

B-GL-317-019/PT-001

WEAPONS

VOLUME 19

THE LIGHT MACHINE GUN 5.56 MM C9

(BILINGUAL)

Issued on Authority of the Chief of the Defence Staff

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CHANGE 2
TO B-GL-317-019/PT-001
Weapons
Volume 19, The Light Machine Gun
5.56 mm C9

FOREWORD

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B-GL-317-019/PT-001
WEAPONS
VOLUME 19
THE LIGHT MACHINE GUN
5.56 MM C9

FOREWORD

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WARNING

WARNING

MISUSE OF WEAPONS, AMMUNITION, AND EXPLOSIVES

PURPOSE

1. This order outlines Canadian Forces policy governing the use or misuse of weapons, ammunition, and explosives.

WEAPONS

2. Firing or attempting to fire locally manufactured weapons, obsolete service or foreign weapons, or weapons used for display, ceremonial, or trophy purposes in museums, messes, parade grounds, armouries, or such like areas is prohibited except when specifically authorized by NDHQ.

3. Attention is also drawn to the following references which concern offences connected with the use or misuse of weapons:

- a. National Defence Act, Section 117;
- b. Criminal Code of Canada, Sections 82 to 106; and
- c. QR&O 103.59.

AMMUNITION AND EXPLOSIVES

4. Tampering with or use of service and commercial ammunition or explosives for other than their designed purpose is prohibited.

5. Except as prescribed in paragraph 6, the modification, breakdown, or sectioning of live ammunition for experimental, instructional, or any other purpose, or manufacture of explosives is forbidden. This prohibition includes:

- a. unauthorized interchange of fuzes or primers or both;
- b. experiments with blank ammunition to alter the powder charge or to introduce any other substance into the cartridge case or into the weapon with the approved cartridge;
- c. experiments involving the use of altered propelling charges or bursting charges with ammunition of any type;
- d. the use of any non-service or obsolete ammunition;

- e. the use of foreign ammunition other than that received through normal supply channels or supplied in accordance with NATO Standardization Agreements;
 - f. the manufacture and use of locally fabricated explosive training devices, battle simulators, saluting charges, etc;
 - g. any alteration to the design of ammunition or explosive devices;
 - h. deviations from authorized drills for use of ammunition or explosive devices; and
 - j. rendering live ammunition inert for use as museum or instructional items.
6. The prohibition in paragraph 5 does not apply to:
- a. authorized experiments, modifications, etc, carried out by experimental, research, proof, or inspection establishments;
 - b. authorized breakdown, modification, repairs, proof-testing, etc, carried out as normal functions of a Canadian Forces ammunition depot or base ammunition facility;
 - c. personnel employed at Canadian Forces School of Aerospace and Ordnance Engineering as instructors or trainees under supervision, when breaking down is carried out as part of a course training standard and in accordance with an approved course training plan;
 - d. the use for its designed role of commercial pattern ammunition, which is obtained by local purchase as specified in CFP 137 or as authorized by NDHQ. in accordance with CFAO 36-19;
 - e. the use of its designed role of commercial pattern ammunition which is taken into service and catalogued;
 - f. hand-loading small arms ammunitions in accordance with CFAO 50-18; or
 - g. other cases, when specifically authorized by NDHQ.

FOREWORD

FOREWORD

1. B-GL-317-019/PT-001, The Light Machine-Gun 5.56 mm C9, is issued on authority of the Chief of the Defence Staff.
2. This publication is the basic reference for the employment of the C9 Light Machine-Gun.
3. Any loss or suspected compromise of this publication, or portions thereof, shall be reported in accordance with A-SJ-100/AS-000, Chapter 4.
4. Comments and suggestions for changes should be forwarded through the usual channels to SSO Infantry, Mobile Command Headquarters.

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Lesson 2 - Weapon Description, Safety Precautions, Stripping and Assembling

Aim - To teach weapon description, safety precautions and how to strip and assemble the C9 LMG.

Lesson 3 - Care and Cleaning

Aim - To teach how to clean the gun under normal and adverse conditions.

Lesson 4 - Sight Setting, Load, Unload, Ready Make Safe, and Clear Gun

Aim - To teach how to:

- a. make up an ammunition belt,
- b. set the sights,
- c. load,
- d. unload,
- e. ready,
- f. make safe, and
- g. clear gun.

Lesson 5 - Holding, Aiming and Firing

Aim - To teach:

- a. holding, aiming and firing at stationary and moving targets;
- b. action to be carried out on receiving the orders STOP and GO ON: and
- c. rates of fire, burst length and barrel change.

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Aim - To teach the action to be carried out if the LMG stops firing or fails to fire.

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Aim - To practise the soldier in:

- a. safety, stripping, assembling and cleaning;
- b. loading and unloading; and
- c. holding, aiming and firing.

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WEAPON SECURITY

THE SECURITY OF SMALL ARMS AND SMALL ARMS
AMMUNITION IS YOUR RESPONSIBILITY. ENSURE YOUR
WEAPONS AND AMMUNITION ARE SECURED/PROTECTED
IN ACCORDANCE WITH CURRENT ORDERS AND
INSTRUCTIONS.

CHAPTER 1
AIM AND SCOPE

AIM AND SCOPE

AIM

1. This publication contains the information necessary to train soldiers in the handling, firing, employment, and maintenance of the 5.56 mm C9 Light Machine-Gun (LMG).

BACKGROUND

2. The C9 LMG is an adaptation of the United States M249 Squad Automatic Weapon which was developed from the Belgian Minimi manufactured by Fabrique Nationale Herstal S.A. The Minimi (a contraction of Mini Mitrailleur, or, mini machine-gun) is fully automatic, gas operated, and belt or magazine fed. The LMG is shown in Figure 1-1.

3. The LMG is operated by one man who must master all of the skills necessary to employ his weapon effectively. Within the rifle section it is used to provide covering fire for the manoeuvre of rifle-equipped troops in the offence and to cover the most likely enemy approach in the defence.

SAFETY PRECAUTIONS

4. Before and after every lesson all guns, belts, ammunition boxes, dummy rounds, and soldiers' pouches must be inspected to ensure that no live ammunition is present.

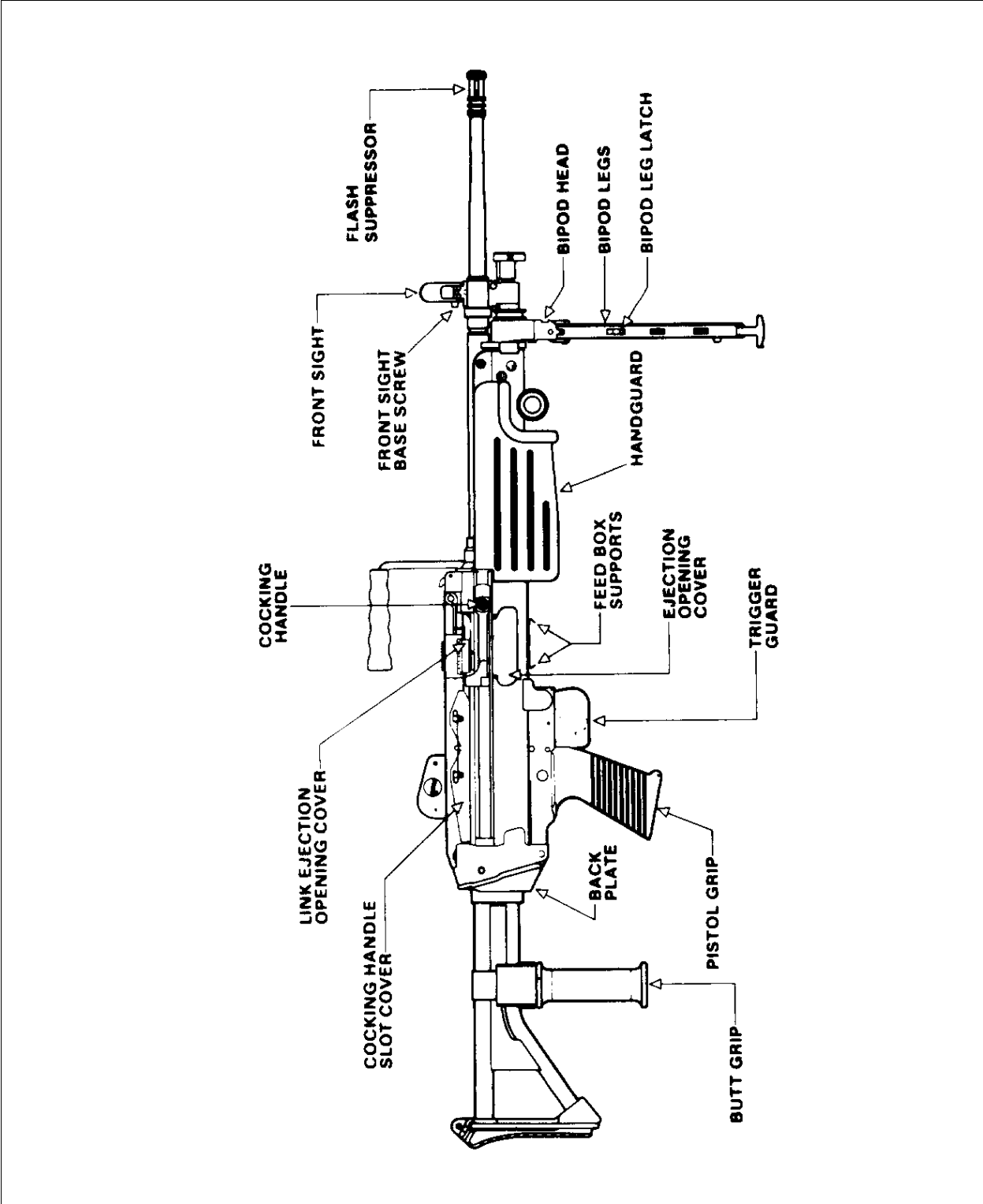


Figure 1-1 (Sheet 1 of 2) The Light Machine Gun

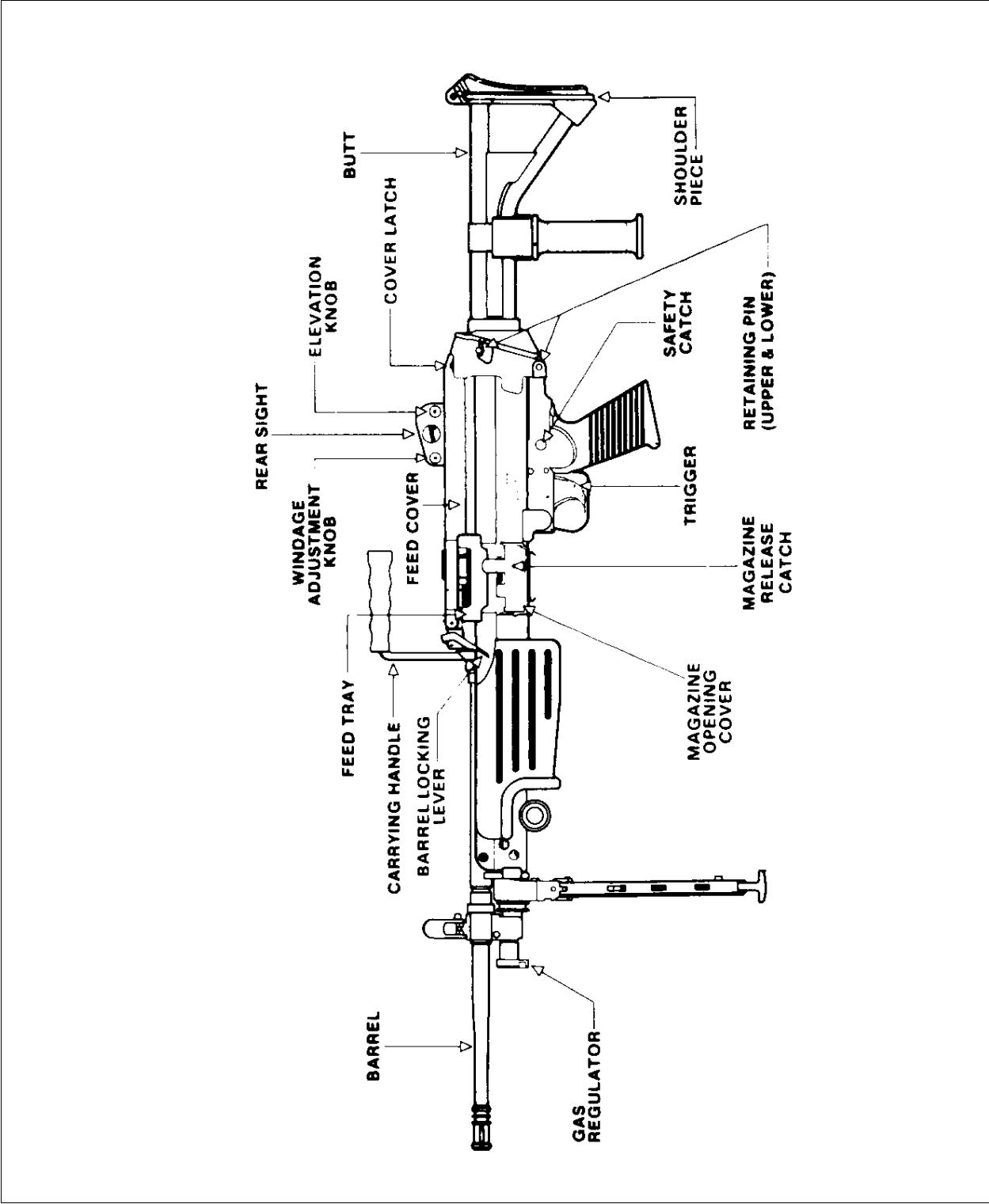


Figure 1-1 (Sheet 2 of 2) The Light Machine Gun

TECHNICAL DATA

5. Technical data are as follows:

- a. Calibre - 5.56 by 45 mm NATO
- b. Weight -
 - LMG - 7.12 kg
 - Barrel - 1.57 kg
 - Loaded (belt box) - 10.28 kg
 - Loaded (magazine) - 7.61 kg
- c. Length -
 - LMG - 1.04 m
 - Barrel - 0.53 m
- d. Muzzle velocity - 920 m/s
- e. Cyclic rates of fire - 700 RPM Normal Gas
1,000 RPM Adverse condition
Setting
- f. Gas regulator - 2 positions
- g. Mode of fire - Automatic only
- h. Operation - Gas operated, air cooled,
belt and magazine fed
- j. Sight adjustment - 200 to 800 m in
100 m increments
- k. Effective range - 600 m

FORMAT

6. The information in Chapters 2 and 3 is presented in lesson plan form. The manual is laid out as follows:

- a. Chapter 1 contains general information about the C9 LMG and the method for teaching its use.
- b. Chapter 2 contains the basic skills and the specific information required by soldiers to operate the gun.
- c. Chapter 3 consists of practice periods designed to further develop the skills and techniques learned in Chapter 2.
- d. Chapter 4 contains information for instructors, such as coaching techniques and zeroing procedure.
- e. Chapter 5 contains the range practices.
- f. Chapter 6 consists of the handling tests and methods of destruction.

PRACTICE PERIODS

7. **General.** All training must be progressive; unnecessary repetition is bad instructional practice. Soldiers learn skills and facts in the basic lessons which should be taught only once during their service. Soldiers then require a lot of practice in order to speed up their actions and establish facts firmly in their minds.
8. The sequence for each stage of a practice period is:
 - a. Remind - by explanation.
 - b. Assess weaknesses - by practice or test.
 - c. Improve on weaknesses - by practice.
 - d. Progressive practice - by competitions.
9. The practice periods in this pamphlet are intended as a guide to exercising soldiers during their training. The instructor should plan the period of an assessment of the soldier's weak points.
10. Faults should be immediately brought to the notice of the soldier and corrected; otherwise the soldier will go on making the same mistakes.
11. If it becomes obvious during a practice period that the soldiers have failed to grasp a particular skill or fact, the instructor will have to teach that part of the basic lesson again.
12. **Competitions.** The incentive of competition will always help to make practice more interesting. The whole of a practice period can be based on competition if the instructor so wishes. Some points on framing competitions are:

- a. They may be on an individual or team basis.
- b. If run on a team basis the instructor must ensure that the teams are selected on the basis of performance. The more advanced members of the team will help the weaker members.
- c. Marks can be awarded up to a given total, or a total started with, and marks deducted for, mistakes as the competition progresses. It is left to the discretion of the instructor whether to use a scoring system.
- d. A chart drawn on a chalkboard or a sheet of paper, on which to mark up results, should always be used.
- e. Further interest can always be attained by making one team or individual watch another, criticizing and awarding or deducting marks.
- f. Above all the instructor must make certain that competitions are simple and realistic, ie, that they exercise the soldiers in the facts and skills concerning their training.

13. **Master and Pupil.** The master and pupil method of practice in its simplest form is for one man (the pupil) to work under the supervision of another (the master); the instructor keeps an eye on both.

14. At all stages of training this method stimulates interest, keenness, and attention to detail. It is particularly useful with large classes and in competitions. Used regularly, it also develops initiative and leadership. Potential leaders can often be spotted by watching the masters at work.

CLASSROOM DRILLS

15. Prior to the commencement of all lessons, number the class in groups of two and assign each group to an LMG. Normally, only one person at a time works on the gun. That person will be designated by number, eg, NO. 1 OUT. When a change is desired, the instructor will order NO. 2 OUT... CHANGE, etc.

Figure 1-2 Classroom Layout

FEED ROLLER PRECAUTION

16. Whenever the top cover is raised, it is important that prior to closing it the action is cocked. After closing the cover the trigger must be squeezed and the action allowed to go forward under control. This ensures that the feed roller on the bolt is positioned correctly in the feed arm and is not left under compression.

CHAPTER 2

LESSON PLANS - OPERATION AND EMPLOYMENT

LESSON 1 - INTRODUCTION

INSTRUCTOR'S NOTES

1. **Aim.** To teach the theory of machine-gun fire.
2. **Timing.** One 40-minute period.
3. **Method.** A basic instructional period.
4. **Stores**
 - a. LMG 1
 - b. Dummy rounds 20
 - c. Table 1
 - d. Overhead projector and screen 1
 - e. Overhead projectuals (OHPs) (as listed in paragraph 5)
5. **Preparation.** The following OHPs should be available:
 - a. Theory of Small Arms Fire;
 - b. Cone of Fire;
 - c. Mean Point of Impact;
 - d. Beaten Zone;
 - e. Distribution of Shots in the Beaten Zone;
 - f. Dangerous Zone;
 - g. Effects of Ground on the Beaten Zone;
 - h. Defiladed Zone; and
 - j. Enfiladed Zone.

CONDUCT OF THE LESSON

6. **Preliminaries.** Inspect the display gun and dummy rounds.
7. **Review.** Review the following terms from the Theory of Small Arms Fire (see Figure 2-1):
 - a. trajectory,
 - b. point of aim,
 - c. point of impact,
 - d. culminating point, and
 - e. angle of descent.
8. **Introduction.** Explain that the Light Machine-Gun is the main fire support of the infantry section. It is employed in each of two teams in a section. For the machine-gunner to employ his weapon effectively he must understand the Theory of Machine-Gun Fire and the capabilities and limitations of his LMG.
9. **Theory of Machine-Gun Fire.** The following terms are used to explain the action which occurs when a machine-gun is fired in bursts:
 - a. **Cone of Fire.** When a burst is fired, the vibration of the gun, as well as variations in ammunition and atmospheric conditions, give each bullet a slightly different trajectory. As the burst strikes a vertical target, the shots form an elongated oval-shaped pattern with the density decreasing toward the edges (see Figure 2-2).
 - b. **Mean Point of Impact (MPI).** The MPI is the average point of impact according to the density of the cone of fire (see Figure 2-3).
 - c. **Dangerous Space.** The dangerous space is the area between the point where a bullet will just strike the top of a target (first catch) and the point where the same bullet would strike the ground if it were allowed to continue on its trajectory (first graze) (see Figure 2-6).
 - d. **Beaten Zone.** The beaten zone is the area of ground covered by the cone of fire. It is oval in shape and its density decreases outwards. In Figure 2-4 the shape of the beaten zone of the LMG and its dimensions at several ranges is shown. Figure 2-5 shows the distribution of shots within the beaten zone.
 - e. **Dangerous Zone.** The dangerous zone is the area covered by the dangerous space and the beaten zone. For fire to be effective, the target must be included in the dangerous zone (see Figure 2-6).

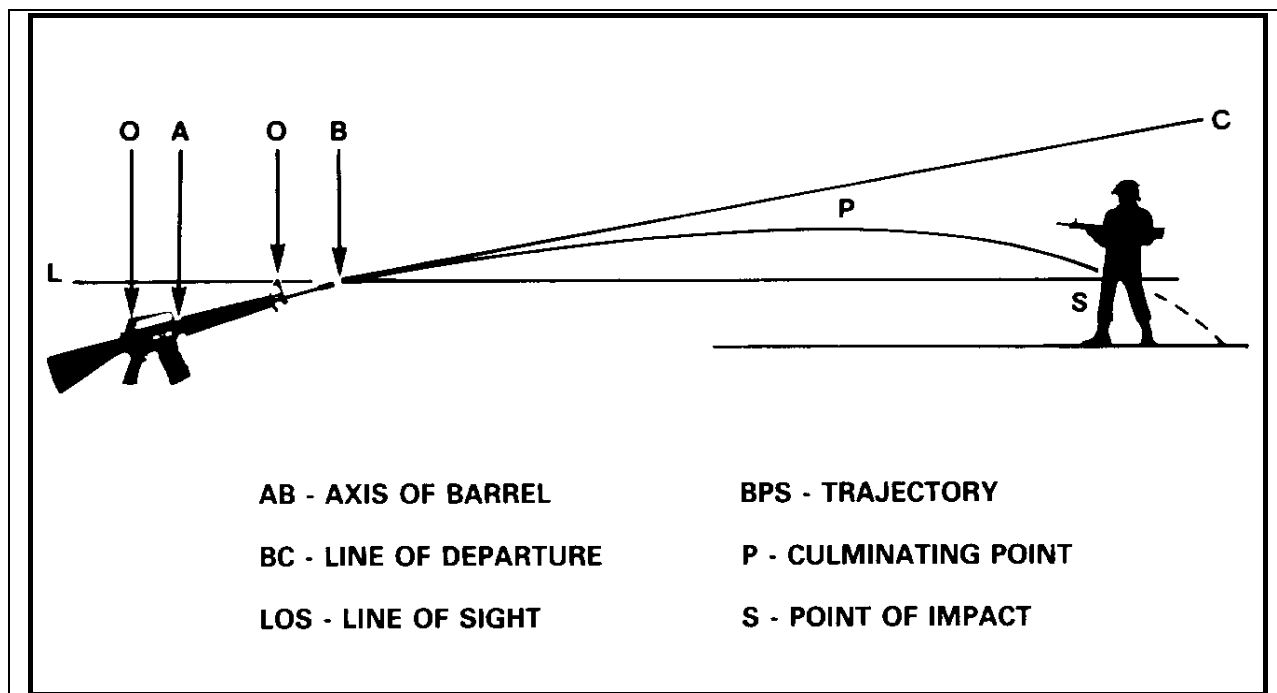


Figure 2-1 Theory of Small Arms Fire

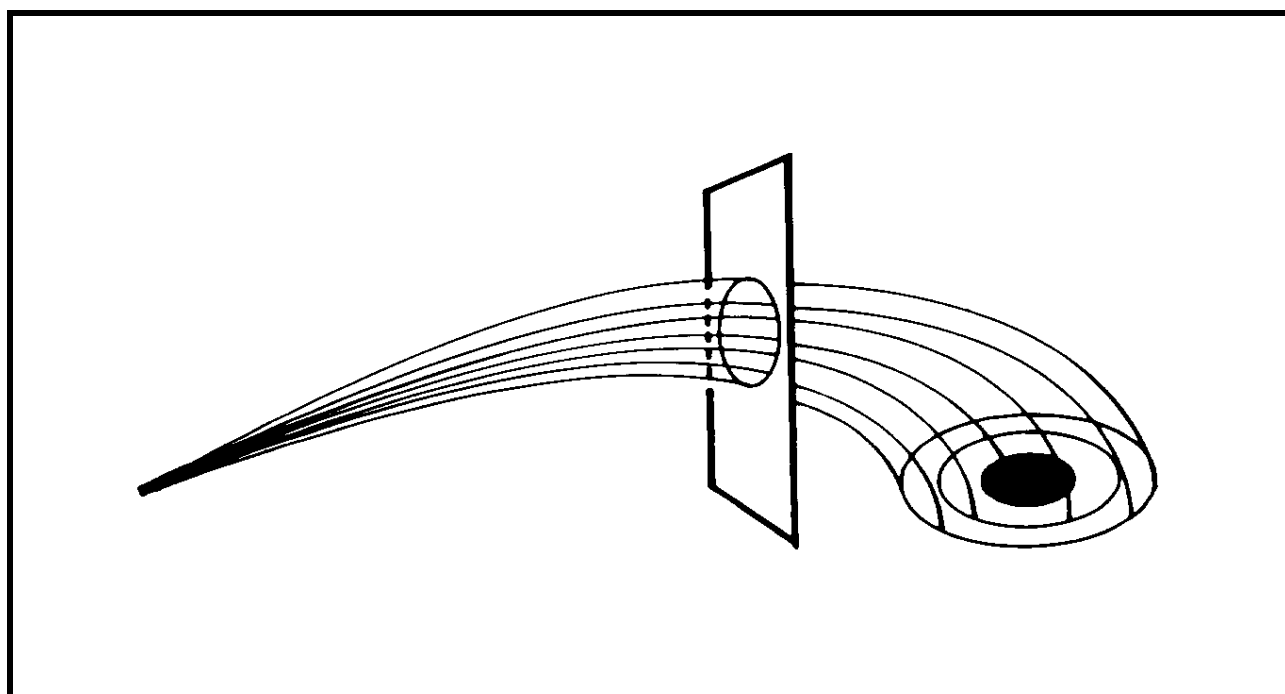


Figure 2-2 Cone of Fire

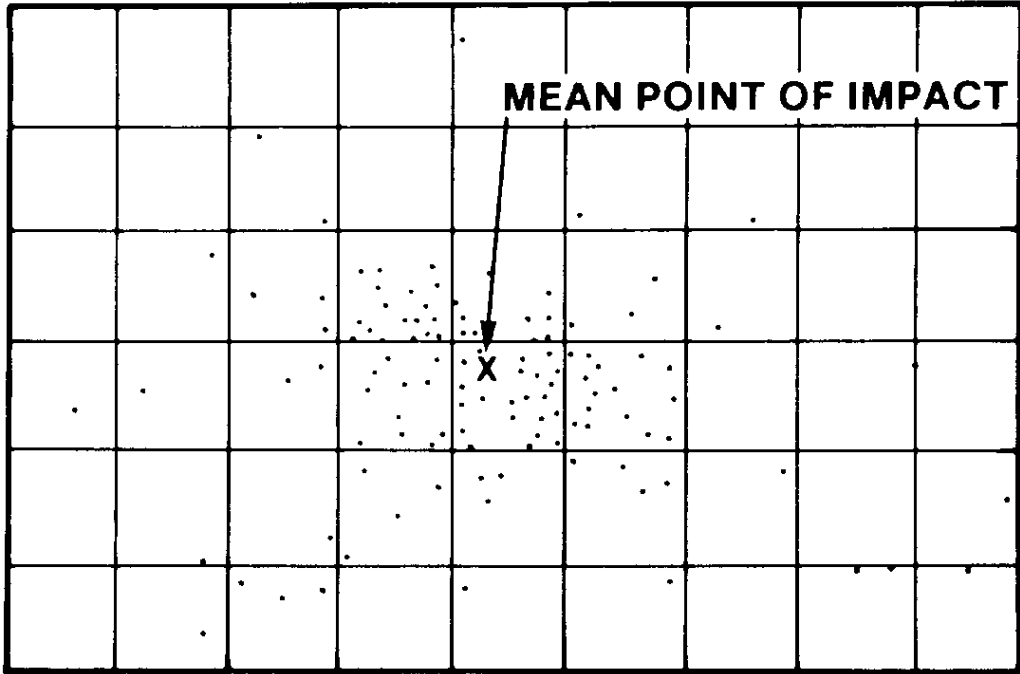


Figure 2-3 Mean Point of Impact

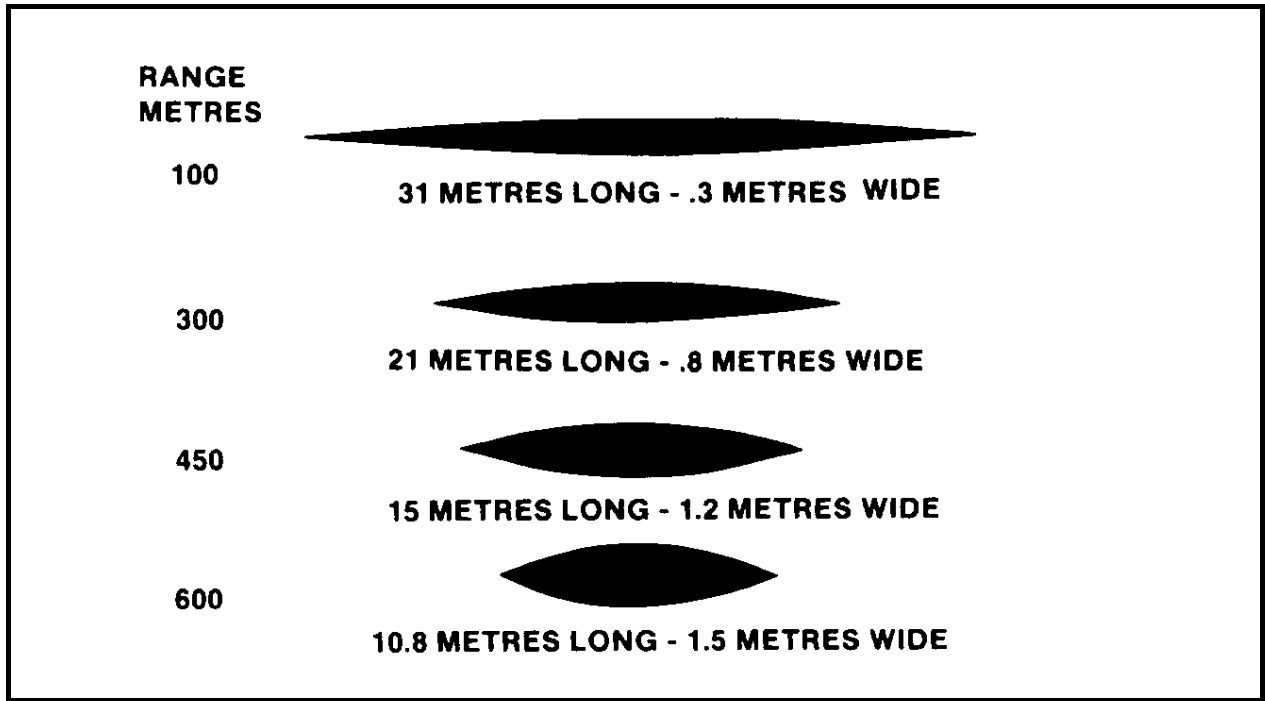


Figure 2-4 Beaten Zone

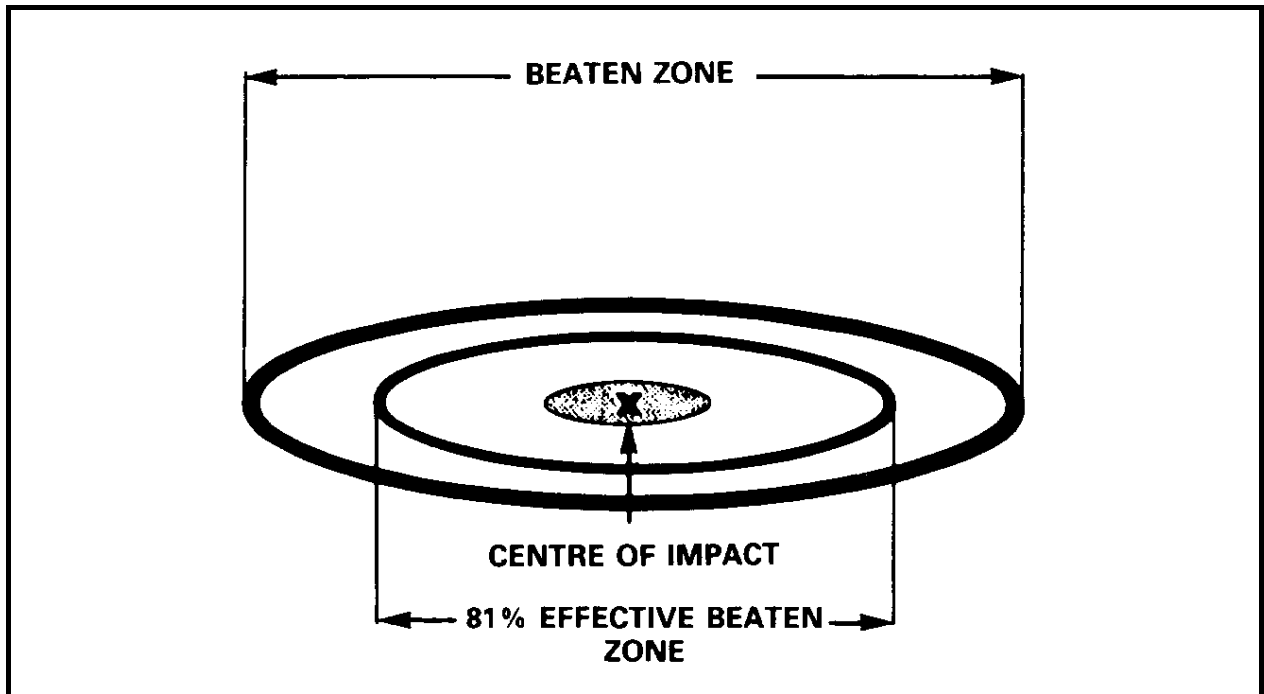


Figure 2-5 Distribution of Shots in the Beaten Zone

10. Confirm by Questions.

11. **Effects of Ground.** The configuration of the ground affects the size of the beaten zone as follows:

- a. **Steep Hillside.** On a steep hillside the beaten zone is the same as the cone of fire and therefore at a minimum (see Figure 2-7).
- b. **Gentle Slope.** On a gentle slope the beaten zone is slightly larger than on a steep hillside.
- c. **Level Ground.** On level ground the beaten zone is larger than on a gentle slope.
- d. **Reverse Slope.** The greatest area swept by bullets is one where the fall of the ground conforms to the trajectory of the bullet. This occurs when the beaten zone falls on a reverse slope.

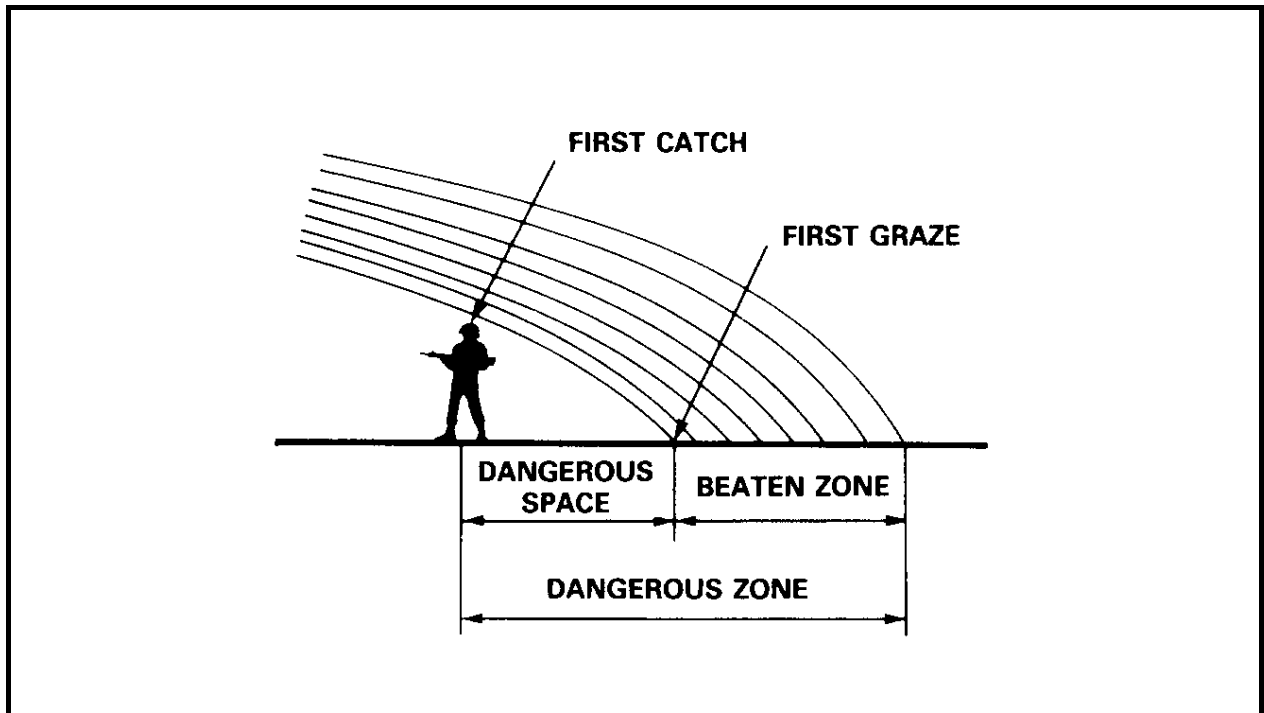


Figure 2-6 Dangerous Zone

- e. **Defiladed Zone.** The defiladed zone is the area of ground which would be included in the beaten zone were it not for an obstruction stopping a portion of the lower bullets of the cone of fire (see Figure 2-8).
- f. **Enfiladed Zone.** The enfiladed zone is an area of ground in which a group of targets in line are included in the longitudinal axis of the beaten zone (see Figure 2-9).

