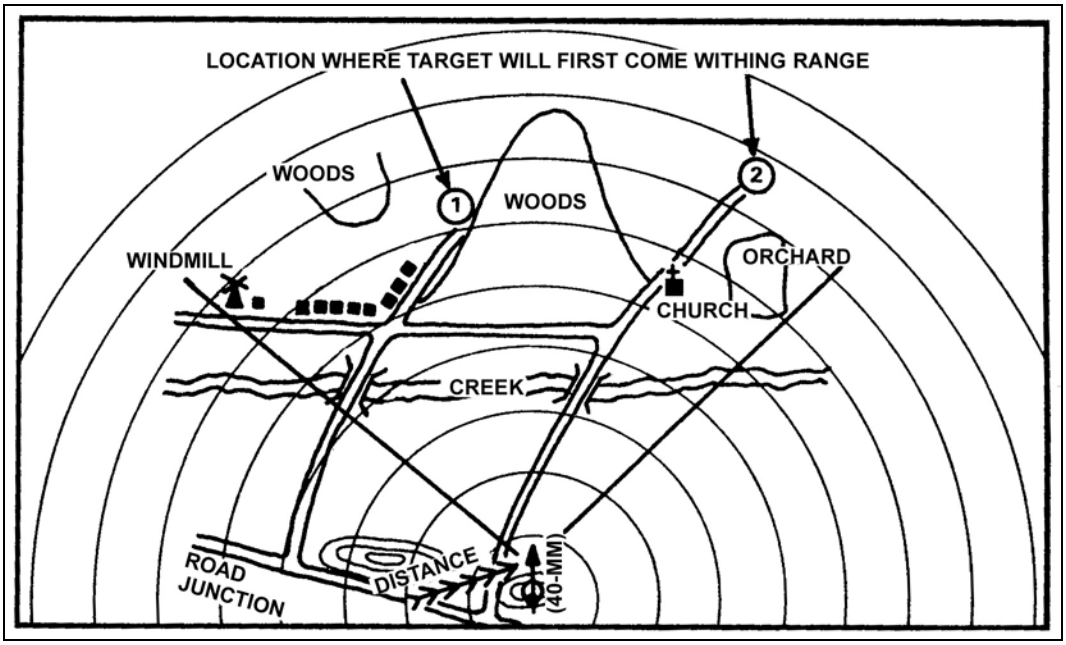

Figure 4-18. Planned target engagement areas.

(f) Number the target reference points (TRPs) and write them on the range card (Figure 4-19).

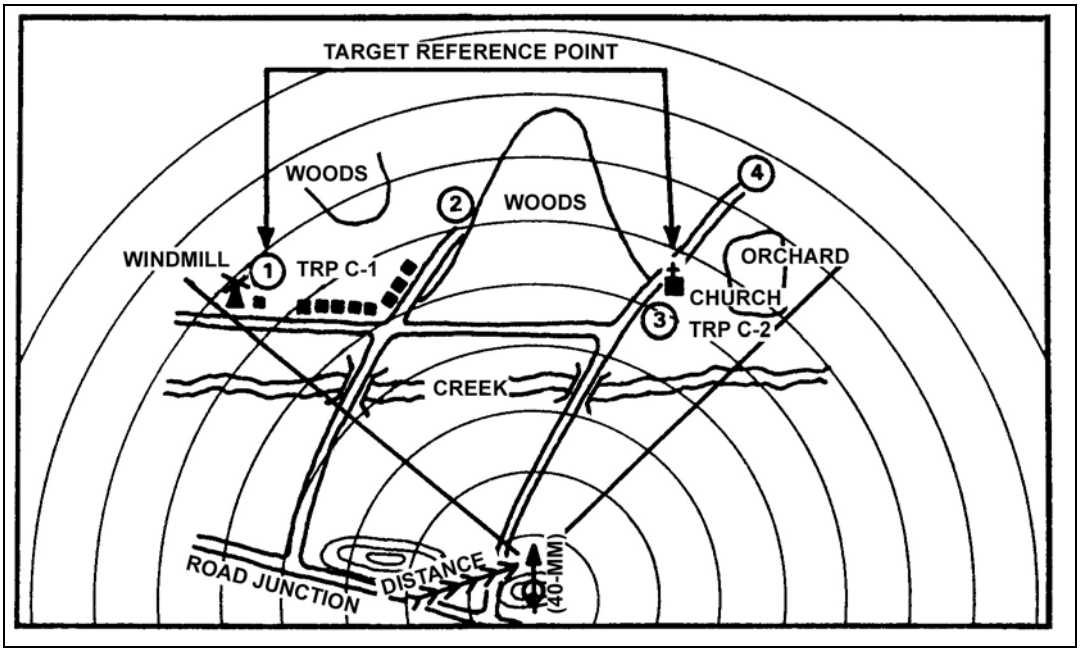

Figure 4-19. Target reference points.

(g) If no limiting factors exist, the maximum engagement line curves and joins the left and right sector-of-fire boundaries at the maximum engagement range (Figure 4-20). If limiting factors exist, draw the maximum engagement line in front of the limiting terrain features (Figure 4-21).

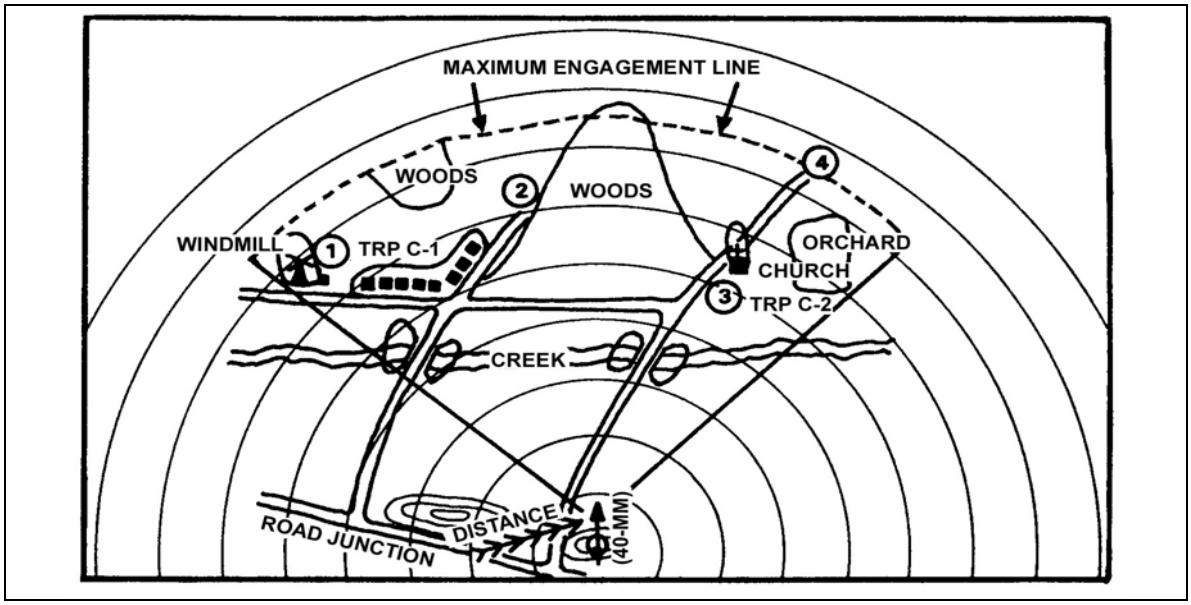

Figure 4-20. Maximum engagement line.

