

ARMOUR

VOLUME 1

THE ARMoured REGIMENT IN BATTLE

(BILINGUAL)

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REVISION TO B-GL-305-001/FT-001

ARMOUR, VOLUME ONE, THE ARMoured REGIMENT IN BATTLE

Reference: B-GL-305-001/FT-001
1 May 82

1. This revision is authorized by the Army Doctrine and Tactics Board (ADTB). It is effective on receipt and supersedes the reference.
2. The doctrine in this manual is applicable to operations in low, middle and high levels of conflict by armoured regiments using generic equipment.
3. The responsibility for the quality of ADM publications is shared by all members of the army. To this end, I ask all users of this publication to report any errors or emissions, through normal channels, to mobile Command Headquarters, attention SSO Armour.

R.E. Acreman
Colonel
Chairman
Army Doctrine and Tactics Board

Enclosure: 1
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FOREWORD

1. B-GL-305-001/FT-001, Armour, Volume 1, The Armoured Regiment in Battle, Interim 1, is issued on authority of the Chief of the Defence Staff.
2. This publication is effective on receipt and supersedes B-GL-305-001/FT-001 1982-05-01.

AIM

3. The aim of this manual is to detail the tactical doctrine for the employment of armoured regiments. It is a guide for operations and forms the basis for instruction and training for war.

SCOPE

4. Information on the organization, role, characteristics, command, and the tactical employment of the regiment and its squadrons is provided. Even where the manual exclusively discusses tanks the doctrine is meant to be implemented within the context of the combined arms team. The emphasis is placed on the fundamental requirement for a balanced force of armour infantry, artillery, and engineers as the essential components of an effective and viable fighting force. The doctrine presented is adaptable and applicable to a range of potential conflict situations, and to the different types of armoured vehicles that may be employed in a Canadian armoured regiment. It is the requirement for this universal applicability that has driven the retention of the name "The Armoured Regiment In Battle" for this manual.
5. Troop level tactics are covered in B-GL-305-003/FT-001, Interim 1. Higher level tactics and organizations are discussed in B-GL-300-000/FP-001, The Army, and B-GL-301-001/FP-001 Land Formations In Battle. A list of major references including STANAGS and QSTAGs is in Annex A.
6. In addition to editorial and terminology changes, this manual reflects the following major revisions:
 - a. revised doctrine for the assault; and
 - b. the addition of doctrine for the employment of mine ploughs and rollers.
7. Suggestions for changes to this publication shall be forwarded through normal channels to Mobile Command Headquarters, Attention Senior Staff Officer (SSO) Armour.

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CHAPTER 1

INTRODUCTION

SECTION 1

GENERAL

THE PRINCIPLES OF WAR

1. Although the application of the Principles of War alters with changes in weapons and tactics, the principles themselves are as applicable to modern as to ancient campaigns. Circumstances dictate the relative importance of each principle and a commander's challenge is to know where to place the emphasis. Thus the Principles of War are not immutable laws, but rather are a guide to actions at all levels. The principles are discussed below in relation to tank forces.
2. **Selection and Maintenance of the Aim.** This is the master principle. Every plan or action must be tested by its bearing on the chosen aim and then executed to achieve that aim.
3. **Maintenance of Morale.** Success in war depends more on morale than on physical qualities. Numbers, armament and resources cannot compensate for lack of courage, energy, skill and bold offensive spirit. It is imperative that morale be developed and maintained.
4. **Offensive Action.** By wresting the initiative from the enemy, one acquires freedom of action and a distinct psychological advantage. A commander must act, not react. An offensive, aggressive spirit must pervade in all types of operations. Tank forces are well suited for offensive action.
5. **Security.** This helps to maintain a commander's freedom of action. Receipt of timely intelligence while denying the same to the enemy contributes to security. It is achieved by maintaining balance.
6. **Surprise.** Surprise can confer the initiative, undermine enemy morale, reduce own casualties and often give material advantages similar to a superior concentration of force. It is significant that surprise is the only principle that is common to all major armies and NATO. The elements of surprise are secrecy, concealment, deception, originality, audacity and speed. To derive the maximum benefit from surprise it must be exploited. Tanks are most capable of this exploitation.
7. **Concentration of Force.** Concentration does not necessarily imply massing of forces, but rather having them so disposed as to be able to unite to deliver a crushing blow where and when required. Concentration is more a matter of time than of space.
8. **Economy of Effort.** This requires a balanced employment of forces and a judicious expenditure of resources consistent with achieving the aim. Concentration of combat power at the point of main effort often requires the acceptance of risks elsewhere.

9. **Flexibility.** This is necessary in planning and execution to cater for changing situations and unexpected developments. Flexibility of mind and the ability to make quick decisions are necessary to ensure opportunities for success are not lost.

10. **Cooperation.** Cooperation is based on team spirit and training, and entails the coordination of all activities to achieve the maximum combined effort from the whole. It can be achieved if good will and the desire to work together are fostered at all levels. Tanks seldom fight alone.

11. **Administration.** Sound administration is making the best and most timely use of resources. Administrative plans must be flexible to permit the commander freedom of action. Administration is an indispensable element of operations and is often the deciding factor in assessing the feasibility of an operation or the practicality of a mission. A tank force is probably more dependent on administrative support than the other two combat arms.

SECTION 2

ROLE, TASKS AND CHARACTERISTICS

GENERAL

1. The improvement of weapons and related equipment has caused changes in the concepts of land warfare. Today's battlefield reflects a marked increase in tempo and scale with the emphasis on fire and movement and greater dispersion of tactical formations. The armour regiment is the principal striking force of a brigade. Armour is better suited than any other arm for conducting mobile warfare where fire power and manoeuvre are the keys to success.

ROLE

2. The role of armour is to defeat the enemy through the aggressive use of firepower and battlefield mobility.

TASKS

3. Specific tasks within this role are:
- a. participate in a covering force;
 - b. participate in the advance to contact;
 - c. assault and destroy the enemy;
 - d. exploit the effects of weapons of mass destruction;
 - e. penetrate, exploit, and conduct pursuits; and
 - f. participate in defensive operations, primarily as part of manoeuvre forces for counter-attacks and blocking actions.

CHARACTERISTICS

4. The battlefield requirements of firepower, mobility, and protection are present in the tank. Because of this the tank is one of the most decisive weapons on the battlefield. Tanks can produce shock action through the violent application of firepower and mobility.

5. **Firepower.** Tanks have large calibre guns capable of firing armour defeating, high explosive, smoke and canister ammunition. Tank gun fire is accurate and lethal against stationary and moving targets. During the assault the tank provides intimate support for the infantry. The ability to redeploy quickly and to engage targets of opportunity rapidly make the tank particularly lethal. The use of image intensification, thermal imagery, and battlefield illumination permit the tank to deliver accurate, aimed fire in limited visibility.

6. **Protection.** A tank cannot be designed to provide absolute protection against attack from all ranges and angles and still provide good firepower and mobility. The result must be a

compromise which affords a good chance of survival at tank battle ranges. The tank is the most effective fighting vehicle in nuclear operations and can operate much closer to ground zero than any other. It also provides protection against biological and chemical attack. An attached dozer blade gives the tank a digging and earth moving capability which can contribute to its protection. Tanks are vulnerable to anti-armour weapons; but supporting infantry can reduce this threat.

7. **Mobility.** Mobility springs as much from the attitude of mind of commanders and crews, as from the performance of the tank. To derive full value from the tank the crew must be trained to think quickly and aggressively. The cross-country performance of tanks enables them to move quickly from position to position and to avoid enemy ground observation and fire. This agility, combined with speed, is vital in all types of operations. The concept of battlefield mobility embraces the characteristic of protection too. Mine rollers and ploughs provide an improved minefield breaching capability. Size and weight may affect tactical plans by ruling out certain routes and vehicle noise can preclude surprise. Skillful driving and the use of cover may reduce these drawbacks.