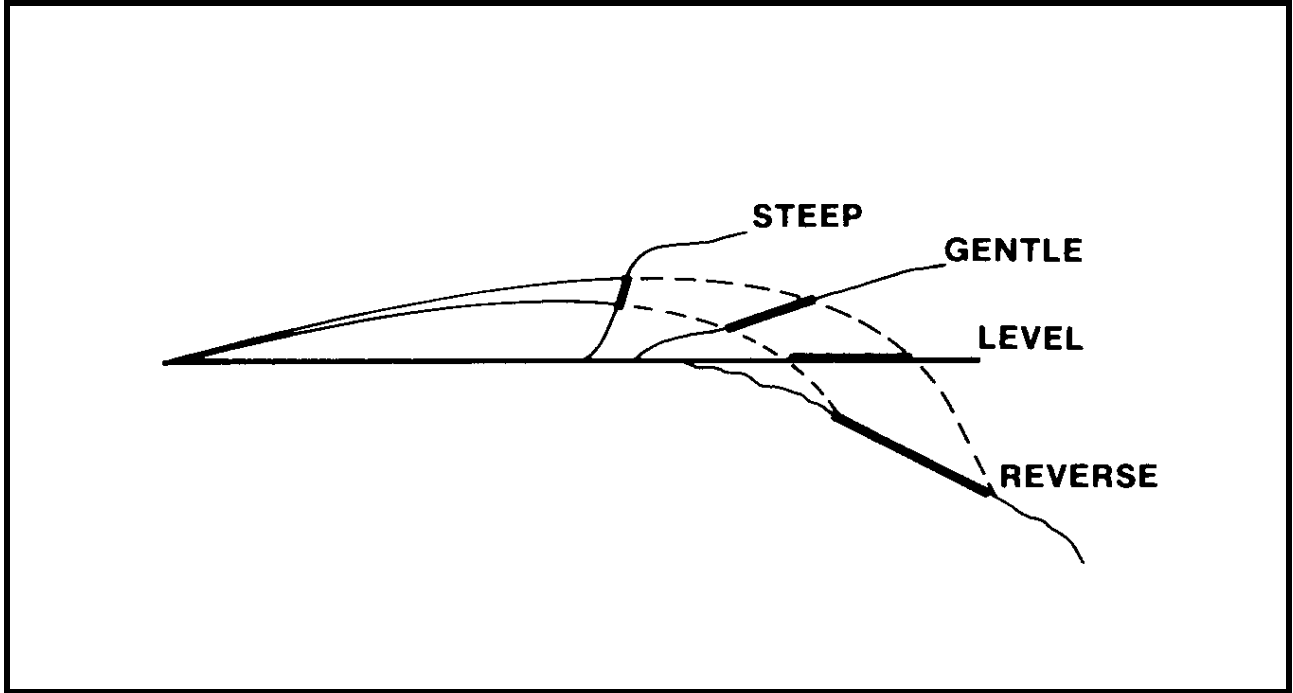


Figure 2-7 Effect of Ground on the Beaten Zone

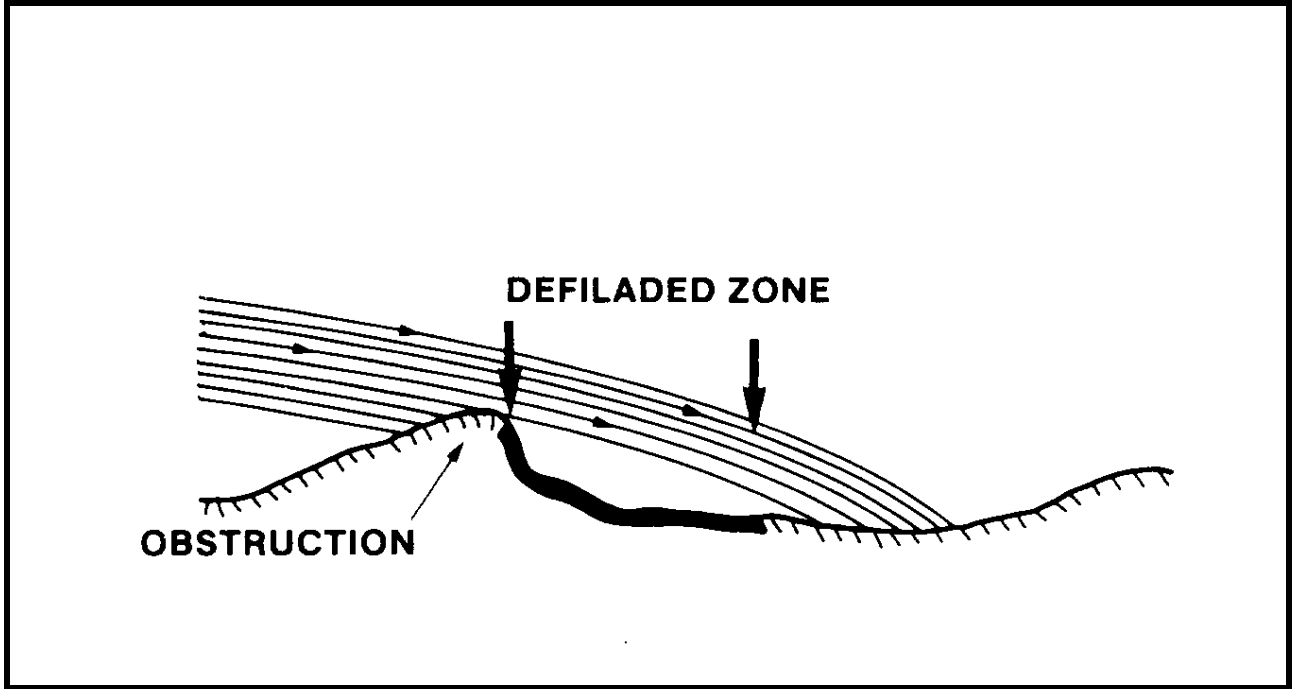


Figure 2-8 Defiladed Zone

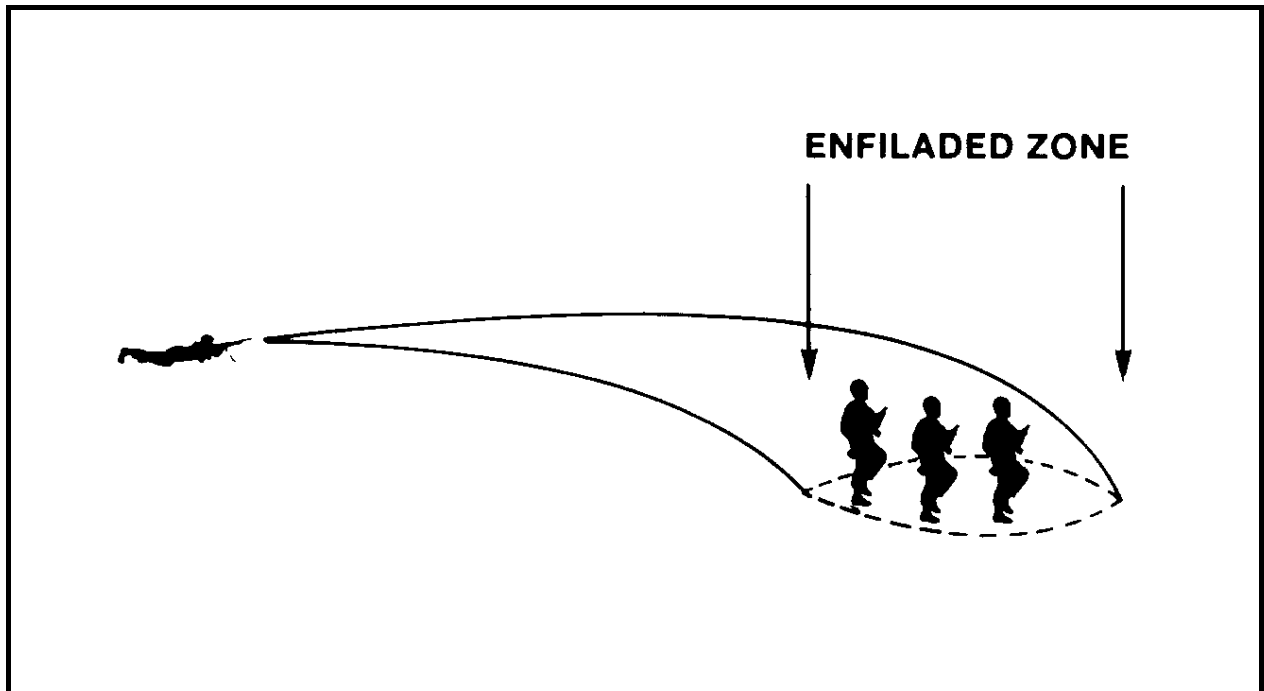


Figure 2-9 Enfiladed Zone

12. **Confirm by Questions.**

13. **Conclusion**

- a. Take questions from the class on the entire lesson.
- b. Confirm by questions.
- c. Pack kit.
- d. **Summary.** Include the following:
 - (1) The importance of combining knowledge of the gun's capabilities with common sense to overcome the limitations of the gun; and
 - (2) a forecast of the next lesson in this subject.

LESSON 2 - WEAPON DESCRIPTION, SAFETY PRECAUTIONS, STRIPPING AND ASSEMBLING

INSTRUCTOR'S NOTES

14. **Aim.** To teach weapon description, safety precautions, and how to strip and assemble the C9 LMG.

15. **Timing.** Two 40-minute periods.

16. **Method.** A basic instructional period.

17. **Stores**

- | | | |
|----|----------------------|----------------------|
| a. | LMG | 1 per two soldiers |
| b. | Feed box | 1 per gun |
| c. | Section Cleaning Kit | 1 per two guns |
| d. | Dummy rounds, belted | 20 per gun (minimum) |
| e. | Dummy rounds, loose | 1 per gun |
| f. | Tables | 1 per gun |

18. **Preparation**

- a. Position a gun on each table.
- b. Carry out the following actions on the guns to be used:
 - (1) check that the gas regulators rotate freely; and
 - (2) check that the bolt retaining pins are easy to remove.

19. **Miscellaneous**

- a. Number the class in groups of two and allocate one group per gun prior to normal safety precautions.
- b. Use the initial order for the commencement of each practice stage, ie, NORMAL SAFETY PRECAUTIONS - NO. 1's OUT and thereafter call out CHANGE. Explain this system of control prior to the first practice stage.
- c. Place one dummy round by each gun after normal safety precautions.

- d. Emphasize the drill for checking for an obstruction in the barrel during barrel assembly. Check that serial numbers on the barrel and the receiver match.
- e. Ensure that as parts are stripped they are put in a clean place.
- f. When handling the various parts, the instructor is to name them and their purpose. However, at this stage, the soldier is not expected to memorize all the names.
- g. Emphasize that stripping and assembling should be carried out with reasonable care and never practiced against time.

CONDUCT OF THE LESSON

- 20. **Safety Precautions.** Inspect all guns, belts, dummy rounds, and pouches.
- 21. **Review.** Nil.
- 22. **Introduction.** A thorough knowledge of the gun, its associated parts, and safety procedures is essential. There are two degrees to which an LMG can be stripped - field strip and detailed strip.
- 23. **Characteristics.** Explain and demonstrate.
 - a. The 5.56 mm C9 LMG is a belt and magazine fed, gas operated weapon, capable of a sustained high volume of fire in bursts. It is simple in construction and easy to operate. Stoppages are rare and can be quickly and easily remedied.
 - b. The weapon is air cooled.
 - c. The barrel is chromed internally to reduce wear.
 - d. The belts are of disintegrating links, factory filled, packed in 200-round belt boxes belted one tracer and four ball.
 - e. The maximum effective range is 600 m.
 - f. The gun weighs 7.61 kg with a loaded magazine and 10.28 kg with a full belt box.
 - g. The bipod legs can be folded and locked.
 - h. The trigger guard can be removed to allow the trigger to be operated with arctic gloves.
 - j. Safety devices include -

- (1) a manual safety,
- (2) operating safety with open breech (risk of cook-off is eliminated),
- (3) bolt face enclosing the base of the cartridge, and
- (4) the firing pin's inability to reach the primer until the bolt is fully locked.

24. **Confirm by questions.**

25. **Safety Precautions.** Explain and demonstrate.

a. On the order FOR INSPECTION, CLEAR WEAPON -

- (1) open the feed cover by pushing in the cover latches,
- (2) cock the action by grasping the cocking handle in an overhand grip, pulling it fully to the rear,
- (3) lift the feed tray, and
- (4) inspect the chamber, receiver and magazine housing to ensure they are clear.

b. On the order CLEAR -

- (1) lower the feed tray and close the feed cover,
- (2) pull the cocking handle to the rear, squeeze the trigger and allow the working parts to go forward under control, and
- (3) close the ejection opening cover.

c. These actions will be carried out -

- (1) before and after instruction,
- (2) before stripping,
- (3) during issue and return to stores,
- (4) before and after range practices, and
- (5) when in doubt.

26. **Confirm by Practice.**

27. **Field Stripping.** Explain and demonstrate:

a. **C79 Optical Sight and Recoil Mechanism**

- (1) Carry out safety precautions. Pull the upper retaining pin to the left, and pivot the butt down under control (see Figure 2-10).
- (2) While holding the LMG, simultaneously push forward and upward on the return spring rod assembly to free it from the receiver grooves (see Figure 2-11).
- (3) Withdraw the return spring rod assembly from the LMG and separate the return spring from the rod.
- (4) Open the feed cover and pull the cocking handle to the rear.
- (5) Slide the moving parts out of the LMG (see Figure 2-12). Push the cocking handle fully forward. Rotate the bolt to disengage the lug and separate it from the bolt carrier. When the bolt is removed, the firing pin spring is crimped. **DO NOT REMOVE IT** (see Figure 2-13). Separate the bolt carrier from the piston by pressing the retaining pin to the left (see Figure 2-14).

b. **The Barrel**

- (1) Pull the barrel locking lever backward with the left hand.
- (2) Grasp the carrying handle with the right hand and lift the barrel forward out of the receiver (see Figure 2-15).

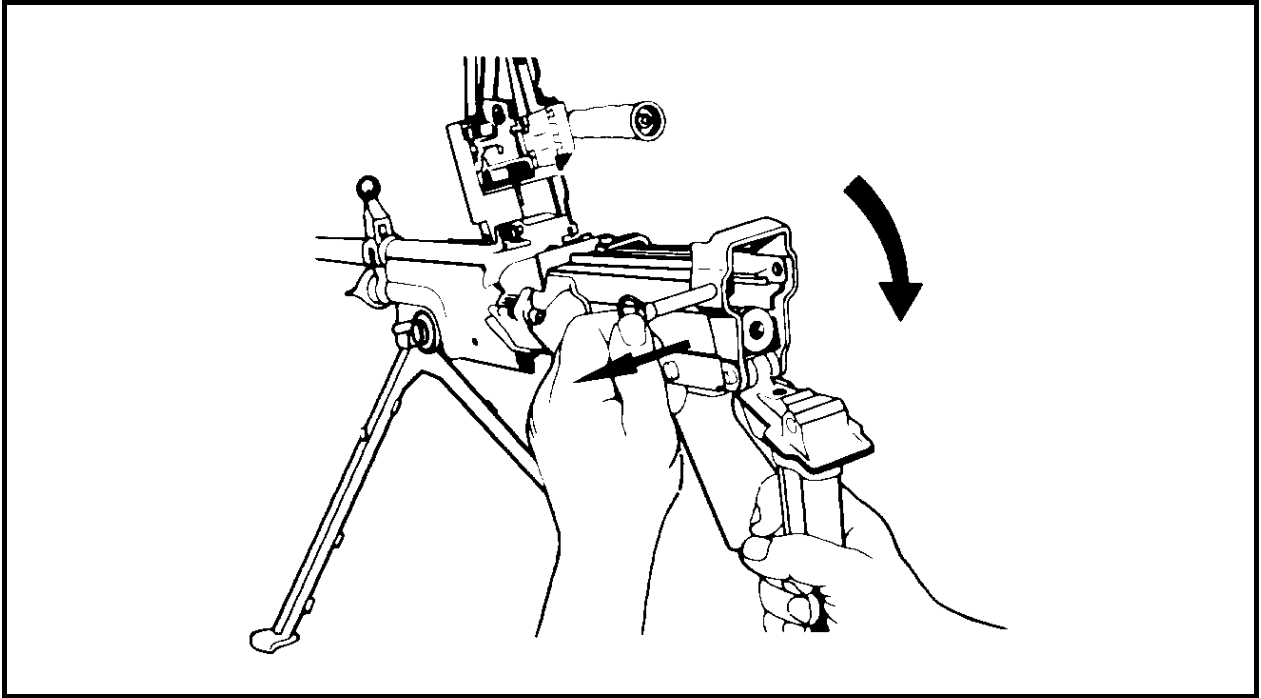


Figure 2-10 Butt Pivot

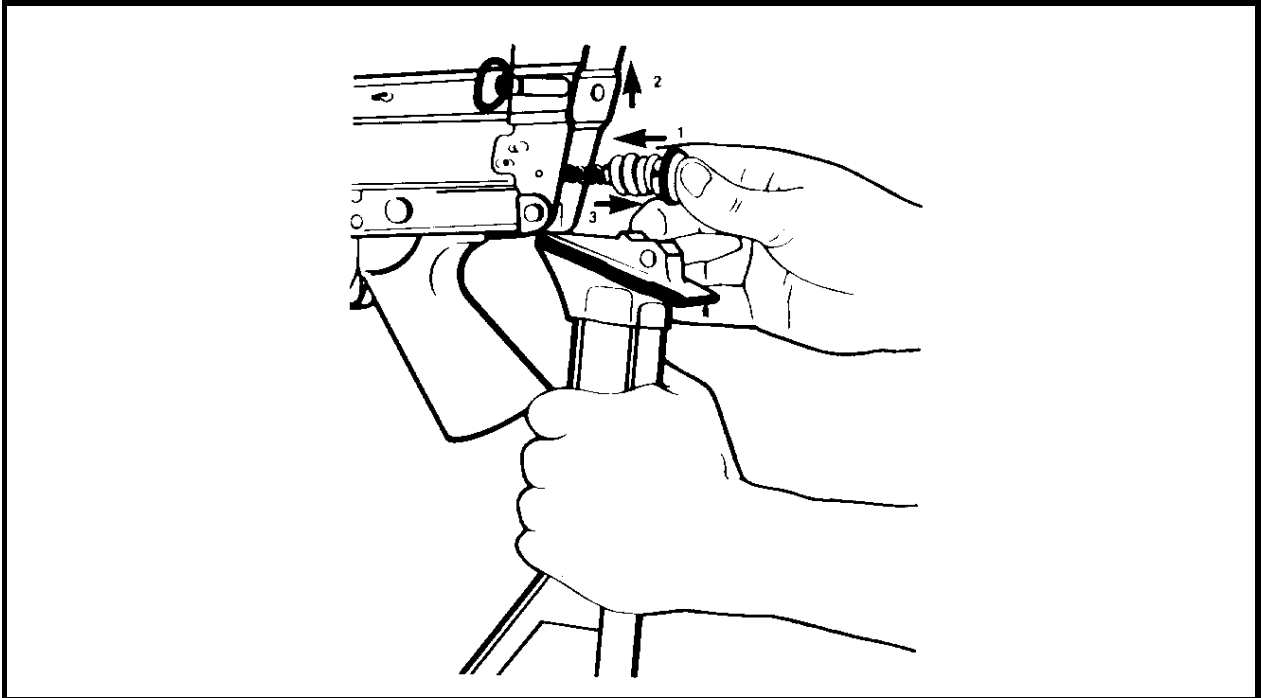


Figure 2-11 Freeing Return Spring Rod Assembly

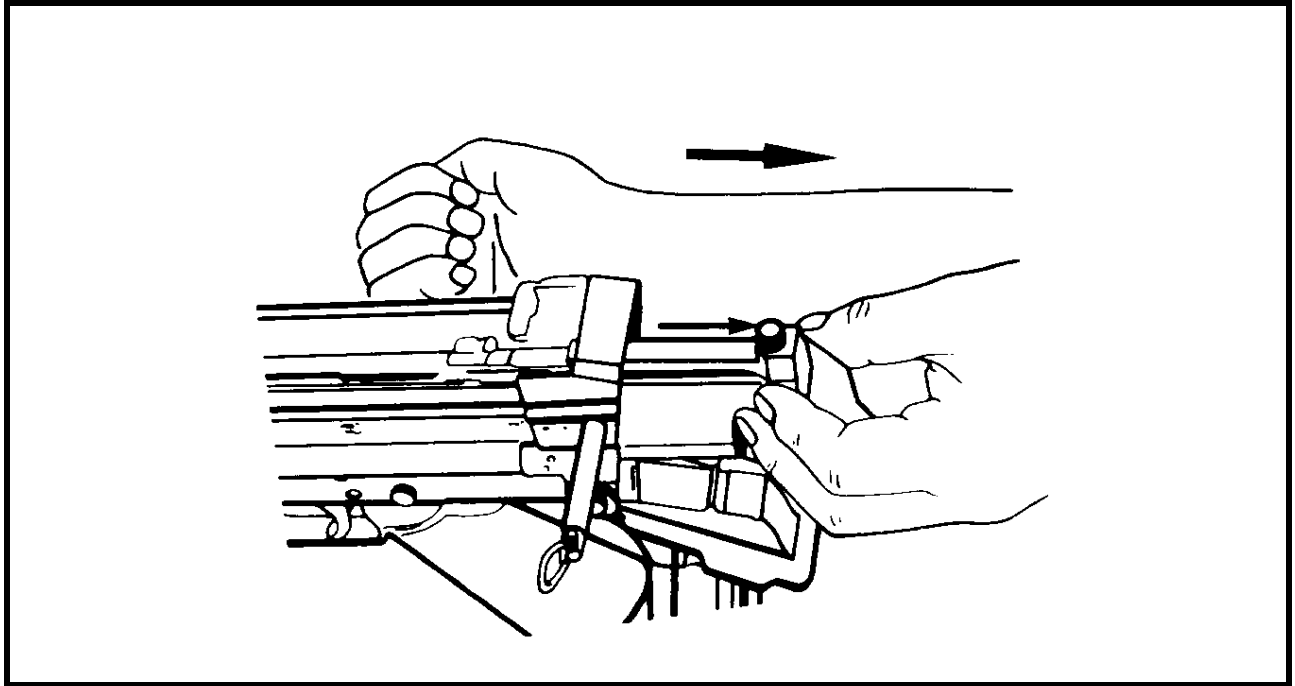


Figure 2-12 Moving Parts Removal

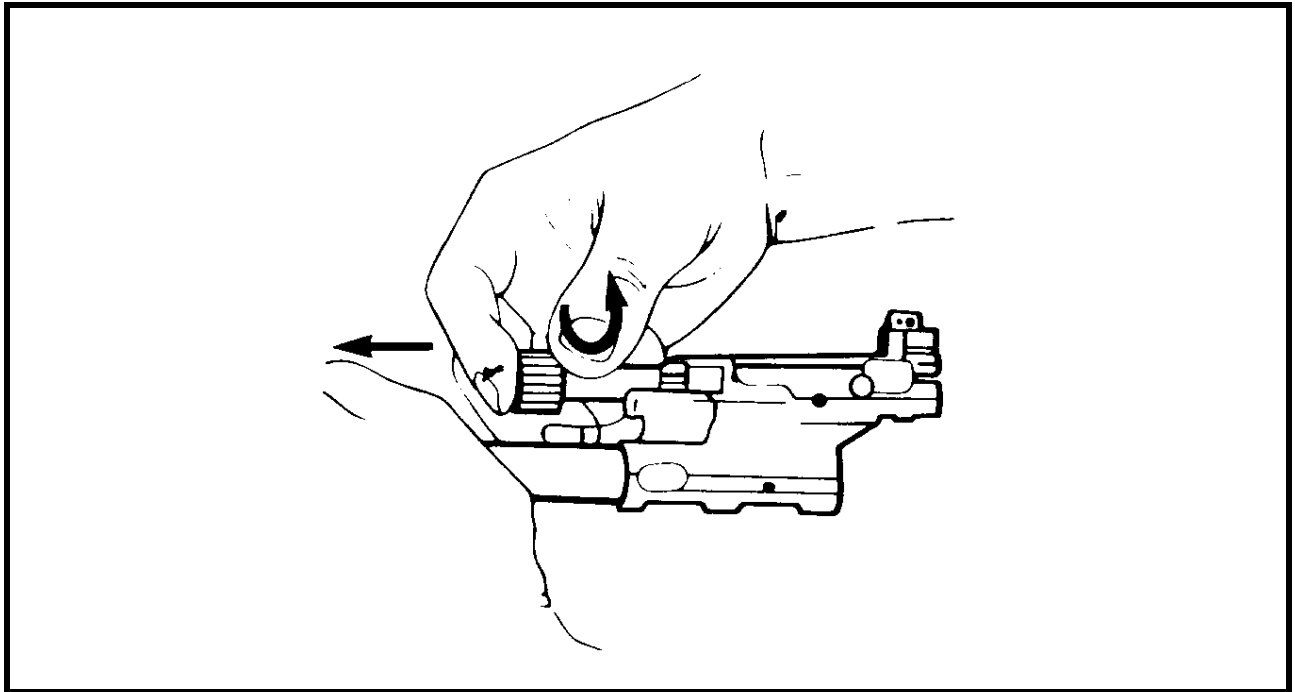


Figure 2-13 Bolt Removal

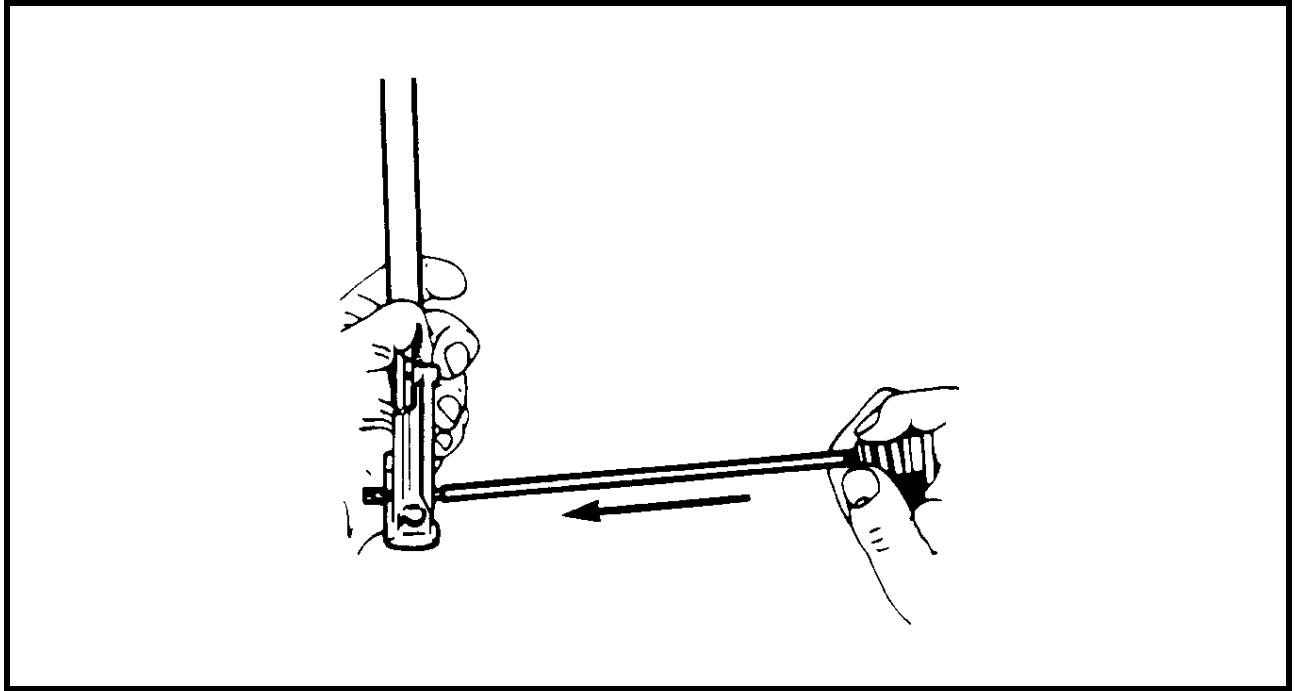


Figure 2-14 Retaining Pin Release

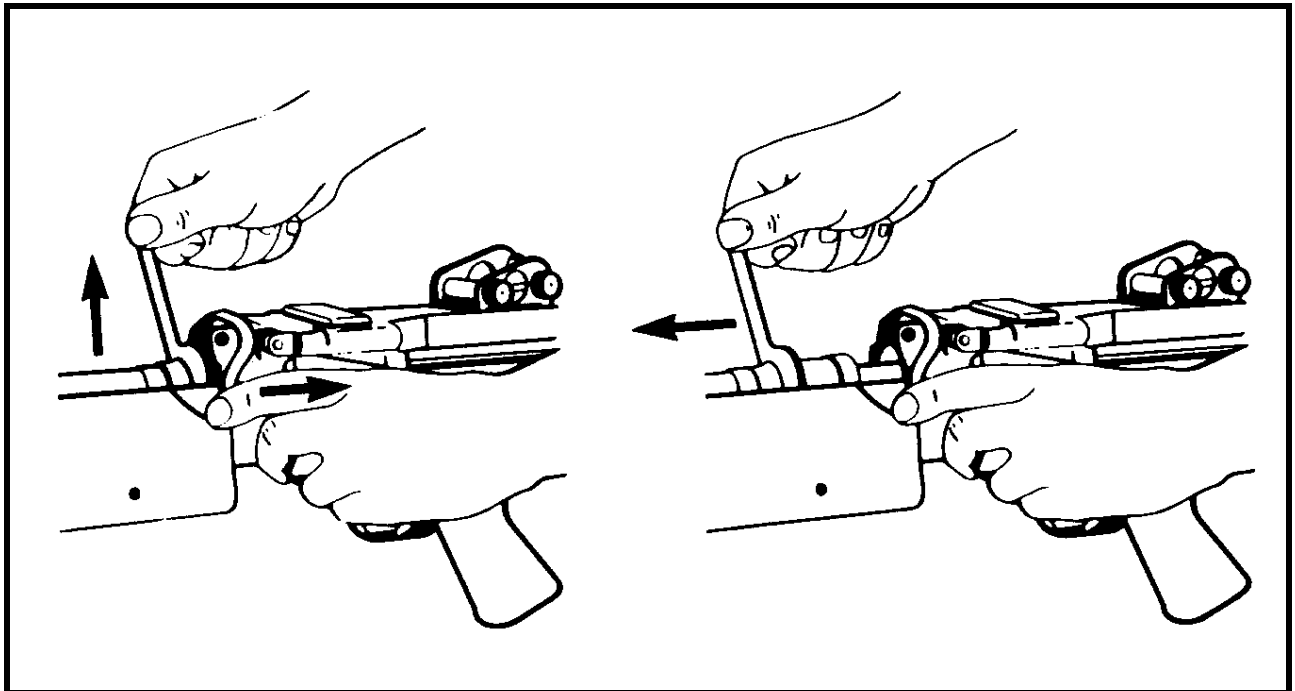


Figure 2-15 Barrel removal

- c. **The Gas Regulator**
 - (1) Position the gas regulator between NORMAL and ADVERSE.
 - (2) Place the tip of the return spring rod in the notch in the top of the gas block (NORMAL position of the lever) and turn the regulator beyond NORMAL under control until the gas regulator lever can be removed from the gas block.
 - (3) Withdraw the gas plug from the gas block (see Figure 2-16).
 - d. **The Handguard.** Push the retaining pin to the left using the return spring rod and pull the handguard to the rear and down (see Figure 2-17).
28. **Field Assembling.** To re-assemble, reverse this order. Before assembling the barrel, ensure that there is no obstruction in it and that the serial numbers match the receiver.
29. **Function Test.** Explain and demonstrate.
- a. After assembling, always test the LMG for correct assembly. Cock the LMG and place the safety catch at SAFE.
 - b. Squeeze the trigger to confirm the action is held to the rear.
 - c. Place the safety catch at FIRE. Pull the cocking handle to the rear. Squeeze the trigger, allowing the action to go forward under control. Close the ejection opening cover.
30. **Confirm by Practice.** Leave the gun field stripped.

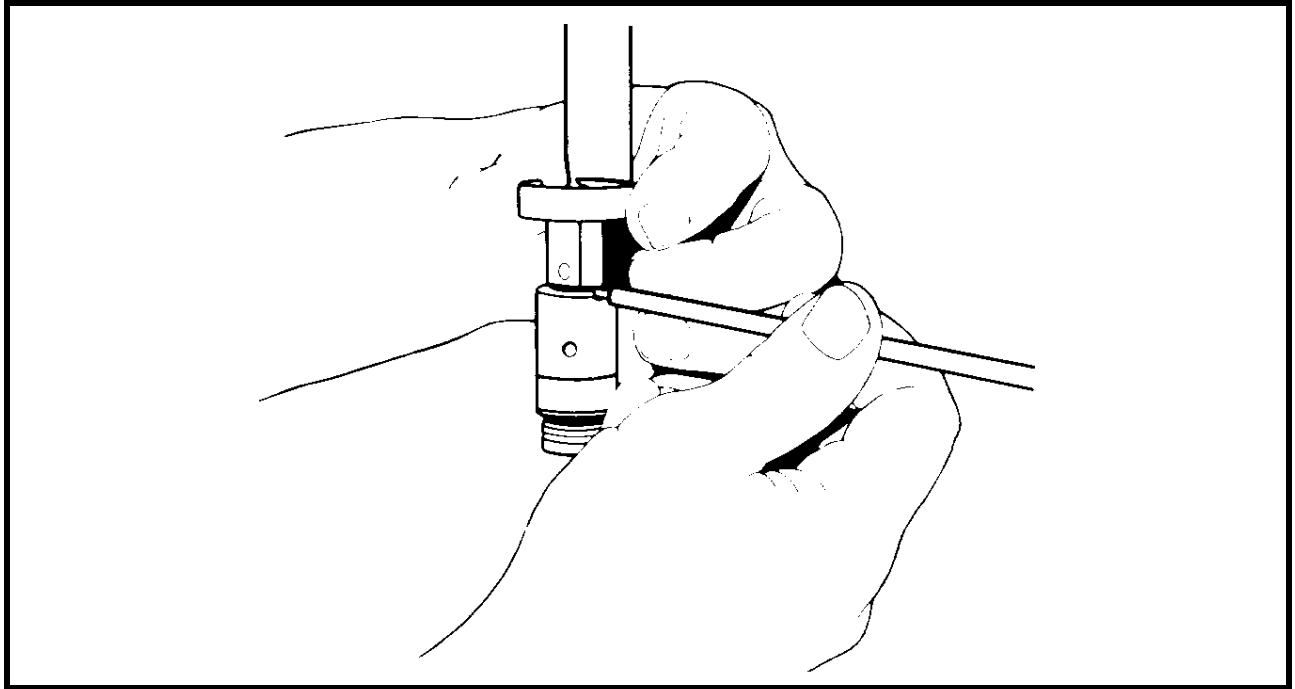


Figure 2-16 Gas Regulator Removal

31. **Detailed Stripping.** Explain that this degree of stripping is conducted for weekly cleaning and firing. It is a step beyond field stripping. Remove the sling and the optical sight prior to further stripping. Explain and demonstrate.

a. **The Piston Cylinder**

- (1) Rotate the cylinder to release the locking spring located at the rear of the cylinder.
- (2) Pull the cylinder forward out of the receiver.

b. **The Bipod.** Pull forward to remove.

c. **The Butt**

- (1) Push the lower retaining pin to the left and withdraw the butt rearward from the receiver.

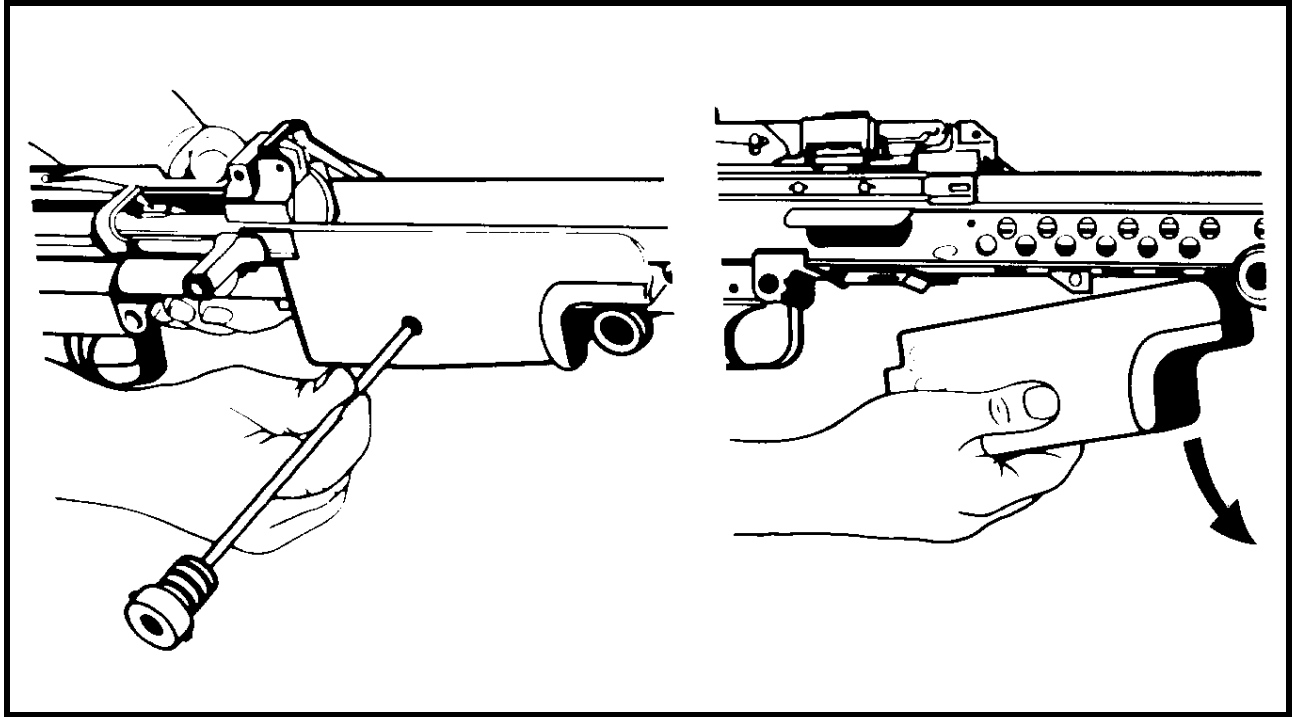


Figure 2-17 Handguard Removal

- (2) Remove the butt from the body.
- d. **The Trigger Group.** Pull the trigger group assembly to the rear and off the receiver.

CAUTION

No further stripping will be done by the gunner.

- 32. **Assembling.** Re-assemble in the reverse order. Ensure the trigger group is re-assembled on the LMG receiver before the bolt and piston cylinder are placed back on the LMG.
- 33. Function Test LMG.
- 34. **Confirm by Practice.**
- 35. **LMG Sling**
 - a. The LMG is fitted with an adjustable sling. It is assembled on issue; however, it may be necessary to strip it to clean or make adjustments.
 - b. Refer to Figure 2-18 for details.

36. **Conclusion**

- a. Take questions from the class on the entire lesson.
- b. Confirm by question and practice.
- c. Normal safety precautions.
- d. Pack kit.
- e. Summary. Include the following:
 - (1) the importance of always carrying out safety precautions prior to stripping the gun; and
 - (2) a forecast of the next lesson in this subject.