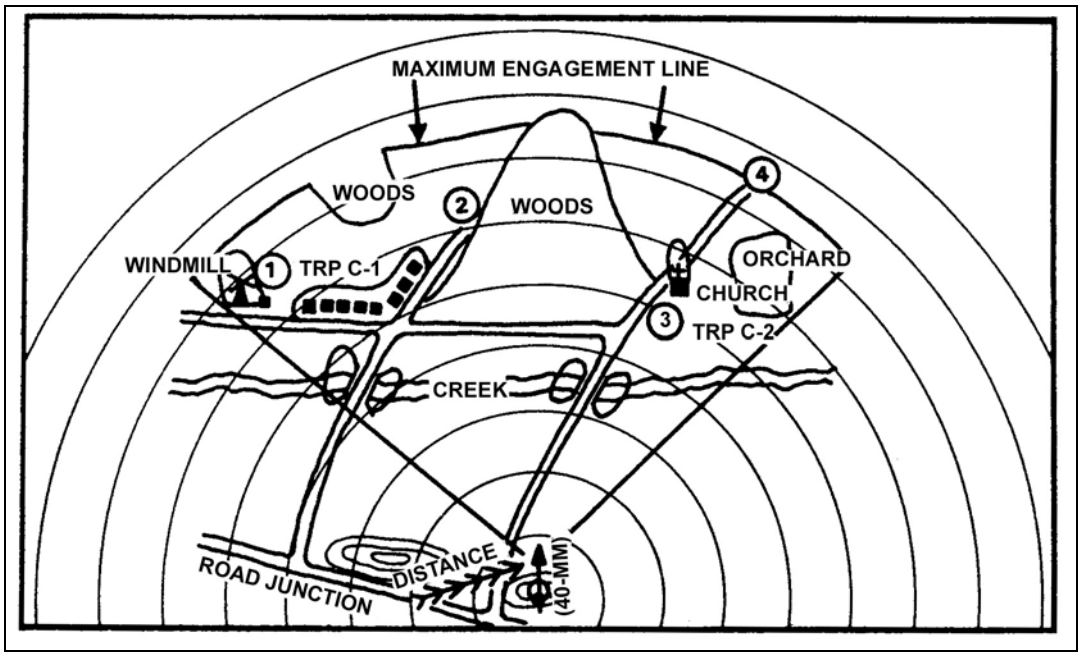

Figure 4-21. Limiting factors on maximum engagement line.

(h) Fill in the marginal information at the top of the card in the following manner (Figure 4-22):

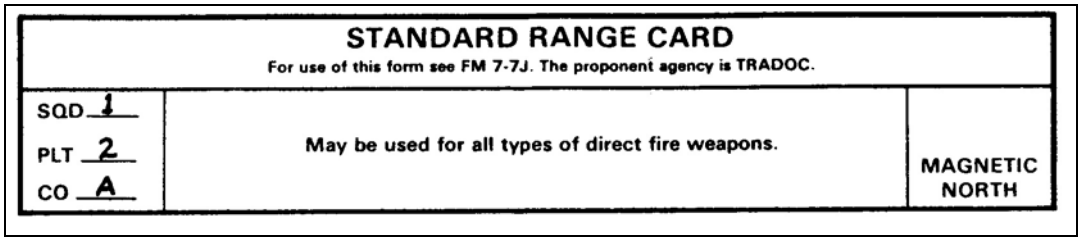

Figure 4-22. Marginal information.

- **Unit description.** Never show unit higher than company level.
- **Magnetic north.** Orient the range card with the terrain and find the direction of magnetic north with a compass. Draw a magnetic north arrow using the straight edge of the compass.

(i) Fill in the data section in the following manner (Figure 4-23):

- **Position identification.** Write primary, alternate, or secondary.
- **Weapon.** Write MK 19, grenade machine gun.
- **Date.** Write the day and month.

POSITION IDENTIFICATION: PRIMARY | DATE: 16 DEC

WEAPON: MK19 | EACH CIRCLE EQUALS _____ METERS

NO.	DIRECTION/ DEFLECTION	ELEVATION	RANGE	AMMO	DESCRIPTION
1	L200 MIL	+140/35	2050	M450	WINDMILL/TRP C-1
2	L30 MIL	+160/35	1750	M430	ROAD
3	R25 MIL	+140/35	1600	M430	CHURCH/TRP C-2
4	R100 MIL	+150/10	1400	M430	ROAD

REMARKS:

Figure 4-23. Data section information.

- **Each circle equals 294 meters.** Write in the distance in meters between the circles. To find the distance, count the intervals from the weapon to the maximum engagement line. Divide the number of intervals into the range. This gives the distance between circles (Figure 4-24). For example:
  2,212 meters = 294 meters between circles
  7.5 intervals

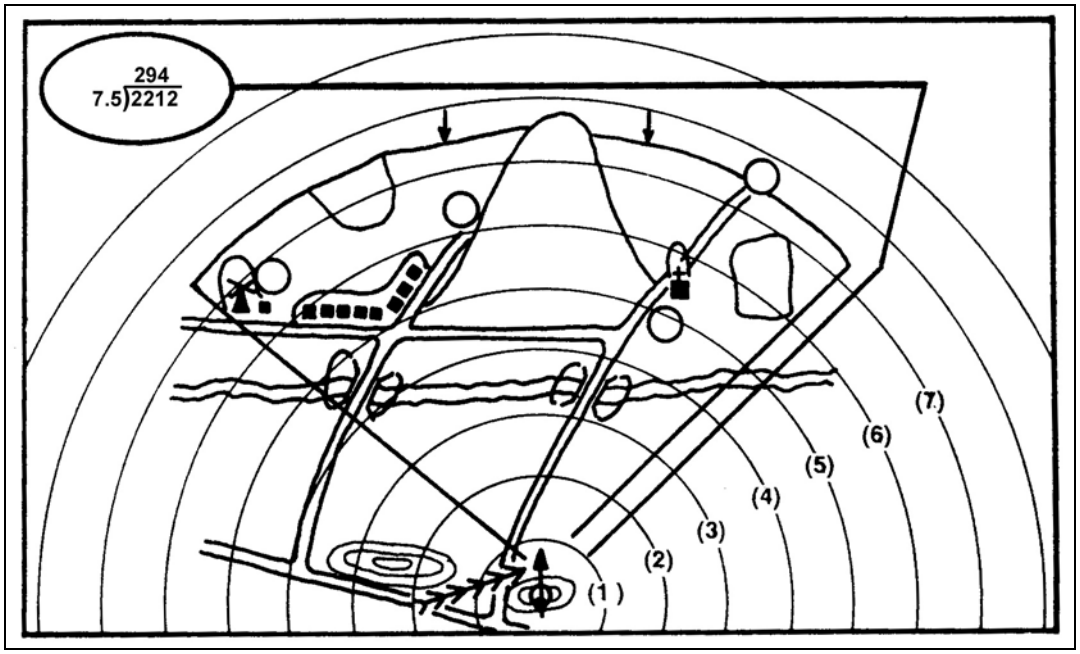

Figure 4-24. Determination of range the circles represent.