8. **Flexibility.** Flexibility derives from a combination of the firepower, mobility and communications. Standard Operating Procedures (SOPs), battle procedure and drills also contribute to flexibility by enabling commanders to concentrate and disperse and to shift the point of attack quickly from one place to another without detailed orders.

9. **Inability to Hold Ground.** Tanks must be supported by infantry to hold ground.

SECTION 3

FUNDAMENTALS OF EMPLOYMENT

GENERAL

1. Over the years, study, practice and experience have led to a number of fundamental considerations in the employment of tanks.

FUNDAMENTALS

2. **Aggressiveness.** Tank operations must be executed with speed, resolution and boldness. It is only when the firepower, protection, mobility and flexibility of tanks are exploited aggressively that the full fighting potential is realized. Tanks should not be tied to static positions.

3. **Concentration.** Every opportunity must be taken to mass the firepower of as many tanks as possible to produce shock effect. Concentration may be achieved by fire, by physical presence, or by a combination of both. Concentration depends on how closely engaged the opposing forces are, enemy target acquisition, and the air situation including the enemy anti-armour helicopter threat.

4. **Fire and Movement.** The movement of one element covered by the fire of another is a basic tactic of tanks. The basic manoeuvre unit in a tank regiment is the tank squadron. The basic fire unit is the tank troop.

5. **Use of Ground.** Ground has great significance for the employment of tanks. In open terrain such as the desert or steppes tanks tend to be the predominate arm. Here tanks can make the best use of their characteristics of fire power and mobility.

6. **Combined Arms Operations.** The understanding of the capabilities, characteristics and limitations of artillery, tanks and infantry is essential at all levels of command. Tanks do not operate alone, but fight with infantry supported by other arms.

7. **Administration.** Administrative arrangements must be planned in such a way that the tactical plan is not adversely affected by the lack of logistical support. Adequate and timely resupply for all elements must be arranged prior to, and during operations.

LIMITATIONS OF ARMOUR

8. **Introduction.** Commanders must be aware of the limitations of armour. Some of these are ever present and must be minimized by sensible planning. Others are tactical shortcomings which are overcome by cooperation with other arms. Tanks are subject to the following limitations:

- a. **Air attack.** Tanks are extremely vulnerable to air attack. A constant awareness of this threat must be emphasized, and SOPs developed to counter it.
- b. **Size, weight, noise and thermal signature.** The presence of tanks is hard to

conceal and requires effort, imagination and skilful driving.

- c. **Vulnerability in close quarter fighting.** At close quarters, tanks are blind and vulnerable to enemy short range anti-tank weapons. In close country, built-up areas or during periods of reduced visibility good liaison with supporting infantry is essential.
- d. **Poor ground holding capability.** Tanks can deny ground by the application of fire, but they cannot by themselves hold ground against a determined dismounted enemy. This requires the presence of infantry.
- e. **Sensitivity to obstacles.** Natural and artificial obstacles can seriously restrict a tank's mobility. Liaison with engineers will be necessary if obstacles are to be overcome and freedom of movement restored.
- f. **Reduced efficiency in darkness and bad visibility.** Despite the assistance of night observation devices, night and poor visibility will often restrict movement and ranges of engagement. Supporting infantry are required to provide protection at night.
- g. **Crew fatigue.** This is reduced by physical fitness and sensible plans for rest.
- h. **Logistic and maintenance demands.** Tanks are only as effective as their logistic support. Commanders neglect resupply, and maintenance at their peril.

CHAPTER 2

ORGANIZATION

SECTION 1

INTRODUCTION

GENERAL

1. The tank regiment is organized as follows (see Figure 2-1):
 - a. regimental headquarters (RHQ);
 - b. reconnaissance troop;
 - c. four tank squadrons; and
 - d. headquarters squadron.

ORGANIZATION FOR BATTLE

2. In battle the regiment is grouped into functional echelons:
 - a. **F Echelon.** This includes the men, weapons and vehicles essential for combat such as tanks, command and reconnaissance vehicles and command posts (Cps).
 - b. **A Echelon.** This includes the men, vehicles and equipment required for the resupply, repair and maintenance of F Echelon. Squadron A Echelons are broken down further into an A1 and A2.
 - c. **B Echelon.** This includes the men, vehicles and equipment not in F and A Echelons, but required for the routine administrative support of the regiment.
3. The composition of echelons is decided by the regimental commander, based on his task. A tank squadron may be detached to a battalion or an infantry company can be attached to a regiment, to form a battle group. Echelon organization for the most common groupings is covered in regimental standing operating procedures (SOPs).