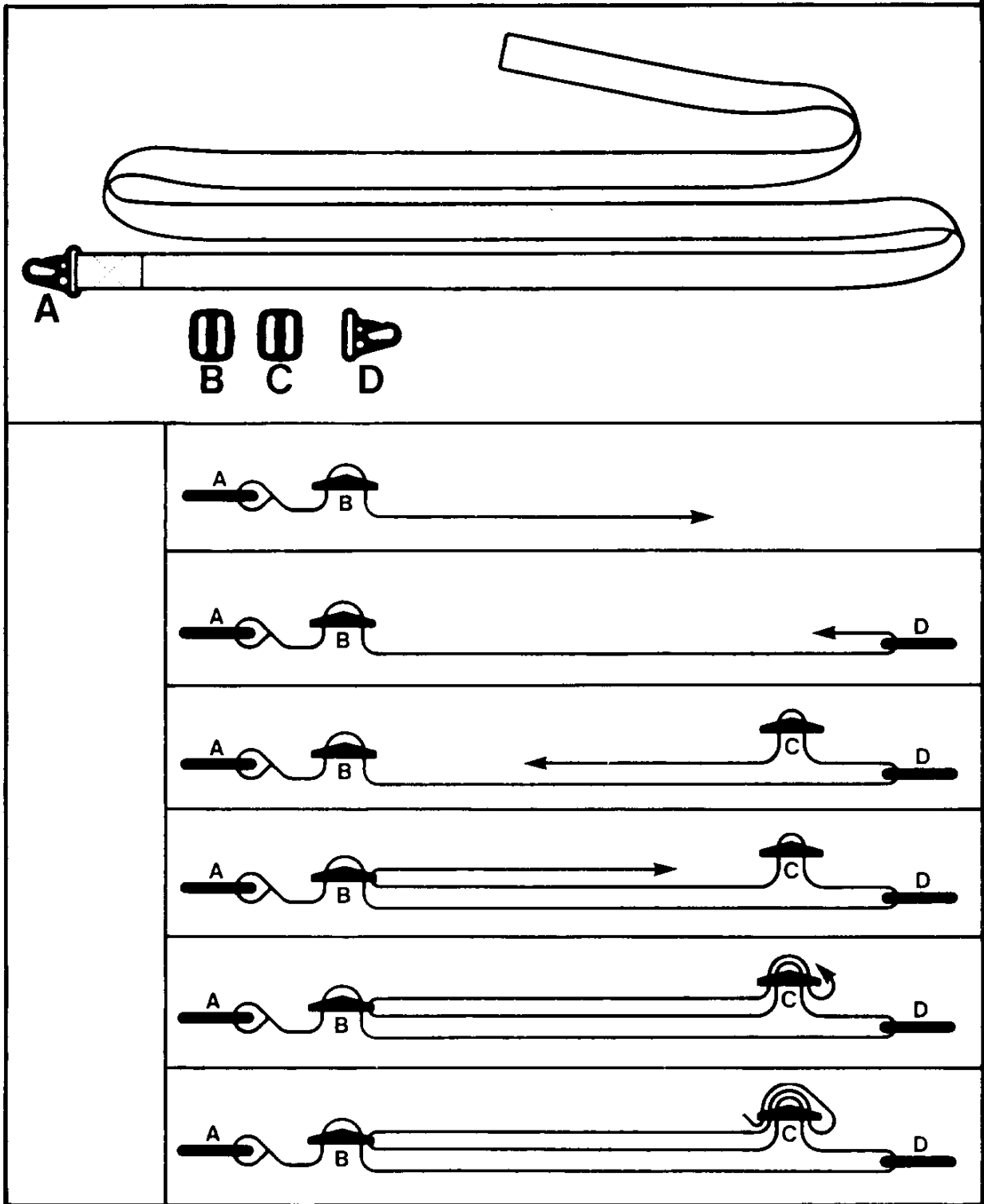


Figure 2-18 Sling Assembly

LESSON 3 - CARE AND CLEANING

INSTRUCTOR'S NOTES

37. **Aim.** To teach how to clean the gun under normal and adverse conditions.
38. **Timing.** Two 40-minute periods.
39. **Method.** A basic instructional period.
40. **Stores**
- | | | |
|----|--|--------------------|
| a. | LMG | 1 per two soldiers |
| b. | Section Cleaning Kit | 1 per gun |
| c. | Dummy rounds, loose | 1 per gun |
| d. | Table | 1 per gun |
| e. | Flannelettes | 5 per gun |
| f. | Cleaner, Lubricant, Preservative (CLP) | |
| g. | Cleaning rags | |
41. **Preparation**
- a. Check contents of each cleaning kit.
 - b. Lay out one gun, flannelette, and dummy round on each table.
 - c. Carry out the following actions on the gun selected for demonstration -
 - (1) Check that the gas regulator rotates freely.
 - (2) Check that the trigger group locking pins and bolt retaining pin are easy to remove.
42. **Miscellaneous.** Guns should be stripped down ready for the next stage of the lesson. When teaching cleaning in adverse conditions, relate to the soldier's knowledge of the C7 rifle whenever possible.

CONDUCT OF THE LESSON

43. **Safety Precautions.** Normal.

44. **Review.** Review stripping and assembling. Leave guns stripped.
45. **Introduction.** The LMG is a very reliable weapon under extreme conditions of heat, cold, rain, and sand. Soldiers must know how to maintain the weapon under all conditions.
46. **Cleaning Materials.** Explain and demonstrate, including removal and fitting into the handguard (see Figure 2-19).
- a. Fitted in the handguard are the following items:
 - (1) cleaning rod - three piece,
 - (2) swab-holder,
 - (3) two barrel brushes, (one bristle, one wire), and
 - (4) scraper tool.
 - b. The section cleaning kit contains the following:
 - (1) cleaning rod - four piece,
 - (2) chamber brush,
 - (3) barrel brush (2),
 - (4) swab holder,
 - (5) pipe cleaners,
 - (6) 4-oz container of CLIP,
 - (7) bolt key brush,
 - (8) foresight adjusting tool (C-9),
 - (9) foresight adjusting tool (C-7), and
 - (10) Allen key (C-9).

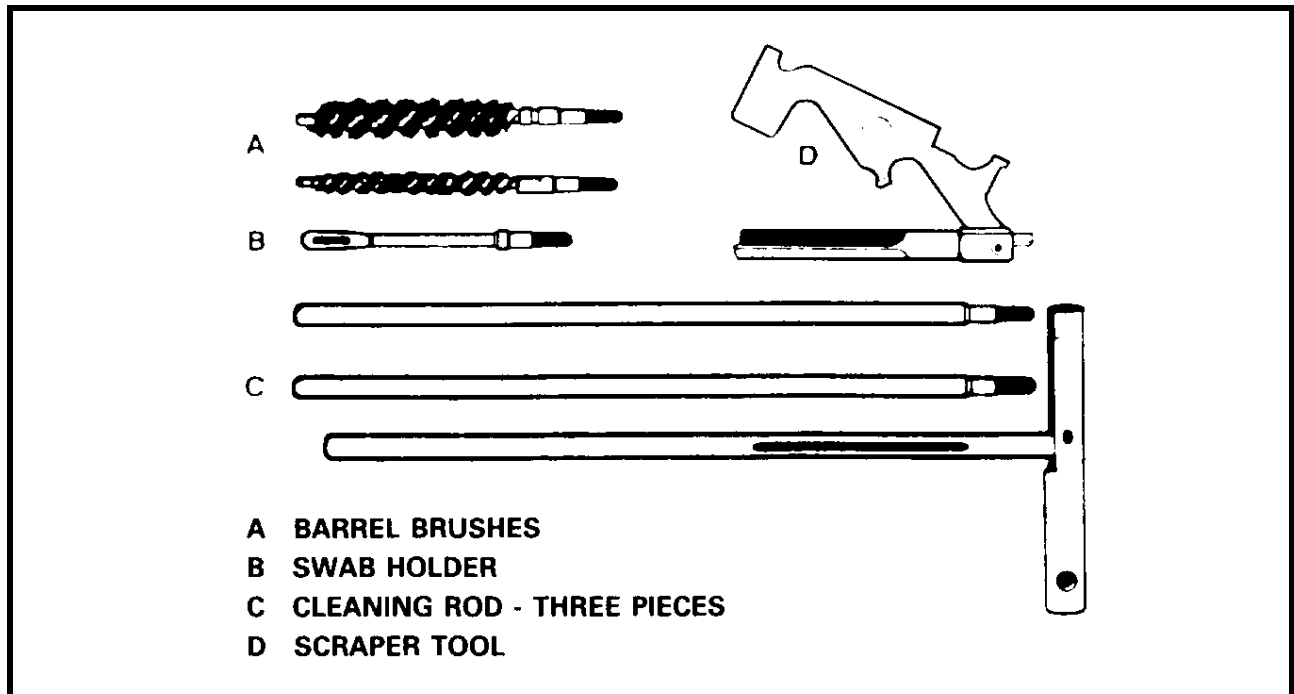


Figure 2-19 Cleaning Kit

47. **The Scraper Tool.** Explain that the scraper tool is used to remove fouling from the weapon after firing. Its use will be taught in Lesson 9, Preparation for Firing, Care and Cleaning After Firing.

48. **Confirm by Practice.**

49. **Regular Cleaning.** Explain and demonstrate:

- a. Clean the chamber using the chamber cleaning brush from the section cleaning kit in conjunction with the cleaning rod.
- b. If necessary, use the barrel brush to clean the barrel. Use the same procedure as the rifle C-7.
- c. Using the swab holder, fitted with a 25 mm by 25 mm swab, pull the swab through the barrel from the chamber end. Inspect both the barrel and chamber and ensure that they are clean.
- d. Lubricate the barrel using a swab 25 mm by 25 mm.
- e. Clean and lubricate the flash suppressor.

- f. Clean the gas cylinder using the rod and chamber brush with a piece of clean rag approximately 100 mm by 150 mm wrapped around it. Inspect and lubricate using a piece of rag 100 mm by 100 mm inserted in the swab holder.
- g. Clean the rest of the gun with a brush and CLP.
- h. Assemble the gun and carry out the function test,
- j. Clean, check, and repack all cleaning tools.

50. **Cleaner, Lubricant, Preservative.** Explain that the maintenance concept is to use CLP sparingly for all temperatures and conditions. CLP must be used in very limited amounts; otherwise, it will cause stoppages. No other oil, solvent, or lubricant is to be used. CLP should be shaken vigorously prior to use to ensure distribution of the Teflon. When correctly mixed, the solution should have a milky appearance.

51. **Cleaning in Adverse Conditions**

- a. **Hot, Dusty and Sandy Areas.** In such conditions the LMG must be kept dry. This will best be achieved by sweating it in the sun and wiping of any exuding lubricant. If rust appears, remove it as normal but take care to remove the lubricant that may have been used.
- b. **Extremely Cold Climate - Arctic.**
 - (1) If the tactical situation permits, unload and cock the working parts two or three times every 30 minutes to prevent freezing.
 - (2) Do not lay a warm weapon directly in the snow or ice. Keep the ammunition dry. Do not lubricate ammunition.
 - (3) Whenever possible, leave the weapon in a protected, cold area outside.
 - (4) When moving from a warm to a cold area, keep the weapon covered to prevent condensation and freezing. Allow for gradual cooling.
 - (5) When moving from a cold to a warm area, the weapon should be stripped and wiped dry several times as it reaches room temperature.
 - (6) If possible, the LMG should be cleaned in a warm area with the weapon at room temperature.
 - (7) A light coat of CLP will provide lubrication down to -37EC. Below -18EC it will be necessary to warm it to make it flow from the bottle. It should be kept in an inside pocket until required for use.

(8) Removal of the trigger group is contained in Lesson 9, Cleaning Before and After Firing.

- c. **Wet Climate.** Inspect frequently for rust. Apply CLP lightly.
- d. **Heavy Rain and Damp Conditions.** If possible during heavy rain, carry the weapon with the muzzle down. After immersion, as soon as possible, strip, dry thoroughly, clean, and apply CLP.

52. **Confirm by Questions.**

53. **Conclusion.**

- a. Take questions from the class on the entire lesson.
- b. Confirm by questions and practice.
- c. Normal safety precautions.
- d. Pack kit.
- e. **Summary.** Include the following:
 - (1) the importance of maintaining the gun in a clean condition;
 - (2) the importance of using CLP sparingly; and
 - (3) a forecast of the next lesson in this subject.

LESSON 4 - SIGHT SETTING, LOAD, UNLOAD, READY, MAKE SAFE, AND CLEAR GUN

INSTRUCTOR'S NOTES

54. **Aim.** To teach how to:

- a. make up an ammunition belt,
- b. set the sights,
- c. load,
- d. unload,
- e. ready,
- f. make safe, and
- g. clear gun.

55. **Timing.** Two 40-minute periods.

56. **Method.** A basic instructional period.

57. **Stores**

- | | | |
|----|----------------------|-------------------------------------|
| a. | LMG | 1 per two soldiers |
| b. | Belt box | 1 per gun |
| c. | C7 magazines | 2 per guns |
| d. | Section Cleaning Kit | 1 per two guns |
| e. | Dummy rounds, loose | 15 per soldier,
5 for instructor |
| f. | Links | 10 per soldier
5 for instructor |
| g. | Section Cleaning Kit | 1 per gun |
| h. | Landscape target | 1 per gun |

58. **Preparation**

- a. Check dummy rounds and links for damage.
- b. Lay out Section Cleaning Kit.
- c. Lay out a belt of 10 rounds for each soldier.
- d. Lay out instructor's belt of five rounds for demonstration.

59. **Miscellaneous**

- a. After joining belts is taught, make the soldiers link their belts together and lay them by the guns ready for loading.
- b. At the end of the sight-setting demonstration, point out the cartridge stop to the soldiers in preparation for the loading demonstration (see Figure 2-20).
- c. Give a range before each practice of MAKE SAFE.

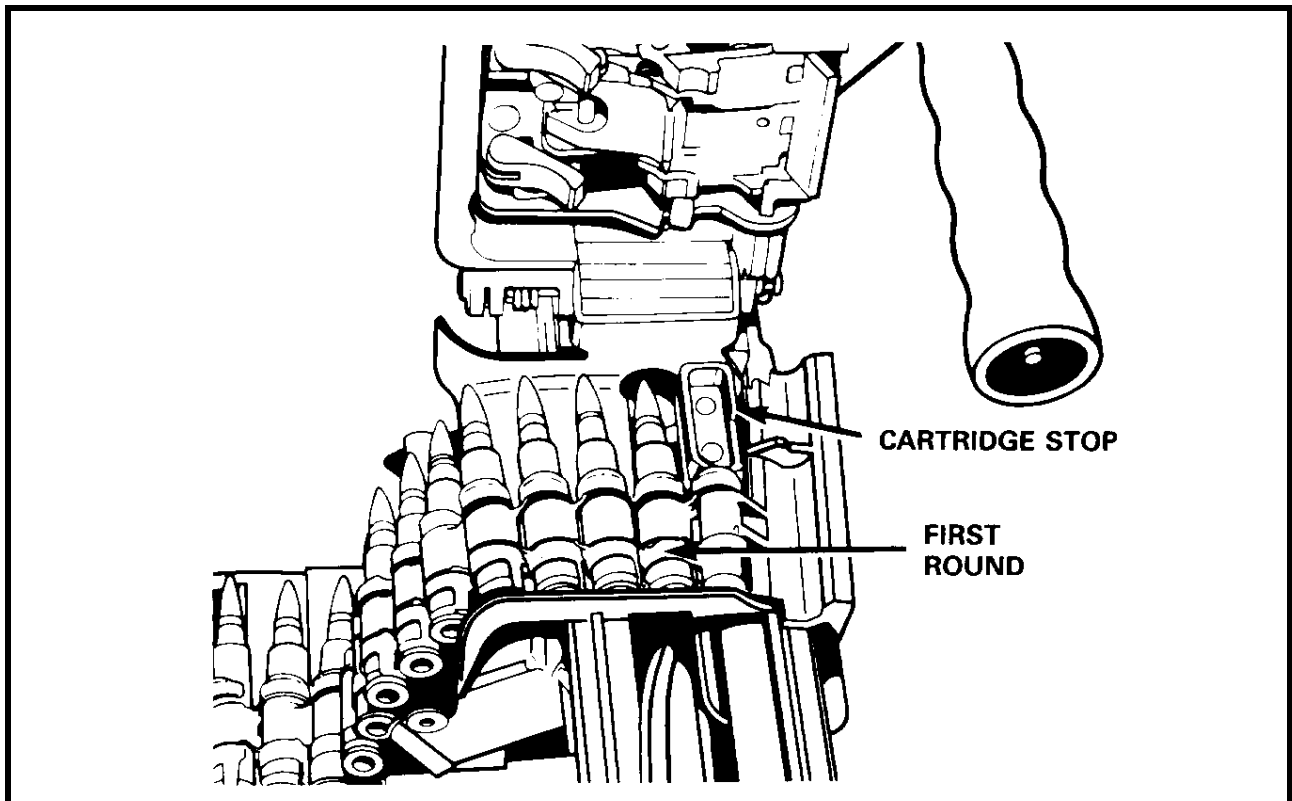


Figure 2-20 Cartridge Stop

CONDUCT OF THE LESSON

60. **Safety Precautions.** Normal.
61. **Review.** Nil.
62. **Introduction.** Explain that it is essential that the soldier be capable of maintaining the gun in a state of readiness under battle conditions. A thorough knowledge of the actions to be carried out on receiving orders is imperative to achieve this objective.
63. **Ammunition.** Explain and demonstrate where applicable.
- a. Ammunition is supplied in belts of 200 rounds with a ratio of four ball to one tracer. The belts are of metal disintegrating links and can be readily broken or joined to give belts of any length (see Figure 2-21).
 - (1) **To Separate a Belt.** Hold the rounds on each side of the point at which it is desired to separate the belt. Twist them in opposite directions. The links at that point will disengage.
 - (2) **To Join Two Belts.** Fit the projection of the end link to the other, making sure that the links are the same way up. If there is a round in position, press the projection so that it snaps into place over the cartridge case. If no round is in position, insert one as described in paragraph 63b(2).

CAUTION

The links are only to be re-used with dummy and inspection rounds. The ONLY exception to this rule is in battle and then only in an emergency.

- b. Dummy belts are purely a training expedient.
 - (1) **To Break Down a Dummy Belt.** Remove any round from the belt as required by pushing the nose of the round firmly against a solid surface thus releasing the round from the detent; it can then be withdrawn. Do the same with any adjoining round, and so on (see Figure 2-22).
 - (2) **To Make Up a Dummy Belt.** Take two links, both the same way up, and place them so that the projection of one fits into the gap of the other. Then interlock them by inserting the nose of a round through both links and press the round forward till the projecting cletent of the clip clicks into place in the groove at the base of the round. Connect further links and rounds in the same way.
- c. **Ammunition belt box and magazine filling.** Place belt boxes by guns.

- (1) **Placing Belts into the Belt Boxes.** Should it be necessary to place belted ammunition in the boxes, either as a training expedient or in battle, the following actions should take place. Remove the lid from the box, place the belt into the box, ensure the rounds are in correctly, feed the first round out through the opening in the box, and clip it into the plastic clip. Replace the box lid.
- (2) **Magazine Feed.** The C-9 LMG uses the same magazine as the C-7 rifle. Filling is as for the rifle.



Figure 2-21 Ammunition Belt

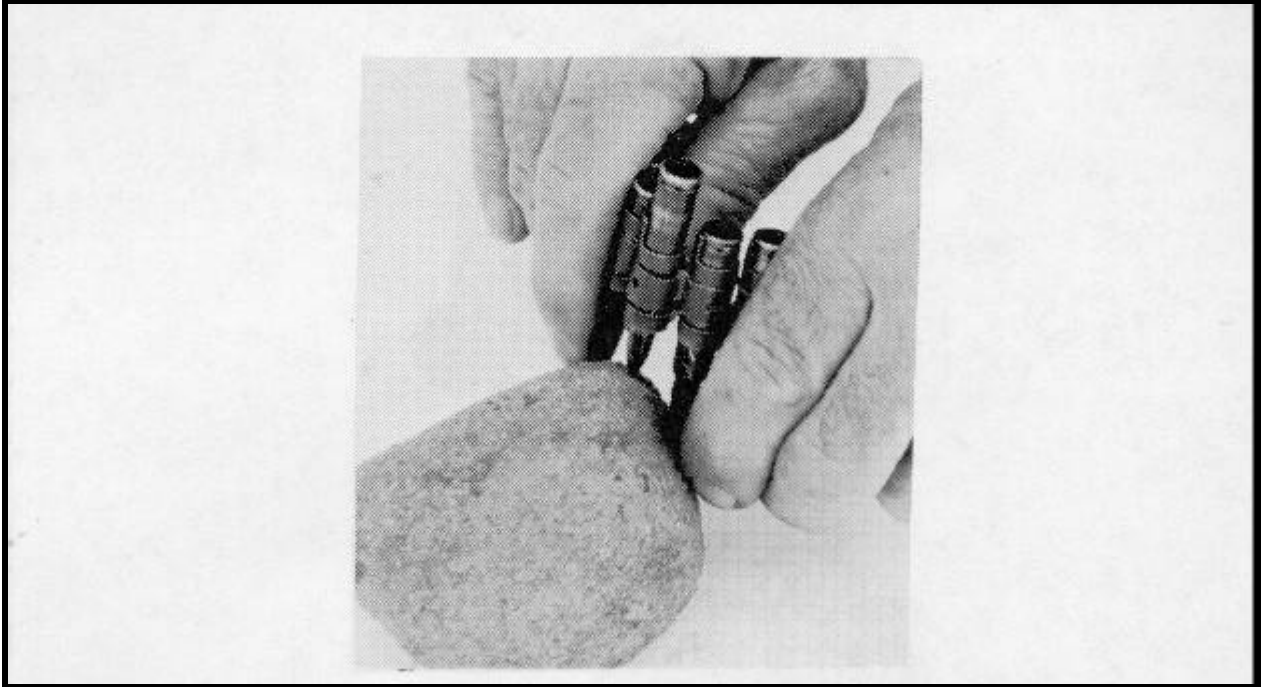


Figure 2-22 Breaking Down a Belt

64. **Confirm by Practice.**

65. **Sight Setting.** Explain and demonstrate.

- a. The C-79 optical sight is mounted on the feed cover. It is adjustable laterally and for ranges from 200 to 800 m in 100 m increments (see Figure 2-23). To adjust the sight for range, turn the range/elevation dial until the desired number clicks in line with the index line;
- b. Lateral adjustment is made by turning the lateral adjustment screw -
 - (1) to the left (counter-clockwise) to move the MPI to the left,
 - (2) to the right (clockwise) to move the MPI to the right; and
- c. The sight should be set at 300 when not in use.

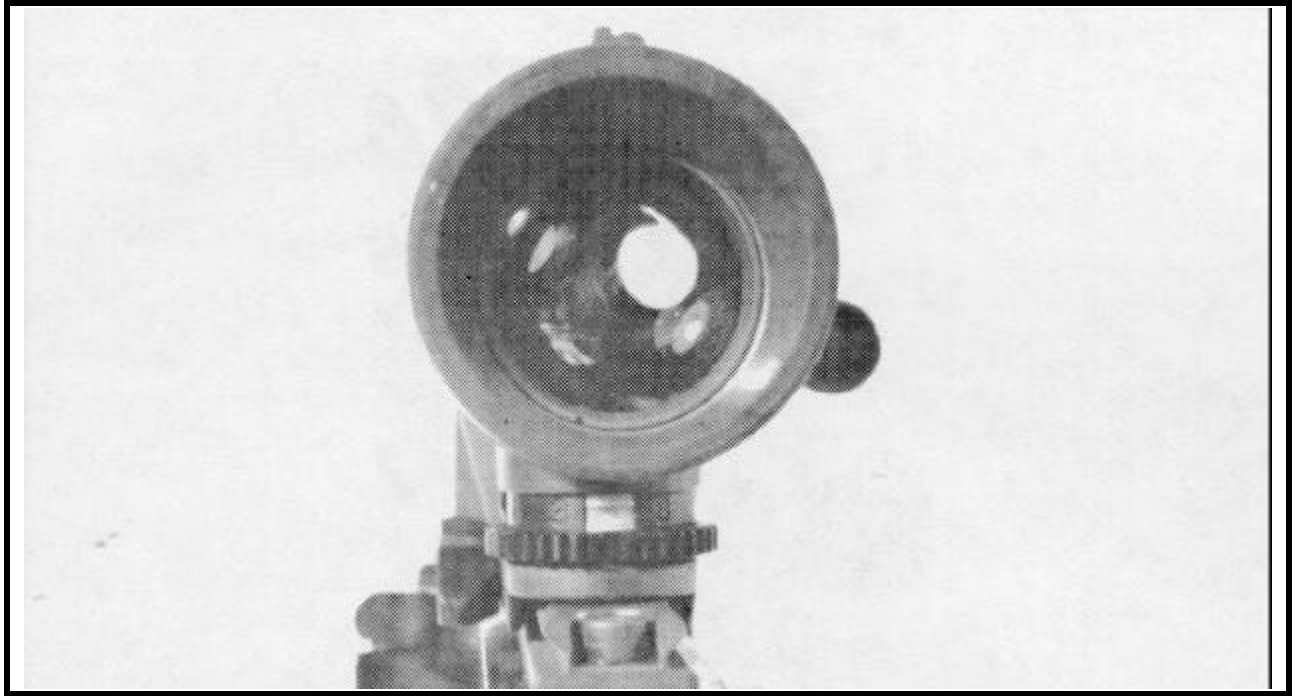


Figure 2-23 Rear Sight

- d. The front sight is a single blade, adjustable in height and direction, mounted mid-barrel (see Figure 2-24).
66. **Confirm by Questions.**
67. **Load.** Explain and demonstrate. On the order LOAD:
- a. Lie behind the LMG with the legs together.
 - b. Hold the butt grip with the left hand.
 - c. Grasp the pistol grip, forefinger outside the trigger guard, and tilt the gun to the right (see Figure 2-25).
 - d. Place the 200-round ammunition belt box on the LMG.
 - e. Open the feed cover.

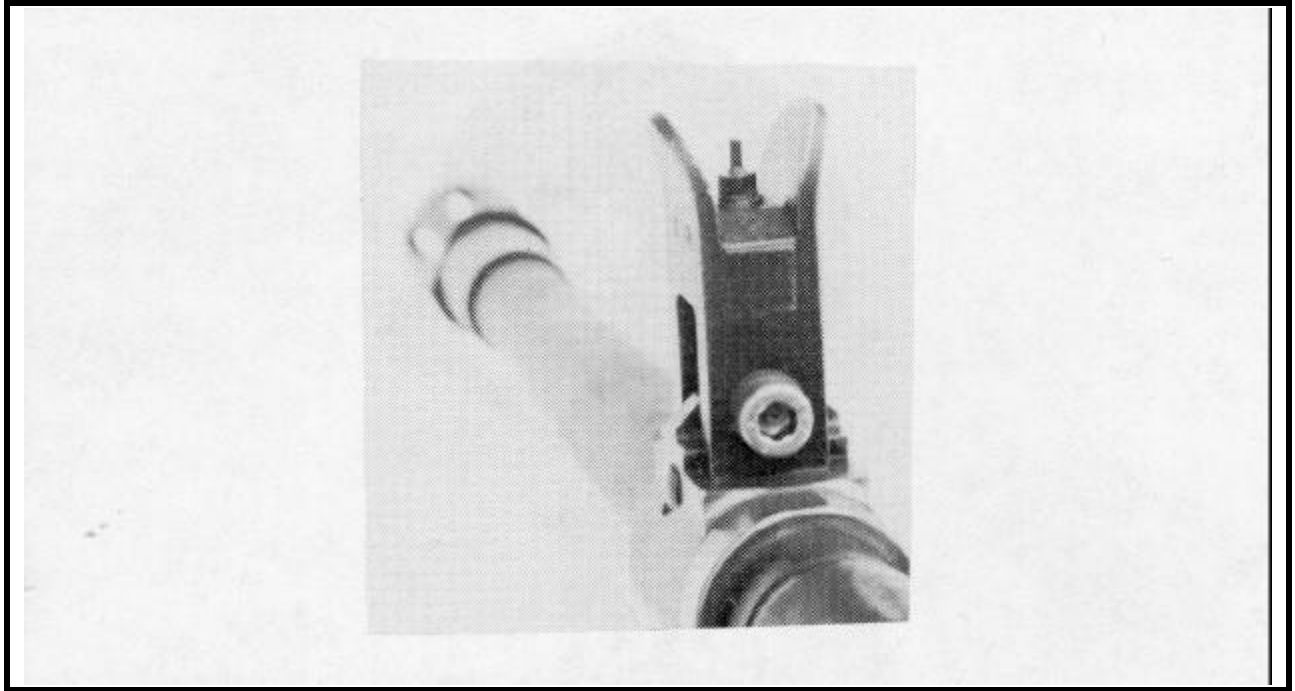


Figure 2-24 Front Sight



Figure 2-25 Load Position

- f. Pull 20 rounds straight out of the ammunition box.
- g. Check the ammunition belt links are not loose or damaged.
- h. Position the belt on the feed tray, links uppermost, first round against cartridge stop (see Figure 2-26).



Figure 2-26 Load

- j. Hold the belt in position with the left hand and close the feed cover.
 - k. Return hands to the correct position on the butt grip and pistol grip, and the gun to the upright position.
68. **Unload.** Explain and demonstrate. On the order UNLOAD:
- a. Raise the butt into the shoulder and cock the LMG.
 - b. Lower the butt, raise the feed cover, and remove the belt.
 - c. Clear the feed tray.
 - d. Close the feed cover.
 - e. Raise the butt into the shoulder.
 - f. Align the sights on the target and squeeze the trigger.
 - g. Remove the belt box.
 - h. Lower the butt and close the ejection opening cover.
 - j. Lower the sights to 300 m. Then lower the shoulder piece.
69. **Confirm by Practice.** Leave gun loaded.
70. **Ready - Or a Range Being Ordered.** Explain and demonstrate.
- a. Set the sights to the range ordered.
 - b. Raise the shoulder-piece.

- c. Lift the butt into the shoulder and cock the LMG. Ensure the cocking handle is pushed fully forward.
 - d. Place the safety at SAFE if an order to fire is not received immediately.
 - e. Grasp the pistol grip with the right hand and place the forefinger on the trigger.
 - f. Grasp the butt grip with the left hand.
71. **Confirm by Practice.**
72. **Make Safe.** Explain and demonstrate. On the order MAKE SAFE:
- a. Unload (do not remove the belt box).
 - b. Reload, (with a new belt if necessary).
73. **Clear Gun.** Explain and demonstrate. On the order UNLOAD - CLEAR GUN:
- a. Unload.
 - b. Remove ammunition box.
 - c. Raise the feed cover.
 - d. Lower shoulder-piece.
 - e. Stand up and report GUN CLEAR in numerical order.
74. **Confirm by Practice.**
75. **Emergency Magazine Feed.** Explain and demonstrate. On the order LOAD:
- a. Adopt the LOAD position.
 - b. Tilt the LMG to the right, pick up a magazine and check that the top round is seated correctly.
 - c. Insert a magazine into the magazine housing, ensure that it is locked in place. Do not hit the magazine.
 - d. Return hands to the correct position on the butt and pistol grip and the LMG to the upright position.
76. **Unload - Magazine Feed.** Explain and demonstrate. On the order UNLOAD:

- a. Raise the butt into the shoulder and cock the LMG.
- b. Lower the butt and remove the magazine.
- c. Raise the butt into the shoulder.
- d. Align the sights on the target and squeeze the trigger.
- e. Lower the butt and close the ejection opening cover.

77. **Confirm by Practice.**

78. **Conclusion**

- a. Take questions from the class on the entire lesson.
- b. Confirm by questions and practice.
- c. Normal safety precautions.
- d. Pack kit.
- e. **Summary.** Include the following:
 - (1) the importance of checking the ammunition belt before loading, and
 - (2) a forecast of the next lesson in this subject.

LESSON 5 - HOLDING, AIMING, AND FIRING

79. **Aim.** To teach:
- holding, aiming, and firing at stationary and moving targets;
 - action to be carried out on receiving the orders STOP and GO 0
 - rates of fire, burst length, and barrel change; and
 - range estimation, target indication and adjusting fire.
80. **Timing.** Two 40-minute periods.
81. **Method.** A basic instructional period.
82. **Stores**
- | | | |
|----|----------------------|-------------------|
| a. | LMG | 1 per two soldier |
| b. | Spare barrel | 1 per gun |
| c. | Belt box | 1 per gun |
| d. | Section Cleaning Kit | 1 per gun |
| e. | Dummy rounds, belted | 30 per gun |
| f. | Eye disc | 1 per gun |
| g. | Landscape target | 1 per gun |
83. **Preparation**
- Prepare arcs of fire and select reference points.
 - Lay out guns and belts.
 - Where possible use one identical landscape target per gun, positioned centrally in front of the gun's position.
 - Prepare fire control orders using different methods of target indication. Check that all selected targets can be engaged from all gun positions.
 - Check the bipod leg, adjusting locking studs on each gun.

- f. Fill two belt boxes per gun with 15 rounds each and place them by the guns.

84. **Miscellaneous**

- a. Soldiers will understand more easily if it is explained that the firing sequence they learned to fire a single round with a rifle is applied, though the hold and follow through are extended to cater for the rounds in a burst.
- b. Practise as individuals and as a team.
- c. During practice firing order STOP - MAKE SAFE prior to changing gun numbers.

CONDUCT OF THE LESSON

85. **Safety Precautions.** Normal. Check spare barrels.

86. **Preliminaries.** Indicate arcs of fire and reference points.

87. **Review.** Load and unload. Leave guns loaded.

88. **Introduction.** Explain that in order to bring effective fire on the enemy, the soldier must know how to hold, aim, and fire the gun using the best length of burst against both stationary and moving targets.

89. **Holding and Aiming.** Explain and demonstrate:

- a. When a range is ordered, carry out the actions already taught.
- b. To aim, the gunner ensures that the range dial is set on the appropriate range and that the weapon is level by using the levelling lines as a reference and centres the vertical post onto the target. The aiming point is the sharp tip of the aiming post. The following also apply to aiming:
 - (1) The gap between the parallel line represents 65 cm at 300 metres, If a standing human size target fits inside the parallel line and the levelling line from helmet to waist, the target is 300 metres away and the range dial should be set on 300 (Figure 2-28A). If a standing human size target fits completely between the parallel lines, the distance to the target would be 600 metres and the range dial should be set at 600.

- (2) Using a known reference point/impact area, the sight can be used to indicate targets/adjust fire. The 10 mil levelling lines and 10 mil gaps can be used to calculate the distance in mils from a known reference point to a target that allows the gunner to then indicate the location of the target. Furthermore, knowing the rule (1 mil = 1 metre at 1,000 metres) the levelling lines can assist the gunner to give lateral adjustments to indirect and direct fire weapons in metres.
- c. When a target is indicated, use the left hand on the butt grip to move the LMG as necessary and line up the gun, body, and target; open the legs and lay the heels flat on the ground.
 - d. Slight adjustments for height can be made by moving the elbows inwards or outwards until the position is correct. If a large adjustment is required apply the safety catch, lower the butt, and adjust the height of the bipod legs.
 - e. Move the whole of the body up to the gun until the right shoulder is firmly in contact with the butt.
 - f. Grasp the butt grip with the left hand and pull the butt backward and downward, the left elbow being placed on the ground level with the right elbow so that the shoulders remain square to the front (see Figures 2-27 and 2-28).



Figure 2-27 Holding, Bipod Low

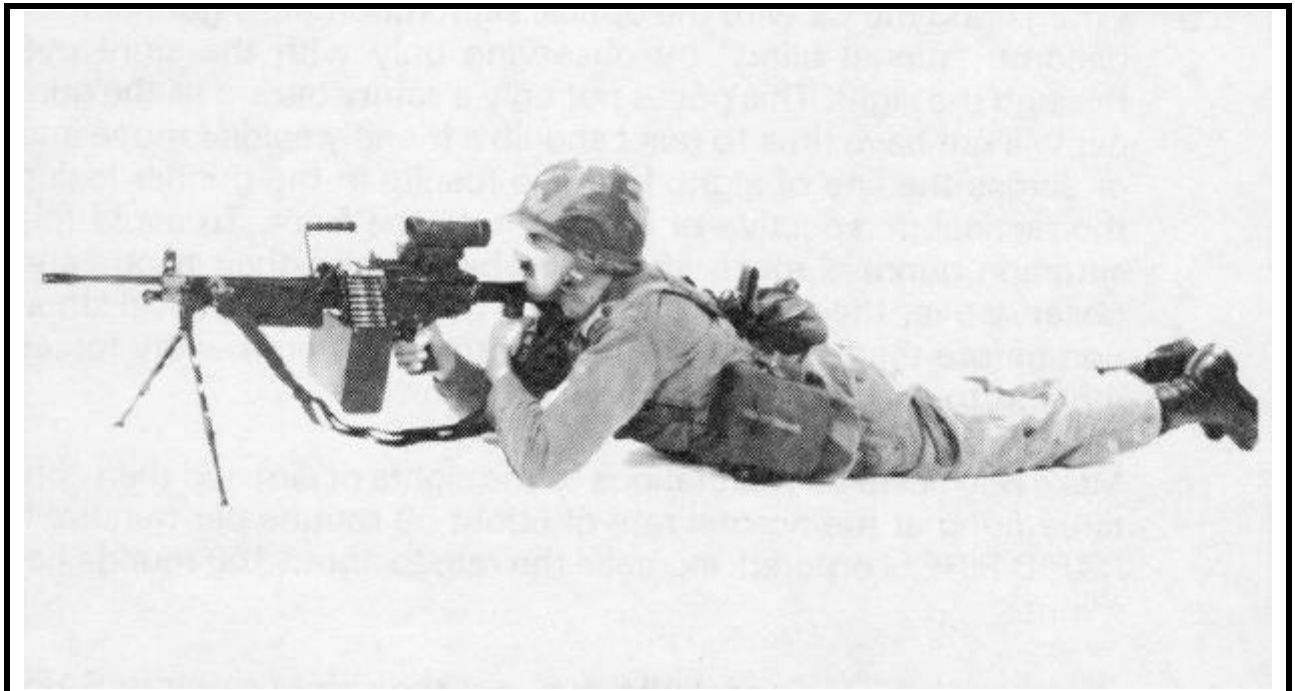


Figure 2-28 Holding, Bipod High

- g. Hold the pistol grip firmly with the right hand, forefinger on the trigger, and pull the gun backwards and upwards into the shoulder.
 - h. Lock the hold by turning the wrists inward.
 - j. Test the hold by rocking backward and forward slightly; the Stadia line should move directly up and down on the point of aim.
90. **Confirm by Practice.** Order MAKE SAFE.
91. **Firing.** Explain and demonstrate:
- a. On the order FIRE, when the hold and aim are correct, the trigger should be squeezed long enough to fire a burst of three to five rounds and then should be fully released to allow it to go forward.
 - b. When firing the C9 with the optical sight mounted, a gunner may become "tunnel blind" by observing only with the sight eye through the sight. This poses not only a safety hazard as the gunner will not have time to react should a friendly soldier move into or across the line of sight, but also results in the gunner losing the tactical perspective of the battle to the front. To avoid this situation gunners must, after each burst, raise their heads and observe over their sight to ascertain the complete tactical situation before them and to ensure that there are no friendly forces moving to the gunners' immediate front.
 - c. Make any necessary alterations to the sights or aim and then continue firing at the normal rate of about 50 rounds per minute. If RAPID FIRE is ordered, increase the rate to about 100 rounds per minute.
 - d. On the order STOP, cock the gun, put the safety catch to SAFE with the left hand, and lower the butt. If the belt has only a few rounds left, change ammunition boxes.
 - e. On the order GO ON, realign onto the target, test the hold, put the safety catch to FIRE, and continue firing.
 - f. On the order STOP - MAKE SAFE, act as already taught.
92. **Confirm by Practice.** Order MAKE SAFE.
93. **Rates of Fire.** Explain. There are two rates of fire:
- a. **Normal Rate.** Fifty rounds per minute fired in short bursts of three to five rounds.