- **Number (No.).** Starting with number 1, write the numbers as listed for TRPs and target engagement locations.
- **Direction/deflection.** Write the mils from the traversing bar and handwheel.
- **Elevation.** Write the elevation from the elevating screw plate scale and the elevating handwheel.
- **Range.** Write distance in meters from the weapon to the TRP or target engagement area.
- **Ammunition.** Write the type of round issued for the mission.
- **Description.** List the name of the object; for example: road, windmill, or church. If the item is a TRP, list the TRP number also.

Section II. RANGE FIRE

Range firing gives hands-on MK 19 firing experience to the soldier who has completed the Intermediate Gunnery Test. Use the procedures in this section to set up and conduct range firing. The desired width for each lane is 100 meters at 800 meters from the firing line but can be modified due to local range or terrain limitations. Range firing includes zeroing procedures, observation and adjustment for fire, instructional firing, and qualification firing. Active fighting-force gunners qualify semiannually and participate in exercises and unit-level live fires quarterly. Active supporting-force gunners qualify and participate in instructional fire annually. All reserve component gunners qualify annually. See Appendix E, Annual Gunnery Training Program, for details.

4-5. DESCRIPTION

There are two types of ranges that may be used for MK 19 live-fire practice and qualification. Regardless of which range is used, the MK 19 can be fired from either a tripod or a vehicle.

a. **Multipurpose Gunnery Range for the 40-mm Grenade Machine Gun** (Figures 4-25 and 4-26). This range is designed for the conduct of individual firing exercises and qualifications against hull type targets. Details about this range can be found in TC 25-8.

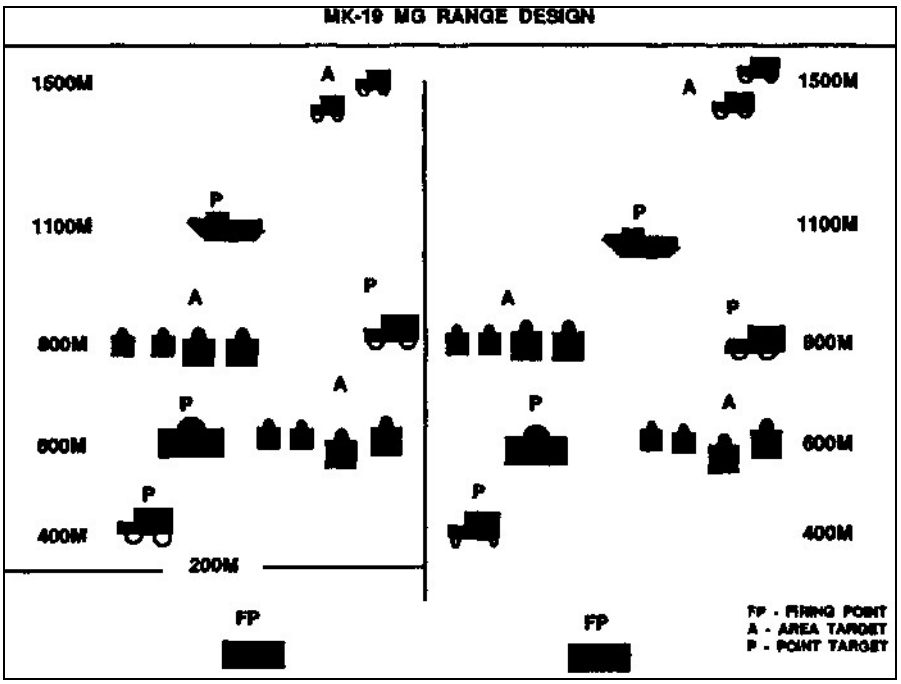

Figure 4-25. Multipurpose gunnery range for the 40-mm grenade machine gun.

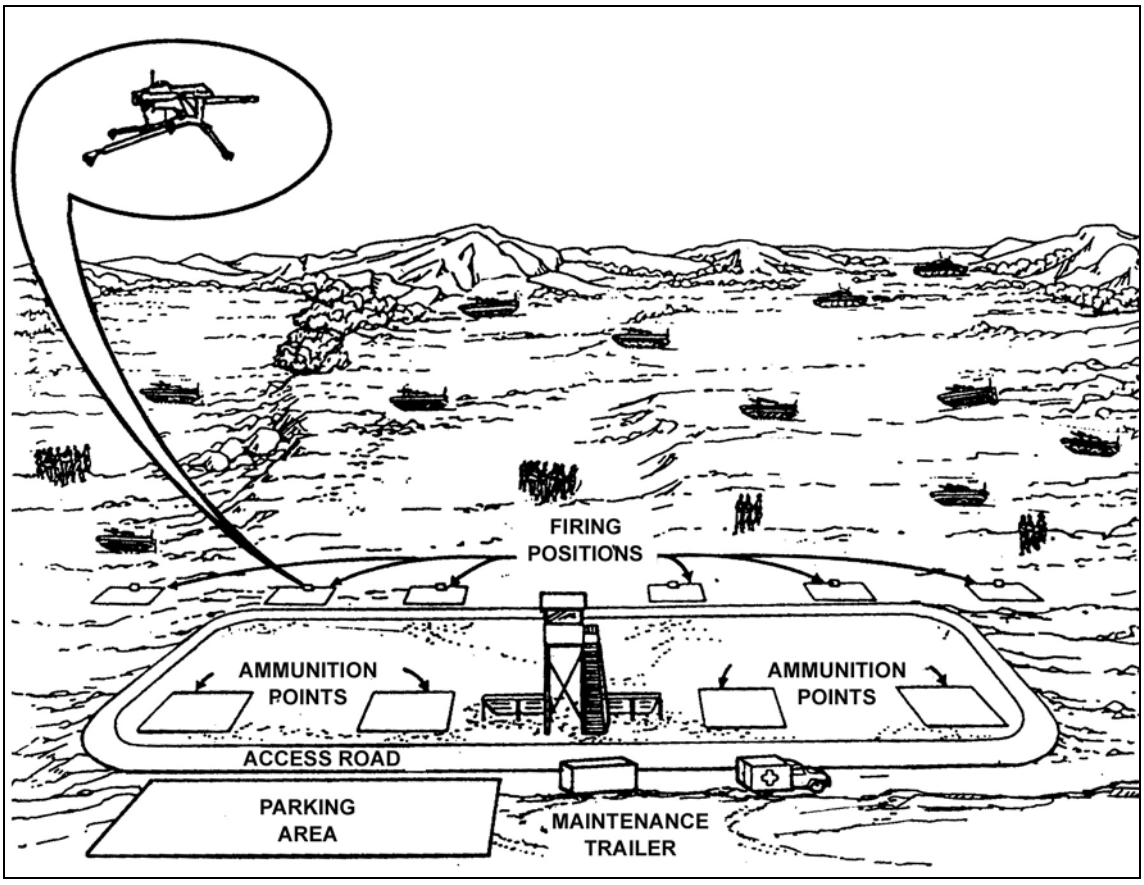

Figure 4-26. Multipurpose gunnery range for the 40-mm grenade machine gun (continued).