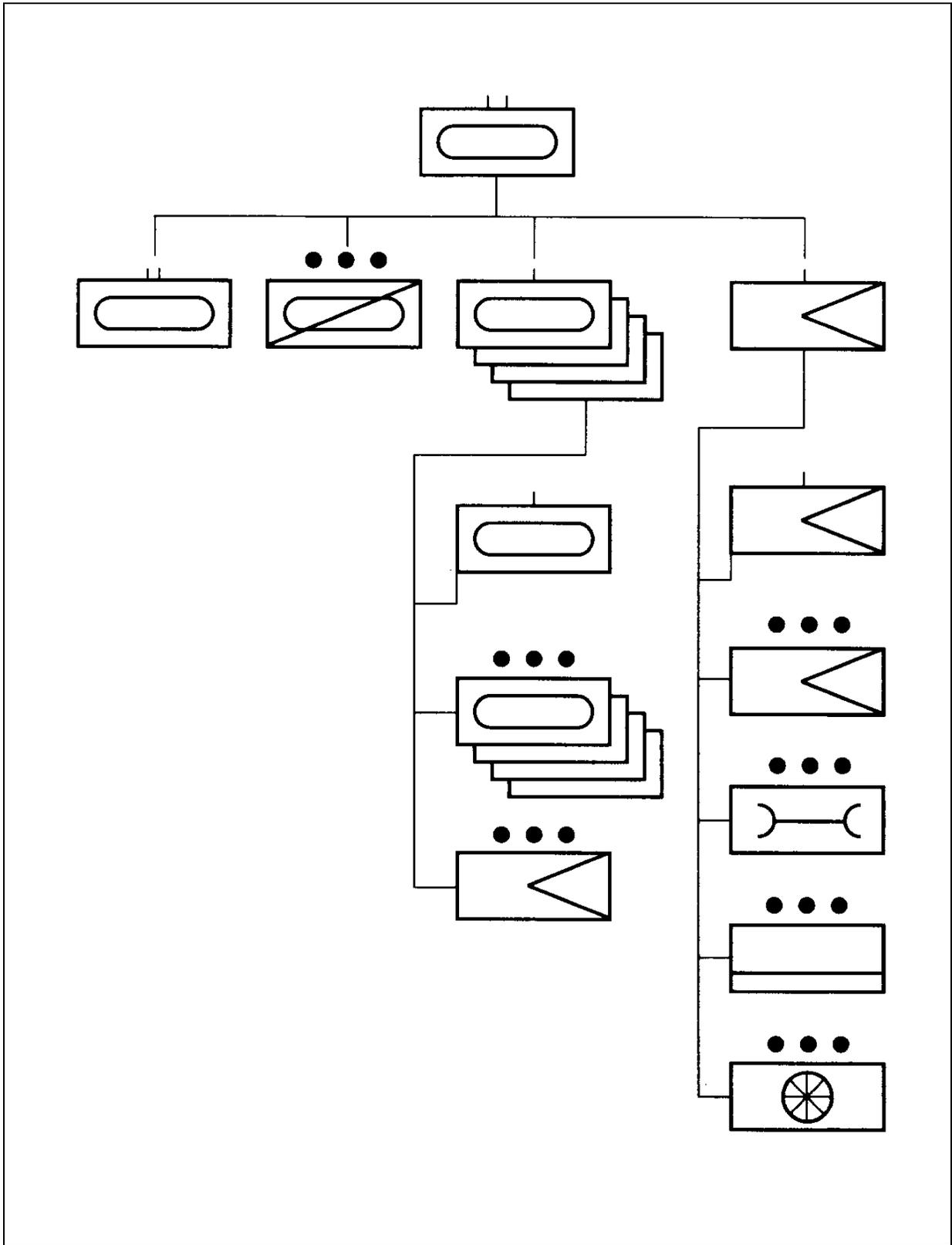


Figure 2-1 The Tank Regiment

SECTION 2

APPOINTMENTS AND RESPONSIBILITIES

REGIMENTAL HEADQUARTERS

1. **Commanding Officer (CO).** He is responsible for the command, control, organization, fighting effectiveness, training, discipline and welfare of his regiment.
2. **Second in Command (21C).** He controls the regiment when the CO is resting or absent and assumes command if the CO becomes a casualty. Located at RHQ, the 21C co-ordinates training, operations, administration and logistics in the regiment.
3. **Operations Officer (Ops O).** He is responsible for the efficient operation, training, layout and defence of RHQ, and in particular the operation of the CP complex. He is also responsible for drafting operational staff work and the staging of orders groups (OGps).
4. **Regimental Liaison Officer (RLO).** He represents the CO at other headquarters. He must know the CO's plan and be able to assist the other headquarters with their plans and operations. When not employed on liaison duties he is a duty officer in the CP.
5. **Intelligence Officer (IO).** He is responsible to the CO for combat intelligence. He accompanies the CO during his reconnaissance and his visits to higher headquarters. He may command the second RHO, tank or accompany the CO in his command tank. He is the unit NBCW officer and is also employed as a duty officer in the CP. He maintains the war diary.
6. **Signal Officer (Sig O).** He is a Communication and Electronics Engineering (CELE) officer and the CO's advisor on all signal matters and ensures the efficient operation of all communications in the regiment. He is also a duty officer.
7. **Adjutant.** He is responsible for all personnel administration in the regiment and is on the establishment of HQ Squadron. He may be employed in the CP as a senior duty officer.
8. **Regimental Sergeant Major (RSM).** He commands the regimental A1 Echelon when it is formed. He co-ordinates the defence of RHQ. He is the RHQ harbour master. The RSM advises the CO on the morale and welfare of the troops.
9. **Operations Warrant Officer.** He is responsible to the Operations Officer for the readiness of the command post vehicles and the training; discipline and welfare of the soldiers in RHQ. He assists in carrying out the defence of RHO.
10. **Regimental Police Sergeant.** He is a military police sergeant. He commands the Regimental Police (RP) Section. He is responsible for supervising traffic control within the regiment. He assists the RSM in carrying out the defence of RHQ and he performs this function in the absence of the RSM. He liaises with the formation military police.

RECONNAISSANCE TROOP

11. **Reconnaissance Troop Leader.** He is responsible to the CO for the command,

control, organization, fighting effectiveness, training, discipline and welfare of his troop.

TANK SQUADRONS

12. **Squadron Commander (OC).** He is responsible to the CO for the command, control, organization, fighting effectiveness, training, discipline and welfare of his squadron.

13. **Second-in-Command.** He is responsible to the squadron commander for administration and he commands the administrative troop. He understudies the OC and replaces him should the OC become a casualty.

14. **Battle Captain (BC).** He is responsible to the squadron commander for the training and technical efficiency of the squadron. In the absence of the OC, he assumes command of the squadron temporarily until the OC returns or is replaced by his 21C.

15. **Liaison Officer (LO)** He represents the squadron commander at other headquarters. He must know the squadron commander's plan and be able to assist the other headquarters with their plans and operations. The LO understudies the 21C and replaces him when required.

16. **Troop Leader.** A troop leader is responsible to the squadron commander for the command, control, organization, fighting effectiveness, training, discipline and welfare of his troop. He understudies both the BC and the LO and replaces either as required.

17. **Squadron Sergeant Major (SSM).** He commands the squadron A1 Echelon. He is the squadron harbour master. The SSM provides advice to the OC on the morale and welfare of the troops.

18. **Squadron Quartermaster Sergeant (SQMS).** He commands the squadron B Echelon. He understudies the SSM and assumes his responsibilities should the SSM become a casualty.

HEADQUARTERS SQUADRON

19. **Squadron Commander.** He is responsible to the CO for the organization, efficiency, training, discipline and welfare of his squadron. He controls the regimental A and B Echelons. He understudies the regimental 21C. His headquarters is the alternate RHQ.

20. **Second-in-Command.** He commands the regimental A2 Echelon. He understudies the OC and must be prepared to replace him.

21. **Administrative Officer (AO).** He commands Administrative Troop. He understudies the 21C. He may be a duty officer in Echelon control, the squadron CP.

22. **Quartermaster (QM).** He is a Logistics Officer. He commands Logistics Troop and the regimental B echelon. He is responsible to the OC for the organization, efficiency, training, discipline, and welfare of his troop.

23. **Maintenance Officer (Maint O).** He is a Land Electrical and Mechanical

Engineering (LEME) Officer. He commands Maintenance Troop. He is responsible to the OC for the organization, efficiency, training, discipline and welfare of his troop. He may be a duty officer in the CP.

24. **Medical Officer (MO)**. He is responsible to provide medical care to all regimental personnel. This involves inspection, sustaining care and evacuation. He commands the unit medical station.

25. **Transport Officer (TO)**. He commands Transport Troop. He is responsible to the OC for the organization, efficiency, training, discipline and welfare of his troop. He understudies the squadron 21C. He may be a duty officer in Echelon control.

CHAPTER 3

COMMAND AND CONTROL

SECTION 1

INTRODUCTION

GENERAL

1. Command and control is the exercise of authority and direction by a designated commander over assigned forces to accomplish the force's mission. The functions of command and control are performed through an arrangement of personnel, equipment, communications, facilities and procedures which are employed by a commander in planning, directing, coordinating and controlling.

THE COMMANDER

2. The Commanding Officer (CO) and the Squadron Commanders (OCs) are the key appointments in the command structure of the tank regiment. They have the authority to command their troops and they bear the responsibility for the outcome.

3. A commander is responsible for achieving his mission with a minimum loss of life and expenditure of resources, and at the same time, he must provide for the welfare of his troops.

4. A commander plans (what is to be done, by whom, how and when), directs, controls and coordinates. He must:

- a. know and understand the situation;
- b. identify and consider the options;
- c. make decisions and prepare his concept of operations and a basic plan;
- d. assign tasks;
- e. allocate resources; and
- f. direct, sustain and motivate his troops.

5. A commander thinks two levels below and one above his command when making an estimate.

GROUPING

6. Organizing the unit into tactical groups to fight the battle is part of battle procedure and the grouping may change with different phases of an operation.
7. In mobile operations, regroupings may occur on short notice with the issue of radio orders.
8. **Command Relationships.** Figure 3-1 provides a comparison of command relationships applying to the activities, functions and authority of the commanders involved.
9. Standard groupings are usually contained in unit standing operating procedures (SOPs).

CONTROL MEASURES

10. Movement on the battlefield must be carefully controlled to avoid confusion, disorganization and wasted effort. However, control measures can lead to confusion if the measures adopted are not known and not commonly used throughout the regiment. Squadrons should resist developing their own. If they must do so, Regimental Headquarters (RHQ) must be informed or they must ensure that no reference to them is made over the regimental command net.