- b. **Rapid Rate.** One hundred rounds per minute fired in short bursts. Rapid fire is the fastest rate at which accuracy can be maintained. It is only to be used when the target warrants it, eg, a large number of enemy in the open at short range, or for short periods when providing covering fire for friendly troops.
94. **Burst Length.** Two burst lengths may be used:
- a. **Short Burst.** A short burst of three to five rounds is necessary to observe the impact of rounds and to correct errors in range and wind allowance. Tracer is filled one to four in each belt to assist in observation of impact. However, the length of burst will be determined by the type of target, the range to the target, and the skill of the gunner.
 - b. **Long Burst.** A long burst of eight to ten rounds spreads more but gives a better chance of hitting a moving target. It may be used at very short range against a mass attack. It can also be extremely effective when fired at the front of some armoured fighting vehicles, particularly if aimed at devices which assist crew vision such as periscopes, lights, image intensification, or infrared equipment.
95. **Moving Targets.** Select a point of aim well in front of the line of advance of the moving target. Aim at it and when the target is two widths from the points of aim, fire a long burst.
96. **Confirm by Questions.**
97. **Barrel Change.** Normal rate of fire will not overheat the barrel, but rapid rate and long bursts for any length of time will. Gunners must use their common sense and regulate their rate of fire and length of burst to the tactical situation, remembering that overheating quickly wears out the barrel.
98. No gun is to fire more than 200 rounds continuously through the same barrel. This is to avoid overheating and consequent dangerous stoppages. Barrels are to be changed after every 200 rounds and not used again until "hand cool".
99. To change the barrel, unload as taught but do not lower the butt or remove the belt box. Put the sights down or close the ejection opening cover. Cock the gun, lower the butt, remove the barrel, place the new barrel on, ensuring the gas regulator is set correctly, the barrel is clear of obstructions and the serial number matches the receiver. Allow the working parts to go forward, reload, raise the butt into the shoulder, cock the gun and carry on firing.
100. **Confirm by Questions.**
101. **Conclusion**
- a. Take questions from the class on the entire lesson.
 - b. Confirm by questions and practice.

- c. Normal safety precautions.
- d. Pack kit.
- e. **Summary.** Include the following:
 - (1) the importance of testing the hold before firing a burst; and
 - (2) a forecast of the next lesson in this subject.

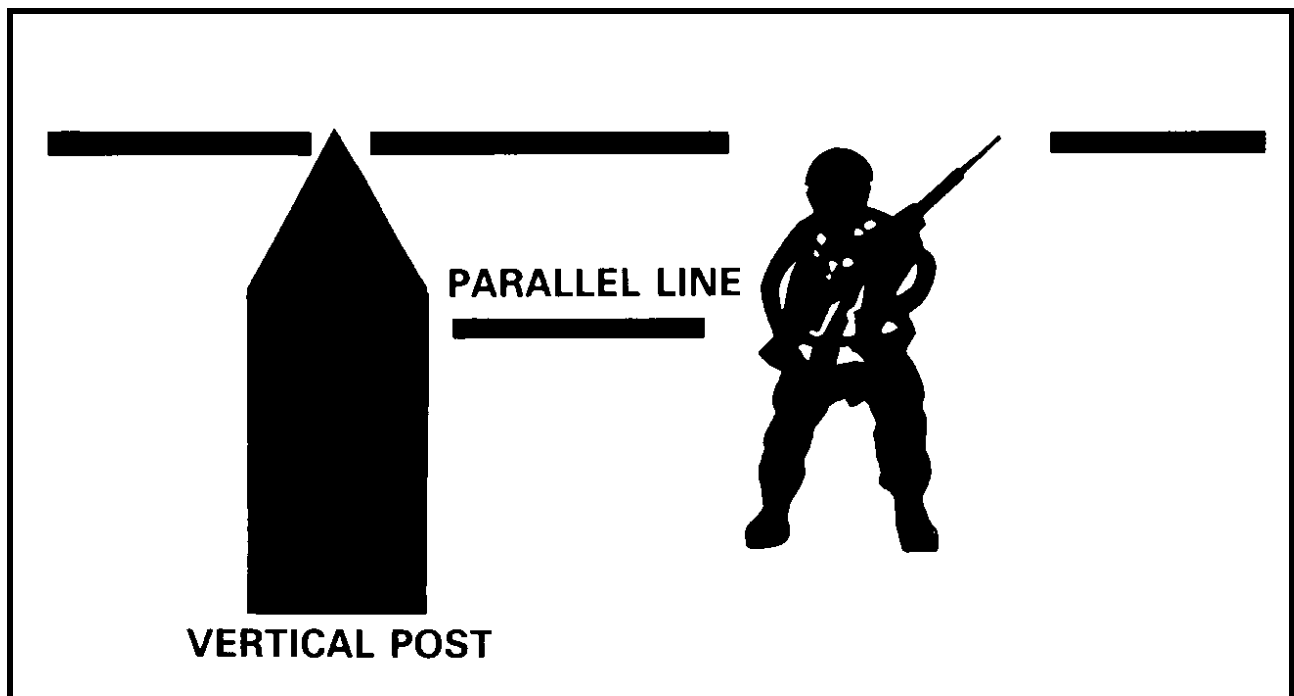


Figure 2-28A Target at 300 m

LESSON 6 - IMMEDIATE ACTION AND GAS STOPPAGE DRILL

INSTRUCTOR'S NOTES

102. **Aim.** To teach the action to be carried out if the LMG stops firing or fails to fire.

103. **Timing.** Two 40-minute periods.

104. **Method.** A basic instructional period.

105. **Stores**

- | | | |
|----|----------------------|--------------------|
| a. | LMG | 1 per two soldiers |
| b. | Belt box | 1 per gun |
| c. | Spare barrel | 1 per gun |
| d. | Section Cleaning Kit | 1 per gun |
| e. | Dummy rounds, belted | 15 per gun |
| f. | Landscape target | 1 per gun |

106. **Preparation**

- a. Lay out guns and dummy rounds.
- b. Prepare arcs of fire and select reference points.
- c. Prepare fire control orders for selected targets and check that targets can be engaged from each gun position.
- d. Where possible, use one identical landscape target per gun, positioned centrally in front of the gun's position.

107. **Miscellaneous**

- a. After any stoppage, emphasize that the gun must be held firmly and realigned onto the target before squeezing the trigger.
- b. Adjust gas regulators frequently to cater for gas stoppage drill.
- c. Before changing teams for practice on the guns, order MAKE SAFE.

CONDUCT OF THE LESSON

108. **Safety Precautions.** Normal. Check spare barrels.
109. **Review.** Firing drills. Indicate arc of fire and reference points. Leave guns loaded.
110. **Introduction.** Explain that if the gun is cleaned and prepared for firing correctly, stoppages will seldom occur. However, should the gun stop firing, it is imperative that the soldier know how to remedy it with a minimum loss of time. A knowledge of how the gun works will assist in understanding the reason behind the stoppage.
111. **How the Gun Works.** Explain that when a round is fired, the gas drives the piston group to the rear, ejecting the empty case. The return spring and buffer drive the piston forward, loading a fresh round which is then fired. This action goes on as long as the trigger is kept squeezed and there are rounds in the belt.
112. **Confirm by Questions.**
113. **Immediate Action.** Explain that the immediate action (IA) is the instinctive corrective action the machine-gunner will take whenever the machine-gun fails to fire. If the machine-gun fails to fire:
- a. Cock the LMG.
 - b. Lower the butt.
 - c. Open the feed cover, clear the feed tray, and close the feed cover again as quickly as possible.
 - d. Raise the butt into the shoulder and align the sights with the target; squeeze the trigger. A round may be fired.
 - e. Lower the butt, reload, raise the butt into the shoulder and cock the LMG; realign with the target and continue firing.
114. **Confirm by Practice.**
115. **Stoppages Remedied by Applying IA.** Explain that the following stoppages will be remedied by applying IA:
- a. Expended belt or empty magazine.
 - b. Damaged rounds.
 - c. Live round partly fed, due to a damaged link.

- d. Misfired round.
- e. Hard extraction.
- f. Damaged link.

116. **Confirm by Questions and Practice.**

117. **Gun Cannot Be Fully Cocked.** Explain and demonstrate if on attempting to carry out the IA the cocking handle cannot be pulled fully to the rear, a damaged link may be jamming the feed pawls.

- a. Hold the cocking handle as far back as possible; to assist, place the thumb into the trigger guard to hold the action to the rear, and lower the butt.
- b. Open the feed cover, clear the feed tray, and close the feed cover.
- c. Raise the butt, complete the cocking action, squeeze the trigger, lower the butt, reload, raise the butt, cock the LMG, realign onto the target, and continue firing.

118. **Gas Stoppage Drill.** Explain and demonstrate what to do if, after applying the IA, the LMG fires a few rounds and again stops:

- a. Cock the LMG.
- b. Put the safety catch on SAFE.
- c. Lower the butt.
- d. Adjust for more gas by rotating the regulator to ADVERSE.
- e. Raise the butt into the shoulder. Put the safety catch on FIRE and continue firing.
- f. If the stoppage persists, change barrels and at the earliest opportunity clean the gas plug and block using the issued reamers.

CAUTION

Any round, whether damaged or not, which is involved in a stoppage or used as a tool is to be removed from use.

119. **Stoppage With the Action Closed.** Explain and demonstrate if, on attempting to carry out the IA, the gun cannot be cocked, a live round may be jammed in the chamber. If this stoppage occurs during a range practice clearing of the gun will be done under the direct supervision of the Range Control Officer. Clear the firing point of all non-essential personnel.

- a. Lower the butt and ensure that the weapon is pointed in a safe direction as quickly as possible.
- b. Open the feed cover, clear the feed tray, and close the feed cover.
- c. Use a mechanical assist, such as a sling, to cock the weapon. The cocking handle must be controlled to prevent an accidental discharge. An assistant will be required to hold the bipod legs.
- d. When the weapon is cocked ensure the working parts are fully to the rear. Raise the feed cover and examine the chamber. Carry out the action described in paragraph 132.

CAUTION

Extreme caution must be exercised when a live round is jammed in the chamber as it may cook-off or be fired mechanically during attempts to clear it.

120. This stoppage may occur after extensive firing if carbon is allowed to build up in the chamber. The chamber must be cleaned at every opportunity.

121. **Conclusion**

- a. Take questions from the class on the entire lesson.
- b. Confirm by questions and practice.
- c. Normal safety precautions.
- d. Pack kit.
- e. **Summary.** Include the following:
 - (1) the importance of correct firing drills after clearing a stoppage; and
 - (2) a forecast of the next lesson in this subject.

LESSON 7 - OTHER STOPPAGES

INSTRUCTOR'S NOTES

122. **Aim.** To teach the soldier stoppage causes and remedies.
123. **Timing.** Two 40-minute periods.
124. **Method.** A basic instructional period.
125. **Stores**
- | | | |
|----|----------------------|--------------------|
| a. | LMG | 1 per two soldiers |
| b. | Belt box | 1 per gun |
| c. | Spare barrel | 1 per gun |
| d. | Section Cleaning Kit | 1 per gun |
| e. | Dummy rounds, belted | 15 per gun |
| f. | Landscape target | 1 per gun |
126. **Preparation**
- Lay out guns and dummy rounds.
 - Prepare arcs of fire and select reference points.
 - Prepare fire control orders for selected targets and check that targets can be engaged from each gun position.
 - Where possible, use one identical landscape target per gun, positioned centrally in front of the gun's position.

CONDUCT OF THE LESSON

127. **Safety Precautions.** Normal. Check spare barrels.
128. **Preliminaries.** Indicate arcs of fire and reference points.
129. **Review.** Review immediate action. Leave the guns loaded.

130. **Introduction.** Explain that, although stoppages caused by broken parts or obstructions are rare, the soldier must be able to recognize and remedy such causes quickly in order to get the gun firing again. In this lesson the stoppages will be taught in a set sequence, but in reality they may occur in any order.

131. **Other Stoppages.** Explain and demonstrate what to do if, after applying the IA, the LMG will not fire:

- a. Unload but do not close the ejection opening cover, then lower the butt or remove the belt box.
- b. Cock the LMG again, lower the butt, open the feed cover, raise the feed tray, and inspect the interior of the receiver.
- c. Subsequent action will depend on what you see in the receiver.

132. **Obstruction in the Body.** Explain and demonstrate, that if you see an obstruction in the receiver, eg, a jammed live round or empty casing, remove it by hand or, if necessary, by using a tool from the cleaning kit.

133. When the obstruction is clear, inspect the chamber. If the chamber is clear or there is a live round present:

- a. Close the feed cover.
- b. Raise the butt into the shoulder.
- c. Aim in a safe direction and squeeze the trigger (a round may be fired).
- d. Ensure the working parts are forward and lower the butt.
- e. Reload.
- f. Raise the butt.
- g. Cock the LMG.
- h. Aim and carry on firing.

134. **Confirm by Practice.**

135. **Empty Case in the Chamber.** Explain and demonstrate actions required if, on initial inspection or after removing an obstruction from the receiver, you see an empty case in the chamber:

- a. Close the feed cover.

- b. Raise the butt into the shoulder and squeeze the trigger.
- c. Strip the LMG and inspect the extractor. If broken, it must be replaced by a weapons technician.
- d. Assemble the LMG.
- e. Place the butt in the shoulder and cock the gun.
- f. Operate the trigger, then cock the gun again to ensure the empty casing is extracted from the chamber.
- g. Operate the trigger.
- h. Reload, place the butt in the shoulder, cock the gun, aim and carry on firing.

136. **Confirm by Practice.**

137. **Obstruction in the Barrel or Separated Case.** Explain and demonstrate.

- a. If on looking into the body and chamber there is no visible obstruction, remove the barrel and inspect it for an obstruction or a separated case. If there is an obstruction, including a separated case, change to the other barrel, raise the butt into the shoulder, allow the working parts to go forward, lower the butt, reload, raise the butt, cock the gun, re-aim, and continue firing.
- b. The other barrel must not be used until the obstruction or separated case has been removed by an armourer.
- c. With only one barrel, care must be exercised to ensure that the rates of fire and lengths of burst laid down are not exceeded.

138. **Confirm by Practice.**

139. **Damaged or Broken Parts.** Explain that if after carrying out the IA and stoppage drill, the LMG will not fire, the following actions should be carried out:

- a. Unload and strip the LMG.
- b. Examine the LMG and ejected ammunition for the following signs which indicate damaged or broken parts -
 - (1) Primer not struck (broken firing pin).
 - (2) Primer not properly struck (weak return spring).

(3) Repeated failure to eject (broken ejector).

140. **Feed Pawl and Springs.** Explain that after applying the IA, if the LMG will not fire and you cannot fully cock the LMG, act as previously taught but before reloading, open the feed cover and examine the feed pawls and springs. If the feed pawls are not working freely:

- a. Clean and oil them.
- b. Close the feed cover.
- c. Load and carry on firing.

141. **Runaway Gun.** Explain and demonstrate. A mechanical fault may cause the LMG to fire after the trigger has been released. If this happens:

- a. Hold the LMG firmly into the shoulder.
- b. Twist the belt at the point of entry into the feedway, thus breaking the belt or jamming the feed.
- c. When the LMG stops firing, clear the gun, reload, set the gas regulator to ADVERSE, raise the butt, cock the gun, and carry on firing.

142. **Confirm by Questions and Practice.**

143. **Conclusion**

- a. Take questions from the class on the entire lesson.
- b. Confirm by questions and practice.
- c. Normal safety precautions.
- d. Pack kit.
- e. **Summary.** Include the following:
 - (1) the importance of taking the correct action quickly to recognize and remedy stoppages, and
 - (2) a forecast of the next lesson in this subject.

LESSON 8 - HANDLING

INSTRUCTOR'S NOTES

144. **Aim.** To teach the responsibilities of the gunner.

145. **Timing.** Two 40-minute periods.

146. **Method.** A basic instructional period.

147. **Stores**

- | | | |
|----|-----------------------|----------------------------|
| a. | LMG fitted with sling | 1 per two soldiers |
| b. | Section Cleaning Kit | 1 per two guns |
| c. | Dummy rounds, belted | 2 x 15-round belts per gun |

148. **Preparation**

- a. Select locations for demonstrations and for practice of:
- (1) good fire positions; and
 - (2) action to be taken on the order TAKE COVER.

149. **Miscellaneous**

- a. To practice occupation of fire positions, give arcs of fire and let all gun crews occupy their positions. Leave one crew in position and have the remainder of the class criticize. Do this with each crew in turn.
- b. The gun should be carried with the sling over the right shoulder as this allows the gun to be brought more quickly into a ground firing position.
- c. When demonstrating improvised support using a No. 2, show the position of the gunner and nominate a soldier to act as a No. 2.

CONDUCT OF THE LESSON

150. **Safety Precautions.** Normal.

151. **Preliminaries.** Nil.

152. **Review.** Nil.

153. **Introduction.** Explain that the success of any action carried out by the infantry is determined to a large degree by the effective fire support provided by machine-guns. It is the responsibility of the individual gunner to provide supporting fire within his fire team under the direction of the section commander or his second-in-command.

154. **Rifle Fire Positions.** Explain that the qualities of a good fire position are:

- a. Free use of personal weapons and grenades.
- b. Cover from indirect fire and small arms fire.
- c. Cover from view.
- d. An unobstructed view of a wide arc of fire.
- e. No dead ground close to the positions by day or at night.

155. **LMG Operation.** Explain that there are two LMGs in each infantry section. Each LMG is operated by one man. He may be assisted by others in the section if circumstances permit. The section commander or his second-in-command provides direction on all matters related to the employment of the LMG. The gunner must master all of the skills of the rifleman and operate with a high degree of initiative.

156. **Confirm by Questions.**

157. **Ammunition Carriage.** Explain that one ammunition box will be on the gun at all times and that the gunner will carry one box. In addition, two ammunition boxes per LMG and ammunition bandoliers will be carried by the remainder of the section.

158. **Confirm by Practice.**

159. **Use of the Sling.** Explain and demonstrate. The C-9 LMG is equipped with a sling that enables the weapon to be carried and fired from a number of positions.

- a. To attach the sling to the gun, ensure that buckle "B" is nearest the front sling swivel. Clip the spring-loaded catches into the appropriate holes front and rear (see Figure 2-18).
- b. To carry the LMG correctly, grasp buckle "C", pull up and separate the straps, and insert the head, right arm, and shoulder through the loop formed by the straps. The weapon will now be suspended from the left shoulder across the waist (see Figure 2-29). To increase sling size, slide buckle "C" toward buckle "B". To decrease it, slide buckle "C" toward the rear sling swivel.

- c. To fire the weapon from the shoulders, take the weight of the LMG in the right hand and slide buckle "B" towards the shoulder with the left hand (see Figure 2-30). To return to the carriage position, slide buckle "B" back towards the front sling swivel (see Figure 2-31).

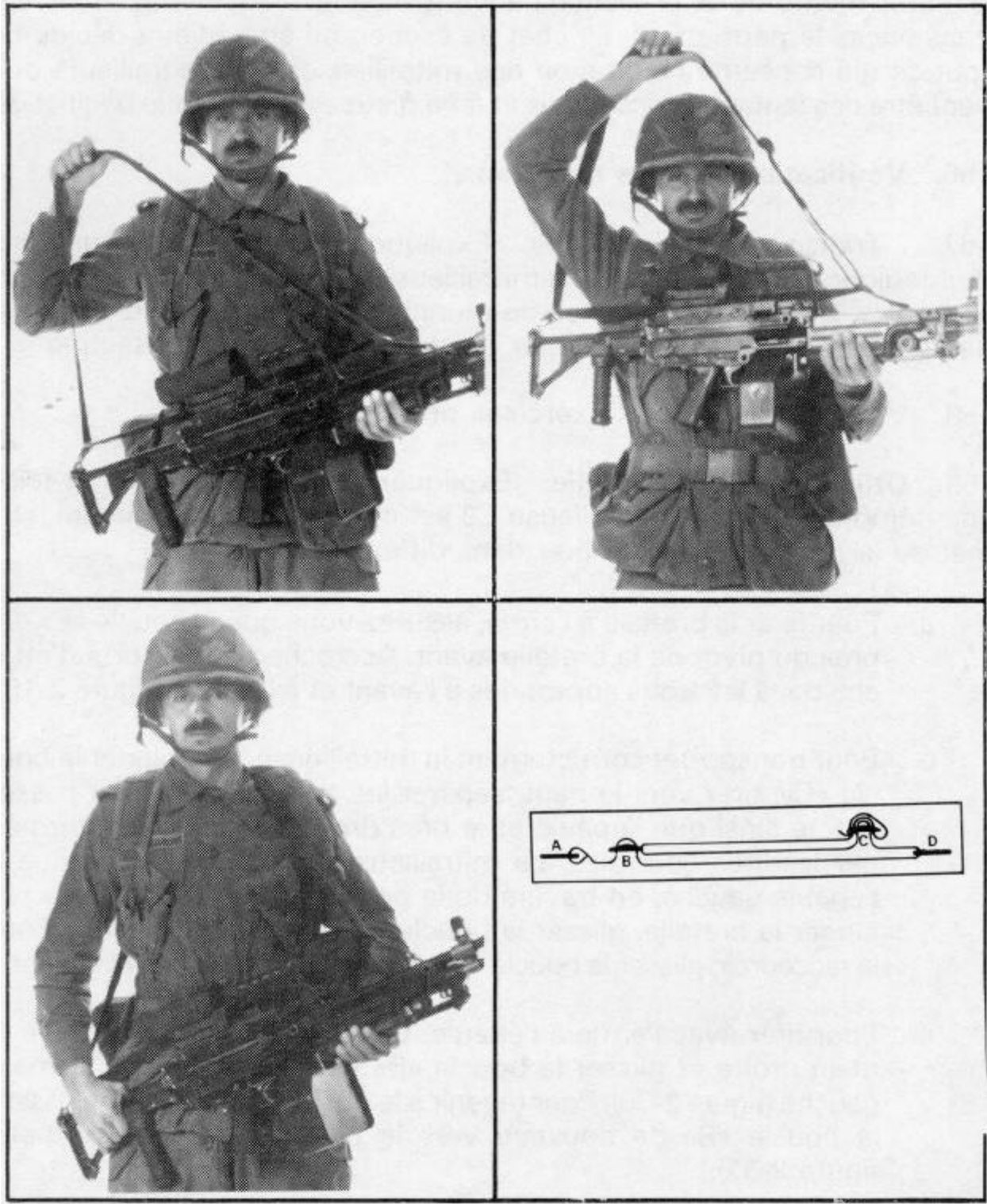


Figure 2-29 Sling - Carry Position



Figure 2-30 Sling - Shoulder Fire

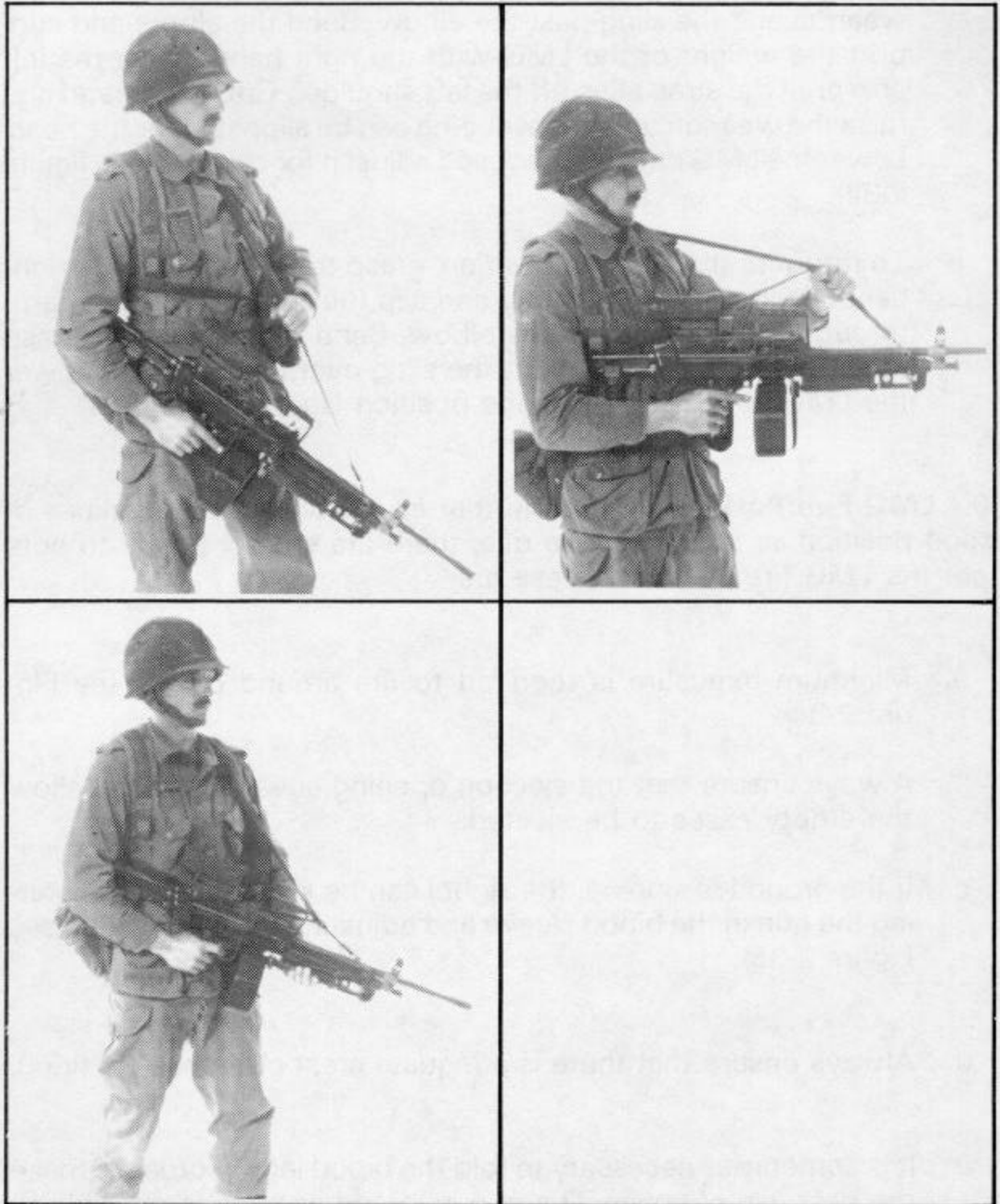


Figure 2-31 Sling - Return to Carry Position

- d. To carry the LMG on the back, put the right arm between the weapon and the sling past the elbow. Bend the elbow and support the weight of the LMG with the right hand. Raise the left arm until the strap slips off the left shoulder. Grasp the band and raise the weapon until the webbing can be slipped over the head. Lower the LMG onto the back and adjust it for comfort (see Figure 2-32).
- e. To return to the carriage position, grasp the barrel with the right hand. Raise the LMG slightly and slip the left hand and forearm through the webbing to the elbow. Bend the elbow and grasp the strap at the shoulder, lift the sling over the head, and lower the LMG back to the carriage position (see Figure 2-33).

160. **LMG Fire Positions.** Explain that in addition to the qualities of a good position as taught for the rifle, there are special points to note about the LMG fire position. These are:

- a. Minimum exposure is required to fire around cover (see Figure 2-34).
- b. Always ensure that the ejection opening cover is clear to allow the empty cases to be ejected.
- c. If the ground is sloping, the sights can be kept upright by rotating the gun in the bipod sleeve and adjusting each bipod leg (see Figure 2-35).
- d. Always ensure that there is adequate crest clearance for firing.
- e. It is sometimes necessary to fold the bipod legs in order to make the best use of cover. The gun is rested as near as possible to where the bipod legs join the gun.



Figure 2-32 Sling - Back Carry



Figure 2-33 Sling - Return from Back Carry

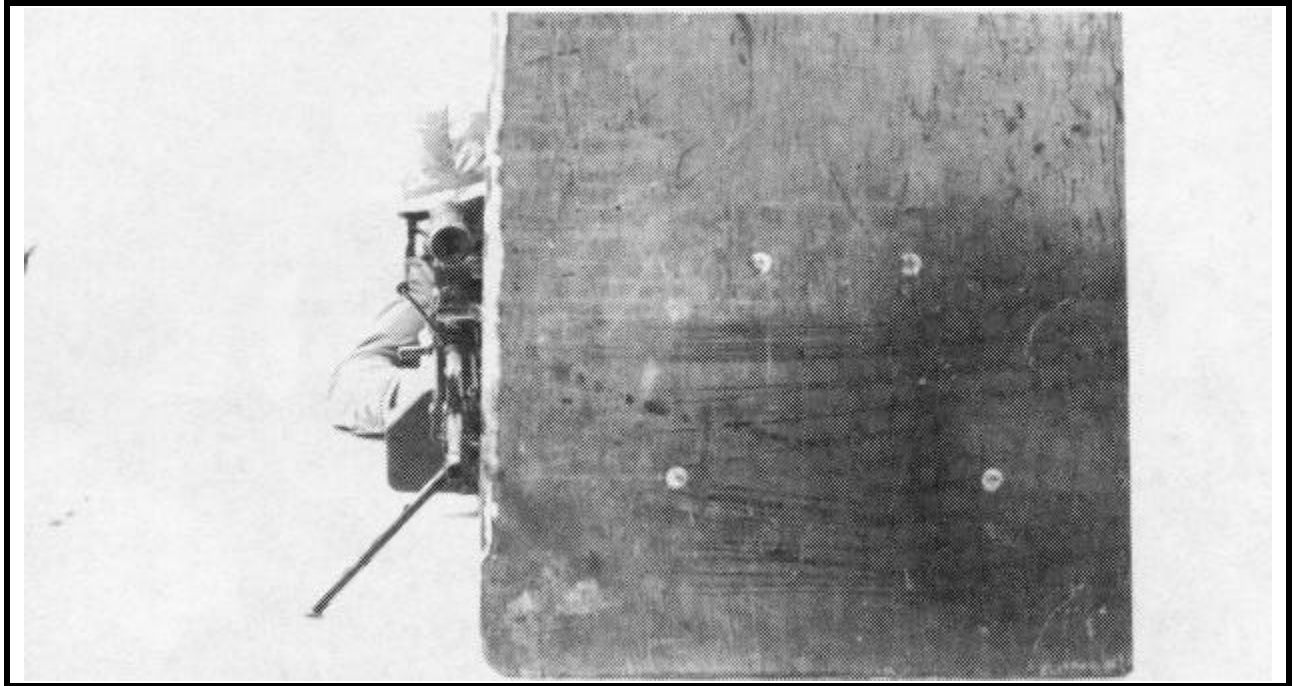


Figure 2-34 Firing Around Cover



Figure 2-35 Firing on a Slope

161. **Confirm by Practice.**

162. **Battle Drill for the Gunner.** Explain that the gunner carries the gun either by the carrying handle or in front of the body supported by the sling over the right shoulder. The gunner holds the gun muzzle down and forward, right hand on the pistol grip and left hand under the folded bipod legs.

163. Normally the gunner will be given general direction for movement. The gunner must then select specific routes and fire positions. If the gunner is operating under a general fire order the gunner must be constantly alert for changes in the situation. It is the responsibility of all members of the section to assist the LMG gunner in movement and fire control.

164. If the LMG gunner is operating under the orders of a gun controller the following procedure will be used:

- a. When a target is ordered, the gunner is to set the sights, mount the gun, and cock it. The gunner is to fire as ordered.
- b. On the order STOP, the gunner acts as taught but the butt should be kept into the shoulder.
- c. On the order GO ON, the gunner acts as taught.
- d. On the order PREPARE TO MOVE, if a long bound is to be covered, the gunner is to MAKE SAFE and ensure that spare ammunition is ready to be moved. For a short move, it is sufficient to cock the gun and put the safety catch to SAFE in lieu of MAKE SAFE.
- e. On the order MOVE, the gunner is to avoid breaking cover from the position from which the gunner has been firing. On arrival at the new position, the gunner is to align the gun ready for firing.

165. **Improvised Support Using a No. 2.** Explain and demonstrate. On occasion, due to the shape of the ground or the height of vegetation, it may not be possible to engage a target unless the gun is elevated. Extra height can be achieved by using the back of a No. 2. Some loss of control can be expected, so it is therefore necessary to limit the length of burst to 3-5 rounds. It is important that the gun is firmly anchored on the back of the No. 2.

- a. Three basic positions can be adopted: low, medium, and high (see Figures 2-36, 2-37, and 2-38). In each case the gun is supported on the back of the No. 2 in the same way.
- b. The No. 2 adopts a position at right angles to the line of fire and as low as possible, taking full advantage of available cover.

- c. The gun is placed across the back of the No. 2 with the bipod unfolded. The feet should be anchored in the centre of the back with one foot in position over the rear pouch. The gunner must modify his position to conform to the height of the No. 2.
- d. Wherever possible, all drills should be carried out while the gun is on the back of the No. 2. If this is not practical the gun should be removed to a flank, taking care that the muzzle is pointing in a safe direction.
- e. Care should be taken that the ejection opening is free from obstruction and that the gas regulator is free from any camouflage or webbing. It may be also necessary to adjust the bipod legs to ensure the feed box is clear of any obstruction.

166. **Confirm by practice.**

167. **Conclusion**

- a. Take questions from the class on the entire lesson.
- b. Confirm by questions and practice.
- c. Normal safety precautions.
- d. Pack kit.
- e. **Summary.** Include the following:
 - (1) the importance of breaking cover from a position different from that used when firing; and
 - (2) a forecast of the next lesson on this subject.



Figure 2-36 Improved Support Position - Low



Figure 2-37 Improved Support Position - Medium



Figure 2-38 Improvised Support Position - High

LESSON 9 - PREPARATION FOR FIRING, CARE, AND CLEANING AFTER FIRING

INSTRUCTOR'S NOTES

168. **Aim.** To teach how to prepare the gun to fire and how to clean and care for it after firing.

169. **Timing.** One 40-minute period.

170. **Method.** A basic instructional period.

171. **Stores**

- | | | |
|----|----------------------|--------------------|
| a. | LMG | 1 per two soldiers |
| b. | Section Cleaning Kit | 1 per two guns |
| c. | Cleaning materials | as required |

172. **Miscellaneous.** This lesson should be conducted at the range as part of Range Practice 1. Cleaning after firing should be taught and practiced after the actual shoot.

CONDUCT OF THE LESSON

173. **Safety Precautions.** Normal.

174. **Review.** Care and cleaning. Leave the gun stripped.

175. **Introduction.** Explain that in order to produce effective, accurate fire the gunner must be able to prepare the gun to fire properly. To keep the gun firing requires constant care.

176. **Cleaning.** Explain that every opportunity must be taken to clean, examine, and lubricate the gun during lulls in firing. Special attention should be given to the chamber and gas affected parts. If circumstances permit, the bolt and piston should be removed, all fouling wiped off, and CLP applied. If this is not possible, open the feed cover and squirt a few drops of CLP on the guide ribs.

177. **Preparing the Gun for Firing.** With the gun cleaned and the parts dry, explain and demonstrate:

- a. As the gun is assembled, lubricate the bearing surfaces of the bolt and piston extension, guide ribs, feed arm and feed channel, the return spring, and the trigger mechanism. (Ensure that the safety catch is at 'F' before assembly of the bolt and piston in the gun.)
- b. Set the gas regulator at NORMAL and check that there is no obstruction in the barrel and that it locks firmly into position.

- c. Check the sights for tightness, particularly the front sight locking screw.
 - d. When the gun is assembled, squeeze the trigger and move the working parts backwards and forwards a few times.
178. Before firing the following parts must be free of lubricant;
- a. barrel and chamber,
 - b. gas regulator,
 - c. piston head,
 - d. internal parts of the gas cylinder, and
 - e. bolt face.
179. Failure to keep these parts dry may result in a stoppage.
180. **Arctic Conditions.** Explain and demonstrate. Under arctic conditions CLIP is used sparingly. In order to fire the gun when wearing thick gloves:
- a. Remove the trigger group, push out the trigger guard securing pin, and take off the trigger guard.
 - b. Replace the trigger group and store the trigger guard and securing pin. With the gun in this condition, extra care and correct use of the safety catch are essential.
 - (1) Remove the trigger group. To remove the trigger guard push against the front of the guard until it is clear of the trigger guard retaining pin. Remove it.
 - (2) Replace the trigger group.
 - (3) Store the trigger guard in a secure place.

CAUTION

With the trigger guard removed, extreme caution must be exercised, particularly when using the 30 round magazine. Any time the weapon is loaded, the safety catch must be at SAFE unless a fire order has been received.

181. **Cleaning After Firing.** After firing, strip the gun and clean it using only the materials provided. The gun is easier to clean immediately after firing while it is still warm. If this is not possible, apply CLP to all gas affected parts; this will assist in cleaning later. Cleaning is carried out as follows:

a. **Barrel.**

- (1) Attach the bore cleaning brush to the cleaning rod, lubricate the brush, and clean out the barrel, working from both the chamber and the muzzle ends of the barrel in turn.
- (2) Dry out the bore using a piece of flannelette.
- (3) Inspect the bore and repeat if necessary.
- (4) Apply CLIP to the bore.

b. **Gas Regulator.**

- (1) To clean the gas regulator, use the special tool carried in the handguard.
- (2) Clean the gas escape holes (Figure 2-39), central hole (Figure 2-40), and grooves (Figure 2-41). The regulator body can be heavily fouled and will require thorough cleaning.

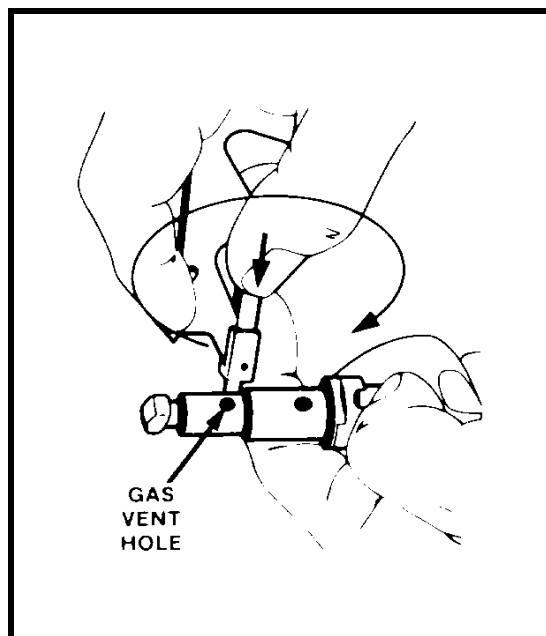


Figure 2-39 Regulator Gas Vent Holes

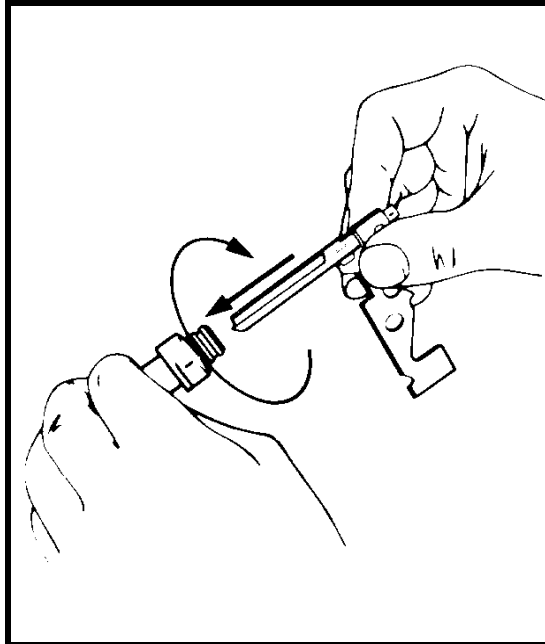


Figure 2-40 Regulator Central Hole

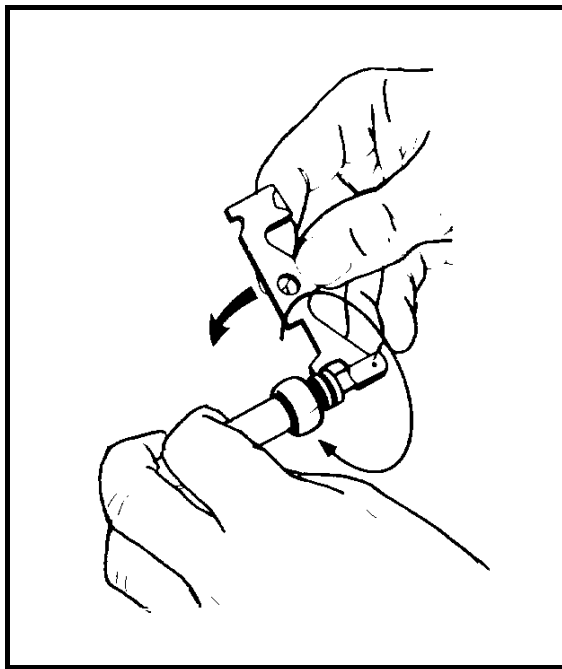


Figure 2-41 Regulator Grooves

c. **Piston Group.**

- (1) Clean the hole in the front of the piston with the same scraper part as the front hole of the gas cylinder (see Figure 2-42).