b. **Multipurpose Machine Gun Range.** The MPMG is the range suggested for MK 19 live-fire training. It is used to train mechanized, motorized, combat support, and combat service support units. The design and traits of this type of range are described in TC 25-8. Only a non dud-producing practice round is used on this range.

4-6. OPERATION

Use range operation procedures any time LFXs are conducted on the range. These procedures are the same for all range firing exercises.

a. Brief the gun crews on the range setup, fire commands, and safety procedures. Explain exercise needs as defined by the unit commander, or as they are to be done by the firing tables.

b. Divide the crews into groups and assign each group a firing point and an assistant instructor (AI). Ensure they are directed to their firing points and are shown their assigned sectors of fire. Have the AIs ensure that all crews have the equipment needed to perform the task.

c. Conduct the exercise. For example you can command GUNNER, WHEN I SAY BEGIN, PLACE THE MK 19 INTO OPERATION ON THE TRIPOD (ORGANIC CARRIER) WITHIN ____ MINUTES. ARE THERE ANY QUESTIONS? (pause) BEGIN.

At the end of the given time period, direct STOP. AIs, CRITIQUE YOUR CREWS AND GIVE ME YOUR "UP" SIGNAL WHEN YOU HAVE FINISHED.

4-7. COACHES

The instructor may arrange for a coach to be present at each gun during the following preparatory training, exercises, and instructional firing. Successful marksmanship training depends on the coaches. Well-trained and well-rehearsed gunners or crew members may be assigned as coaches. The coaches:

- Require the gunner to inspect his gun and equipment.
- Help the gunner place the gun on target.
- Require the gunner to explain the exercise that he is about to perform.
- Observe the gunner's position, grip, and manipulation during simulated firing.

4-8. FIRE PROCEDURES

Firing the MK 19 is not hard. However, to be effective, the gunner must be able to skillfully manipulate the trigger and T&E mechanism; the weapon must be held down and to one side while aiming and adjusting the T&E mechanism. The following steps are simple, but the gunner must remember to estimate the distance to the target, set the sights for distance, manipulate the T&E mechanism, press the trigger, and fire a single round; since the MK 19 is a fully automatic weapon, this can only be done by "popping" the trigger once. He must spot the impact of the first round and adjust to the target area. He should begin firing six- to nine-round bursts. This whole process can be done in a matter of seconds, the longest part being the flight time of the round. To fire the weapon:

(a) Place the safety on F (FIRE).
(b) Ensure the charger handles are in the forward and upright position.
(c) Place your hands on the control grips, and your thumb(s) on the trigger.
(d) Hold the weapon down and to one side, and check sight picture.
(e) Press the trigger to fire.

WARNING

Because of the gun's recoil, the first burst is the hardest to control. Ensure that the gun's recoil does not cause the barrel of the weapon to drop and rounds to strike short of the target. Keep it elevated.

4-9. ZEROING PROCEDURES

Zeroing procedures are crucial for hitting targets at ranges of 600 meters or more. It is strongly recommended that a target at 400 meters be used to zero. The following is the correct way to zero the MK 19 to the gunner.

a. Loosen the range plate screw. Move the range plate to the midpoint between the two studs. Tighten the range plate screw. Move the rear sight slide to the meter mark that

represents the distance to the target. For example, move to the 400-meter mark to zero on a target known to be 400 meters away. Set the windage knob at the zero index line.

b. Align the sights on the base of the target using the T&E mechanism.

c. Fire a single round and spot the impact of the round. If it is on the target, fire another short burst to confirm the zero. If the round is not on target, go on to the next step.

d. To adjust for a round that is not on target, do the following:

(1) If the impact of the round is short or over, adjust the elevation knob. Estimate how short or over the round is. If the round is short, use this estimate to adjust the elevation knob clockwise, which moves the sights up onto the knob counterclockwise to bring the sights down to the target. For example, if the rounds impact 10 mils short, adjust the elevation knob 10 mils up by turning it clockwise. Realign the sights and adjust the gun back on target using the T&E mechanism before the next round is fired.

NOTE: 1. If the adjustment was correct, the second round should be on target. If so, fire the rest of the rounds to confirm the zero. If not, repeat the previous step.
2. If the impacts are not observed, bold adjustments may be necessary.

(2) If the round is to the right or left, adjust the windage knob. Estimate how far to the right or left the sight needs to move to bring the rounds on target. Turn the windage knob clockwise to adjust to the right; turn the windage knob counterclockwise to adjust to the left. For example, if the rounds impact 10 mils to the right, adjust the sight 10 mils to the left by turning the windage knob counterclockwise. Realign and adjust the sights back on target using the T&E mechanism before firing the next round.

(3) Once the zero is completed, align the range plate scale at the exact range of the target used to zero, and tighten it.

e. Point out errors and explain their effect.

f. When the gunner maintains the same sight picture, the type of firing position does not alter the zero.

4-10. OBSERVATION AND ADJUSTMENT OF FIRE

Observation and adjustment gives the soldier a chance to practice adjustment of fire by observing trajectory and impact or by re-laying often on the target using the sights. Live-fire training is held on the firing range after the methods are explained in the classroom.

a. When firing on targets, adjust by moving the burst into the target. Based on the strike of the rounds, adjust the number of clicks for elevation and direction needed to move the center of impact onto the target. This does not call for the use of sights. For example, fire at a target 500 meters away; the rounds impact 20 meters short and 50 meters right. Use the T&E handwheels, moving the muzzle left and up the proper number of clicks, to manipulate the gun onto the target.

b. Another procedure is the adjusted aiming point method. Use the sights and select an aiming point calculated to place the second burst on target. For example, fire at a 500-meter target; the rounds impact 20 meters short and 10 meters right. Rapidly select another aiming point about 20 meters beyond and 10 meters to the left of the target, lay on that aiming point, and fire.