Serial	Relationship	Activity/Function/ Authority to Gaining Commander			
		Control of Operations	May Assign Missions or Tasks as Necessary	May Delegate Full Authority to Subordinate Commander	May Assign Tasks to Separate Elements
(a)	(b)	(c)	(d)	(e)	(f)
1	Under Command	Yes	Yes	Yes	Yes
2	In Support	Yes	Yes	Yes	No
3	In Location	No	No	NA	NA

Serial	Control of Combat Service Support	Control of Movement		
		F Echelon	Support Echelons	Deployment Areas
(g)	(h)	(j)	(k)	(m)
1	Yes	Yes	Yes	Yes
2	No	Yes	No	No
3	No	Yes*	Yes*	Yes*

*Subject to the direction of the superior commander

Figure 3-1 Comparison of Command and Control Relationships

LOCATION OF COMMANDERS

11. The CO has a choice of commanding from his tank or from the command post (CP). Commanding from his tank allows the CO to directly influence the battle but it may be easier to deal with the information flow, maps, logs and codes in a CP vehicle where the CO has a staff to assist him. On the other hand, the CP vehicle is easier to detect because of its size and electronic emissions which make it a potential target for enemy aircraft or artillery. Ultimately, the choice of vehicles depends on the nature of the battle at a particular time.
12. It is essential that a commander makes frequent personal contact with his subordinates. His presence reinforces his verbal and written orders, builds confidence and high morale. There are specific times when a CO and Ocs must be with their troops. These include:
 - a. during critical periods with their presence could affect the outcome of the battle;
 - b. when an action is over, particularly when heavy casualties have occurred; and
 - c. following the capture of an objective once consolidation is under way.

COMMUNICATIONS

13. Reliable communications are vital to the operation of the regiment. The disciplined use of radio and knowledge of equipment capabilities and limitations are mandatory at all levels.
14. Normal radio communications are not possible under conditions of radio and electronic silence or effective jamming. Many of the problems associated with the loss of radio communications can be overcome by training, battle drills and alternate methods of communicating. The communication means available in the regiment include radio, line, dispatch riders (QRs), liaison officers (Los), acoustic and visual signals, and timed programmes.

INTELLIGENCE

15. Timely, accurate intelligence is essential for effective command.
16. Information from the squadrons is collected and passed quickly to a higher headquarters while important data from flanking units and higher headquarters should be sent to the squadrons in the same timely, concise manner.

STANDING OPERATING PROCEDURES

17. Standing Operating Procedures (SOPs) are developed to reduce certain activities within the regiment to standard drills. They are developed for both operations and administration. RHQ, in developing its own SOPs, must ensure that they conform to those of brigade headquarters. If SOPs at regimental level are thorough, there should be little requirement for separate SOPs at squadron and troop level.
18. Suggested content of regimental SOPs is at Annex A.

SECTION 2

BATTLE PROCEDURE

GENERAL

1. Battle procedure is the process by which a commander receives his orders, makes his reconnaissance and plan, issues his orders and prepares and deploys his troops for battle. The procedure should permit concurrent activity at each level of command.
2. It is not a rigid process because it can be adapted for use in all situations. Commanders may abbreviate their battle procedure to react quickly to changing situations.
3. Commanders must give their subordinates adequate time to conduct their own battle procedure. If time is limited, commanders should be prepared to sacrifice some of their time to permit the maximum time possible for their subordinates' preparation.

RECONNAISSANCE AND ORDERS GROUPS

4. To streamline battle procedure, certain standard groups are established. See Figure 3-2. These are specified in regimental SOPs. They include:
 - a. **Reconnaissance Group (RGp).** The Rgp includes the commander and those needed to assist him in his reconnaissance and planning.
 - b. **Orders Group (OGp).** The OGp is composed of the RGp and those subordinate commanders to whom the orders need to be issued for the execution of the mission.

Serial	Group	Regiment	Squadron	Troops
(a)	(b)	(c)	(d)	(e)
1	RGp	CO IO Sp Arm Comds	OC LO Sp Arm Comds	Tp Ldr Crew Member
2	OGp	OC 2IC OpsO IO SIGO Sqn OCs RSM Sp Arm Comds	OC LO BC 2IC Tp Ldrs SSM Sp Arm Comds	Tp Ldr Crew Comds

Figure 3-2 Typical Composition of R and O Groups

BATTLE PROCEDURE SEQUENCE

5. Except for routine administrative activity which is continuous, battle procedure begins with the receipt of a warning order (Wng O) from higher headquarters. A commander then takes some or all of the following sequential steps (see Figure 3-3 for summary):

- a. **Initial Time Appreciation.** Upon receipt of Wng O a commander does a time appreciation. Working backwards from the time of his commander's OGp he calculates travelling time to the OGp, time available for his preliminary reconnaissance, troop movement and other important timings.
- b. **Initial Wng O.** The initial Wng O gives subordinate commanders as much information as possible. It contains the probable task, the location and time for orders, the degree of warning or time for movement of the main body and any special administrative arrangements.
- c. **Receipt of Orders.** The commander meets his RGp at a rendezvous (RV) following his superior commander's OGp. Frequently support arm advisers also attend orders of their functional commander. They are then in a position to advise on their arm's support to the plan and details of support available from the higher formation.
- d. **Time Appreciation.** Following orders the commander knows the key timings for the operation. A quick time appreciation is done to ensure that the available time is used effectively. The commander considers time for his subordinates' battle procedure as well as his own.

- e. **Map Study and Outline Plan.** When time is available for reconnaissance, a map study contributes to the initial plan, which may be confirmed or adjusted during the reconnaissance. When time is not available the plan made from the map study serves the purpose until the commander reconnoitres the ground with his subordinates.
- f. **Reconnaissance Plan.** Reconnaissance either confirms a plan or indicates that adjustments are needed. The commander decides which questions can be answered from each location and en route. Security permitting, the ground should be viewed from the enemy's perspective. The threat, the time available, the number of locations to be visited, the routes available and the necessity for a protection party all influence the preparation of the reconnaissance plan.
- g. **Supplementary Wng O.** This Wng O confirms information in the initial Wng O and adds new information as required.
- h. **Reconnaissance.** Reconnaissance is conducted according to the plan but adjustments may be made as necessary. If battle procedure has been abbreviated, the reconnaissance may be conducted after orders are issued.
- j. **Estimate of the Situation and Orders.** Following the reconnaissance, the commander completes his estimate of the situation, prepares and delivers his orders. (See Annex B).
- k. **Co-ordination.** Co-ordination is a key job for a commander, and it is a continuing process. It is at this stage that details of the plan are tied together and any adjustments are made.
- m. **Deployment.** A commander's aim is to position his force at the right place with the correct grouping, at the right time, properly equipped, briefed and ready to fight. This process starts with the receipt of the initial Wng O and ends when the troops arrive in the deployment area.

Serial	Regimental	Squadron	Troop
(a)	(b)	(c)	(d)
1	Issue Wng O and attend brigade orders.	Issue Wng O.	Issue Wng O.
2	Complete time and map appreciation, conduct recce.	Move to RV for CO's orders.	Prepare for preliminary moves.
3	Estimate, plan and prepare for orders.	O Gp marks maps and is briefed on the enemy situation.	
4	Issue orders.	Complete time and map appreciation, confirm Wng O, give RV for Squadron orders, send LO back with map.	
5	Follow-on co-ordination.	Conduct reconnaissance, estimate, plan and prepare orders.	Move to RV and O Gp.
6		Issue orders.	
7		Follow-on co-ordination.	Complete time and map appreciation, conduct reconnaissance if possible, plans, issue orders.
8			Move to position.

Figure 3-3 Typical Battle Procedure Sequence

SECTION 3

REGIMENTAL HEADQUARTERS

GENERAL

1. RHQ provides the CO with all the control facilities that permit him to command the regiment. Within RHQ the CP is the focal point for control activity. RHQ is small and must be kept that way. In battle it moves frequently, either for reasons of security or communications. RHQ SOPs are used to standardize routine drills and procedures.
2. RHQ is organized to operate on a "24 and 7" basis and it provides its own security and reconnaissance for moves.

SITING

3. RHQ should be located where reliable radio communication is possible and where there is:
 - a. concealment from ground and air observation;
 - b. firm ground for vehicles and adequate room for dispersion, including a helicopter landing site;
 - c. screening from intercept;
 - d. access to the main axis; and
 - e. defensible ground.