- (2) Clean the piston head grooves by clamping the scraper around the piston head and rotating (see Figure 2-43).

d. **Body Group.**

- (1) Clean the cannellure and gas escape holes at the front of the cylinder with the scraper.
- (2) To clean the front of the cylinder insert the scraper into the cylinder, apply pressure to the handle, and rotate the tool. Repeat as necessary until all fouling has been removed (see Figures 2-44 and 2-45).
- (3) Clean the gas cylinder with the lubricated brush fitted to the cleaning rod. Dry out with a piece of flannelette wrapped round the brush.
- (4) Clean the rest of the body, especially the guide grooves and feed mechanism. Lubricate the parts and assemble the gun.

182. **Confirm by Practice.**

183. **Care After Firing.** Explain that the bore chamber, piston, and other gas affected parts must be thoroughly cleaned, inspected, and lubricated daily over a period of several days after the gun has been fired.

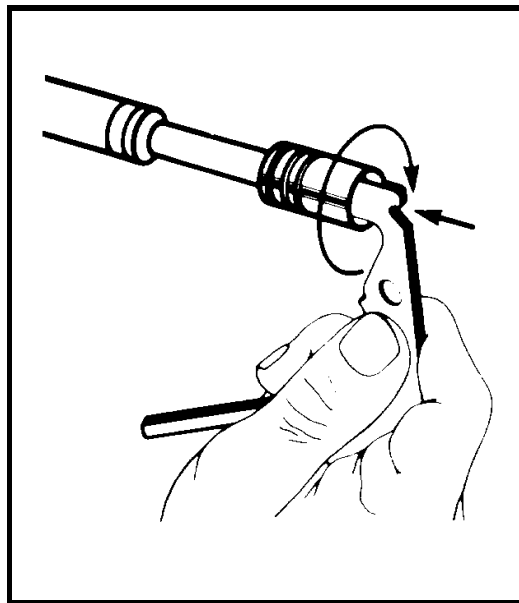


Figure 2-42 Piston Front

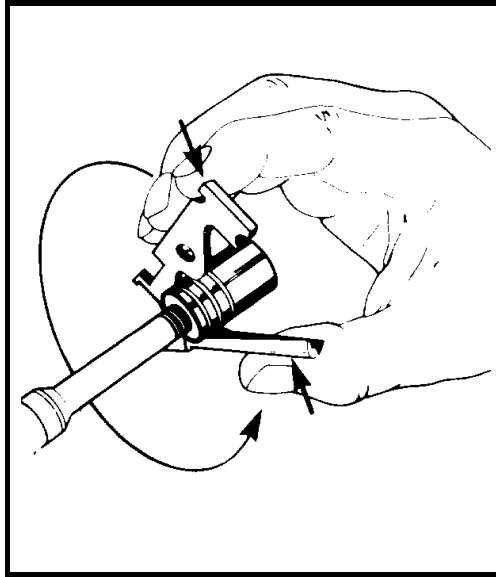


Figure 2-43 Piston Grooves

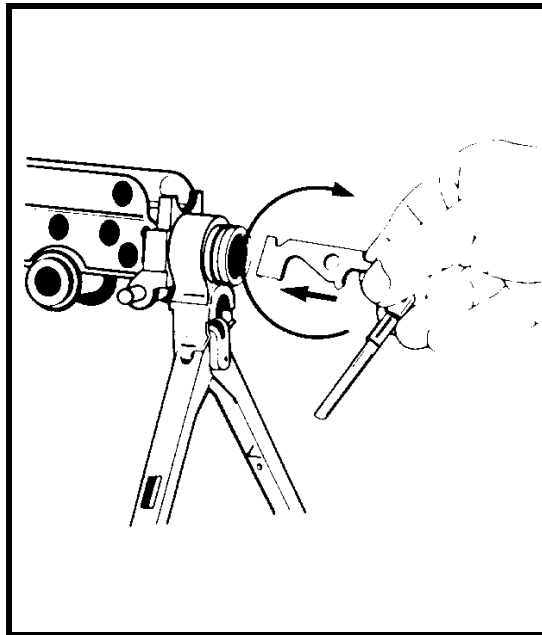


Figure 2-44 Cylinder Inside Front

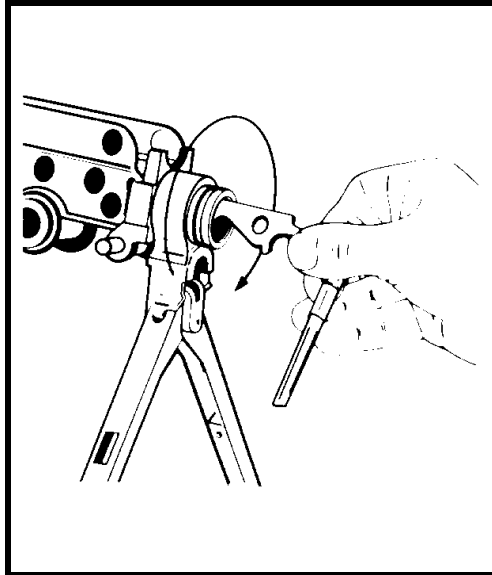


Figure 2-45 Cylinder Internal Grooves

184. **Conclusion.**

- a. Take questions from the class on the entire lesson.
- b. Carry out safety precautions.
- c. Pack kit.
- d. **Summary.** Include the following:
 - (1) the importance of proper care and cleaning; and
 - (2) a forecast of the next lesson on this subject.

LESSON 10 - CLOSE QUARTER BATTLE AND ANTI-AIRCRAFT HANDLING

INSTRUCTOR'S NOTES

185. **Aim.** To teach the soldier how to fire the gun in close quarters and at aircraft.
186. **Timing.** One 40-minute period.
187. **Method.** A basic instructional outdoor period.
188. **Stores**
- | | | |
|----|----------------------|----------------------------|
| a. | LMG | 1 per two soldiers |
| b. | Section Cleaning Kit | 1 per two guns |
| c. | Dummy rounds, belted | 2 x 15 round belts per gun |
| d. | Figure 12 targets | 3 |
189. **Preparation**
- Reconnoitre the dry training area and note locations for close quarter battle (CQB) targets.
 - Targets should be placed out at ranges of up to 50 metres.
190. **Miscellaneous**
- During confirmation by practice of COB, use soldiers as live targets having them suddenly appear from different directions and then disappear.
 - Practice anti-aircraft (AA) drill for a two-man team.
 - As soon as possible after instruction, soldiers should fire on a field firing range suitable for CQB and AA drills.
 - Extra barrels are necessary for AA live firing.

CONDUCT OF THE LESSON

191. **Safety Precautions.** Normal.
192. **Review.** Nil.

193. **Introduction.** There are many occasions, eg, in an assault, during street fighting, in a forest, and in close country, where the LMG can be used as a close quarter weapon. It can also be used effectively in an anti-aircraft role by destroying the aircraft or by forcing it to climb higher, thus allowing other air defence systems to engage and destroy it.

194. **Close Quarter Battle.** Have the class copy your movements as you explain and demonstrate:

- a. **The Position.** Ensure that the sling is adjusted correctly and that the buckle slides freely. Fold and lock the bipod legs underneath the gun. When moving keep the gun cocked and the safety catch at FIRE. To ensure safety, eg, when crossing obstacles, put the catch on SAFE, returning it to FIRE when clear (see Figure 2-46).
- b. **Firing in CQB**
 - (1) Hold the gun with the right hand on the pistol grip, the forefinger clear of the trigger. The left hand should hold the folded bipod legs with the fingers clear of the barrel and gas cylinder.
 - (2) When a target appears, advance the left leg in the direction of the target, body leaning forward in the ON GUARD position, and press the gun into the right side and hold it firmly (see Figure 2-47).
 - (3) Fire in bursts by sense of direction and correct by observation of strike. The burst length used depends upon the target and the range, but should never be less than three rounds.
 - (4) Although it is possible to fire while advancing, far better results are obtained by pausing momentarily to fire each burst.
 - (5) Should the gun stop, go to cover quickly..Immediate action can be carried out kneeling with the gun resting on the left thigh. The muzzle must be kept pointing in the direction of the enemy. Other stoppages may require the gun to be placed on the ground.
 - (6) The gunner must remember that before the ammunition box is fully expended he should get to cover and load a fresh one.

195. **Confirm by Practice.**

196. **Anti-Aircraft Drill.** Explain and demonstrate with the class imitating:

- a. **The Position**

- (1) Kneeling. Hold the gun with the bipod legs folded and kneel on the right knee, which should be pushed well out to the right. Rest the butt on the thigh (see Figure 2-48).
- (2) The standing position may be used. This is similar to the CQB position with the head kept well back (see Figure 2-49).



Figure 2-46 The CQB Position



Figure 2-47 On Guard Position Standing

b. **Firing at Aircraft**

- (1) On the alert or stand-to, cock the gun and adopt the AA position making sure that the safety catch is at **FIRE**.
- (2) Concentrate on the target and;
 - (a) If the aircraft is coming straight at you point the gun at its nose.



Figure 2-48 Anti-Aircraft Position - Kneeling



Figure 2-49 Anti-Aircraft Position - Standing

- (b) If it is slow and crossing, point the gun well in front of its line of direction so that it flies into the path of the bullets. You must swing with the aircraft.
- (3) Long, controlled bursts should be used with corrections being made by watching the tracer, or from instructions given by an observer.
- (4) If the tracer is seen to pass behind a crossing aircraft, a bold swing forward should be made to correct it.
- (5) If a stoppage occurs, rest the gun across the left knee and carry out the Immediate Action.
- (6) When firing from a trench, lean against the back of it for support.

197. **Confirm by Practice.**

198. **Conclusion**

- a. Take questions from the class on the entire lesson.
- b. Confirm by questions and practice.
- c. Safety precautions.
- d. Pack kit.
- e. **Summary.** Include the following:
 - (1) the importance of speed and accuracy in firing; and
 - (2) a forecast of the next lesson on this subject.

LESSON 11 - THE MECHANISM

INSTRUCTOR'S NOTES

199. **Aim.** To teach the mechanism of the LMG.
200. **Timing.** Two 40-minute periods.
201. **Method.** Basic instructional period.
202. **Stores**
- | | | |
|----|----------------------|---------------------------------------|
| a. | LMG | 1 per two soldiers |
| b. | Dummy rounds, belted | 1 six-round belt
1 four-round belt |
| c. | Table | 1 per gun |
203. **Preparation**
- Lay out a gun with the barrel, piston, bolt, butt, and trigger group separated (see Figure 2-50).
 - Load one gun after safety precautions have been completed.
 - Ensure that the safety catch of the stripped gun is set at SAFE.
204. **Miscellaneous**
- When applicable, show the action on the loaded gun, followed by detailed explanation on the stripped gun.



Figure 2-50 Layout for Teaching



Figure 2-50 Layout for Teaching

- b. Teaching questions are to be used where possible. Have the class use the stripped gun to demonstrate their answers.

CONDUCT OF THE LESSON

205. **Safety Precautions.** Normal.

206. **Review.** Review basic mechanism from the Immediate Action and Gas Stoppage Drill lesson using the loaded gun. Leave the gun made safe.

207. **Introduction.** Explain that a thorough knowledge of the mechanism of the LMG is essential to those who are responsible for operating the gun.

208. **Parts of the Gun.** Figure 2-51 shows an exploded view of the LMG. Explain, using the stripped gun, that the following parts are important in this lesson:

- a. **Piston Extension** (Figure 2-52)
 - (1) Ejection opening cover cam.
 - (2) Rear and forward bent.
- b. **Bolt and Slide** (Figures 2-53 and 2-54)
 - (1) Feed horns (belt and magazine).
 - (2) Locking lugs.
 - (3) Bolt locking stud.
 - (4) Ejection groove.
 - (5) Bolt locking cam slide.

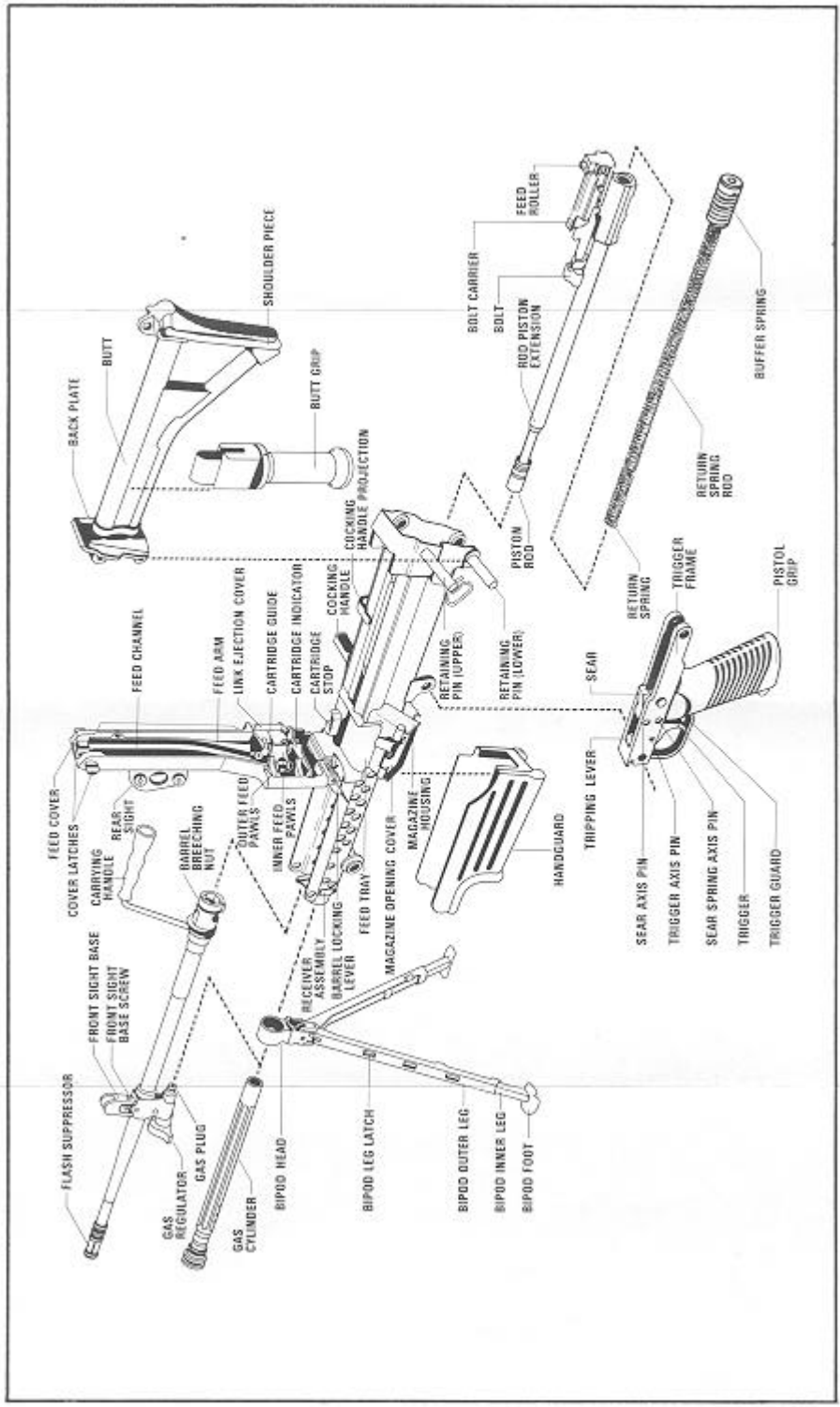


Figure 2-51 Exploded View of the LMG

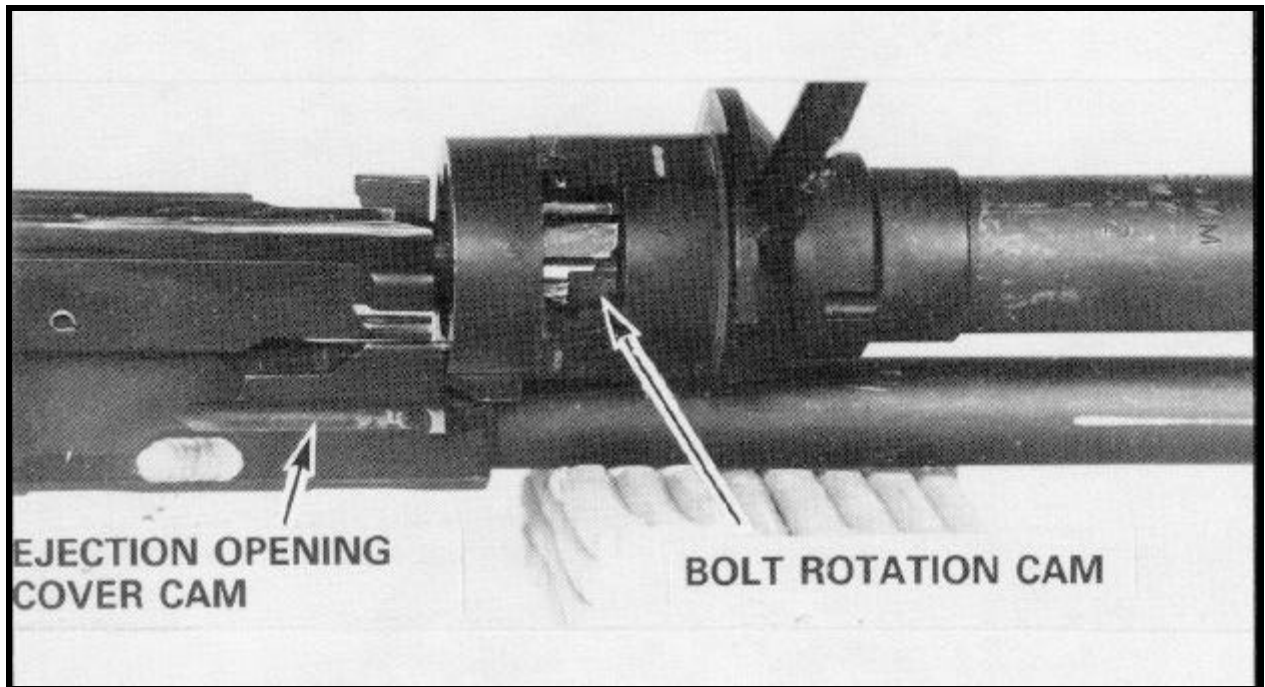


Figure 2-52 Piston Extension

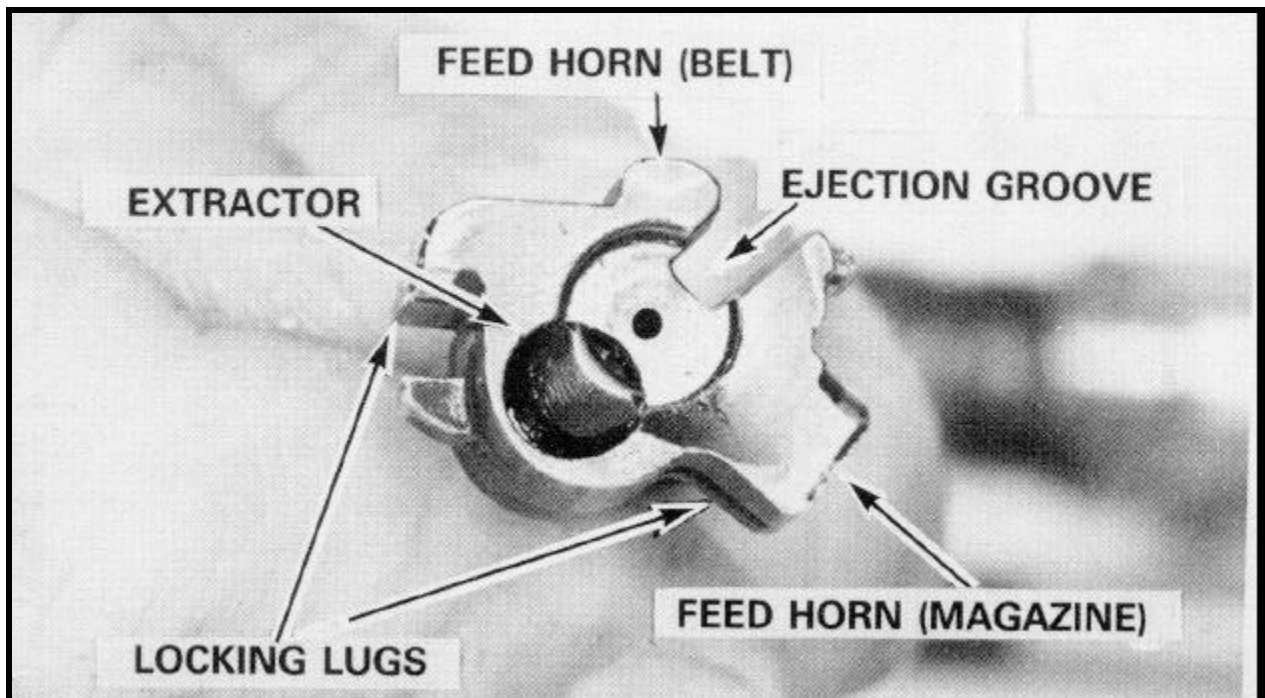


Figure 2-53 Bolt

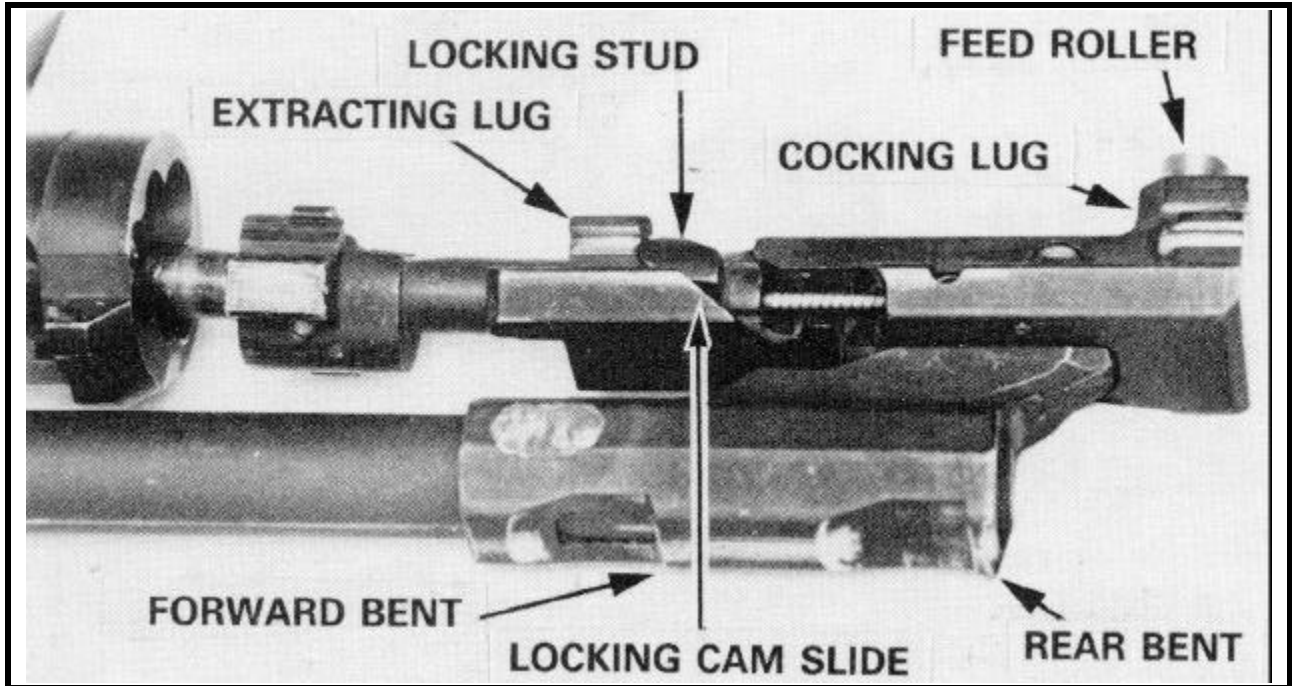


Figure 2-54 Bolt and Slide

- (6) Bolt extracting lug.
- (7) Feed Roller.
- (8) Cocking lug.

c. **Barrel Breeching Nut** (Figure 2-55)

- (1) Locking recess.
- (2) Bullet guides (belt and magazine).
- (3) Bolt rotation cam.

d. **Receiver**

- (1) Ejection opening cover projection.

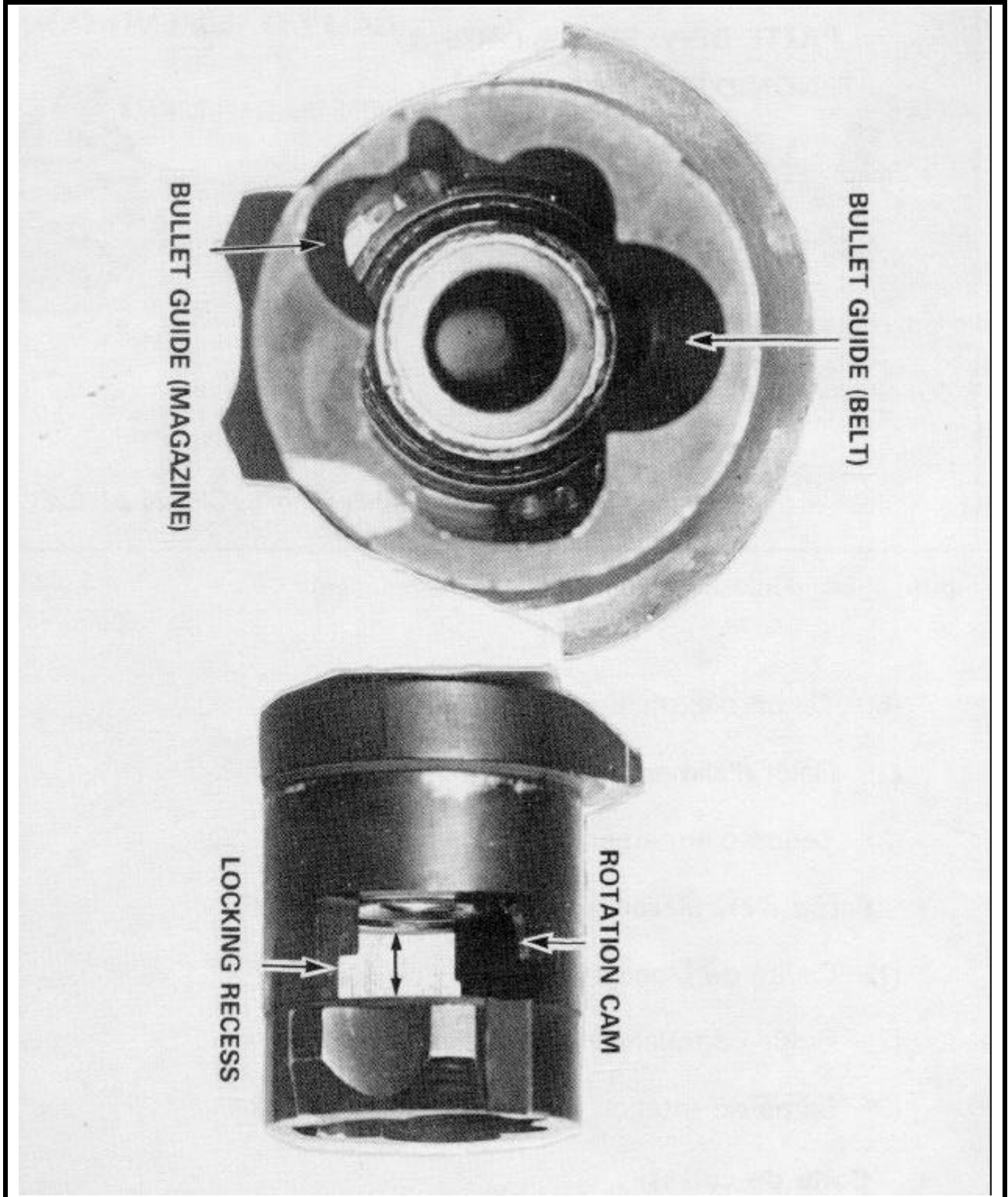


Figure 2-55 Barrel Breeching Nut

- (2) Ejector.
- (3) Cocking handle projection.

e. **Trigger**

- (1) The sear.
- (2) The tripping lever.

f. **Feed Cover** (Figure 2-56)

- (1) The inner and outer feed pawls.
- (2) Feed arm and feed channel.
- (3) Cartridge guide.

209. **Confirm by Questions.**

210. **Forward Position Of The Working Parts.** Explain, using the stripped gun.

- a. When the working parts are fully forward, the locking lugs are in the locking recesses in the barrel breaching nut. Therefore, the bolt cannot move directly to the rear, so the breech is locked.
- b. The firing pin protrudes from the face of the bolt.

211. **Confirm by Questions.**

212. **Rearward Action On Cocking.** Demonstrate cocking using the loaded gun and explain the action in detail using the stripped gun.

- a. On cocking the gun, the piston rod and bolt are pulled to the rear by the projection on the cocking handle engaging the cocking lug on the slide. The projection on the ejection opening cover is forced to the right by the cam on the piston rod extension and the ejection opening cover is opened under pressure of its spring. When the working parts are fully to the rear, the sear rises and engages in the bent.

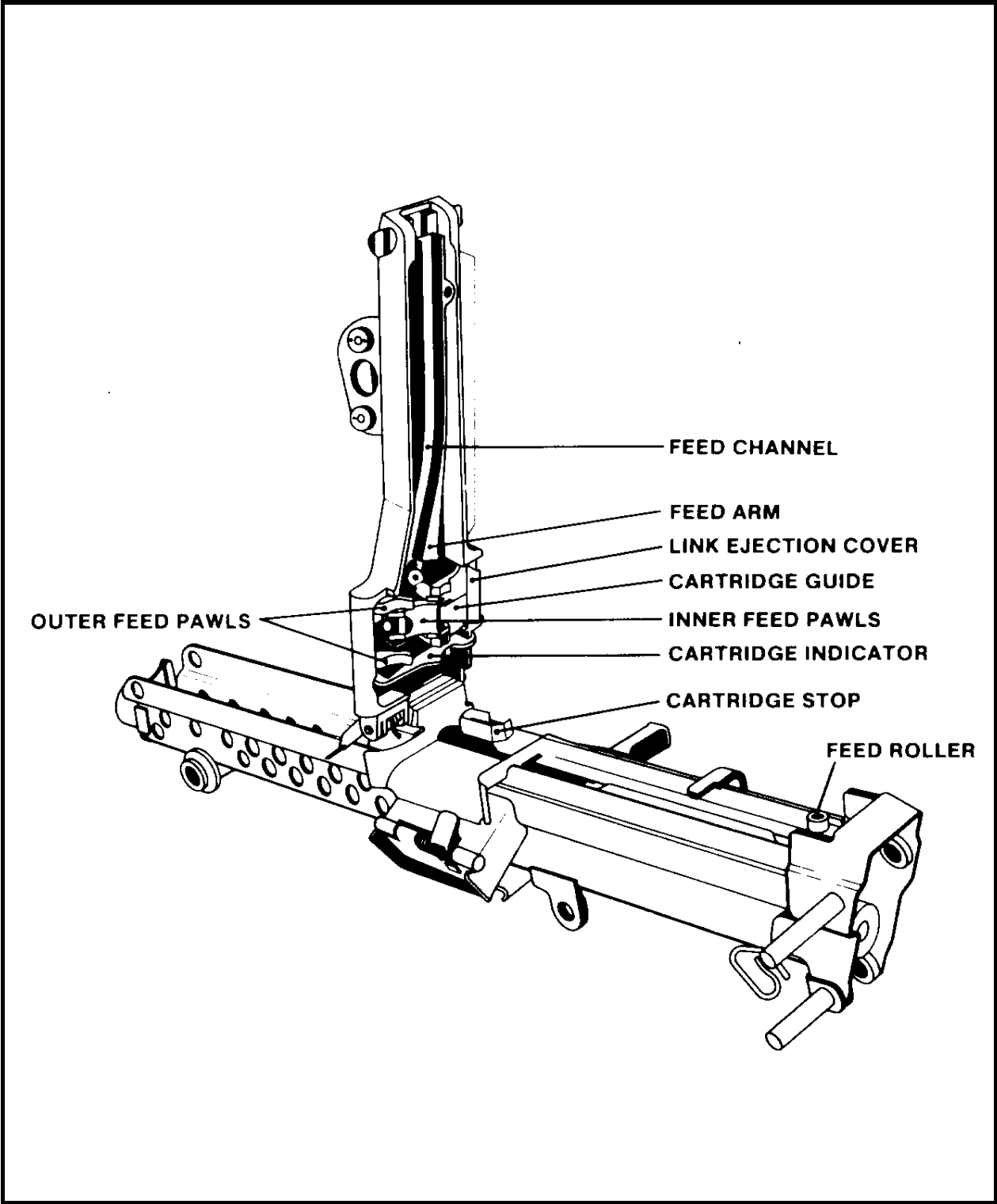


Figure 2-56 Feed Cover

- b. The cocking handle must always be pushed fully forward after cocking the gun.

WARNING

If the gun is partially cocked, the bolt can be held back by the base of a round, and a sudden jolt may release it and fire a round.

213. **Confirm by Questions.**

214. **Effect On The Locking Lugs On Cocking The Gun.** Explain using the stripped gun. On cocking the gun, as soon as the piston rod begins to move, the firing pin is withdrawn into the bolt. The breech remains locked during the primary movement (about 10 mm or 3/8 inch).

215. Continued movement of the piston rod causes the bolt to rotate to the right when the locking stud engages the cam, rotating the lugs out of the recesses of the barrel breaching nut. The breech is now fully unlocked.

216. **Confirm by Questions.**

217. **Forward Action On Operating The Trigger** (see Figures 2-57, 2-58, and 2-59). Explain and demonstrate by operating the trigger on the loaded gun and by using the stripped gun and a belt of four dummy rounds on the feed tray.