4-11. INDIVIDUAL GUNNER EXERCISES AND QUALIFICATION

The individual gunnery exercises train and qualify MK 19 gunners. There are four scorecards available and they are used based on the type of target (hull or pop-up silhouettes) and whether the practice-qualification is during the day or during limited visibility. Each scorecard has two tables, one for practice and one for qualification. The tables have versions for hull or pop-up silhouette engagements and for the type of NVD used. Sample scorecards are shown in Figures 4-27 through 4-30 (and reproducible scorecards are provided in the back of this manual). MK 19s will be mounted or in the tripod configuration based on the range constraints and the commander's guidance. These tables are *recommended* tables for the infantry MK 19 gunner and crew. The first task in each table is a field zeroing evaluation, which allows the gunner to ensure his weapon is zeroed (even if he boresighted the MK 19). If the gunner fails to zero within four rounds, he is removed from the line and given additional training before attempting the table again. Refer to Section 4-5 for more detailed description of the ranges. The rest of the table consists of firing at individual and multiple targets.

a. **Day and Night Practice and Qualification.** Specific scorecards have been developed for different targets and NVDs. Gunners will only fire one day practice-qualification and one night practice-qualification. Units should select the practice and qualification based on the light conditions, type of targets available, and type of NVDs used. The following table shows which scorecards would be used:

Conditions	Target	Night Vision Devices	Scorecard
Day	Hull	NA	Scorecard I
Day	Pop-Up	NA	Scorecard III
Limited/Night	Hull	**AN/PEQ-2A** mounted on the TWS mounting bracket. **AN/PAS-13** mounted on the TWS mounting bracket. **AN/TVS-5** upgraded with the 3d generation tube mounted on the TWS mounting bracket.	Scorecard II
Limited/Night	Pop-Up or E-Type	All night vision devices.	Scorecard IV
Limited/Night	Any type	No night vision device.	Scorecard IV

Table 4-1. Scorecard matrix.

NOTE: 1. Both the MPMG range and the multipurpose gunnery range (MK 19) can be used for practice and qualification.

2. The MPMG range, modified with stationary armor targets at the required ranges, can be used as pop-up targets if a non dud-producing practice round is used. Scorecards III and IV are used on the MPMG range.

3. The multipurpose gunnery range (MK 19) can be used with any round authorized for the range. Scorecards I and II are used on the multipurpose gunnery range (MK 19).

Every target listed in each task is a point target; however one or two targets between the range of 600 and 900 meters should be changed to an area target. The number of rounds and

engagement times should be the same for both point and area targets. The commander's guidance and the local range configuration should determine the location of the area targets.

(1) ***Day Practice and Qualification.*** Due to the types of targets available for practice and qualification, there are two scorecards for day practice and qualification. One (Table I) is used when engaging hull-type targets and the other (Table III) is used when engaging pop-up silhouette targets.

(a) *Hull-Type Targets*. Hull-type targets provide height, width, and depth, and give the MK 19 gunner a realistic target. The engagement ranges for practice and qualifications can therefore be set for the full range of the gun and are set at ranges up to 1,500 meters.

(b) *Pop-Up Silhouette Targets*. Pop-up silhouettes provide a target with width and height but very little depth. Due to the high angle of fall of 40-mm rounds at ranges greater than 800 meters, it is difficult to hit this type of target beyond that range. Therefore, the engagement ranges for practice and qualifications are set at 800 meters or less.

(c) *Engagement Times*. There is a 30 second difference for the completion of each task between the practice and qualification tables. Practice tables allow thirty additional seconds for each engagement.

b. **Night Practice and Qualification.** The MK 19 night practice and qualification tables are shown in Scorecards II and IV. Units with AN/PEQ-2A, AN/PAS-13, and AN/TVS-5 night aiming devices *and* engaging hull-type targets use Scorecard II. Units without a MK 19/sight combination or engaging pop-up silhouettes use Scorecard IV. Gunners do not fire both. Infantry gun crews are required to qualify at night. Other types of units may determine that day qualification is adequate due to their wartime missions.

c. **Scoring.** Scoring is done on a GO/NO GO basis for each task within the practice or qualification table.

(1) Zeroing the gun, the first task in each table, is scored as a GO/NO GO. Giving a score for the zero emphasizes the importance of a proper zero to effectively engage targets at 600 meters and beyond. However, if the gunner fails to zero within four rounds, he is removed from the line and given additional training before attempting the table again. This step reduces the waste of ammunition.

(2) On point target engagements (lightly armored vehicle targets such as BRDMs, threat scout cars, etc.), the gunner receives a GO if he meets or exceeds the engagement standard of one or two rounds hitting the target.

(3) If area targets are included (infantry squads, RPG teams, etc.), the gunner receives a GO when at least the number of rounds stated in the engagement standard for that task impact within ten meters of the area target and thus suppresses it.

(4) At the end of each table, the scorer adds up the number of GOs and NO GOs, places that number in the "Totals block, and checks the box to the left of the appropriate qualification (expert, sharpshooter, marksman, or unqualified).

d. **Range Setup.** Targets should be within the ranges provided on the table scorecard.

(1) Because the gunner has to be able to observe the impact of the round to make adjustments, there should be no dead space within 100 meters of the selected targets.

(2) Every target listed in each task is a point target; however, one or two targets between the range of 600 and 900 meters should be changed to an area target. The number of rounds and engagement time will be the same for both point and area targets. The commander's guidance and the local range configuration should determine the location of the area targets.

(3) For area targets, multiple E type personnel targets may be placed on line or in wedge formations. Multiple personnel targets, indicating area targets, should not be more than 5 meters apart, and not extend more than 30 meters in width or 20 meters in depth.

(4) During night firing using hulls as targets, no modification to the target is needed to assist the gunner in identifying the target. If pop-up silhouette targets are used however, a thermal source is needed on each target to enable the gunner to acquire it with the thermal weapon sight (TWS) and a light source is needed on each target if the AN/TVS-5 is being used. The thermal source can be two chemical lights on targets between 400 meters and 600 meters and three chemical lights on targets over 600 meters.

e. **Grading.** One grader will be required at each firing point.

(1) ***Grading Equipment***. During the day, the grader will need a set of binoculars. At night equipment will vary according to the type of range being used. With an impact range with hull targets, the grader will need a NVD (examples, the AN/PVS-14,7B with the 3X magnifier, the AN/TAS-4, or the AN/PAS-13 [heavy]) to observe the strike of the round. The same equipment is needed if the pop up targets do not provide feedback. The grader also needs the order in which targets are engaged and a means to provide the gunner with the range to the target for that particular firing point. The grader must be able to identify which target is to be engaged by using, for example, a range card including a diagram of the range with targets numbered and ranges listed.