COMMAND POSTS

4. Two CP vehicles are needed because of continuous operations and frequent moves. The two CPs are equipped and prepared identically so that control can shift smoothly from one vehicle to the other following a move.
5. **Duty Shifts.** The minimum staff in the CP is a duty officer and two radio operators. During busy periods, two duty officers and two operators, supervised by the operations officer, may be required.
6. The step-up vehicle is manned by the intelligence section when it and the CP are co-located. In addition to their intelligence and NBC defence duties this section keeps operational information in the step-up vehicle current by maintaining a duplicate of such items as maps and logs, so that the step-up vehicle is prepared to move quickly.
7. RHQ may be designated as the formation alternate HQ and in this case formation HQ operational information and SOPs are also maintained.

MOVES

8. RHQ operates even during moves, therefore:
 - a. Moves must be anticipated and general locations chosen, with alternatives. Reconnaissance of new sites should be done as early as possible.
 - b. the CP continues as the control station until the step-up is in its new location and has established communications.
 - c. The handover of information is completed.
 - d. Control passes smoothly from the CP to the step-up.
 - e. Moves are made quickly to permit RHQ to regroup and function together as soon as possible.

INTELLIGENCE CELL FUNCTIONS

9. The functions of the Regimental Intelligence Section include:
 - a. collecting and disseminating essential intelligence including nuclear, biological and chemical data within the regiment;
 - b. ensuring that regimental intelligence and NBC records and maps are kept up-to-date;
 - c. passing information and NBC data to brigade headquarters;
 - d. maintaining current operational information in the step-up vehicle;
 - e. acquiring and distributing maps, air photographs and traces;
 - f. arranging for the onward transmission of captured documents, materiel and prisoners;
 - g. assisting with recognition training and instruction on the enemy's tactics; and
 - h. preparing the "Situation Enemy" paragraph of the CO's orders and giving intelligence briefings as directed.

OPERATIONS CELL FUNCTIONS

10. The functions of the operations cell include:
 - a. continuously manning and operating a station on the brigade net and controlling the regimental command net;
 - b. keeping operational information and operations maps current;
 - c. maintaining a log for each radio net;
 - d. maintaining an orderly system for receiving, logging, actioning and displaying relevant information;
 - e. maintaining current battle boards, net diagrams, reports and returns, groupings, and other information contained in regimental SOPs; and
 - f. ensuring that copies of brigade and regimental SOPs, operations plans and orders, and other pertinent information are available to both CPs.

SECTION 4

RECONNAISSANCE TROOP

GENERAL

1. The Reconnaissance Troop is the only dedicated reconnaissance element in the regiment. The troop may be employed on reconnaissance, surveillance, security or other tasks, reporting directly back to RHQ, or it may be placed under command or in support of one of the squadrons, either in total or by patrols.
2. Typical tasks for the troop include:
 - a. reconnaissance of counter-attack and blocking routes;
 - b. advance, flank or rear area surveillance;
 - c. acquiring terrain (going) information for the tanks;
 - d. maintaining contact with the enemy;
 - e. surveying chemical or radiological contamination;
 - f. traffic control;
 - g. protection of RHQ;
 - h. liaison duties; and
 - j. communications tasks.

SECTION 5

TANK SQUADRON

GENERAL

1. The OC commands from a tank while the battle captain (13C) assists him from a second tank. A dozer tank travels with this group to provide additional fire support and flexibility.
2. SHQ may travel as a group or the OC may be forward with the leading troop(s) while the BC controls the rear elements.
3. SHQ tanks may carry a proportionately higher load of smoke rounds for screening and target indication.

COMMAND

4. The OC is located where he can best exercise command. He should avoid becoming decisively engaged but he must keep in touch with the battle.
5. The OC and BC monitor both the regimental and squadron command nets but with a different priority. Fighting the squadron, the OC concentrates on the squadron command net and monitors the regimental net. The BC is primarily concerned with the regimental net. He keeps RHQ informed of the squadron situation and answers for the OC when the OC is unable to do so. At the appropriate time, the BC passes information to the OC on the squadron net.
6. The BC protects his OC from routine information. All radio traffic is kept short and concise.
7. The squadron is structured to fight as a single entity. The functions of the OC and BC are complementary, not redundant. The Squadron administrative echelon is not double banked in critical support vehicles and tradesmen. It must not be allotted by half-squadron to different battle groups. Within the battle group, splitting the squadron in half or detaching troops must only be done after careful deliberation and with full acceptance of the risks of ignoring one of the fundamentals of employment: concentration. The control and administration of detached elements below squadron level are unwieldy and reduce endurance. It must be remembered that, although the troop is the basic fire unit, the squadron is the basic manoeuvre unit.

SECTION 6

LAW OF ARMED CONFLICT

PURPOSE

1. The law of armed conflict is the body of a law which governs the conduct of states when they are engaged in an armed conflict. The purposes of the law of armed conflict are to protect both combatants and non-combatants from unnecessary suffering, to safeguard certain fundamental human rights of persons who fall into the hands of an enemy, particularly prisoners of war, the wounded and sick, and civilians, and to facilitate the restoration of peace.

RULES OF COMBAT

2. The basic sources of the law of armed conflict are treaties and custom. From these sources, the following rules of combat have been developed:

- a. Rule 1 - Fight only enemy combatants and attack only military objectives.
- b. Rule 2 - Employ methods of attack which will achieve your objective with the least amount of incidental damage.
- c. Rule 3 - Do not attack enemy soldiers, sailors or airmen who surrender. Disarm them and treat them as prisoners of war.
- d. Rule 4 - Collect and care for the wounded or sick whether friend or foe.
- e. Rule 5 - Do not torture, kill or abuse prisoners of war.
- f. Rule 6 - Treat all civilians humanely.
- g. Rule 7 - Respect civilian property - looting is prohibited.
- h. Rule 8 - Respect all cultural property and places of worship.
- j. Rule 9 - Respect all persons and objects bearing the Red Cross, Red Crescent, Red Lion and Sun or Red Shield of David.
- k. Rule 10 - Do not alter your weapons or ammunition to increase suffering.
- m. Rule 11 - Disobedience of the Law of Armed Conflict is a crime and only only dishonours your country but renders you liable to punishment.

ANNEX A, CHAPTER 3

REGIMENTAL STANDING OPERATING PROCEDURES SUGGESTED CONTENT

GENERAL

1. Regimental SOPs are fundamental for the efficient operation of the unit. They standardize the application of certain functions into simple drills and routines.
2. The headings themselves are general. If regimental SOPs are complete there should be no need for sub-units to produce their own SOPs.

OPERATIONS GENERAL

3. **Organization For Battle.**
 - a. Allocation of Resources. RHQ, squadron and troop are divided into echelons that contain:
 - 1) personnel,
 - 2) vehicles,
 - 3) weapons, and
 - 4) vehicle loads.
 - b. Grouping. The following are suggested:
 - 1) common attachments/detachments to the regiment,
 - 2) command relationships, and
 - 3) affiliations as applicable.
 - c. Operational and Garrison Duties of Key Personnel.
 - d. Composition of R and 0 Groups.
4. **Command Control.**
 - a. chain of command - including succession of command at the various levels;
 - b. battle procedure - including sequence of activities, O Gp procedures, orders formats, regrouping orders; and
 - c. operations of RHQ -

- 1) allocation of vehicles, duty shift crews, routines,
- 2) message handling,
- 3) layout and security of RHQ,
- 4) redeployment procedures,
- 5) distribution of maps,
- 6) operation cell duties,
- 7) intelligence cell duties,
- 8) tactical control measures, and
- 9) requirements of alternate formation headquarters.

5. **Intelligence.** Subjects should include:

- a. procedure for discriminating intelligence;
- b. evaluation of information; and
- c. handling of prisoners of war (PW), captured documents and materiel.

6. **Security.**

- a. security of information;
- b. physical security;
- c. conduct in the event of capture;
- d. destruction of equipment and materiel;
- e. field censorship; and
- f. incident reporting.