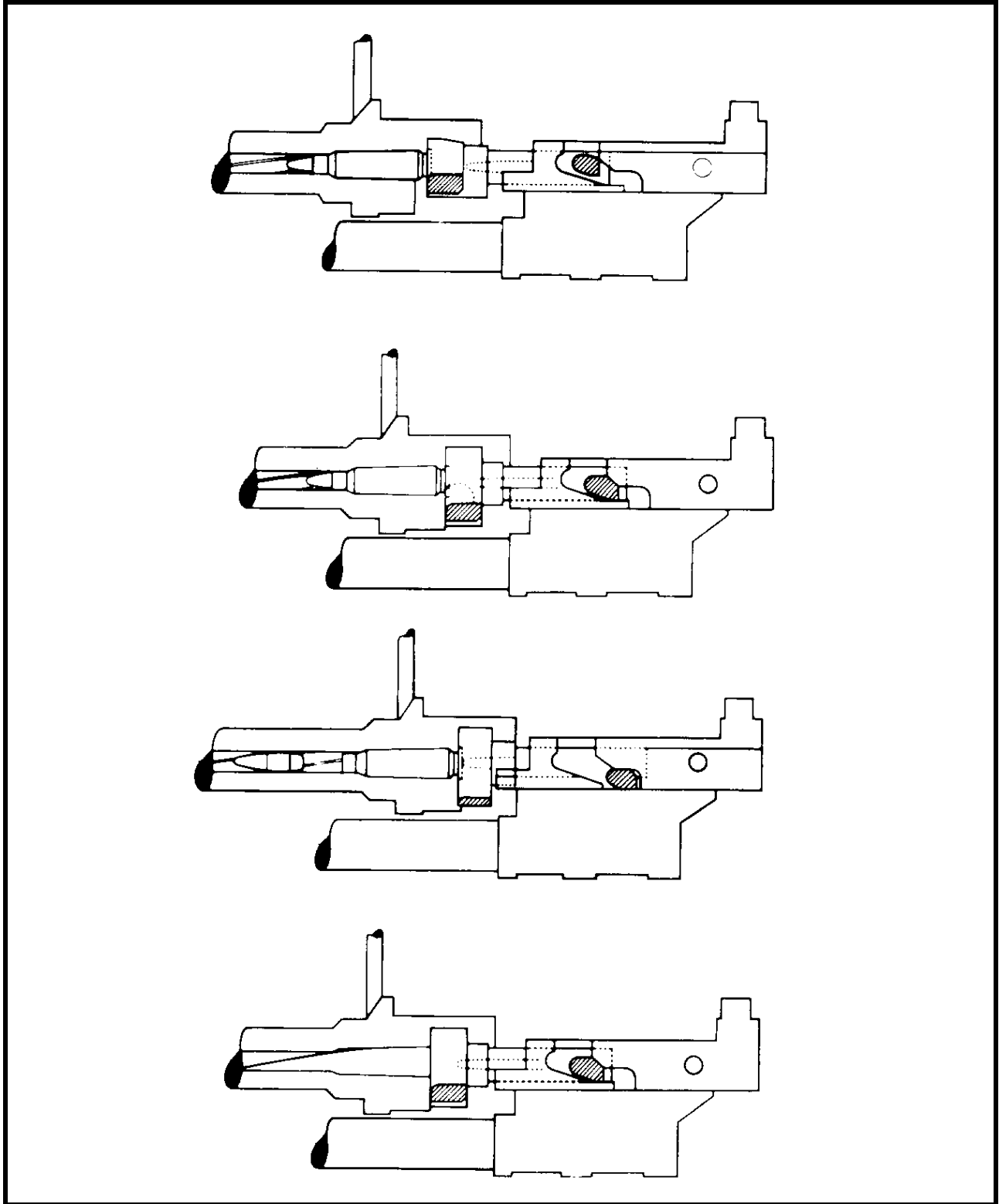


Figure 2-57 Bolt Firing Action

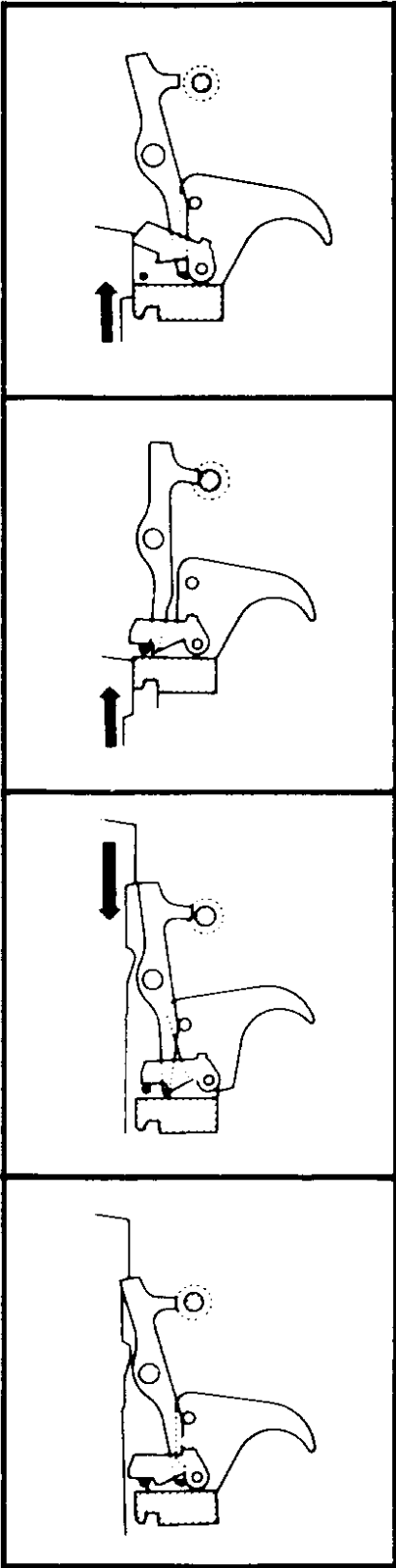


Figure 2-58 Trigger and Piston Extension Inter-Action

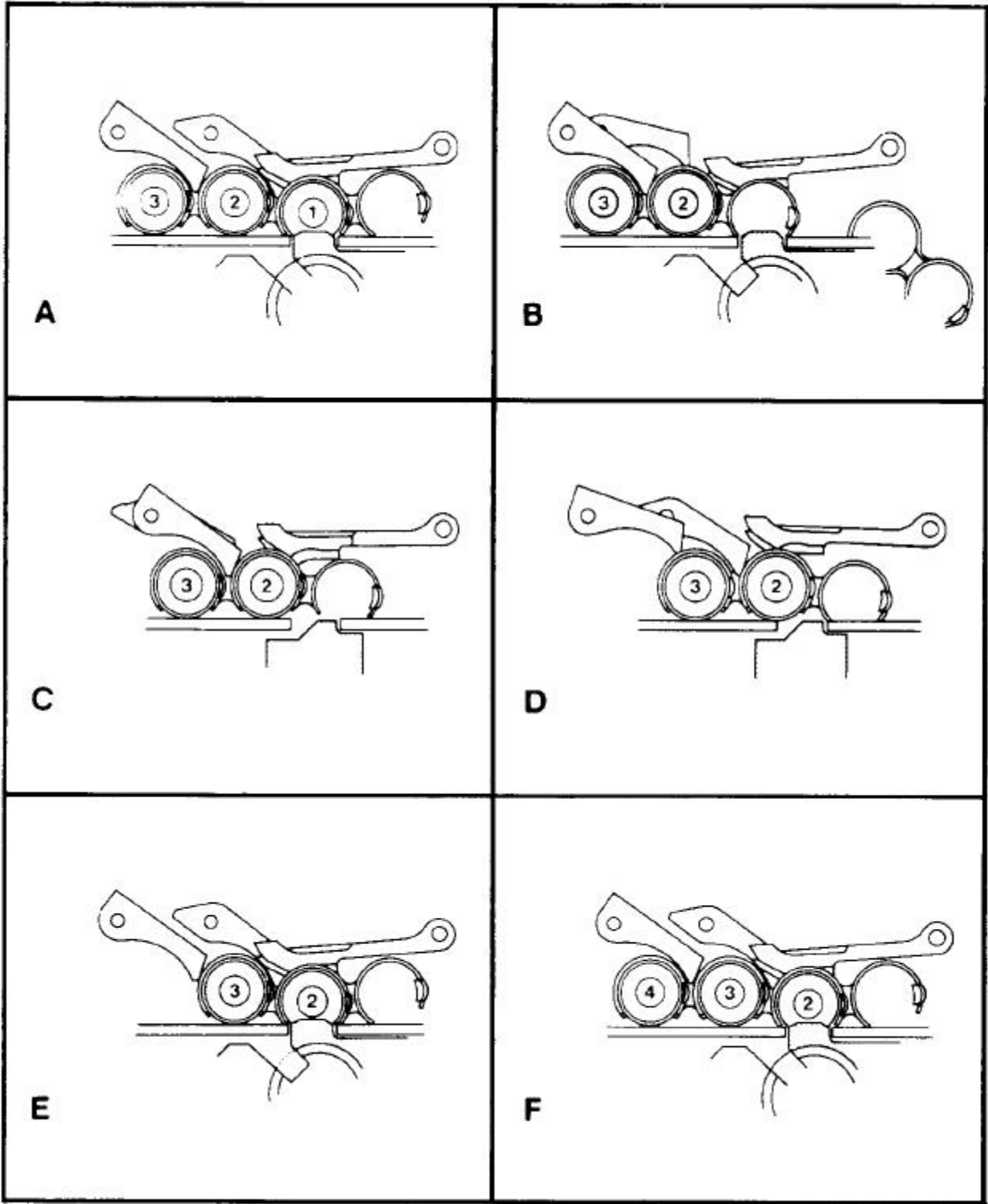


Figure 2-59 Action of the Feed Pawls

- a. The first round is positioned in line with the chamber and is held in position by the bullet stop and cartridge guide.
- b. On squeezing the trigger, the nose of the sear is depressed thus freeing the piston rod extension. The return spring pushes the working parts forward. The feed horns strike the base of the round and, assisted by the bullet guide, feed it into the chamber.

218. **Confirm by Questions.**

219. **Effect On The Locking Lugs On Operating The Trigger** (see Figure 2-57). Explain, using the stripped gun.

- a. As the working parts come forward and the round is fed into the chamber, the locking lugs come in contact with the bolt rotating cams, thus slowing down the forward movement of the bolt. The piston rod extension, still moving forward, causes the lugs on the bolt to rotate to the left. The bolt stud engages the bolt cam, rotating the lugs in the locking recess in the barrel breaching nut. The extractor rises over the base of the round. The round is now fully home with the breech locked.
- b. The final forward movement of the piston rod extension drives the firing pin through the bolt on the cartridge cap and fires the round. The working parts are now fully forward.

220. **Confirm by Questions.**

221. **Rearward Action, Extraction/Ejection, and Subsequent Shots** (see Figures 2-60 and 2-61). Cock the loaded gun. Explain, using the stripped gun.

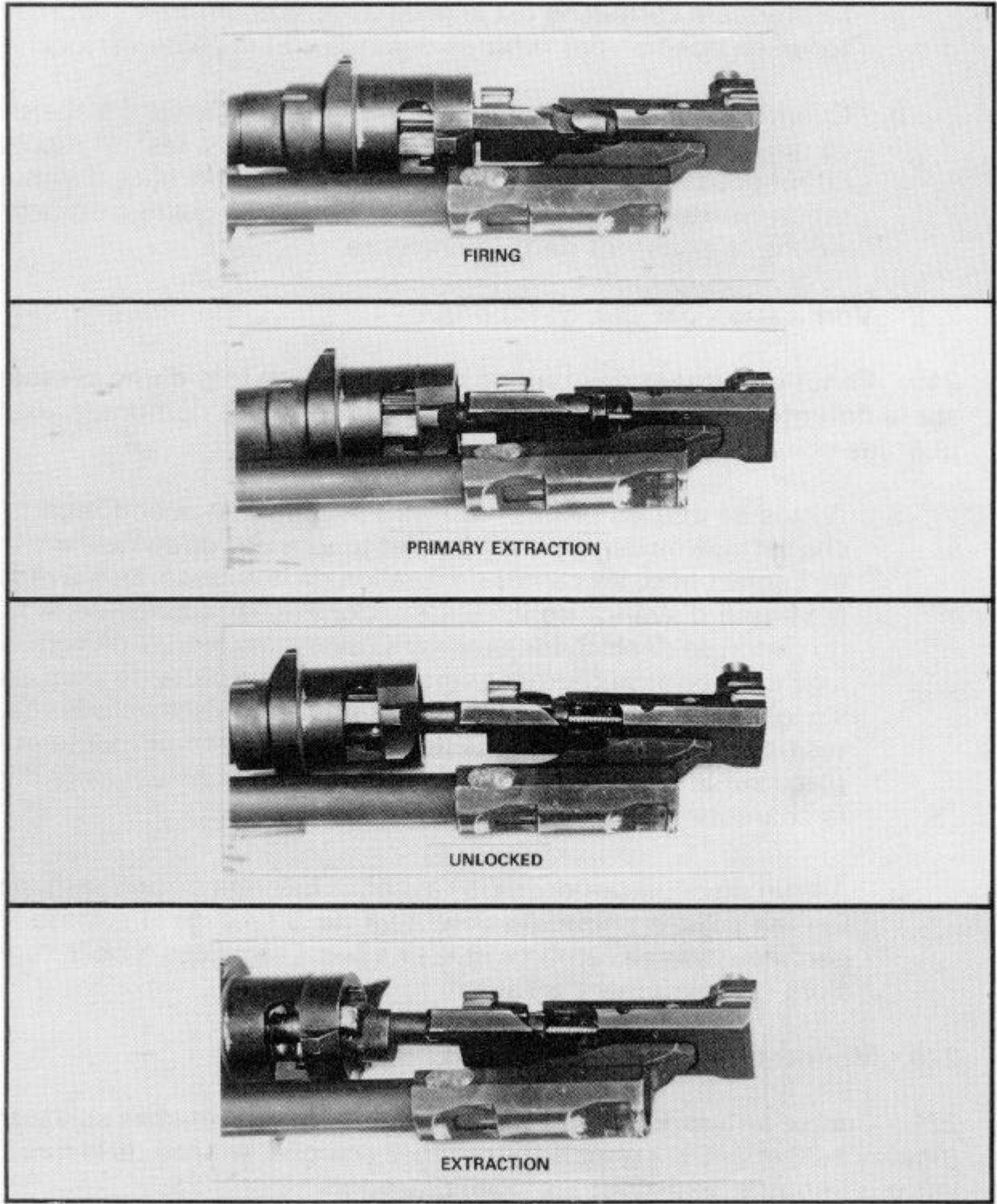


Figure 2-60 Firing Sequence

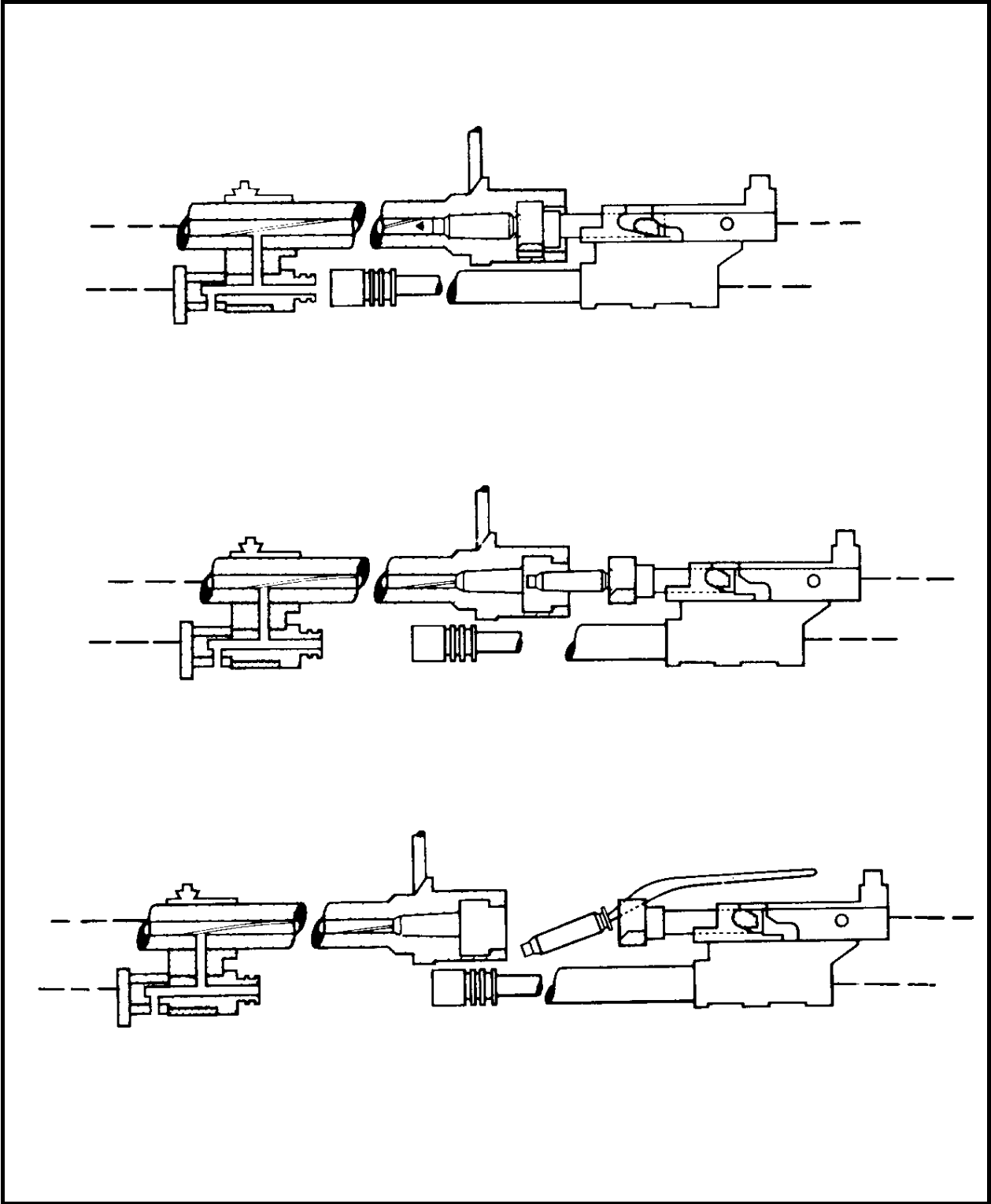


Figure 2-61 Bolt Ejection Action

- a. When the round is fired, some of the gases pass through the gas vent into the gas cylinder, strike the head of the piston rod, and drive it to the rear (see Figure 2-62).
- b. During the primary movement of the piston rod, when the breech is still locked, the bullet travels the distance from the gas vent to the muzzle.
- c. The subsequent slight rotation to the right of the bolt effects primary extraction of the empty case.

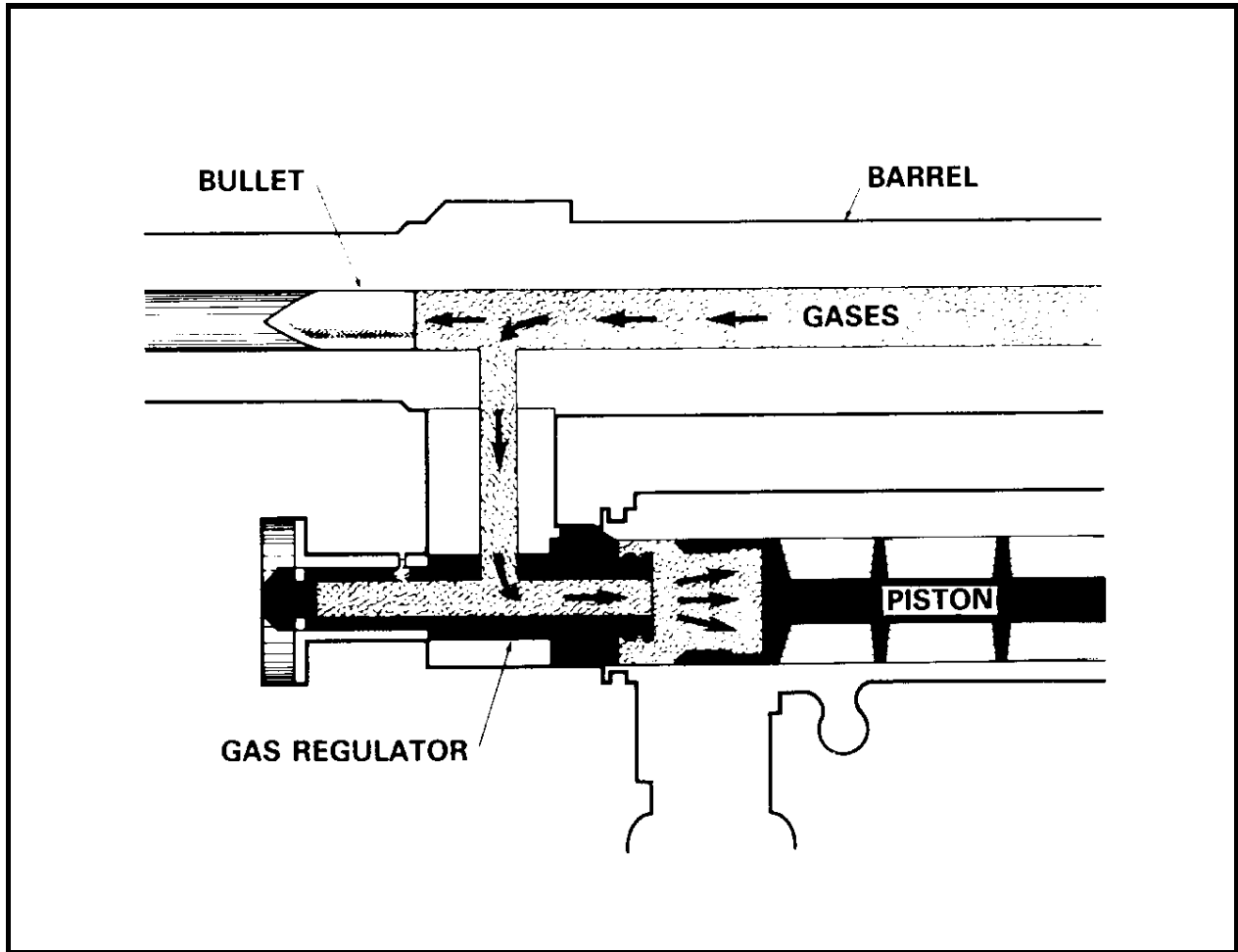


Figure 2-62 Flow of the Gas

- d. When the extracting lug engages the locking cam the bolt is fully unlocked and starts its rearward movement. The extractor withdraws the empty case from the chamber and the ejector forces it out the ejection slot.
- e. The working parts continue to the rear and the return spring is compressed.

- f. Provided that the trigger is kept squeezed, there are rounds in the belt, and sufficient gas is available to cause the working parts to rebound off the buffer, the action of feeding and firing will continue.
- g. On releasing the trigger, the sear remains down but the tripping lever rises. As the working parts come to the rear, the end of the piston hits the tripping lever allowing the sear to rise and engage in the bent, thus holding the working parts to the rear.

222. **Confirm by Questions.**

223. **Feeding the Rounds** (see Figures 2-59 and 2-63). Explain using the stripped gun, feed cover raised and a four-round belt, to show the position of the rounds in relation to the feed pawls.

- a. The feed roller moves up and down the feed channel which in turn moves the feed pawls.
- b. The forward movement forces the outer pawls to the right, half feeding the round. The inner pawl rides over the round and settles behind it.
- c. The rearward movement forces the inner pawl to the right, fully feeding the round. The outer pawls ride over the next round and settle behind it.

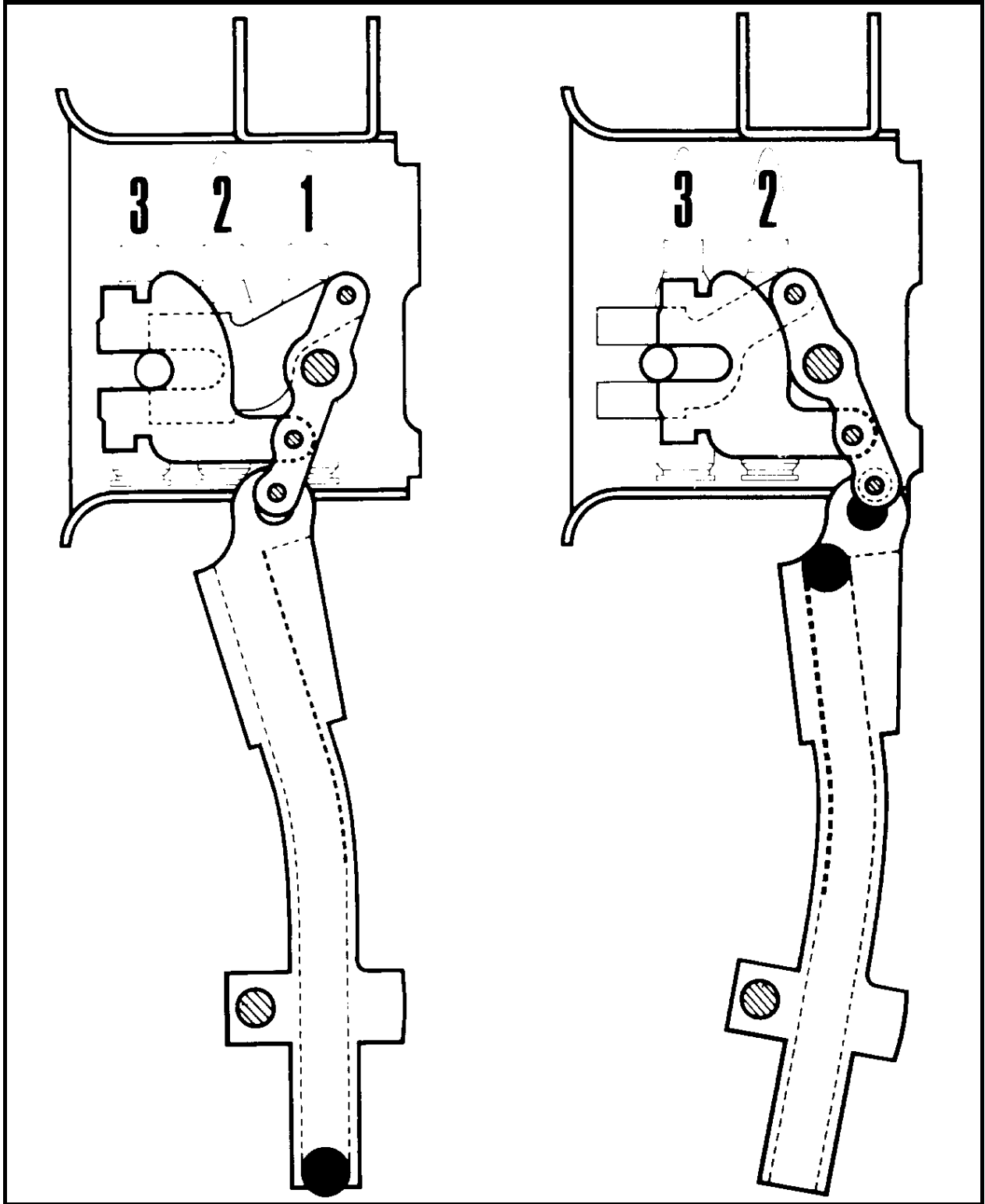


Figure 2-63 Movement of the Feed Roller

- d. The action of fully feeding around pushes the link of a fired round out of the side of the gun. The last link in a belt cannot be pushed out and must be cleared during the unloading.

224. **Confirm by Questions.**

225. **Safety Aspects.** Explain and demonstrate that the safety catch is recessed to take a lug positioned on the underside of the sear.

- a. When the safety catch is at "F" the recess is directly under the sear lug which allows the sear to be operated. When the safety catch is at "S" the recess is not in line with the lug, thus preventing operation of the sear.
- b. When the sear is in the lowered position the safety catch cannot be moved because the lug of the sear is in the recess of the safety catch.
- c. If the gun is assembled with the sear in the raised position and the safety catch is at "S", the gun cannot be cocked because the sear is locked in the up position.
- d. Under no circumstances is the safety catch to be moved while the cocking action is taking place. If the safety catch is moved a dangerous stoppage may occur.

226. **Confirm by Questions.**

227. **Conclusion**

- a. Take questions from the class on the entire lesson.
- b. Confirm by questions and practice.
- c. Normal safety precautions.
- d. Pack kit.
- e. **Summary.** Include the following:
 - (1) the importance of good maintenance;
 - (2) no unauthorized stripping of the mechanical parts; and
 - (3) a forecast of the next lesson in this subject.

CHAPTER 3
PRACTICE PERIODS

PRACTICE 1 - LESSONS 2, 3, 4, AND 5

INSTRUCTOR'S NOTES

1. **Aim.** To practise the soldiers in:
 - a. safety, stripping, assembling, and cleaning;
 - b. loading and unloading; and
 - c. holding, aiming, and firing.
2. **Timing.** Two 40-minute periods.
3. **Method.** An indoor practice period.
4. **Stores**
 - a. LMG 1 per two soldiers
 - b. Section Cleaning Kit 1 per two guns
 - c. Dummy rounds 10 per soldier, plus 1 per gun
 - d. Links 10 per gun
 - e. Cleaning materials as required
 - f. Stop-watch or watch 1
 - g. Chalkboard 1
 - h. Scoresheet 1 (see paragraph 5b)
 - j. Chalk (various colours) As required
 - k. Landscape target 1 (minimum requirement, see paragraph 5f)
5. **Preparation**
 - a. Prepare a chalkboard for the final practice competition as shown in Figure 3-1.
 - b. Prepare a scoresheet containing Training Tests as per Chapter 6, Annex A, for safety, stripping and assembling, loading, and unloading.

- c. Check that the stop-watch works.
- d. Prepare arcs of fire and select reference points.
- e. Lay out guns and section cleaning kits.
- f. Where possible use one identical landscape target per gun, positioned centrally in front of the gun position.

Name	Safety	Stripping/ Assembling	Loading Timing	Unloading Timing	Total

Figure 3-1 Practice 1 Scoresheet

6. Miscellaneous

- a. The following sequence is to be used to practise the soldier in each stage:
 - (1) Remind him of the more common errors related to the stage being practised.
 - (2) Assess weakness by practise.
 - (3) Work on the weaknesses by further practice.
- b. The final practice is to combine all stages of the period and is to include:
 - (1) Training Test standards, where applicable.
 - (2) Practise to those standards.
 - (3) Scores and standards achieved.
- c. To score, for teams, give one point to the soldier coming last in a test, two points to the second last, three points to the third last, and so on.
- d. Re-teach only when considered absolutely necessary.

- e. Number the class in groups of two and allocate one group per gun prior to normal safety precautions. Indicate arcs of fire and select reference points.
- f. Lay out one dummy round by each gun, and 10 dummy rounds and links by each soldier, after normal safety precautions.

CONDUCT OF THE LESSON

7. **Safety Precautions.** Normal.

8. **Introduction.** In battle the soldier's own life and the lives of his comrades may depend a great deal on his ability to carry out instinctively the basic skills of safe handling, loading, unloading, making safe, etc. This instinctive ability is acquired only after a great deal of practice.

9. **Description of the Gun.** Question the class on the technical data and description of the gun.

10. **Safety Precautions.**

- a. Explain that in the training tests, the soldier is tested on his ability to carry out safety precautions correctly.
- b. Practise the class in normal safety precautions.

11. **Stripping, Cleaning, and Assembling.**

- a. Explain. In the training tests, the soldier is to strip the gun as for regular cleaning and then assemble it. There is no time limit. The soldier fails if he makes more than three mistakes.
- b. Practise the class in stripping and assembling different parts. When they can strip each part faultlessly, practise them in complete stripping and assembling.

12. **Cleaning**

- a. Question the class on the contents of the section cleaning kit and on cleaning under normal, desert, arctic, and tropical conditions.
- b. For final practice, remove three objects from each kit, return the kits to the groups, and ask them what is missing.

13. **Loading, Sight-setting, Making Safe, Unloading.**

- a. Explain. In the training test the soldier is tested on his ability to load the gun correctly. A soldier is skilled if he loads in 8 seconds or less.

- b. Order the groups to make a belt from the dummy rounds and links previously laid out, and to lay them by the guns.
 - c. Practise the class in LOAD - 300 - MAKE SAFE - UNLOAD and CLEAR GUN.
14. **Holding and Aiming.** Practise the soldiers in adjusting to the target by giving a fire control order without the order to fire.
15. **Firing**
- a. Explain. In the training test, the soldier is tested on his ability to unload. During firing, he is given the order to STOP, UNLOAD. A soldier is skilled if he unloads in 8 seconds or less.
 - b. Use complete fire control orders. Check the LIMBER UP before each burst (see Chapter 4, paragraphs 6 to 11, Firing Techniques).
 - c. Introduce STOP - GO ON.
 - d. Introduce STOP - UNLOAD.
16. **Length of Bursts, Rates of Fire, and Moving Targets.** Question the class on:
- a. Length of burst related to types of targets.
 - b. Rates of fire related to order received.
 - c. Moving target, types and rule of engagement.
17. **Final Practice.** A suggested method of conducting the final practice is by competitions as individual and teams of three.
- a. Practise each soldier in turn in safety precautions, stripping and assembling, loading, and unloading after firing; soldiers are to fault-check opposing team members.
 - b. Practise each team.
 - c. Record individual soldier and team scores on the chalkboard.
18. **Conclusion**
- a. Take questions from the class on the entire lesson.
 - b. Safety precautions.

- c. Pack kit.
- d. **Summary.** Include the following:
 - (1) the overall standard achieved and any weak points; and
 - (2) a forecast of the next lesson on this subject.

PRACTICE 2 - LESSONS 6 AND 7

INSTRUCTOR'S NOTES

19. **Aim.** To practise immediate action, gas stoppage drill, and further actions required when the gun stops or fails to fire.
20. **Timing.** One 40-minute period.
21. **Method.** An indoor practice period.
22. **Stores**
 - a. LMG 1 per two soldiers
 - b. Section cleaning kit 1 per two guns
 - c. Dummy rounds 15 rounds per gun
 - d. Landscape targets 1 (minimum requirement, see paragraph 23f)
 - e. Stop-watch or watch 1
 - f. Chalkboard 1
 - g. Scoresheet 1 (see paragraph 23b)
 - h. Chalk (various colours) As required
23. **Preparation**
 - a. Prepare a chalkboard for the final practice competition (see Figure 3-2).
 - b. Prepare a scoresheet containing Training Tests (as per Chapter 6, Annex A) for immediate action and gas stoppage drill.
 - c. Check that the stop-watch works.
 - d. Prepare arcs of fire and select reference points.
 - e. Lay out guns, section cleaning kits, and dummy belts.
 - f. Where possible use one identical landscape target per gun, positioned centrally in front of the gun position.

Name	IA Timings	Gas Stoppage Timings	Total

Figure 3-2 Practice 2 Scoresheet

24. **Miscellaneous**

- a. The sequence of practice is as explained in Practice 1, paragraph 6.
- b. To score in the final practice, give one point to the soldier coming last in a test, two points to the second last, three points to the third last, etc.
- c. Reteach only when considered absolutely essential.
- d. Number the class in groups of two and allocate one group per gun prior to normal safety precautions. Indicate arcs of fire and select reference points.
- e. Ensure that the gas regulators move freely to cater for gas stoppage drills.

CONDUCT OF THE LESSON

25. **Safety Precautions.** Normal.

26. **Introduction.** The success of any action carried out by the infantry section is determined to a large degree by the continual fire support provided by its LMGs. To maintain this fire support it is essential that the gunner can cope with any stoppage of the gun with the minimum of delay. The ability to do this can only be achieved through a knowledge of the gun and a great deal of practice.

27. **How The Gun Works.** Question the class on the basic mechanism of the gun.

28. **Immediate Action**

- a. Explain. In the training tests, the soldier is tested on his ability to carry out immediate action correctly.
- b. Practise the class in immediate action by using commands, then by tapping with a dummy round to simulate firing.

- c. Question the class as to the remedies effected by immediate action.
29. **Gun Cannot be Cocked on Attempting Immediate Action.**
- a. Explain. During this practice the class is to assume that the gun will not cock.
 - b. Question the class as to the probable cause of the gun failing to cock.
 - c. Practise the class by using the commands, then by tapping with a dummy round to simulate firing.
30. **Gas Stoppage.**
- a. Practise the class in gas stoppage drill complete with Immediate Action.
 - b. Question the class concerning the action to be taken when a round is used as a tool to clear a stoppage.
 - c. Question the class concerning action to be taken if gas stoppage recurs and is not remedied by these drills.
31. **Obstruction in the Body or Empty Case in the Chamber.**
- a. Practise the class in the action to remedy an obstruction in the body.
 - b. Question the class as to the cause of an empty case being in the chamber.
32. **Broken Parts, Obstruction in the Barrel and Separated Casing.**
- a. Question the class on the action to be carried out when, on inspection, no obstruction is found.
 - b. Question the class on the action to be carried out on locating an obstruction in the barrel.
 - c. Practise the class on the action for a separated casing.
33. **Feed Pawl and Springs.** Practise the class in the actions to be carried out when the gun will not fire and cannot be fully cocked.
34. **Final Practice.** A suggested method of conducting the final practice is by competitions as individual and teams of three.
- a. Practise each soldier in Immediate Action and gas stoppage drills; other soldiers are to check the opposing teams for faults.

b. Record individual and team scores on the chalkboard.

35. **Conclusion**

a. Take questions from the class on the entire lesson.

b. Safety precautions.

c. Pack kit.

d. **Summary.** Include the following:

(1) the overall standard achieved and any weak points; and

(2) a forecast of the next lesson in this subject.

CHAPTER 4
INFORMATION FOR INSTRUCTORS

SECTION 1

COACHING TECHNIQUES

GENERAL

1. **Introduction.** This section details the individual aspects of coaching and the sequence in which these aspects are applied as determined by the standard of shooting involved.
2. **The Coach.** The function of a coach is to give advice when required and to endeavour to spot and correct faults as early as possible. This is done in order to improve the soldier's shooting techniques and knowledge to such a degree that he acquires the ability, and gains the confidence, to use his weapon effectively in battle. To do this, the coach must be alert and supremely patient, know the characteristics of the weapon and ammunition, and allow for the effect which the ability of the firer will have on these characteristics.
3. **The Firer.** The coach learns about the firer from:
 - a. The size of the group which he achieves with the accumulated first shot of each burst. If this is large, it indicates that the firer is weak in his application of the marksmanship principles.
 - b. The average group size of the bursts fired. If this is greater than the laid down acceptable standards, it indicates that there is a fault in the firer's position and hold.
4. **The Gun.** The problems of holding the LMG are quite different from those of holding the rifle. The rifleman must hold his rifle steady while perfecting his aim and then operate the trigger. With the bipod and the extra weight, the gunner tends to hold the LMG less firmly. The coach must insist that the LMG be held firmly.
5. Each soldier should know the most suitable height of the bipod legs for his firing position.

FIRING TECHNIQUES

6. **Zeroing and Sighting.** The position of the average MPI of the groups fired in relation to the point of aim indicates what errors in either direction or elevation, or both, the firer can expect at longer ranges. This sighting information is essential for coaching purposes at longer ranges.
7. **Position and Hold.** The soldier's ability to produce a small burst group is dictated by his position and the way in which he holds the gun. A basic firing position is taught which suits the majority of soldiers but occasionally it is necessary to advise that minor variations of the basic position may give better results.

8. **Limbering Up.** It is most important that, before firing any burst, the firer aims at the target and tests his hold by rocking backwards and forwards slightly. If the foresight does not move directly up and down on the point of aim, the hold is not balanced and one hand is exerting a greater influence. The hold is to be adjusted slightly and retested until correct.

9. **Declaration.** The firing drills learned in firing a single shot with a rifle are similar to those applied when firing a burst. However, the hold and follow-through are extended to cater for the rounds in the burst. The firer is taught full trigger release during grouping and elementary application shoots only. Therefore, he should be briefed to declare after each burst:

- a. where the aim picture was at the start of the burst; and
- b. any movement of the foresight which occurred during the burst.

Example: CORRECT - MOVED HIGH RIGHT.

10. **Length of Burst and Grouping Standards.** The best length of burst to fire is determined by the type of target being engaged, the range to it, and the skill of the firer. During basic training, the soldier is trained to fire in bursts of three to five rounds. Practice in firing longer bursts should be given during advanced training. The required grouping standard from four groups of three to five rounds, fired in bursts at 100 metres, is an average group size of 300 mm. To achieve consistency in lengths of burst, the soldier should be allowed to get the feel of a burst by firing several belts assembled for three round bursts.

11. **Expected Scoring Area (ESA).** To successfully coach any type of application of fire, the coach must be able to determine the firer's ESA.

12. When a number of bursts are fired at the same point of aim, the size of the pattern increases until eventually it levels off and subsequent bursts will fall within it. This pattern is called cone of fire.

13. A soldier's ESA is determined by his average burst group size and his ability to keep his groups together. In Practice 2 at 100 m each man fires 20 rounds in bursts of 3 to 5 rounds at one aiming mark. The size of the group achieved in the practice is the soldier's ESA at 100 m.

14. To calculate his ESA at other ranges multiply his 100 metre group size by the first figure of the range. For example, a soldier who obtains a 200 mm group with his 20 rounds at 100 m will have an ESA of 800 mm at 400 m.

15. For application of fire shoots, a single Figure 11 target is used at 100 m, a double Figure 11 at 200 m, and a triple Figure 11 at ranges of 300 m and beyond. Each Figure 11 target measures 450 mm by 1120 mm.

16. The coach must compare the soldier's ESA against the overall dimensions of the target being engaged in order to determine whether some misses are acceptable, eg, it is not reasonable for the coach to expect all shots to hit the target if the ESA is greater than the target area. This factor is taken into consideration in determining the pass standards for the Personal and Alternative Personal Weapon Tests.

17. **Common Faults.** By observing, the coach can detect and remedy the following common faults;

- a. Firer's position before firing -
 - (1) Pulling the gun into the shoulder instead of moving the body up to the gun.
 - (2) Having his body oblique to the gun.
 - (3) Positioning the bipod legs neither square to the target nor at a suitable height for the firer's build.
- b. Firer during firing -
 - (1) Closing the eye in use during the burst.
 - (2) Not following through the trigger release.
 - (3) Moving the body, particularly the right shoulder.
 - (4) Tightening or relaxing the hold.
- c. Pattern of shots after firing -
 - (1) If the group runs to the left of the first shot, this indicates that the right shoulder has not been brought up to the butt or that the body is too far to the right. It could also be caused by too much influence with the left hand.
 - (2) If the first shot hits the target near the POA but subsequent shots form a group at some other points, this indicates that the hold was tightened during the firing of the burst.
 - (3) A scattered group indicates loose holding.