(2) ***Start and End Time.*** Time will start when the target is exposed and the grader has provided the target range (the graders will provide all information before the target is exposed). If hull targets are used and exposed at all times, then the time will start once the grader has told the gunner which target to engage and provided the range to the target. Time ends when the time indicated for that task expires, the target has been successfully engaged, or the target is no longer exposed.

f. **Ammunition.** Ammunition is broken down by task. The assistant gunner places each belt in its order of use. The number of rounds authorized for each task will be the number of rounds per belt. For example, if there are ten engagements, there should be ten belts of ammunition placed within reach of the assistant gunner in the order they are to be fired.

(1) HE rounds cannot be fired at pop-up silhouette targets because the lift mechanism will be damaged.

(2) Training practice tracer (TPT) rounds can be fired at both types of targets.

(3) The impact of a HE round is much easier to see than that of the TPT round.

g. **Fire Control.** Controlling and observing a target engagement with the MK 19 is not a problem with a range set up with a firing lane for each firing point. Especially with hull targets however, each point will not have an individual firing lane. Some ranges must use the same target for more than one lane, which may be a potential problem for grading. The grader must be able to identify which round impact is from which firing point. This is especially true for the 400-meter target. To prevent this problem, ensure that only one gunner at a time engages each target. The order in which the targets are engaged can be changed to allow more than one gunner to fire at the same time. Engagement start times can also be staggered so that gunners can engage targets at different ranges at the same time. This requires a great deal of coordination and communication between the graders and the personnel controlling the range.

h. **Day Practice and Day Qualification Firing Exercise** (Figures 4-27 and 4-28)**.** Table I contains the tables for day practice and day qualification for hull targets and Table III contains the tables for day practice and day qualification for pop-up targets. Other than a 30 second difference in the engagement times for each task, the practice and the qualification tables are the same. It is held twice a year, or as often as the commander feels is needed to maintain gunner proficiency

(1) The day practice firing exercise allows the gunner to fire on a range engaging hull or pop-up targets to test his skills before qualification firing.

(2) The qualification LFX tests skills practiced during day firing exercise. It is scored on time taken and target hits made based on the firing tables.

(3) During scorecard preparation the grader selects the correct scorecard (Table I for hull targets or Table III for pop-up targets) and enters the gunner's name, rank, and unit in blocks "1" through "3." He also fills in blocks "4" through "7" with the range name, the firing lane, his name, and the date.

(4) The grader positions himself so that he can observe both the gunner and the target. Once live fire commences, he:

- Observes and informs the gunner the strike of each round.
- Observes and records a GO or NO GO for each task.

(5) At the end of the practice, the grader sums the total of GO/NO GOs in the "Totals" block, checks the appropriate qualification in block "9," has the gunner sign the scorecard in block "10," and signs the card in block "11."

(6) During the qualification phase, the grader repeats the steps above by filling in the appropriate blocks, summing the scores, and assigning the correct qualification.

(7) The grader can use the comment section in either table to enter remarks such as the operation of the gun, condition of the targets, and weather conditions to name a few.

MK 19, 40-mm GRENADE MACHINE GUN, MOD 3 FIRING TABLE I
DAY PRACTICE AND QUALIFICATION WITH HULL TARGETS SCORECARD
For use of this form, see FM 3-22.27; the proponent agency is TRADOC.

PRIVACY ACT STATEMENT

AUTHORITY: 10 USC 3012(g)/Executive order 9397
PRINCIPAL PURPOSE: To aid individual training on targets at various ranges.
ROUTINE USES: To evaluate individual proficiency.
DISCLOSURE: Voluntary. However, mass rating and recording require some tracking method.

1a. LAST NAME	1b. FIRST NAME	1c. MI	2. RANK	3. UNIT
PEVOSKI	RICHARD	M	SSG	1/26 INF IN

TABLE I (A). DISMOUNTED AND MOUNTED DAY PRACTICE

4. RANGE	5. LANE	6. GRADER	7. DATE
DOBOL	5	JOULWAN	4 SEP 03

TASK	RANGE (Meters)	AMMO	TIME (Minutes)	ENGAGEMENT STANDARDS	GO	NO GO
ZERO	400	4	NA	2 ROUNDS HIT	✓	
2	1,100 (+/- 200)	8	2.5	2 ROUNDS HIT		✓
3	1,500 (+/- 200)	10	3.5	2 ROUNDS HIT		✓
4	600 (+/- 100)	6	2	2 ROUNDS HIT	✓	
5	800 (+/- 100)	6	2	2 ROUNDS HIT	✓	
6	400	4	1.5	2 ROUNDS HIT	✓	
MULTIPLE TARGETS						
7	1,100 (+/- 200)	10	4	1 ROUND HIT	✓	
8	600 (+/- 100)			1 ROUND HIT	✓	
9	800 (+/- 100)	14	4.5	1 ROUND HIT	✓	
10	1,500 (+/- 200)			1 ROUND HIT	✓	
				TOTALS	8	

8. COMMENTS: USED HE

9. NUMBER OF ENGAGEMENT MET *(Choose One)*
- [ ] 10 - EXPERT
- [✓] 8-7 - MARKSMAN
- [ ] 9 - SHARPSHOOTER
- [ ] 6 AND BELOW - UNQUALIFIED

10. GUNNER'S SIGNATURE: Richard M. Pevoski

11. GRADER'S SIGNATURE: George Joulwan

TABLE I (B). DISMOUNTED AND MOUNTED DAY QUALIFICATION

12. RANGE	13. LANE	14. GRADER	15. DATE
DOBOL	8	JOULWAN	4 SEP 03

TASK	RANGE (Meters)	AMMO	TIME (Minutes)	ENGAGEMENT STANDARDS	GO	NO GO
ZERO	400	4	NA	2 ROUNDS HIT	✓	
2	1,100 (+/- 200)	8	2	2 ROUNDS HIT	✓	
3	1,500 (+/- 200)	10	3	2 ROUNDS HIT		✓
4	600 (+/- 100)	6	1.5	2 ROUNDS HIT	✓	
5	800 (+/- 100)	6	1.5	2 ROUNDS HIT	✓	
6	400	4	1	2 ROUNDS HIT	✓	
MULTIPLE TARGETS						
7	1,100 (+/- 200)	10	3.5	1 ROUND HIT	✓	
8	600 (+/- 100)			1 ROUND HIT	✓	
9	800 (+/- 100)	14	4	1 ROUND HIT	✓	
10	1,500 (+/- 200)			1 ROUND HIT	✓	
				TOTALS	9	

16. COMMENTS: USED HG

17. NUMBER OF ENGAGEMENT MET *(Choose One)*
- [ ] 10 - EXPERT
- [ ] 8-7 - MARKSMAN
- [✓] 9 - SHARPSHOOTER
- [ ] 6 AND BELOW - UNQUALIFIED

18. GUNNER'S SIGNATURE: Richard M. Pevoski

19. GRADER'S SIGNATURE: George Joulwan

DA FORM 7518-R, AUG 2003 APD V1.00

Figure 4-27. Example of completed DA FORM 7518-R, MK 19 day practice and qualification (hull targets).