7. **Communications.**

- a. **radio nets** - including allocation of call signs, order of answering, collective calls, EW drills, communication, electronic operating instructions (CEOIs);
- b. **alternate communications** - including line, dispatch riders, LO, acoustic and visual signals, other nets (arty, int, adm); and
- c. **communications security** - including use of codewords, nicknames and

compromise drills.

8. **Protection.**

- a. states of readiness,
- b. stand-to,
- c. sentry duties,
- d. camouflage drills,
- e. local alarm signals,
- f. protection against air attack, and
- g. protective digging.

9. **Hides/Harbours/Waiting Areas.**

- a. policy for their use,
- b. recce parties,
- c. duties of hide/harbour masters and guides,
- d. routines,
- e. drills (defence, crash action, etc),
- f. occupation orders, and
- g. resupply.

10. **NBC Defence.**

- a. duties and responsibilities,
- b. sentries,
- c. survival rule,
- d. immediate action/immediate decontamination drills,
- e. local alarms,
- f. decontamination drills,
- g. monitoring (radiological/chemical),
- h. NBC threat levels, and
- j. radiation exposure state (RES).

11. **Operations During Periods of Reduced Visibility.**

- a. navigation,
- b. identification,
- c. use of illumination, and
- d. fire control policy.

12. **Air Defence.**

- a. weapon control orders,
- b. anti-helicopter drill,
- c. open fire policy, and
- d. action when under attack.

13. **Air Support Procedures.**
 - a. types of air support,
 - b. helicopter support, and
 - c. landing zones (LZ).

14. Rules of Combat.

ADMINISTRATION

15. **Organization For Resupply.** Echelon organization and functions.

16. **Resupply System.**

- a. regimental resupply procedures,
- b. resupply points, and
- c. squadron resupply.

17. **Repair and Recovery.**

- a. Equipment Collecting Point (ECP),
- b. spare parts, and
- c. vehicle repair priorities.

18. **Reinforcement.**

- a. augmentation,
- b. casualty replacement,
- c. Personnel Daily Summary (PDS), and
- d. reporting.

19. **Medical and Dental Support.**

- a. casualty evacuation,
- b. medical stores,
- c. casualty kit handling, and
- d. hygiene.

20. **Burials.**

- a. responsibility,
- b. marking,
- c. documentation,
- d. disposal of effects,
- e. group burials, and
- f. reporting.

21. **Personnel Services.**

- a. postal,
- b. pay,
- c. chaplains,
- d. laundry and bath, and
- e. honours and awards.

22. **Field Censorship.**

- a. censor stamps,
- b. standing orders,
- c. prohibited subjects, and
- d. censorship procedures.

23. **Movement.**

- a. road movement;
 - 1) administrative moves,
 - 2) tactical moves,
 - 3) march discipline.
- b. rail movement; and
- c. tank transporters.

REPORTS

- 24. Operational Land Reports.
- 25. Operational Air Reports.
- 26. Operational NBC Reports.
- 27. Administrative/Logistical Reports.

ANNEX B, CHAPTER 3

AIDE MEMOIRE FOR OPERATIONS ORDERS

NOTE

This aide memoire for operation orders has a common Situation, Mission, Execution (less coordinating instructions) Service Support, and Command and Signal content. A unique Execution - Co-ordinating Instructions paragraph has been included for the advance to contact, attack, defense, withdrawal and delay operations.

1. SITUATION

a. Enemy

- 1) activity
- 2) intentions
- 3) location
- 4) strength
- 5) morale
- 6) types of equipment
- 7) tactics
- 8) capabilities
 - a) nuclear
 - b) chemical
 - c) air

b. Friendly

- 1) tasks two levels up
- 2) outline plan one level up
- 3) flanking units/subunits
- 4) elements forward

5) elements to the rear

6) air

7) nuclear

c. Attachment and Detachments

1) remaining under command

2) under command

a) forthwith

b) from ...

3) remaining in direct support

4) in direct support

a) forthwith

b) from ...

5) remaining in support

6) in support

a) forthwith

b) from ...

7) remaining in location

8) in location

a) forthwith

b) from ...

2. MISSION

(From task given to regiment or squadron)

3. EXECUTION

- a. General outline of plan
- b. Grouping and tasks
- c. Co-ordinating instructions (advance to contact)
 - 1) timings
 - a) h-hour
 - b) depart assembly area
 - c) depart attack position
 - 2) routes and order of march
 - a) to assembly area
 - b) to attack position
 - c) to line of departure
 - 3) methods of movement
 - 4) formations
 - 5) rate of advance
 - 6) air defence weapon control order
 - 7) speculative fire
 - 8) NBCD state
 - 9) assembly area
 - a) location
 - b) security
 - c) marking
 - d) guides

- e) action in assembly area
- 10) attack position
 - a) location
 - b) security
 - c) marking
 - d) guides
 - e) action in attack position
- 11) line of departure
 - a) location
 - b) security
 - c) marking
 - d) guides
 - e) action at line of departure
- 12) actions during anticipated drills
- 13) bypass
- 14) consolidation
- 15) limit of exploitation
- 16) control measures
- 17) fire plan
- d. Co-ordinating instructions (attack)
 - 1) timings
 - a) h-hour
 - b) depart assembly area
 - c) depart attack position

- d) rehearsals
- e) reconnaissance
- 2) routes and order of march
 - a) to assembly area
 - b) to attack position
 - c) to line of departure
- 3) air defence weapon control order
- 4) speculative fire
- 5) NBCD state
- 6) assembly area
 - a) location
 - b) security
 - c) marking
 - d) guides
 - e) action in assembly area
- 7) attack position
 - a) location
 - b) security
 - c) marking
 - d) guides
 - e) action in attack position
- 8) line of departure
 - a) location
 - b) security
 - c) marking

- d) guides
- e) action at line of departure
- 9) zulu harbour
- 10) dismount
- 11) bypass
- 12) consolidation
- 13) limit of exploitation
- 14) control measures,
- 15) fire plan
- 16) rehearsals
- 17) reconnaissance restrictions
- e. Co-ordinating instructions (defence)
 - 1) timings
 - a) position defensible
 - b) position occupied
 - c) hide occupied
 - d) reconnaissance completed
 - 2) priority and extent of work
 - 3) obstacle plan
 - 4) allotment of mines and defensive stores
 - 5) patrols
 - 6) security
 - 7) surveillance plan
 - 8) open fire policy
 - 9) routine

- 10) routes to battle positions
- 11) rehearsals
- 12) withdrawal routes
- 13) RVs for battle resupply
- 14) air defence weapon control order
- 15) NBCD state
- 16) control measures
- 17) fire plan
- 18) co-ordination
 - a) visits
 - b) conference

f. Co-ordinating instructions (withdrawal)

- 1) timings
 - a) move of rearward reconnaissance
 - b) before which rearward move of main body is forbidden
 - c) position denied until
 - d) position abandoned by
 - e) by which troops are clear designated control line
- 2) RV for reconnaissance
- 3) new assembly area
 - a) location
 - b) security
 - c) marking
 - d) guides
 - e) action in assembly area

- 4) checkpoints
- 5) RV for withdrawal
- 6) sequence of withdrawal
- 7) routes
- 8) traffic control
- 9) obstacle plan
- 10) deception
- 11) air defence weapon control order
- 12) NBCD state
- 13) control measures
- 14) fire plan

g. Co-ordinating instructions (delay)

- 1) timings
 - a) in position by
 - b) phase line timings
 - c) clear handover line
- 2) method of movement
- 3) formations
- 4) obstacle plan
- 5) surveillance plan
- 6) open fire policy
- 7) routes
- 8) disengagement
- 9) action if disabled
- 10) air defence weapon control order