18. **Introductory Shoot at 25 Metres.** Once the soldier has been taught and practised DRY in firing techniques and stoppage drills, he is ready to fire the introductory shoot at 25 m (see Range Practice 1). The aim of this shoot is to confirm that he can aim, hold, and fire the gun in controlled bursts. The soldier is coached so that the basic firing faults are corrected before he progresses to firing at longer ranges. The shoot includes a familiarization practice to assist the

soldier in getting the feel of a burst of three rounds followed by a confirmation practice in which the soldier fires a twelve-round belt in four bursts, each burst at a different aiming mark on a grouping screen. To enable the coach to concentrate on the firer, a soldier from a waiting detail is nominated to note, using binoculars:

- a. the first shot of the burst to arrive; and
- b. the order of arrival of subsequent shots in the burst.

19. **Procedure Before Firing.** The aim is to establish the firer's ability and to ensure that both he and the gun are prepared as fully as possible to achieve their best possible results:

- a. Establish the firer's ability as previously discussed.
- b. Check that the gas regulator setting is at NORMAL.
- c. Confirm the practice/target number/lane number with the firer.
- d. Confirm wind effect/point of aim.
- e. Explain how and when corrections will be ordered, ie -
 - (1) by brief discussion between bursts during grouping or elementary application, and
 - (2) by brief orders during advanced application.
- f. If tracer is allowed, check that a tracer round is in the first three rounds of the belt being loaded.
- g. Remind the firer to declare each burst in grouping and elementary application (see paragraph 4).
- h. Check the sight setting when the range is ordered.
- j. As the firer adjusts his position, check detail already discussed in paragraph 4.
- k. Check that the firer limbers up correctly, see paragraph 3.

20. **Procedure During Firing.** During grouping and elementary application, the aim is to observe the firer and correct errors in his techniques (see Figure 4-1).

21. During advanced application, the aim is to act as a spotter and ensure that the bursts fall within the firer's ESA.

Task	Grouping/Elementary Shoots	Advanced Shoots
Position	On firer's OPEN side.	Low behind the firer on line with the gun.
Observe	The firer for faults (assistant observes the arrival of shots).	Strike/tracer — using binoculars.
Record	The firer's declarations and own observations in a coach's notebook.	
Correct	By brief discussion between bursts.	By issuing orders, ie, GO LEFT — STEADY, etc.

Figure 4-1 Notes for the Coach During Firing

22. **Procedure After Firing.** For grouping practices the aim is to relate any visible errors to specific faults in technique and advise the firer on how these may be corrected (see Figure 4-2).

23. For other practices, the aim is to relate the result of the shoot to the firer's ESA and inform the firer of any progress made.

Grouping	Elementary	Advanced
<p>Declaration. Check the position of the first shot and subsequent shots of each burst against the recorded declaration.</p> <p>Size of group — (1) Formed by the first shot in each burst. (2) Taken from average size of bursts fired.</p> <p>MPI. Record in Personal record card.</p> <p>Pattern — (1) Formed by the first shot in each burst. (2) Formed by each burst.</p>	<p>1. Obtain total score and inform the firer of progress made. Relate the result to the firer's grouping capacity and standard laid down.</p> <p>2. Encourage by giving constructive advice.</p>	<p>1. Summarize the shoot and bring to the attention of the firer any points noted, ie, reaction to wind change, stoppage, corrections given, length of burst, etc.</p> <p>2. Encourage by discussion on points learned.</p>

Figure 4-2 (Sheet 1 of 2) Notes for the Coach After Firing

Grouping	Elementary	Advanced
Encourage. Give constructive advice for the next shoot.		

Figure 4-2 (Sheet 2 of 2) Notes for the Coach After Firing

SECTION 2

ZEROING WITH THE C79 OPTICAL SIGHT

GENERAL

24. The C9 is a personal weapon and, as such, each gunner must zero the C9 using the C79 Optical Sight. The weapon may be zeroed from 25 m or 100 m. Once zeroed, using the range/elevation dial, the sight may be set on ranges from 200 m to 800 m in 100 m increments. The C9 will be zeroed from the prone position using the bipod. Before the gunner is allowed to zero the weapon, the gunner should be capable of consistently achieving an average 300 mm (12-inch) burst group size at 100 m.

PROCEDURES BEFORE ZEROING

25. The following will be done prior to firing the zeroing practice:

- a. **Cleaning.** Ensure the sight is dirt-free and that there is no mist on the lens by using lens paper, cotton or cheesecloth and water or alcohol. Dust or loose dirt may be removed using a camel-hair brush.
- b. **Adjust the Optical Sight for the Correct Eye Relief.** The C79 Optical Sight must be mounted on the mounting bracket to obtain the proper 3-inch eye relief. The optical sight may be moved backward and forward along the mounting bracket to attain the proper eye relief. The sight position on the mounting bracket will vary depending on the individual gunner's hold of the weapon, the amount of clothing that pads the gunner's shoulder (will vary from winter to summer dress) and the firing position used. To mount the sight for the correct eye relief do as follows -
 - (1) **Step One.** The gunner adopts the prone position, ensures a proper hold and aim, and then closes both eyes.
 - (2) **Step Two.** The team member then positions the sight on the weapon and moves it in the appropriate direction (forward or back) to obtain the proper 3-inch eye relief.
 - (3) **Step Three.** The gunner opens the sight eye. If the target scene fills the scope to provide the maximum field of view, the correct 3-inch eye relief has been attained and no further adjustments are required. The team member then tightens the wing nuts (see Figure 4-3).

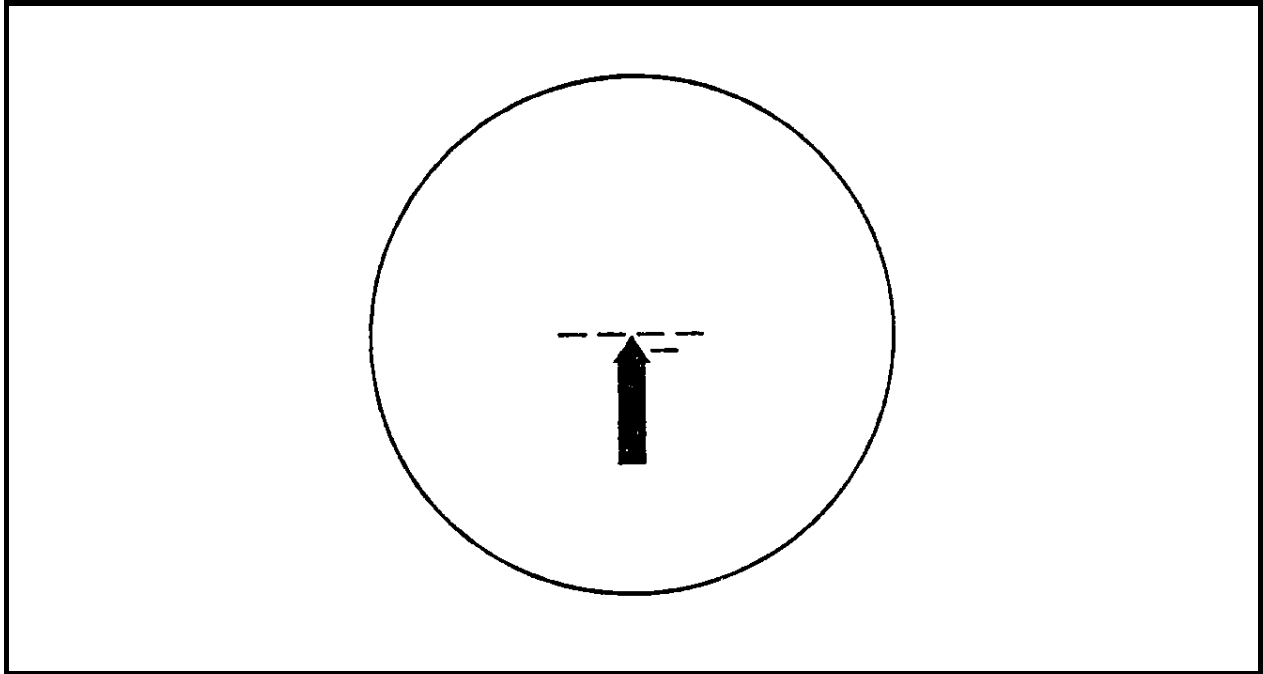


Figure 4-3 Full Field of View - Correct Eye Relief

- (4) **Step Four.** If the target scene does not fill the sight's field of view, the optical sight must be repositioned on the mounting bracket (see Figure 4-4). Repeat steps two and three to ensure a proper hold and aim is maintained.

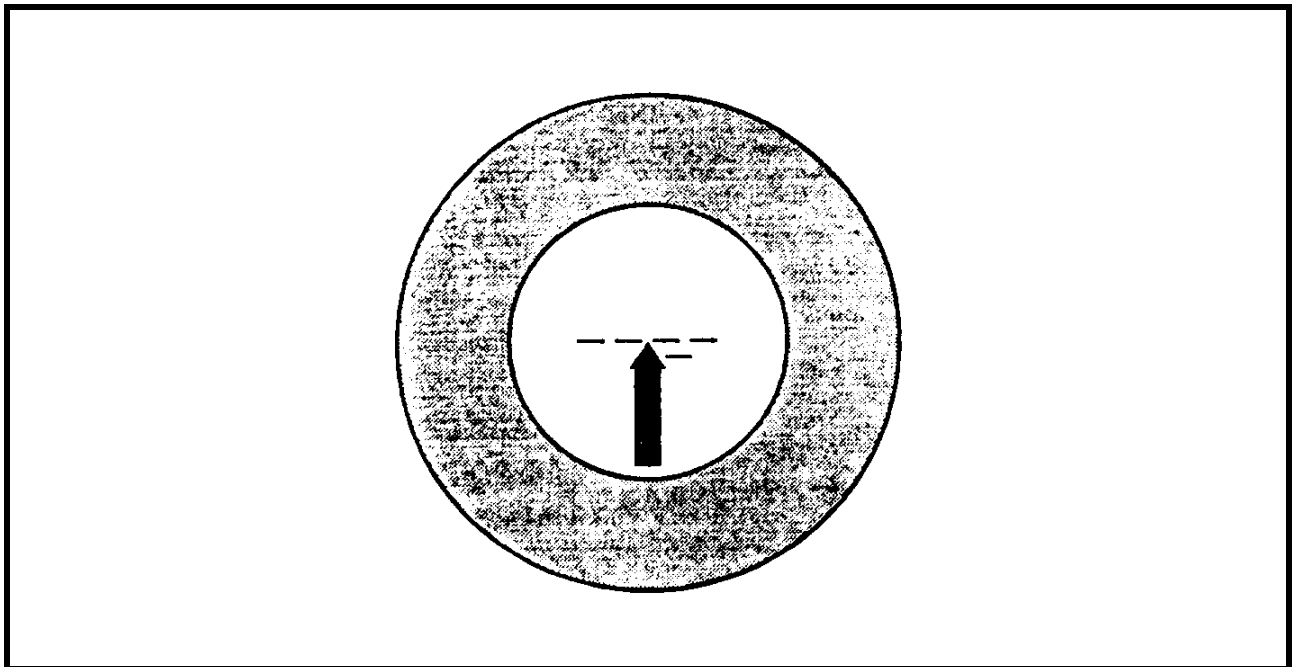


Figure 4-4 Limited Field of View - Incorrect Eye Relief

- c. **Dry Zeroing.** The final step prior to zeroing is to ensure that rounds will hit somewhere on the target before beginning the zeroing practice, thereby allowing the firer to make proper adjustments to zero the weapon. Dry zeroing is achieved by adjusting the optical sight so that its axis is in appropriate alignment with the barrel of the weapon. To dry zero -
- (1) **Step One.** Turn the range/elevation dial clockwise until the range/elevation dial lock lines up with the index line on the rear base of the mount sight (see Figure 4-5).
 - (2) **Step Two.** Using the tip of a bullet or screwdriver, flip the lock upward into the unlocked position. This permits the range/elevation dial to turn while the range indicator dial remains fixed in position.

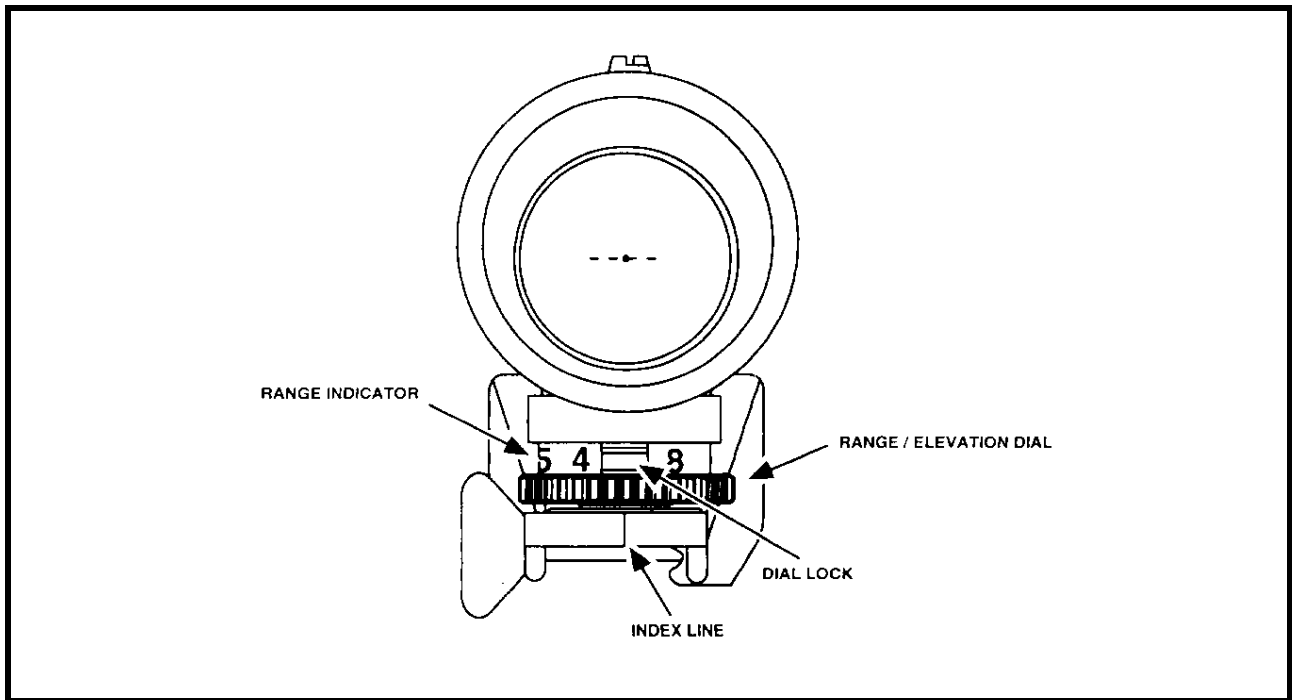


Figure 4-5 Optical Sight Assembly - End View

- (3) **Step Three.** Turn the range/elevation dial until the space between the bottom of the sight block and the mount base is approximately parallel. This is important in order for the first shot group to be on the target paper (see Figure 4-6).
- (4) **Step Four.** With a pointed instrument, flip the range dial lock down to the lock position.

- (5) **Step Five.** Using a coin or the screwdriver on the C5 knife, turn the lateral adjustment screw until the spaces shown in Figure 4-7 are equal. The sight is now dry zeroed and ready for zeroing.

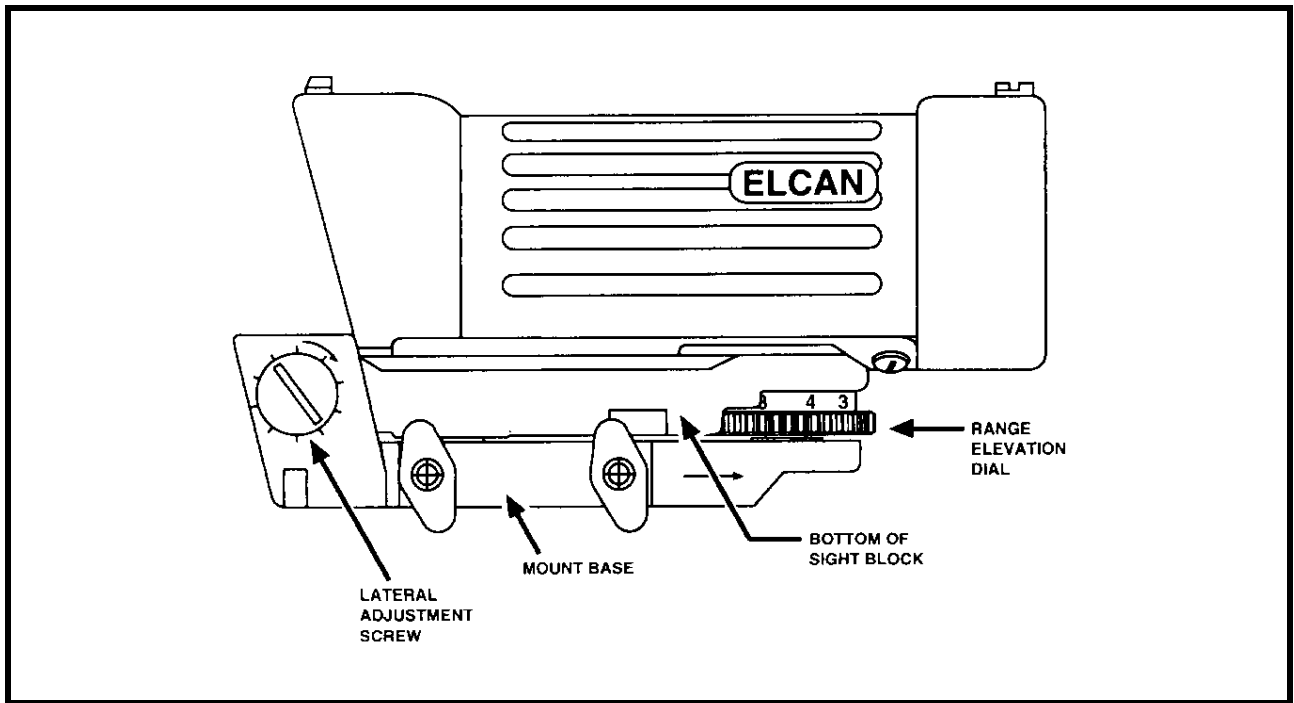


Figure 4-6 Optical Sight Assembly - Side View

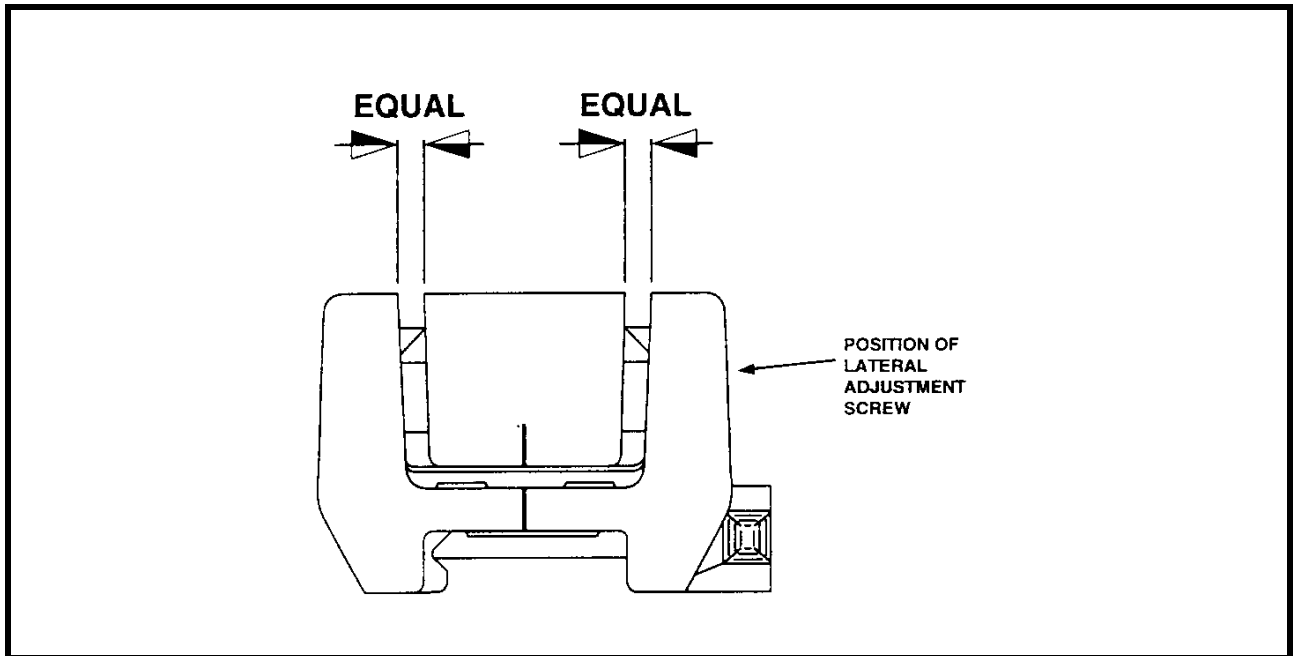


Figure 4-7 Optical Sight Assembly - Front View

SIGHT ADJUSTMENT AND USE OF RANGE ELEVATION DIAL

26. **Range/Elevation Dial.** The range/elevation dial is located at the rear of the optical sight mount. It consists of a numbered and an unnumbered dial. The scale on the numbered dial is marked in 100 m increments from 200 m to 800 m. When the sight has been zeroed, different target ranges are selected by turning the range dial to the desired position. The range dial should be set as follows (see Figure 4-8):

2 (lock) setting	200 m (use in close quarters)
3 setting	300 m (battle setting)
4 setting	400 m
5 setting	500 m
6 setting	600 m
7 setting	700 m
8 setting	800 m

Figure 4-8 C79 Sight Settings

27. **Lateral Adjustment.** The lateral adjustment screw is located forward and left on the sight (see Figure 4-6). The screw can be adjusted with a C5 knife, coin or similar item and is used to make lateral adjustments to the MPI during the zeroing procedure. The lateral adjustment screw is used as follows:

- a. turn clockwise - moves impact (MPI) right; and
- b. turn counter-clockwise - moves impact (MPI) left.

NOTE

Refer to Figure 4-10 for the resulting lateral adjustment at given ranges for each click of the lateral adjustment screw.

28. **Elevation Adjustment.** Using the range/elevation dial as described in the zeroing procedure, elevation adjustments can be made to move the MPI during the zeroing procedure. Elevation corrections can be made after the range/elevation dial lock has been raised and are made as follows:

- a. turn clockwise (left from behind the gun) - lowers impact (MPI); and
- b. turn counter-clockwise (right from behind the gun) - raises impact (MPI) (see Figure 4-10).

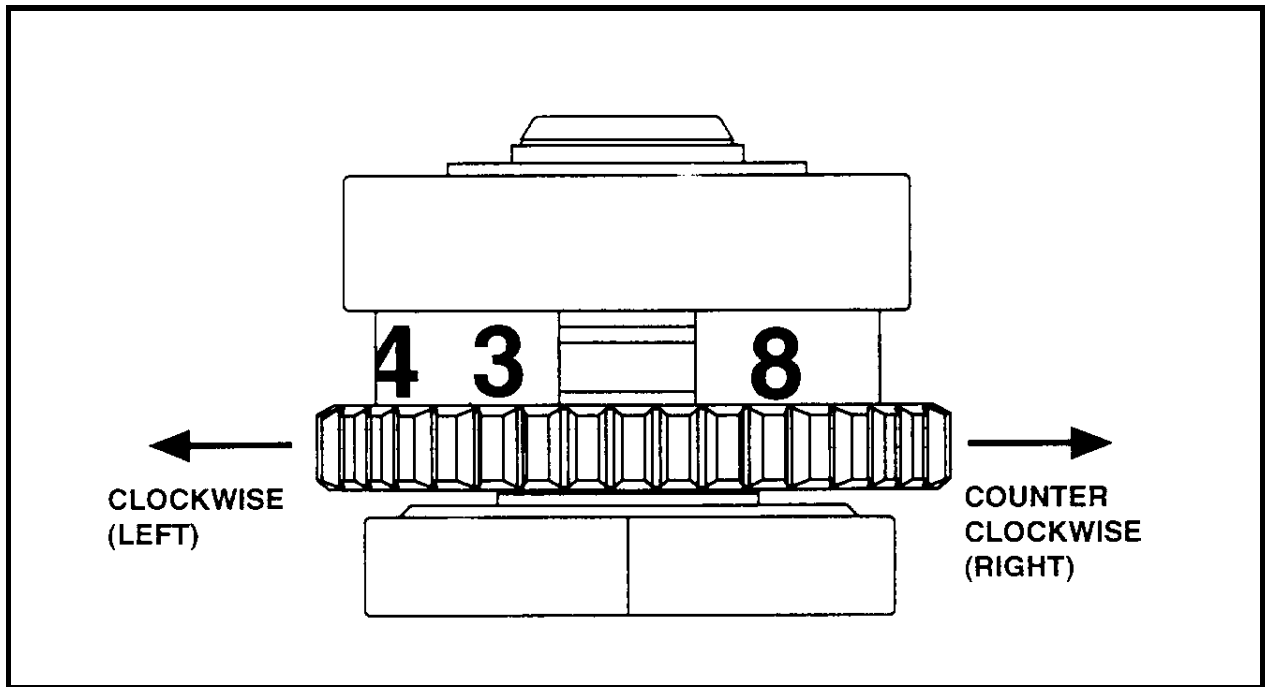


Figure 4-9 Elevation Adjustment

NOTE

Refer to Figure 4-10 for the resulting elevation adjustment at given ranges for each click of the range/elevation dial.

Zeroing Distance	Resulting lateral or elevation change for on click
25 m	1 click = 1/4 inch (6 mm)
100 m	1 click = 1 inch (24 mm)
200 m	1 click = 2 inches (50 mm)
300 m	1 click = 3 inches (75 mm)

Figure 4-10 Lateral and Elevation Adjustment

ZEROING PROCEDURE FROM 25 METRES

29. Ideally, the gun is zeroed at 100 m but it can be done at 25 m if there is no alternative. The zeroing procedure is easier if magazines are used in lieu of belts. Before zeroing, ensure that:

- a. the sight is correctly adjusted for eye relief; and

- b. the gun/sight are dry zeroed.
30. The steps to zeroing at 25 m are as follows:
- a. **Step One.** Ensure that gunners are 25 m from targets and not at 25 yards (most Canadian ranges are still measured in yards).
 - b. **Step Two.** Fire a five-round burst into the backstop to limber up and dry the barrel.
 - c. **Step Three.** Turn the range/elevation dial clockwise until the range/elevation dial lock lines up with the index line on the rear base of the mount sight (see Figure 4-11).

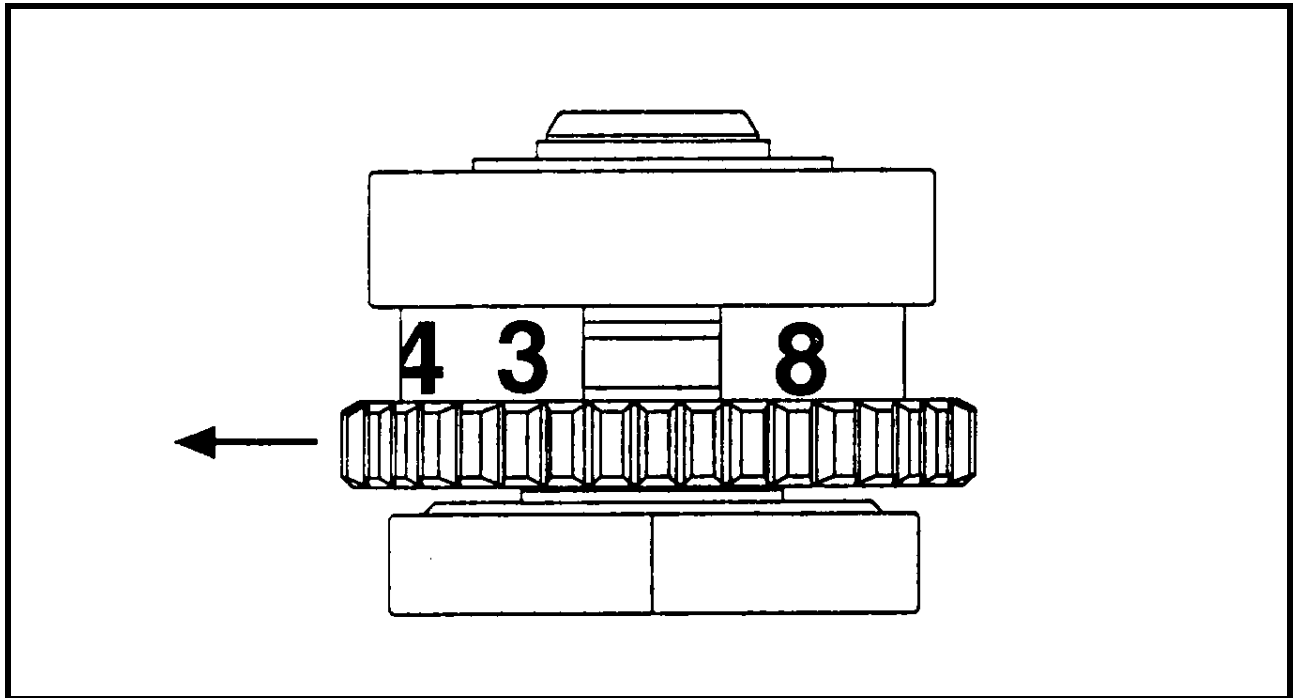


Figure 4-11 Range/Elevation Dial .

- d. **Step Four.** Lift the range/elevation dial lock upward to the unlock position (see Figure 4-12).
- e. **Step Five.** Without lowering the range/elevation dial lock, using four separate aiming marks, fire four 5-round bursts (one 5-round burst at each aiming mark).

- f. **Step Six.** Using a piece of talc (clear plastic) and a chinagraph marker, mark one aiming mark on the talc (as a datum point) and superimpose talc over each of the four aiming marks (one at a time) to record the fall of each of the 20 shots in relation to one aiming mark.
- g. **Step Seven.** Determine the MPI of the 20-round group and mark it on the talc. Determine the corrections required to superimpose the MPI over the point of aim. Using the lateral adjustment screw and the range/elevation dial make the necessary corrections (refer to sight adjustment).

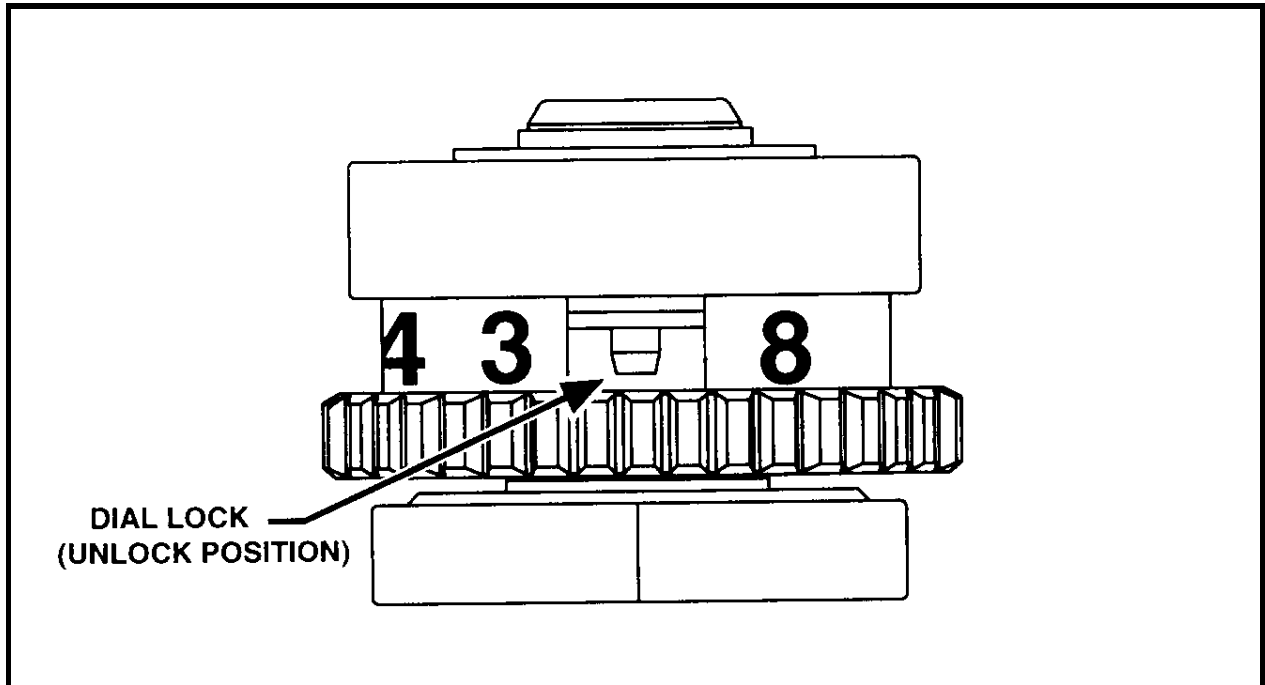


Figure 4-12 Range/Elevation Dial

- h. **Step Eight.** Fire a five-round confirmation burst if the distance from the point of aim to the MPI is within the firer's permissible variation the weapon is zeroed. If not, repeat steps five to eight.
 - j. **Step Nine.** Turn the range/elevation dial five clicks clockwise. The sight is now zeroed for all settings on the range/elevation dial.
 - k. **Step Ten.** Lower the range/elevation dial lock.
 - m. **Step Eleven.** Set the range/elevation dial on 3 (300 m), the effective range of the weapon.
31. Trace is not to be used when zeroing.

ZEROING PROCEDURE FROM 100 METRES

32. Before zeroing, ensure that:
 - a. the sight is correctly adjusted for eye relief; and
 - b. the gun/sight has been dry zeroed (see sub-paragraph 25c).

33. The zeroing procedure is easier if five-round magazines are used in lieu of belts. The steps to zero the C9 from a 100 m firing point are as follows:
 - a. **Step One.** Fire a five-round burst into the backstop to limber up and dry the barrel.
 - b. **Step Two.** Turn the range/elevation dial clockwise until the range dial lock lines up with the index line on the rear base of the mount sight (see Figure 4-11).
 - c. **Step Three.** Lift the range/elevation dial lock upward (see Figure 4-12).
 - d. **Step Four.** Without lowering the range/elevation dial lock, fire four 5-round bursts at an aiming mark on a figure 11/59 on a screen. Gunners are to stand up between each five-round burst.
 - e. **Step Five.** Move forward and determine the MPI of the 20-round group and mark it on the target. Determine the corrections required to superimpose the MPI over the point of aim, and using the lateral adjustment screw and range/elevation dial, make necessary adjustments (refer to sight adjustment).
 - f. **Step Six.** Fire two confirmatory five-round groups and repeat the process until the MPI is superimposed on the point of aim.
 - g. **Step Seven.** Turn the range/elevation dial two clicks counterclockwise. The sight is now zeroed for all range settings on the range dial.
 - h. **Step Eight.** Lower the range/elevation dial lock.
 - j. **Step Nine.** Set the range/elevation dial on 3 (300 m), the effective range of the weapon.

SECTION 3

PROTECTION FROM WATER IMMERSION

PROCEDURE

34. **Precautions.** Although the LMG will probably function after being immersed in water the following precautions should be taken prior to an amphibious operation:
- a. The muzzle and gas assembly are to be plugged and covered with a plastic or some other suitable material to prevent water and other foreign material from entering.
 - b. If time and circumstances permit, the body should be covered by binding the feed tray and belt with cloth.
 - c. At the earliest opportunity the trigger group, which is a natural sump, should be removed and turned upside down to drain out the water.
 - d. After immersion give the gun additional gas to ensure that it fires at the correct rate.

SECTION 4

BLANK FIRING

GENERAL

35. The Blank Firing Attachment (BFA) is designed to provide a choke at the muzzle of the weapon, thus enabling it to function normally when blank ammunition is used. The BFA is painted bright yellow to aid in its identification.

36. **Use.** Handling drills are as taught in the basic lessons.

37. The rapid rates of fire are never to be exceeded.

SAFETY

38. **Safety.** The following points are applicable to all types of BFAs:

- a. A danger area of 20 m should exist immediately to the front of any weapon.
- b. The weapon is never to be pointed directly at anyone within 20 m of the firer.
- c. The attachments are only to be used with blank ammunition.

CHAPTER 5

RANGE PRACTICES

SECTION 1

GENERAL

INTRODUCTION

1. All range practices should be conducted as an extension of previously taught lessons. Prior to any live firing, commanders should examine the aim of the range practices to be conducted and review the appropriate lessons.

AIM

2. Live fire range practices are designed to confirm and assess:
- a. the basic skills of the gunner in target engagement by day and by night;
 - b. the ability of gun controllers in fire control.

GENERAL

3. **Stores.** A standard set of stores required for every range practice includes:

- | | | |
|----|---|----------------|
| a. | LMG | 1 per gun team |
| b. | Section cleaning kit | 1 per two guns |
| c. | Ear defenders | 1 per soldier |
| d. | First aid kit | 1 |
| e. | Binoculars | 1 per gun |
| f. | Cleaning materials | as required |
| g. | Targets | as required |
| h. | Ammunition | as required |
| j. | Empty sandbags
(for links and casings) | as required |
| k. | Filled sandbags | as required |

4. Additional stores, targets, and ammunition required for each practice are listed with that practice.

5. **Preparation**

- a. Prior to the day of firing -
 - (1) Book the range and confirm the booking and the targets required.
 - (2) Read Range Standing Orders.
 - (3) Indent for ammunition.
 - (4) Identify review lessons.
 - (5) Reconnoitre the range allotted for the range practice.
- b. On the day of firing -
 - (1) Check each soldier for ear defenders.
 - (2) Prepare guns for firing and check that the gas regulator for each gun is set correctly.
 - (3) Check that the Allen screws are not loose on the front sights.

6. **Miscellaneous**

- a. All range staff are to be fully conversant with the detail in Chapter 4, Coaching Techniques.
- b. It is important that barrels are changed after every 200 rounds fired. The gas plug and block are to be cleaned before re-use.

7. **Safety Precautions**

- a. Normal as applicable to the range being used.
- b. All range staff are to be fully conversant with the information contained in B-GL-304-003/TS-001, Operational Training, Volume 3, Ranges and Training Safety and applicable Range Standing Orders.