MK 19, 40-mm GRENADE MACHINE GUN, MOD 3 FIRING TABLE III
DAY PRACTICE AND QUALIFICATION WITH POP-UP TARGETS SCORECARD
For use of this form, see FM 3-22.27; the proponent agency is TRADOC.

PRIVACY ACT STATEMENT

AUTHORITY: 10 USC 3012(g)/Executive order 9397
PRINCIPAL PURPOSE: To aid individual training on targets at various ranges.
ROUTINE USES: To evaluate individual proficiency.
DISCLOSURE: Voluntary. However, mass rating and recording require some tracking method.

1a. LAST NAME	1b. FIRST NAME	1c. MI	2. RANK	3. UNIT
GUNNING	ROBERT	T	SGT	1/26TH IN

TABLE III (A). DISMOUNTED AND MOUNTED DAY PRACTICE

4. RANGE	5. LANE	6. GRADER	7. DATE
SEITZ	2	MULLENIX	9 SEP 03

TASK	RANGE (Meters)	AMMO	TIME (Minutes)	ENGAGEMENT STANDARDS	GO	NO GO
ZERO	400	4	NA	2 ROUNDS HIT	✓	
2	600 (+/- 100)	6	2	1 ROUND HIT	✓	
3	800 (+/- 100)	8	2.5	1 ROUND HIT	✓	
4	400	4	1.5	1 ROUND HIT	✓	
MULTIPLE TARGETS						
5	800 (+/- 100)	12	4	1 ROUND HIT		✓
6	400			1 ROUND HIT	✓	
7	400	10	3	1 ROUND HIT	✓	
8	600 (+/- 100)			1 ROUND HIT	✓	
				TOTALS	7	

8. COMMENTS: CHECK TARGET @ BOOM

9. NUMBER OF ENGAGEMENT MET *(Choose One)*
☐ 8 - EXPERT ☐ 6 - MARKSMAN
☑ 7 - SHARPSHOOTER ☐ 5 AND BELOW - UNQUALIFIED

10. GUNNER'S SIGNATURE: Robert T. Gunning
11. GRADER'S SIGNATURE: J. Mullenix

TABLE III (B). DISMOUNTED AND MOUNTED DAY QUALIFICATION

12. RANGE	13. LANE	14. GRADER	15. DATE
SEITZ	5	MULLENIX	9 SEP 03

TASK	RANGE (Meters)	AMMO	TIME (Minutes)	ENGAGEMENT STANDARDS	GO	NO GO
ZERO	400	4	NA	2 ROUNDS HIT	✓	
2	600 (+/- 100)	6	1.5	1 ROUND HIT	✓	
3	800 (+/- 100)	8	2	1 ROUND HIT	✓	
4	400	4	1	1 ROUND HIT	✓	
MULTIPLE TARGETS						
5	800 (+/- 100)	12	3.5	1 ROUND HIT		✓
6	400			1 ROUND HIT		✓
7	400	10	2.5	1 ROUND HIT	✓	
8	600 (+/- 100)			1 ROUND HIT	✓	
				TOTALS	6	

16. COMMENTS: T:6 CAME LOOSE
T 5:6

17. NUMBER OF ENGAGEMENT MET *(Choose One)*
☐ 8 - EXPERT ☑ 6 - MARKSMAN
☐ 7 - SHARPSHOOTER ☐ 5 AND BELOW - UNQUALIFIED

18. GUNNER'S SIGNATURE: Robert T. Gunning
19. GRADER'S SIGNATURE: J. Mullenix

DA FORM 7520-R, AUG 2003 APD V1.00

Figure 4-28. Example of completed DA FORM 7520-R, MK 19 day practice and qualification (pop-up targets).

i. **Night Practice and Night Qualification Firing Exercises** (Figures 4-29 and 4-30)**.** Table II contains the tables for night practice and night qualification for hull targets using the AN/PEQ-2A, AN/PAS-13, or the AN/TVS-5 NVDs. Table IV contains the tables for night practice and night qualification with pop-up targets or hull targets without using NVDs. Other than a 30 second difference in the engagement times for each task, the practice and the qualification tables are the same. It is held twice a year, or as often as the commander feels is needed to maintain gunner proficiency.

(1) The night practice firing exercise allows the gunner to fire on a range engaging hull or pop-up targets to test his skills before qualification firing.

(2) The qualification exercise tests skills practiced during night firing exercise. It is scored on time taken and target hits made based on the firing tables.

(3) The grader selects the correct scorecard (Table II for hull targets using the NVDs listed on the scorecard, or Table IV for pop-up targets or hull targets without a NVD) and enters the gunner's name, rank, and unit in blocks "1" through "3." He also fills in blocks "4" through "7" with the range name, the firing lane, his name, and the date. He also checks the appropriate NVD in block "8" (Table II only).

(4) The grader positions himself so that he can observe both the gunner and the target. Once live fire commences, he:

- Observes and informs the gunner the strike of each round.
- Observes and records a GO or NO GO for each task.

(5) At the end of the practice, the grader sums the total of GO/NO GOs in the "Totals" block , checks the appropriate qualification in block "9," has the gunner sign the scorecard in block "10," and signs the card in block "11."

(6) During the qualification phase, the grader repeats the steps above by filling in the appropriate blocks, summing the scores, and assigning the correct qualification.

(7) The grader can use the back of the form or the comment section to enter remarks such as the operation of the gun, condition of the targets, and weather conditions to name a few.

MK 19, 40-mm GRENADE MACHINE GUN, MOD 3 FIRING TABLE II
NIGHT PRACTICE AND QUALIFICATION WITH HULL TARGETS SCORECARD
For use of this form, see FM 3-22.27; the proponent agency is TRADOC.

PRIVACY ACT STATEMENT
AUTHORITY: 10 USC 3012(g)/Executive order 9397
PRINCIPAL PURPOSE: To aid individual training on targets at various ranges.
ROUTINE USES: To evaluate individual proficiency.
DISCLOSURE: Voluntary. However, mass rating and recording require some tracking method.

NOTE: Use these tables if the targets being used are hulls, and any of the following applies:
AN/PEQ-2A mounted on the TWS mounting bracket.
AN/PAS-13 mounted on the TWS mounting bracket.
AN/TVS-5 with the 3d generation tube mounted on the TWS mounting bracket.