- 11) NBCD state
- 12) control measures
- 13) fire plan

4. SERVICE SUPPORT

- a. Medical
- b. Ammunition
- c. POL
- d. Rations and feeding
- e. Prisoners of war
- f. Repair and recovery
- g. Dress and equipment
- h. Locations and movement of echelons
- j. Resupply
 - 1) routine
 - a) harbour
 - b) leaguer (desert operations only)
 - c) running
 - 2) battle
 - 3) dumping

5. COMMAND AND SIGNAL

- a. Alternate command
- b. Headquarters location and movement (one level up and own)
- c. Liaison
- d. EMCON
- e. Visual signals

- f. CEOs
- g. Codewords
- h. Nicknames
- j. Net check
 - 1) order of answering
 - 2) collective calls
- k. Password
- m. Recognition signals

CHAPTER 4

ADMINISTRATION

SECTION 1

INTRODUCTION

GENERAL

1. Administration is the management and execution of all military matters not included in strategy or tactics, primarily in the fields of logistics and personnel administration. The internal management of army units is referred to as unit administration. At formation level this function is described as combat service support. The aim of administration at all levels is to ensure that the greatest value is obtained from all resources and that they are correctly balanced to deal effectively with the task at hand.
2. In battle an armour regiment needs continuous access to combat supplies, repair and replacement services. The regiment's administrative system is organized to provide routine as well as battle resupply and repairs while centralized or decentralized.

FUNDAMENTALS OF ADMINISTRATION

3. The fundamentals of administration are:
 - a. foresight,
 - b. economy,
 - c. flexibility,
 - d. simplicity,
 - e. co-operation, and
 - f. self-sufficiency.
4. **Foresight.** This is simply the intelligent anticipation of administrative needs. The commander must tell the senior administrative officer what the operational plan is so that the administrative arrangements can be made before the operation commences.
5. **Economy.** Exercising conservation is essential. Excessive demands impose an unnecessary burden not only on the regiment's administrative elements, but on second line resources as well.
6. **Flexibility.** Within the regiment, administrative flexibility is provided by the echelon system which can be altered to suit various operational situations. This relies on effective communications, imaginative planning, and judicious use of all available resources.

7. **Simplicity.** Although administration can be complex and demanding, its planning is largely a matter of using common sense, intelligent anticipation, and having effective administrative SOPs.

8. **Co-operation.** Co-operation between F Echelon and the regiment's administrative echelons is essential. This also applies to the regiment's relationship with second line support units.

9. **Self-Sufficiency.** At the start of an operation the CO strives to have those resources that are essential to accomplish the mission. This may require adjustments to the basic load to ensure that sufficient resources are available or that non-essential resources are left behind.

SECTION 2

COMBAT SERVICE SUPPORT

PURPOSE

1. The purpose of combat service support is to provide personnel, supplies and services in the right quantity at the required time and place. it is a responsibility of commanders at all levels.

CONCEPT

2. Combat service support is provided through four levels:

- a. first line - unit administration,
- b. second line - division support,
- c. third line - corps support, and
- d. fourth line - national or theatre support.

3. Combat service support units are found at corps and at division. The regiment, as part of a brigade, receives second line support from its affiliated service battalion and field ambulance.

4. **The Service Battalion.** The role of the service battalion is to provide the immediate second line support, less medical and military police services, required by its affiliated brigade. The service battalion is small, and as mobile as the brigade it serves. This limits its capability to provide the full range of second line support to the brigade. Additional support can be obtained from the divisional transport, supply and maintenance battalions and the medical, dental and finance companies.

5. The service battalion provides:

- a. second line transportation support including carriage of the brigade maintenance load of combat supplies;
- b. second line resupply of ammunition, petrol, oil and lubricants (POL), rations, repair parts, field defence stores, water, and a limited range of general stores and equipment;
- c. second line recovery and repair services for all land technical equipment;
- d. backloading of equipment and salvage;
- e. advice to units on support functions; and
- f. postal services.

6. **Divisional Field Ambulance.** The role of the divisional field ambulance is to provide second line medical support to the division. This support includes:

- a. evacuating patients from units;
- b. providing medical facilities for sorting, staging, and emergency treatment of patients;
- c. holding and treating the minor sick and injured;
- d. reinforcing or replacing unit medical organizations;
- e. replenishing unit medical supplies; and
- f. assisting in the maintenance of health and preventing disease.

SECTION 3

THE REGIMENTAL ADMINISTRATIVE SYSTEM

INTRODUCTION

1. The administrative system comprises a number of echelons. Their composition is decided by the CO based on his tasks. Headquarters Squadron has most of the regiment's administrative resources; however there is an administrative troop in each squadron. This permits varying degrees of administrative decentralization. The objective is to keep F Echelon fully supplied by **topping up** at every opportunity.
2. The administrative system is designed so that units and sub-units resupply forward and evacuate to the rear. The service battalion delivers supplies forward to A Echelons. In turn the A Echelons move personnel and vehicle casualties back to an area where the second line elements collect the casualties and move them further to the rear.
3. Support elements in the forward area are kept as small as possible and carry only the supplies anticipated for an operation. The regiment is equipped for a wide range of activities and some resources may not always be needed.
4. The system permits regrouping. The squadron has its own administrative troop that is large enough to meet normal daily needs. Squadrons adjust the composition of their echelons according to the task.

COMPOSITION OF THE ECHELONS

5. The administrative echelon of the regiment is sub-divided as follows:
 - a. Within the tank squadron there are:
 - 1) A1 Echelon,
 - 2) A2 Echelon, and
 - 3) B Echelon.
 - b. Within Headquarters Squadron there are:
 - 1) A Echelon, and
 - 2) B Echelon.
 - c. Within the regiment there are:
 - 1) A1 Echelon,
 - 2) A2 Echelon, and
 - 3) B Echelon.

6. **Tank Squadron Administrative Troop.** The tank squadron administrative troop is commanded by the squadron second-in-command (21C) and it is normally sub-divided as follows:

- a. **Squadron A1 Echelon.** This echelon holds only the vehicles, equipment and supplies needed for immediate battlefield resupply, casualty evacuation, recovery and urgent repair of vehicles, weapons, and radios. A1 Echelon must have cross country mobility and adequate armour protection to permit it to operate well forward. The A1 Echelon is commanded by the squadron sergeant-major (SSM) and is typically made up of -
 - 1) SSM and his vehicle,
 - 2) armoured recovery vehicle (ARV),
 - 3) ambulance (one or two),
 - 4) POL vehicle,
 - 5) ammunition vehicle,
 - 6) repair teams consisting of vehicle, weapons, fire control systems and radio technicians,
 - 7) squadron commander's (OC) rover, and
 - 8) mine roller carrying vehicles.
- b. **Squadron A2 Echelon.** The squadron A2 Echelon holds the remainder of the squadron supply and repair vehicles, less those in B Echelon. A2 Echelon is commanded by the squadron 21C and is typically made up of -
 - 1) squadron 21C and his vehicle,
 - 2) ambulance (if not in A1 Echelon),
 - 3) remaining POL and ammunition vehicles, and
 - 4) remaining maintenance vehicles.
- c. **Squadron B Echelon.** The squadron B Echelon holds all the vehicles not required in A Echelon. The B Echelon is commanded by the squadron quartermaster sergeant (SQMS) and is typically made up of -
 - 1) SQMS and his vehicle,
 - 2) kitchen,
 - 3) baggage vehicle, and
 - 4) the stores vehicle.

7. **Headquarters Squadron Administrative Troop.** The headquarters squadron administrative troop provides daily administrative support for headquarters squadron. This troop is commanded by the squadron administrative officer (AO), who is normally located at echelon control. The troop is normally sub-divided as follows:

- a. **Squadron A Echelon.** The squadron A Echelon contains the necessary vehicles, equipment and supplies necessary for immediate resupply, casualty evacuation, recovery and urgent repair of vehicles, weapons and radios. The A Echelon is commanded by the SSM and is typically made up of -
 - 1) SSM and his vehicle,
 - 2) ambulance,
 - 3) POL vehicles (two),
 - 4) ammunition vehicle, and
 - 5) repair teams consisting of vehicle, weapons, and radio technicians.