ANNEX A, CHAPTER 5

**ANNEX A
C9 LMG
SUMMARY OF RANGE PRACTICES**

**C9 LMG
SUMMARY OF RANGE PRACTICES**

Ser	Practice	Range (m)	Rds	Aim
1	Introductory shoot	25	40	To confirm the firer's ability to aim, hold, and fire the LMG for controlled short bursts.
2	Grouping	100	60	To determine the firer's grouping ability at 100 m.
3	Zeroing	100	30	To superimpose the firer's Mean Point of Impact (MPI) onto the Correct Zero Position (CZP).
4	Application	200	30	To enable the firer to practise engaging targets by deliberate fire at 200 m.
5	Application	300-400	95	To enable the firer to practise engaging targets by deliberate fire at ranges of 300 m and 400 m.
6	Application	500-600	50	To enable the firer to practise target engagement at long range.
7	Advance application	300-400	60	To enable firers to practise taking up fire positions and engaging fleeting targets.
8	Night firing	LNV	25	To enable firers to practise engaging an enemy at night without illumination.
9	Night firing with	200	30	To enable firers to practise engaging an enemy at night with the aid of illumination.
10	Night firing with image intensification weapon sight illumination	200	55	To enable firers to practise engaging an enemy at night with the LMG when fitted with IIWS.
Total rounds = 475				

APPENDIX 1, ANNEX A,
CHAPTER 5

**APPENDIX 1
RANGE PRACTICE 1
C9 (LMG) INTRODUCTORY SHOOT 25 M**

RANGE PRACTICE 1. C9 (LMG) INTRODUCTORY SHOOT 25 M

AIM: To confirm the firer's ability to aim, hold, and fire the LMG for controlled short burst.							
Ser	Practice	Target	Range	Rds	Instruction	Score	Remarks
1	Familiarization	Stop butt	25 m	Two 5-rd belts	Firers will aim and fire the gun, as taught, into the stop butt.	Nil	The firer is to fire each belt in one burst.
2	Length of burst	Four 2.4-cm square aiming marks on a suitable witness screen	25 m	Four 5-rd belts	a. Firers are to fire a 5-rd group at each aiming mark. b. Coaches are to examine and discuss groups. c. Group sizes and MPI position are to be recorded.	Nil	Standards as laid down in grouping Standard, CFP 318(6), Interim 2, Chapter 3, Annex B.
3	Confirmation	As for Serial 2	25 m	10-rd belt	Firer is to fire a 5-rd group at each aiming mark.	Nil	This serial is to confirm the firer can fire a controlled 5-rd burst.
NOTES							
<ol style="list-style-type: none"> 1. Total rounds 40. 2. All firers are to be coached. 3. Tracer is not to be used. 4. During the shoot coaches are to watch the firer. Waiting relays should be employed as spotters with binoculars to watch the aiming marks and note the position of the first and subsequent shots of each group. This information will be required by the coaches and will prove to be invaluable in determining faults in aiming, holding, and firing. 5. The first round of each group should be traced on a piece of talc, measured and recorded for use by future coaches. This will give a good indication of the firer's ability to apply the Marksmanship Principles. 6. Firers who fire this shoot in training for their Alternate Personal Weapon should not make adjustments to the sights for zero since it will likely be zeroed already as a firer's personal weapon. 							

APPENDIX 2, ANNEX A,
CHAPTER 5

APPENDIX 2
RANGE PRACTICE 2
C9 (LMG) GROUPING 100 M

RANGE PRACTICE 2. C9 (LMG) GROUPING 100 M

AIM: To determine the firer's grouping ability at 100 m.							
Ser	Practice	Target	Range	Rds	Instruction	Score	Remarks
1	Grouping, fire trench	One Fig. 11 in the front and rear of the target frame	100 m	20 belt	a.The firer is to fire rounds in bursts at each target. b.Examine targets and discuss results. c.Repeat the practice and record group sizes.	Nil	Group sizes to be achieved in the repeat practice are laid down in Grouping Standards, CFP 318(6), Interim 2, Chapter 3, Annex B
2	Grouping, lying in the open	As for Serial 1	100 m	20 4 mags of 5 rds	As for Serial 1.	Nil	As for Serial 1.
3	As for serial 2	As for Serial 1	100 m	20 belt	As for Serial 1.	Nil	As for Serial 1.
NOTES							
<ol style="list-style-type: none"> 1. Total rounds 60. 2. Targets are to have a white aiming mark 75 mm by 100 mm with bottom centred on the centre of the smallest rectangle. 3. The coach is to watch the firer throughout the shoot. The butt party should watch the target carefully and note the position of each shot in the groups. This information will be of critical importance to the firer and coach during the discussion of each group. 4. If no fire trenches are available, only Serials 2 and 3 need be fired. 							

APPENDIX 3, ANNEX A,
CHAPTER 5

**APPENDIX 3
RANGE PRACTICE 3
C9 (LMG) ZEROING 100 M**

RANGE PRACTICE 3. C9 (LMG) ZEROING 100 M

AIM: To superimpose the firer's Mean Point of Impact (MPI) onto the Correct Zero Position (CZP).							
Ser	Practice	Target	Range	Rds	Instruction	Score	Remarks
1	Limbering Up	Stop butt	100 m	5 in mag	Firer is to be coached.	Nil	This serial is to prepare the firer for Serial 2.
2	Grouping for zeroing	One Fig 11 tgt on a 1.3 m screen with a 75 mm by 100 mm whit aiming mark.	100 m	20 rds. 5 rds in 4 mags	a. Firers are to fire 4 x 5 rd groups at the same aiming mark. b. Firers should stand up and relax between each group. c. Identify the MPI. d. Adjust the sights for zero as necessary.	Nil	It is likely that the firers group size will spread to about 400 mm when firing separate groups at the same aiming mark because of the random dispersal of the shots. However, this is immaterial since in this practice we are simply determining the position of the MPI and will adjust for zero regardless of the size of the extreme spread.
3	Confirmation	As for Serial 2	100 m	5 rds in mag	To confirm proper sight adjustments have been made.	Nil	
NOTES							
1. Total rounds 30. 2. The Correct Zero Position for the C9 is 125 mm above the Point of Aim (POA) when firing from 100 m with the sights set at 300.							

APPENDIX 4, ANNEX A,
CHAPTER 5

**APPENDIX 4
RANGE PRACTICE 4
C9 (LMG) APPLICATION OF FIRE AT 200 M**

RANGE PRACTICE 4. C9 (LMG) APPLICATION OF FIRE AT 200 M

AIM: To practise the firer in engaging targets by deliberate fire at 200 m.							
Ser	Practice	Target	Range	Rds	Instruction	Score	Remarks
1	Deliberate, fire trench	Double Fig 11 on a 1.3 m screen	200 m	5 (belted)	a. The firer is to fire a 5-rd burst. b. MPI of burst to be indicated.	Nil	
2	Timed fire trench	Double Fig 11	200 m	5 (belted)	As for Serial 1.	HPS 5	
3	Timed, fire trench	As for Serial 1	200 m	5 (belted)	a. Order LOAD-200 WATCH & SHOOT. b. One exposure of 10 seconds. c. The firer is to fire a 5-rd burst. d. MPI is to be indicated at the end of the exposure.		
4	Timed, fire trench	As for Serial 2	200 m	15 (belted)	As for Serial 3.	HPS 15	
NOTES							
<ol style="list-style-type: none"> 1. Total rounds 30. 2. Firers should be coached. The coach should determine and discuss the firer's Expected Scoring Area (ESA) at 200 m based on information available from his shooting at 100 m. Any wind allowance should be discussed for possible changes to POA. 3. If fire trenches are not available, firers are to lie in the open. 4. Scoring. Practices 2 & 4 one point per hit HPS 20. 5. Standard. The standard to be achieved is: <ol style="list-style-type: none"> a. Inf 70 per cent of HPS = 14 pts. b. OA/S 50 per cent of HPS = 10 pts. 							

APPENDIX 5, ANNEX A,
CHAPTER 5

APPENDIX 5
RANGE PRACTICE 5
C9 (LMG) APPLICATION OF FIRE AT 300 AND 400 M

RANGE PRACTICE 5. C9 (LMG) APPLICATION OF FIRE AT 300 AND 400 M

AIM: To practise the firer in engaging targets by deliberate fire at ranges of 300 and 400 m.

Ser	Practice	Target	Range	Rds	Instruction	Score	Remarks
1	Deliberate, fire trench	Three Fig 11 superimposed on a 2 m witness screen	300 m	10	a. Firers to fire 2 x 5-rd burst. b. MPI to be signalled after each burst.	Nil	
2	Deliberate, fire trench	Triple Fig 11	300 m	10	As for Serial 1.	HPS 10	
3	Deliberate, lying in the open	Triple Fig 11	300 m	10	As for Serial 1.	Nil	
4	Timed, fire trench	Triple Fig 11	300 m	(15) 1 x 10 rd belt 1 x 5 rd belt	a. Order LOAD-300-WATCH & SHOOT. b. The firer is to fire 3 x 5-rd burst. c. 1 exposure of 30 seconds.	HPS 15	
5	Deliberate, lying in the open	As for Serial 1.	400 m	10	As for Serial 1.		
6	Deliberate, lying in the open	As for Serial 2.	400 m	10	As for Serial 1.	HPS 10	
7	Timed, lying in the open	As for Serial 1.	400 m	(15) 1 x 10 rd belt 1 x 5 rd belt	a. Order LOAD-400-WATCH & SHOOT. b. Firer is to fire 3 x 5-rd burst. c. 1 exposure of 30 seconds.	Nil	
8	Timed, lying in the open	As for Serial 2.	400 m	15	As for Serial 7.	HPS 15	

NOTES

1. Total rounds: 95.
2. Firers should be coached. The coach should determine and discuss the firers Expected Scoring Area (ESA) at 300 and 400 m based on his grouping ability at 100 m. Any wind allowance should be discussed for possible changes to POA.
3. Scoring: One point per hit in Practices 2, 4, 6, and 8 HPS 50.
4. Standard: The standard to be achieved is 70 per cent of HPS 35 pts.
5. Other Arms and Services who use the LMG as a personal weapon do not fire practices 5, 6, 7, and 8. HPS 30 points. The standard to be achieved is 50 per cent of HPS 13 pots.
6. For all serials, rounds are to be belted.

APPENDIX 6, ANNEX A,
CHAPTER 5

APPENDIX 6
RANGE PRACTICE 6
C9 (LMG) APPLICATION OF FIRE AT 500 AND 600 M

RANGE PRACTICE 6. C9 (LMG) APPLICATION OF FIRE AT 500 AND 600 M

AIM: To practise the firer in target engagement at long ranges.

Ser	Practice	Target	Range	Rds	Instruction	Score	Remarks
1	Sighting	Three Fig 11 superimposed on a 2 m witness screen	500 m	5	a. Firers to fire 1 x 5-rd burst. b. MPI to be indicated.	Nil	This is to confirm zero.
2	Deliberate, lying in the open	As for Serial 1	500 m	15	a. Firer is to fire 3 x 5-rd burst to be indicated.	Nil	
3	Deliberate, lying in the open	Triple Fig 11	500 m	10	a. Order LOAD-500-WATCH & SHOOT. b. The firer is to fire 1 x 5-rd burst at each exposure. c. Two exposures of 15 seconds.	HPS 10	Five points awarded for 1 or more hits.
4	Timed, lying in the open	Triple Fig 11	500 m	10	a. Order LOAD-500-WATCH & SHOOT. b. The firer is to fire 1 x 5-rd burst at each exposure. c. Two exposures of 15 seconds.	Nil	
5	Timed, lying in the open	As for Serial 1.	600 m	10	As for Serial 3.	HPS 10	As for Serial 3.

NOTES

1. Total rounds: 50.
2. Coaches should determine the firers Expected Scoring Area (ESA).
3. Waiting relays could be employed with binoculars to observe for strike and tracer if used.

4. Tracer may be used during sighting shots if necessary.
5. Other Arms and Services do not fire these practices.
6. Infantry personnel who use the C9 as an alternate personal weapon do not fire these practices.
7. In Serials 3 and 5 a hit on the triple tgt with one or more shots during each exposure will be deemed a successful target engagement and will earn 5 points. Butt parties will have to examine targets closely after each exposure, keep an accurate score of successful engagements, and chalk out the shot holes between exposures.
8. Scoring: Serials 3 and 5 five points per successful tgt engagement. HPS 20.
9. Standard: The standard to be achieved is 70 per cent of HPS = 14 pts.

APPENDIX 7, ANNEX A,
CHAPTER 5

APPENDIX 7
RANGE PRACTICE 7
C9 (LMG) ADVANCED APPLICATION OF FIRE

RANGE PRACTICE 7. C9 (LMG) ADVANCED APPLICATION OF FIRE

AIM: To practise C9 firers in taking up fire positions and engaging fleeting targets.

Ser	Practice	Target	Range	Rds	Instruction	Score	Remarks
1	Timed, lying in the open	Triple Fig 11	300 m	15 in mag	a. Firers loaded and standing 50 m behind firing point. b. When targets appear double to the 300 m firing point, adopt the prone position, and fire 5-rd bursts. c. Targets do not fall when hit.	HPS 15	a. All movement is at the trail. b. During all movement the safety catch is on 'S'. c. 1 exposure of 45 sec.
2	Timed, lying in the open	Triple Fig 11	400 m	15 in mag	As per Serial 1.	HPS 15	
3	Timed, advancing from 500 to 300	Triple Fig 11 1 set in front and 1 set in rear frame.	400 and 300 m	30 in two mags	a. Firers loaded and lying at 500 m firing point. b. Order WATCH & SHOOT. c. When targets appear double to the 400 m point and engage with 5-rd bursts. d. Make safe with a fresh 15-rd mag. When targets appear double to the 300 m point and engage with 5-rd bursts. f. No more than 20 hits to count at each range.	HPS 30	a. The Range Conducting Officer will commence the practice and control exposures. b. Timings: (1) 1 exposure of 45 sec. (2) 1 pause of 15 sec. (3) 1 exposure of 45 sec.

NOTES

1. Total rounds: 60.
2. All firers are to be coached. Binoculars should be used to assist in observation of strike, or swirl.
3. Scoring: One point per hit HPS 60.
4. Standards: The standard to be achieved is:
 - a. acceptable - 50 per cent of HPS - 30 points.
 - b. desirable - 70 per cent of HPS - 42 points.
5. Other Arms and Services should modify these serials to suit their requirements, ie, no firing from 400 m. A double Fig 11 should be used if firing at 200 m.

APPENDIX 8, ANNEX A,
CHAPTER 5

**APPENDIX 8
RANGE PRACTICE 8
C9 (LMG) NIGHT FIRING**

RANGE PRACTICE 8. C9 (LMG) NIGHT FIRING

AIM: To practise C9 firers in engaging an enemy at night without illumination.

Ser	Practice	Target	Range	Rds	Instruction	Score	Remarks
1	Deliberate, lying in the open (bursts)	One Fig 11 - draped with hessian.	LNV Limit of Night Visibility	10 in mag	a. Firers fire 10 rds in bursts of 5 rds. b. Assess results	Nil	No time limit.
2	Timed, lying in the open (bursts)	As Serial 1	As Serial 1	15 in mag	a. Order LOAD-WATCH & SHOOT. b. 1 exposure of 30 secs. c. Firers are to fire 15 rds in bursts of 5 rds.	HPS 15	a. Record scores. b. Whistle blasts to be used to signal start and end of serial.

NOTES

1. Total rounds: 25.
2. Firers should be coached in order to obtain maximum value from this practice.
3. The practice may be conducted on an MTR or gallery range where the targets are stuck in the ground so that the bottom of the target is touching the ground. Targets should be draped with hessian.
4. Strict range discipline is necessary to ensure the safety of all staff and firers. Flashlights should be fitted with red filters, to protect firers night vision.
5. Range Conducting Officers are to ensure that the rules for night firing as laid down in CFP 304(3) and local Range Standing Orders are complied with.
6. Scoring: One point per hit in practice 2. HPS 15.
7. Standard: Pass 50 per cent=8 points.

APPENDIX 9, ANNEX A,
CHAPTER 5

**APPENDIX 9
RANGE PRACTICE 9
C9 (LMG) NIGHT FIRING WITH ILLUMINATION**

RANGE PRACTICE 9. C9 (LMG) NIGHT FIRING WITH ILLUMINATION

AIM: To practise C9 firers in engaging an enemy at night with the aid of illumination.

Ser	Practice	Target	Range	Rds	Instruction	Score	Remarks
1	Rapid fire, lying in the open	One Fig 11	200	15 rd belt	a. Order LOAD-WATCH & SHOOT. b. 1 exposure of 25 secs. c. The firer is to fire 15 rds during illumination of the target.	HPS 15	Illumination is to be continuous.
2	Timed, fire trench	Double Fig 11. in frame edge to edge.	200	15 rd belt	a. Order LOAD-WATCH & SHOOT. b. 1 exposure of 50 secs. c. The firer is to fire 15 rds during illumination of the target.	HPS 15	As serial 1.

NOTES

1. Total rounds: 30.
2. Firers should be able to shoot almost as well at night with the aid of illumination as they do by day. When the light allows, the sights should be used in the normal daytime way.
3. Firers cannot expect to see a perfect sight picture since artificial light produces strong shadows, They have to fire when light is available. It is wrong to wait in hope that the light will improve.
4. As an immediate reaction to illumination, firers should close one eye in order to preserve their night vision as much as possible. Service illuminants do not seriously affect night vision and it will return within five seconds of darkness, provided firers do not stare directly at illumination.
5. Scoring: One point per hit. HPS 30.
6. Standard: Pass 50 per cent=15 points.
7. Range Conducting Officers must exercise strict range discipline over staff and firers to ensure safety on the range at night. Rules for Night firing contained in CFP 304(3) and local Range Standing Orders must be complied with.

APPENDIX 10, ANNEX A,
CHAPTER 5

APPENDIX 10
RANGE PRACTICE 10
C9 (LMG) NIGHT FIRING WITH IMAGE INTENSIFICATION WEAPON SIGHT
(IIWS)

RANGE PRACTICE 10. C9 (LMG) NIGHT FIRING WITH IMAGE INTENSIFICATION WEAPON SIGHT (IIWS)

AIM: To practise C9 firers in engaging an enemy at night with the C9 (LMG) when fitted with IIWS.

Ser	Practice	Target	Range	Rds	Instruction	Score	Remarks
1	Snap, lying in the open	One Fig 11	100	10	a. Order LOAD-WATCH & SHOOT. b. 3 exposures of 5 secs with interval 5-10 secs. c. The firer is to fire one burst of 5 rds per exposure.	HPS 10	
2	Rapid, lying in the open	One Fig 11	100	20	a. Order LOAD-WATCH & SHOOT. b. 1 exposure of 30 secs. c. The firer is to fire 20 rds in burst.	HPS 20	
3	Timed, fire trench	Double Fig 11. edge to edge in target frame.	200	25	a. Order LOAD-WATCH & SHOOT. b. 5 exposures of 5 secs with interval between 5-10 seconds. c. The firer is to fire up to five rounds per exposure. d. Targets do not fall when hit.	HPS 25	

NOTES

1. Total rounds: 55.
2. Firing at night with IIWS is similar to firing at daytime, except that the target will not be as clear. Firers should ensure the aim is correct before each burst since minor aiming errors with IIWS will greatly reduce the chances of hits.
3. Coaches should be used.
4. LMG and IIWS must be zeroed in daylight before attempting this range practice.
5. Strict range discipline must be enforced by Range Conducting Officers when shooting at night, to ensure the safety of Firers and Staff. Flashlights with red filters should be used.
6. Rules for night firing as outlined in CFP 304(3) and local Range Standing Orders must be complied with.
7. Scoring: One point per hit. HPS 55.
8. Standard: Pass 50 per cent= 28 points.

CHAPTER 6
TESTS, STANDARDS, AND METHODS OF DESTRUCTION

TESTS, STANDARDS, AND METHODS OF DESTRUCTION

Introduction

1. This chapter details the weapon handling and shooting tests and the standards to be achieved with the LMG as a personal and alternative personal weapon.
2. The tests provide a means for instructors to monitor progress during training and for commanders to assess the standard of training of their troops.
3. Standards should be measured:
 - a. at appropriate stages during training; and
 - b. annually in all units.

HANDLING TESTS

4. **Conduct.** The tests are to be done consecutively. They may be conducted:
 - a. in barracks using dummy or blank ammunition; or
 - b. on a range using live or blank ammunition.
5. **Dress.** Fighting order, less steel helmet, will be worn for all tests.
6. **Standards.** The following standards will apply:
 - a. Skilled - skilled standard in all tests.
 - b. Average - minimum of average in one or more tests.
 - c. Fail - fail in one or more tests.

GROUPING STANDARDS

7. To ensure that a firer has a reasonable chance of passing the personal Weapon Test or Alternative Personal Weapon Assessment, grouping standards should be achieved prior to attempting the tests (see Figure 6-1). If a firer is not grouping to the standards listed it is unlikely that he will pass any of the tests.
8. The standards are based on a five-round burst.

Test	25 m		100 m	
	Inf	OA/S	Inf	OA/S
Personal Weapon	75 mm	110 mm	300 mm	450 mm
Alternative Personal Weapon	125 mm	160 mm	500 mm	650 mm

Figure 6-1 Grouping Standards

ANNEX A, CHAPTER 6

**ANNEX A
HANDLING TESTS
C9 LMG**

HANDLING TESTS - C9 LMG

Test No.	Subject	Stores	Conditions	Marking
1	Safety	Gun unloaded. Gun either in the corner of a room or on the firing point.	<p>a. Order the soldier to bring the gun to the centre of the room, or to another position on the firing point.</p> <p>b. The soldier, without further direction, is to carry out the normal safety precautions on the gun.</p>	The soldier is awarded FAIL if the safety actions are not carried out correctly.
2	Stripping, Cleaning, Assembling	LMG Section Cleaning Kit complete. One 5.56 mm dummy round.	<p>a. Order the soldier to strip the gun for daily cleaning.</p> <p>b. Order the soldier to assemble the gun.</p>	<p>The main purpose of this test is to assess the soldier's ability to strip and assemble the gun. He should therefore be assessed with this in mind.</p> <p>Skilled : No mistakes Average: 1 to 3 mistakes</p> <p>Fail More than 3 mistakes</p> <p>Award no qualification if any mistakes affect safety.</p>
3	Loading	LMG Ammunition box with a belt of 15 dummy rounds. Stop watch.	<p>a. Gunner lying behind the gun.</p> <p>b. Safety catch at FIRE. Box on the ground on left of gun. Order LOAD.</p> <p>c. Time is taken from the order LOAD until the gunner has both hands in their proper position on the gun and the gun is upright.</p>	<p>Skilled : 8 seconds or less</p> <p>Average: 9 to 12 seconds</p> <p>Fail :Over 12 seconds</p> <p>Add 2 seconds to the overall time for each mistake. Award no qualification if any mistake affects safety.</p>
4	Immediate action and gas stoppage	As for Test No. 3.	<p>a. Gunner behind the gun; gun loaded and firing. Order GUN STOPS. When IA has been done, order GUN FIRES rounds and stops again.</p> <p>b. Time taken from AGAIN until the gunner has aimed</p>	<p>Skilled : 8 seconds or less</p> <p>Average: 9 to 10 seconds</p> <p>Fail :Over 10 seconds</p> <p>Add 2 seconds to the overall time for each mistake. Award no qualification if any</p>

			c. and fired the gun. Mistakes made in the IA count for the test.	mistake affects safety.
5	As for Test No. 3	As for Test No. 3	a. Gunner behind the gun; gun loaded and firing. Order STOP and when actions have been carried out correctly give the command UNLOAD. b. Time taken from UNLOAD until the gunner is standing up behind the gun.	Skilled : 8 seconds or less Average: 9 to 12 seconds Fail Over 12 seconds Add 2 seconds to the overall time for each mistake. Award no qualification if any mistake affects safety.
6	Preparation for firing.	LMG Section Cleaning Kit, complete. One 5.56 mm dummy round.	a. Order the gunner to prepare his gun for firing. b. Without further direction the gunner should: (1) Strip the gun as for regular cleaning, clean and leave dry. (2) Lubricate the bearing surfaces of the bolt and piston extension, locking lever and locking shoulder, guide ribs, feed arm and feed channel, the return spring, and the trigger mechanism. (3) Set the gas regulator at its correct setting, check that there is no obstruction in the barrel and that it locks firmly into position. (4) Check the sights for tightness. c. When the gun is assembled, squeeze the trigger and move the working parts backwards and forwards a few times.	The sequence used need not be as laid down in the conditions column but all aspects are to be completed. Skilled : Up to 2 mistakes Average: 3 to 5 mistakes Fail Over 5 mistakes Award no qualification if any mistake affects safety.

ANNEX B, CHAPTER 6

**ANNEX B
C9 LMG
ALL ARMS ANNUAL PERSONAL TEST AND ALTERNATIVE PERSONAL WEAPON
ASSESSMENT**

C9 LMG
ALL ARMS ANNUAL PERSONAL WEAPON TEST AND ALTERNATIVE PERSONAL WEAPON ASSESSMENT

PERSONAL WEAPON TEST (PWT)

1. **Frequency.** This test is to be fired annually by all ranks who are issued with the C9 as a personal weapon.
2. **Practices.** Individual Arms are to fire practices as follows:
 - a. Infantry - Practices 2 to 8 inclusive; and
 - b. Other Arms - Practices 1, 2, 3 and 5.
3. **Ranges.** The test is fired on a gallery (conventional) range. Targets used on gallery ranges are to be modified to enable the targets to be placed in the frames, edge to edge. Alternatively, figure target may be superimposed on a 1.3 m screen. The back frame must be clear and balanced so that targets can be brought down into the well and not seen from the firing point.
4. **Rules.** The following rules are to be observed:
 - a. Before firing the firer is to be allowed 10 rounds to confirm ESA in bursts as follows -
 - (1) Infantry - 300 m (triple Figure 11), and
 - (2) Other Arms - 200 m (double Figure 11).
 - b. During the test no signalling or coaching is permitted.
 - c. No extra time is permitted for stoppages.
 - d. All guns are to be MADE SAFE before any movement.
 - e. For practices 6, 7, and 8 the firer is to have a belt of 20 rounds and fire in bursts of three to five rounds. The target is exposed four times over a period of two minutes. A hit with one or more shots per exposure is deemed to be a successful target engagement.
 - f. Dress is combat clothing, fighting order, ear defenders, and carry NBCW protective mask.

5. **Ammunition**

- a. Infantry - 170 (including 10 sighters).
- b. Other Arms - 90 (including 10 sighters).

6. **Scoring**

- a. Practices 1 to 5: One point per hit.
- b. Practices 6 to 8: Five points per successful target engagement.
- c. HIPS
 - (1) Infantry
 - Practices 2 to 5 - 100
 - Practices 6 to 8 - 60
 - (2) Other Arms
 - Practices 1, 2, 3, and - 80

7. **Qualifying Standard**

Standard	Infantry	Other Arms
Marksman (85 per cent)	136	68
Pass (70 per cent)	112	56
Fail	Below 112	Below 56

ALTERNATIVE PERSONAL WEAPON ASSESSMENT (APWA)

- 8. Practices 1, 2, and 3 are to be fired by all Arms,
- 9. Before firing the practices, the firer is allowed to fire 10 rounds to confirm ESA in bursts at a double Figure 11 target at 200 m.
- 10. **Ammunition.** All Arms 70 (including 10 sighters).
- 11. **Standard.** A satisfactory standard is 50 per cent of the HPS.
- 12. **Night Supplement**

- a. The C9 gunner is to fire the Night Supplement (mandatory) attached at Appendix 2. Thirty rounds are required for this, 20 to count. HPS 20 with a passmark of 50%, ie., 10.
- b. The firer must pass in order to retain a marksman qualification if so achieved during the daylight practices.
- c. A firer may enhance his daylight practice score to marksman level by addition of his night score.

PERCENTAGE ENGAGEMENT

13. The following figures reflect the percentage of overall scoring rounds at the various ranges:

- a. PWT
 - (1) 300 m - 37.5%
 - (2) 400 m - 25%
 - (3) 500 m - 25%
 - (4) 600 m - 12.5%
 - (5) These figures do not include the night supplement.
- b. APWA
 - (1) 200 m - 33.3%
 - (2) 300 m - 33.3%
 - (3) 400 m - 33.3%
 - (4) These figures do not include the night supplement.

APPENDIX 1, ANNEX B,
CHAPTER 6

APPENDIX 1
C9 LMG
ALL ARMS ANNUAL PERSONAL WEAPON TEST AND ALTERNATIVE PERSONAL
WEAPON ASSESSMENT

C9 LMG

ALL ARMS ANNUAL PERSONAL WEAPON TEST AND ALTERNATIVE PERSONAL WEAPON ASSESSMENT

Ser	Practice	Target	Range	Rds	Firer Instructions	Score	Remarks
1	Defence	Double Fig 11	200	25	a. The firer is in a fire trench (lying in open if none avail). b. Order 20 ROUNDS LOAD-200-WATCH & SHOOT. c. When the target is exposed the firer is to fire 20 rounds.	HPS 20	One 30-sec exposure.
2	Defence	Triple Fig 11	300	20	As per Serial 1 excepted range is 300 m.	HPS 20	One 30-sec exposure
3	Defence	Triple Fig 11	400	20	a. The firer is lying in the open. b. Order 20 ROUNDS LOAD-400-WATCH & SHOOT. c. When the target is exposed the firer is to fire 20 rounds.	HPS 20	One 30-sec exposure.
4	Attack	Triple Fig 11	500 400 300	40 1 belt 1 mag	a. The firer and No. 2 are lying in the open at 500 m. Order 20 ROUNDS LOAD. c. On the order ADVANCE firers walk forward. d. When 35 m from the 400 m firing point the target will be exposed for 45 sec, upon the order of the Range Safety Officer. e. When the target is exposed the firer runs to the firing point, adopts the prone position, and fires 20 rounds in bursts. f. When the belt or magazine is expended, or when the target goes down, order PREPARE TO MOVE. g. When all firers are ready, order ADVANCE and repeat the same procedure at 300 m.	HPS 40	a. One 45-sec exposure for each of the two engagements using the same targets throughout. b. These exposures are effected on a signal from the RSO.
5	Enemy counter-attack	Triple Fig 11	300	20	a. The firer and No. 2 are lying in the open at 300 m. b. Order 10 ROUNDS LOAD. A belt of 10 rounds is beside the gun. c. Order 300-WATCH and SHOOT. d. The target will be exposed eight times for	HPS 20	Eight exposures each of three secs at irregular intervals over a period of three mins.

					<p>three sec at irregular intervals over a period of three min.</p> <p>e. When the belt or magazine is expended the firer will carry out the Immediate Action with his remaining 10 rounds and carry on.</p> <p>f. Any number of rounds may be fired at each exposure.</p>		
6	Defence	Triple Fig 11	300	20	<p>a. The firer is lying in the open.</p> <p>b. Order 20 ROUNDS LOAD.</p> <p>c. Order WATCH AND SHOOT.</p> <p>d. One burst of three to five rounds is to be fired at each of the four exposures.</p>	HPS 20	<p>a. Four exposures of four sec over a period of two min.</p> <p>b. Target will fall or be brought down when hit. On conventional ranges markers are to check targets after each exposure and record successful target engagements.</p> <p>c. Five points are awarded for each successful target engagement.</p>
7	Defence	Triple Fig 11	500	20	As for Serial 6.	HPS 20	As for Serial 6.
8	Advance to contact	Triple Fig 11	600 500	20	<p>a. The firer and No. 2 are lying in the open at 600 m.</p> <p>b. Order 20 ROUNDS LOAD.</p> <p>c. When the target is exposed for three sec order ENEMY FRONT-ADVANCE.</p> <p>d. When the 500 m firing point is reached order WATCH AND SHOOT.</p> <p>e. One burst of three to five rounds is to be fired at each of the four exposures.</p>		<p>a. One exposure of three sec when firers are at 600 m Firing Point.</p> <p>b. An interval of 35 sec then one exposure of four sec followed by three further exposures of four sec over a period of two min.</p> <p>c. Target will fall or be brought down when hit. On conventional ranges markers are to check targets after each exposure and</p>

APPENDIX 2, ANNEX B,
CHAPTER 6

APPENDIX 2
C9 LMG
INFANTRY ANUUAL PERSONAL WEAPON TEST NIGHT SUPPLEMENT

C9 LMG
INFANTRY ANNUAL PERSONAL WEAPON TEST NIGHT SUPPLEMENT

Ser	Practice	Target	Range	Rds	Firer Instructions	Score	Remarks
1	Defence	Fig 11 (draped with hessian)	LNV	10	a. Firer is lying in open at the Limit of Night Visibility (LNV). b. Order LOAD-WATCH AND SHOOT. c. Fire in bursts of 3 to 5 rounds.	Nil	a. No time limit. b. Examine targets and determine the MPI.
2	Defence	As Serial 1	LNV	20	As per Serial 1.	HPS 20	a. One exposure of 35 sec. b. Target exposure may be controlled by whistle blasts.

NOTES

1. All ranks who are not issued with the C9 as their personal weapon must fire this night supplement.
2. They must pass the test in order to retain a marksman qualification achieved during the daylight practices of the C9 PWT.
3. Firers may enhance their scores achieved during the daytime practice, either to achieve a pass or to progress to the marksman level.
4. Dress: As per the PWT.
5. Ammunition: 30 rds.
6. Scoring: One point per hit in Practice 2. HPS 20.
7. Qualifying Standards: Pass - 50 per cent of HPS = 10 points
Fail - Below 10 points.
8. Range Safety Officers are to exercise strict control over firers; and assistants during night firing practices. They must ensure the regulations for night firing as laid down in UP 304(3) and local range standing orders are complied with.

ANNEX C, CHAPTER 6

**ANNEX C
C9 LMG
ALL ARMS MODIFIED PERSONAL WEAPON TEST AND MODIFIED
ALTERNATIVE PERSONAL WEAPON ASSESSMENT**

C9 LMG
ALL ARMS MODIFIED PERSONAL WEAPON TEST AND MODIFIED
ALTERNATIVE PERSONAL WEAPON ASSESSMENT

PERSONAL WEAPON TEST

1. **Approval.** The formation commander must give approval before this modified test is used. It is designed for ranges where restrictions limit firing to a maximum range of 200 m and in circumstances where it is not possible to fire the normal PWT.
2. **Practices.** Individual Arms are to fire practices as follows:
 - a. Infantry - all practices.
 - b. Other Arms - practices 1, 2, 3, and 6.
3. **Rules.** The rules for the normal PWT apply, except the confirmation of the ESA is to be carried out by all firers at a Figure 12 target at 100 m.
4. **Targets.** They are to be placed in the frame, edge to edge.
5. **Ammunition.** The scale of ammunition is as for the normal PWT.
6. **Scoring**
 - a. One point per hit for all practices.
 - b. HPS -
 - (1) Infantry - 160
 - (2) Other Arms - 80
7. **Qualifying Standards.**

STANDARD	INFANTRY	OTHER ARMS
Marksman (85 per cent)	136	68
Pass (70 per cent)	112	56
Fail	Below 112	Below 56

ALTERNATIVE PERSONAL WEAPON ASSESSMENT

8. Practices 1, 2, and 5 should be fired by all arms.

9. Before firing the practices the firer is allowed to fire 10 rounds (to confirm ESA) in bursts at a Figure 12 target at 100 m.
10. **Ammunition.** All Arms 70 (including 10 sighters).
11. **Standard.** A satisfactory standard is 50 per cent of the HPS.

APPENDIX 1, ANNEX C,
CHAPTER 6

APPENDIX 1
C9 LMG
ALL ARMS MODIFIED PERSONAL WEAPON TEST AND MODIFIED
ALTERNATIVE PERSONAL WEAPON ASSESSMENT

C9 LMG

ALL ARMS MODIFIED PERSONAL WEAPON TEST AND MODIFIED ALTERNATIVE PERSONAL WEAPON ASSESSMENT

Ser	Practice	Target	Range	Rds	Firer Instructions	Score	Remarks
1	Defence	One Fig 12	100	20	<ul style="list-style-type: none"> a. The firer is to be in a fire trench. b. Order 20 ROUNDS LOAD-WATCH AND SHOOT. c. When the target is exposed the firer is to fire 20 rounds in bursts. d. If there is no fire trench available, then lie in the open. 	HPS 20	One 30-sec exposure.
2	Defence	One Fig 12	100	20	<ul style="list-style-type: none"> a. The firer is to be lying in the open. b. Order 20 ROUNDS LOAD-WATCH AND SHOOT. c. When the target is exposed, the gunner is to fire 20 rounds in bursts. 	HPS 20	One 30-sec exposure.
3	Attack	Double Fig 12	300 100	40	<ul style="list-style-type: none"> a. The firer is to be lying in the open at 300 m. b. Order 20 ROUNDS LOAD. c. On the order ADVANCE firers walk forward. d. When 35 m from the 200 m firing point the target will be exposed for 45 sec, upon the order of the Range Safety Officer. e. When the target is exposed the firer runs to the Firing Point, adopts the prone position and fires 20 rounds in bursts. f. When the belt or magazine is expended, or when the target goes down, order PREPARE TO MOVE. g. When all firers are ready order ADVANCE and repeat the same procedure at 100 m. 	HPS 40	<ul style="list-style-type: none"> a. One 45-sec exposure for each of the two engagements using the same targets throughout. b. These exposures are effected on a signal from the RSO. From the RSO.
4	Enemy counter-attack	One Fig 12	100	20	<ul style="list-style-type: none"> a. The firer is lying in the open at 100 m. b. Order 10 ROUNDS LOAD. A belt of 10 rounds is beside the gun. 	HPS 20	Eight exposures of three sec at irregular intervals over a period of three min.

					<ul style="list-style-type: none"> c. Order 100-WATCH AND SHOOT. d. The target will be exposed eight times for three sec at irregular intervals over a period of three mins. e. When the belt on the magazine is expended the firer will carry out the Immediate Action with his remaining 10 rounds and carry on. f. Any number of rounds may be fired at each exposure. 		
5	Defence	Double Figure 12	200	20	As for Serial 1.	HPS 20	No time limit.
6	Defence	Double Fig 12	200	20	As for Serial 2.	HPS 20	One 30-sec exposure.
7	Advance to contact	One Fig 12	200 100	20	<ul style="list-style-type: none"> a. The firer is to be lying in the open at 200 m. b. Order 20 ROUNDS LOAD. c. When the target is exposed for three sec order ENEMY FRONT-ADVANCE. d. When the 100 m firing point is reached order WATCH AND SHOOT. e. Any number of rounds may be fired at each of the seven exposures. 	HPS 20	<ul style="list-style-type: none"> a. One exposure of three sec when firer is at 200 m Firing Point. b. An interval of 35 sec then seven exposures of four sec over an interval of two min.

ANNEX D, CHAPTER 6

ANNEX D
METHODS OF DESTRUCTION

METHODS OF DESTRUCTION

PRIORITY OF DESTRUCTION

1. The following priorities should be followed when destroying the LMG:
 - a. barrel and breech, and
 - b. sighting equipment.
2. The following guidelines should be observed when destroying the LMG:
 - a. The destruction must be as complete as circumstances will permit.
 - b. If there is insufficient time for complete destruction, the parts essential to the operation of the weapon will be destroyed, beginning with those parts listed in priority in paragraph one.
 - c. The same essential parts of each weapon must be destroyed to prevent the reconstruction of a complete weapon from several damaged ones.

METHOD OF DESTRUCTION

3. Plug the barrel near the chamber or bury the muzzle in the ground, load, and fire the gun from behind cover by using a string tied to the trigger.
4. Strip the weapon as far as possible; bury parts or scatter them over as wide an area as possible.
5. All spare parts should be disposed of.
6. Should the foregoing destruction drills not be possible, other methods must be devised, eg, destroying by explosive charges or by fire, running over by vehicles, scattering components in rivers, mud, snow, sumps, latrines, or undergrowth.
7. Unused ammunition can be destroyed by explosives using improvised demolition charges made up of grenades, bombs, etc.