1a. LAST NAME	1b. FIRST NAME	1c. MI	2. RANK	3. UNIT
PEVOSKI	RICHARD	M	SSG	1/26 IN

TABLE II (A). DISMOUNTED AND MOUNTED NIGHT PRACTICE

4. RANGE	5. LANE	6. GRADER	7. DATE
DOBOL	2	CROSS	2 SEP 03

TASK	RANGE (Meters)	AMMO	TIME (Minutes)	ENGAGEMENT STANDARDS	GO	NO GO
ZERO	400	4	NA	2 ROUNDS HIT	✓	
2	1,100 (+/- 200)	8	2.5	2 ROUNDS HIT	✓	
3	1,500 (+/- 200)	10	3.5	2 ROUNDS HIT		✓
4	600 (+/- 100)	6	2	2 ROUNDS HIT	✓	
5	800 (+/- 100)	6	2	2 ROUNDS HIT		✓
6	400	4	1.5	2 ROUNDS HIT	✓	
MULTIPLE TARGETS						
7	1,100 (+/- 200)	10	4	1 ROUND HIT		✓
8	600 (+/- 100)			1 ROUND HIT	✓	
9	800 (+/- 100)	14	4.5	1 ROUND HIT	✓	
10	1,500 (+/- 200)			1 ROUND HIT		✓
				TOTALS	6	

8. TYPE DEVICE *(Choose One)*
☐ AN/PEQ-2A ☐ AN/PAS-13 ☑ AN/TVS-5

9. NUMBER OF ENGAGEMENT MET *(Choose One)*
☐ 10 - EXPERT ☐ 8-7 - MARKSMAN
☐ 9 - SHARPSHOOTER ☑ 6 AND BELOW - UNQUALIFIED

10. GUNNER'S SIGNATURE: Richard M. Pevoski
11. GRADER'S SIGNATURE: Arnie Cross

TABLE II (B). DISMOUNTED AND MOUNTED NIGHT QUALIFICATION

12. RANGE	13. LANE	14. GRADER	15. DATE
DOBOL	3	CROSS	2 SEP 03

TASK	RANGE (Meters)	AMMO	TIME (Minutes)	ENGAGEMENT STANDARDS	GO	NO GO
ZERO	400	4	NA	2 ROUNDS HIT	✓	
2	1,100 (+/- 200)	8	2	2 ROUNDS HIT	✓	
3	1,500 (+/- 200)	10	3	2 ROUNDS HIT		✓
4	600 (+/- 100)	6	1.5	2 ROUNDS HIT	✓	
5	800 (+/- 100)	6	1.5	2 ROUNDS HIT		✓
6	400	4	1	2 ROUNDS HIT	✓	
MULTIPLE TARGETS						
7	1,100 (+/- 200)	10	3.5	1 ROUND HIT		✓
8	600 (+/- 100)			1 ROUND HIT	✓	
9	800 (+/- 100)	14	4	1 ROUND HIT	✓	
10	1,500 (+/- 200)			1 ROUND HIT		✓
				TOTALS	6	

16. TYPE DEVICE *(Choose One)*
☐ AN/PEQ-2A ☐ AN/PAS-13 ☑ AN/TVS-5

17. NUMBER OF ENGAGEMENT MET *(Choose One)*
☐ 10 - EXPERT ☐ 8-7 - MARKSMAN
☐ 9 - SHARPSHOOTER ☑ 6 AND BELOW - UNQUALIFIED

18. GUNNER'S SIGNATURE: Richard M. Pevoski
19. GRADER'S SIGNATURE: Arnie Cross

DA FORM 7519-R, AUG 2003 APD V1.00

Figure 4-29. Example of completed DA FORM 7519-R, MK 19 night practice and qualification with hull targets and NVDs.

MK 19, 40-mm GRENADE MACHINE GUN, MOD 3 FIRING TABLE IV
NIGHT PRACTICE AND QUALIFICATION WITH POP-UP TARGETS SCORECARD
For use of this form, see FM 3-22.27; the proponent agency is TRADOC.

PRIVACY ACT STATEMENT

AUTHORITY: 10 USC 3012(g)/Executive order 9397
PRINCIPAL PURPOSE: To aid individual training on targets at various ranges.
ROUTINE USES: To evaluate individual proficiency.
DISCLOSURE: Voluntary. However, mass rating and recording require some tracking method.

NOTE: Use this table if you do not have a MK 19/sight combination that applies to Table II, and you are using hull targets OR if targets are pop-up/E type silhouettes.

1a. LAST NAME	1b. FIRST NAME	1c. MI	2. RANK	3. UNIT
GUNNING	ROBERT	T	SGT	1/26th IN

TABLE IV (A). DISMOUNTED AND MOUNTED NIGHT PRACTICE

4. RANGE	5. LANE	6. GRADER	7. DATE
SEITZ	2	MULLENIX	9 SEP 03

TASK	RANGE (Meters)	AMMO	TIME (Minutes)	ENGAGEMENT STANDARDS	GO	NO GO
ZERO	400	4	NA	2 ROUNDS HIT	✓	
2	600 (+/- 100)	6	2	2 ROUNDS HIT	✓	
3	800 (+/- 100)	6	2	2 ROUNDS HIT	✓	
4	400	4	1.5	2 ROUNDS HIT	✓	
MULTIPLE TARGETS						
5	800 (+/- 100)	10	3.5	1 ROUND HIT		✓
6	400			1 ROUND HIT		✓
7	400	14	2.5	1 ROUND HIT	✓	
8	600 (+/- 100)			1 ROUND HIT	✓	
				TOTALS	6	

8. COMMENTS: OVERCAST BUT TARGETS VISIBLE.

9. NUMBER OF ENGAGEMENT MET *(Choose One)*
☐ 8 - EXPERT ☑ 6 - MARKSMAN
☐ 7 - SHARPSHOOTER ☐ 5 AND BELOW - UNQUALIFIED

10. GUNNER'S SIGNATURE: Robert T. Gunning

11. GRADER'S SIGNATURE: J. Mullenix

TABLE IV (B). DISMOUNTED AND MOUNTED NIGHT QUALIFICATION

12. RANGE	13. LANE	14. GRADER	15. DATE
SEITZ	4	CORLEY	9 SEP 03

TASK	RANGE (Meters)	AMMO	TIME (Minutes)	ENGAGEMENT STANDARDS	GO	NO GO
ZERO	400	4	NA	2 ROUNDS HIT	✓	
2	600 (+/- 100)	6	1.5	2 ROUNDS HIT	✓	
3	800 (+/- 100)	6	1.5	2 ROUNDS HIT	✓	
4	400	4	1	2 ROUNDS HIT		✓
MULTIPLE TARGETS						
5	800 (+/- 100)	10	3	1 ROUND HIT	✓	
6	400			1 ROUND HIT		✓
7	400	14	2	1 ROUND HIT	✓	
8	600 (+/- 100)			1 ROUND HIT	✓	
				TOTALS	6	

16. COMMENTS:

17. NUMBER OF ENGAGEMENT MET *(Choose One)*
☐ 8 - EXPERT ☑ 6 - MARKSMAN
☐ 7 - SHARPSHOOTER ☐ 5 AND BELOW - UNQUALIFIED

18. GUNNER'S SIGNATURE: Robert T. Gunning

19. GRADER'S SIGNATURE: Thomas Corley

DA FORM 7521-R, AUG 2003 APD V1.00

Figure 4-30. Example of completed DA FORM 7521-R, MK 19 night practice and qualification with pop-up targets or without NVDs.