- b. **Squadron B Echelon.** The squadron B Echelon holds the remaining vehicles not required in A Echelon. The B Echelon is commanded by the SQMS and is typically made up of -
 - 1) SQMS and his vehicle,
 - 2) kitchen,
 - 3) ambulance (if not in A Echelon),
 - 4) baggage vehicle,
 - 5) stores vehicle, and
 - 6) any remaining POL, ammunition and maintenance vehicles.

8. **Regimental Administrative Echelon.** The regimental administrative echelon comprises:

- a. **Regimental A1 Echelon.** When formed, it is commanded by the regimental sergeant-major (RSM). The regimental A1 Echelon is a grouping of squadron A1 Echelons.
- b. **Regimental A2 Echelon.** The regimental A2 Echelon is based on headquarters squadron and contains the balance of the regiment's combat supplies, essential maintenance vehicles, spare parts and medical facilities, less those in B Echelon. Normally squadron A2 Echelons are located with regimental A2 Echelon. Commanded by 21C headquarters squadron, the regimental A2 Echelon typically consists of -
 - 1) echelon control,
 - 2) transport troop with POL and ammunition vehicles,
 - 3) maintenance troop,
 - 4) unit medical station if not deployed,
 - 5) headquarters squadron A Echelon, and
 - 6) tank squadron A2 Echelons.
- c. **Regimental B Echelon.** The regimental B echelon is the personnel, vehicles, and equipment not required in F or A echelons. It is the direct link with the service battalion and second line combat service support. It is here that replacement crews join the regiment and are briefed. Replacement B vehicles are checked and kitted as required and crews are assigned. B echelon is commanded by the quartermaster (QM) and typically consists of the following -
 - 1) QM,
 - 2) regimental quartermaster sergeant (RQMS),
 - 3) technical quartermaster sergeant (TQMS),
 - 4) maintenance control,
 - 5) stores vehicles,
 - 6) adjutant,
 - 7) orderly room vehicle,
 - 8) postal clerk,

- 9) squadron B echelons, and
- 10) left out of battle (LOB) personnel, minor sick and wounded who are recovering.

LOCATION OF ECHELONS

9. In siting the echelons, commanders must consider the mission, enemy, time and space. The following is guidance for siting the administrative echelons:

- a. **A1 Echelon.** The A1 echelon is normally located one or two bounds behind the rear elements of F echelon.
- b. **A2 Echelon.** A2 echelon is usually centrally located to resupply F echelon and it deploys five to ten kilometres behind it. Whenever possible, A2 echelon does not move during daylight.
- c. **B Echelon.** Normally, B echelon is located in the brigade administrative area (BAA).

REGIMENTAL ADMINISTRATIVE NET

10. Administrative radio traffic is necessary because sometimes the success of the operational plan depends on logistic problems being resolved over radio. However, the volume of administrative traffic requires a separate radio net because administrative traffic cannot be allowed to interfere with fighting the battle.

11. Echelon control (headquarters squadron headquarters) controls the regimental administrative net with the following stations:

- a. Permanent -
 - 1) A1 echelon commanders (SSMs),
 - 2) A2 echelon commanders (Ms),
 - 3) maintenance troop headquarters,
 - 4) medical officer,
 - 5) B echelon commander (QM), and
 - 6) transport officer;
- b. As Required -
 - 1) RSM (if Regimental A1 echelon formed),
 - 2) tank SHQs,

- 3) RHQ,
- 4) Reconnaissance Troop, and
- 5) A2 echelon rover vehicles.

COMMODITIES

12. **Combat Supplies.** These are ammunition, POL, rations and water.
13. **Controlled Stores.** These items are controlled because of their high operational value or scarcity. These stores require operations (G3) staff release authority.
14. **Repair Parts.** These are those needed for repair and maintenance of equipment. The unit holds fifteen days of first line repair parts distributed among the echelons. The scale is determined by formation staff.
15. **Technical Stores.** These include all armament and complete technical equipment such as small arms, crew served weapons, radios, radars, generators as well as their repair parts components and assemblies.
16. **General Stores.** This grouping of materiel includes personal equipment, camp stores, hand tools, hardware, metals and paints. Because these items are not critical they are not held in great quantity forward of the Divisional Support Group (DISGP) supply battalions.
17. **Medical Stores.** Medical stores include drugs, dressings, and surgical instruments. Medical stores are obtained through the affiliated field ambulance.

BASIC AND MAINTENANCE LOADS

18. **Basic Load.** The basic load is the quantity of combat supplies, usually enough for three days, carried by the regiment.
19. The regiment's basic load is carried as follows:
 - a. F echelon - one day.
 - b. Squadron A1 and A2 echelons - one day in addition to their own needs.
 - c. Regimental A2 echelon - one day in addition to their own needs.
20. **Maintenance Load.** This is the quantity of supplies required to sustain a formation for a given period. This is usually combat supplies for one day. One maintenance load of combat supplies is held by the DISGP service battalion.

DEMANDS

21. The following types of administrative demands are used:

- a. **Routine.** This is a request for those commodities necessary to replenish holdings, for delivery the following day. At crew and troop level, a routine demand is often called an administrative report (ADREP).
- b. **Supplementary.** This demand amends the routine demand.
- c. **Emergency.** This is for immediate resupply of critical items and it is submitted whenever necessary.

TYPES OF RESUPPLY

22. The three types of resupply are:

- a. **Routine Resupply.** Daily, or as a suitable occasion arises, F echelon is topped up with combat supplies and other commodities. Routine resupply normally takes place after dark.
- b. **Battle Resupply.** This is the urgent resupply of fuel and ammunition that takes place during the battle.
- c. **Dumping.** This is the stockpiling of commodities to meet requirements which are greater than can be met by normal methods of resupply.

STANDING OPERATING PROCEDURES

23. See Annex A to Chapter 3, Administration. Also see Annex A to Chapter 4, Suggested Content of Headquarters Squadron SOPs.

SECTION 4

RESUPPLY

GENERAL

1. The resupply system is based on a 24-hour cycle which requires units to forecast their requirements to the service battalion 24 hours before delivery. The resupply system is flexible and provides for adjustments to demands as well as emergency resupply. Resupply can be conducted by Delivery Point, commodity points or by dumping.
2. For the resupply system to function properly, the regiment must have all fighting and resupply vehicles completely topped up at least once every 24 hours. This is achieved as follows:
 - a. Routinely once a day, or continuously throughout the day depending on operations, F echelon is topped up by the SSM using squadron A1 echelon, and A2 echelon resources if required. The aim is to top up between last light and first light.
 - b. After last light A2 echelon resupplies A1 echelon at a rendezvous (RV). If sufficient supplies are available, regimental A2 echelon resupplies squadron A2 echelons.
 - c. Regimental A2 echelon, accompanied by any empty squadron A echelon vehicles, moves to a delivery point (DP) to be resupplied by the service battalion and the B echelon.
 - d. Thus, prior to first light, resupply is complete.

DEMAND PROCEDURE

3. Demands are submitted as follows:
 - a. **Routine.** Squadron demands are normally handed to A2 echelon at the RV for resupply. The consolidated unit demand is submitted by A2 echelon to the service battalion at the DP.
 - b. **Supplementary.** Squadron supplementary demands are submitted in time for A2 echelon to consider and if necessary to submit to the service battalion in the afternoon preceding the DP.
 - c. **Emergency.** Emergency demands are submitted to A2 echelon by the fastest means. If required, A2 echelon passes the request to the service battalion which may arrange a special DP. This DP may be in the area of the service battalion, the regimental A2 echelon or F echelon.

RESUPPLY CYCLE

4. Timings for submission of the demands are detailed in SOPs. A typical daily resupply

cycle is as follows:

- a. The SSM conducts battle resupply as required.
- b. The squadron A2 echelon resupplies squadron A1 echelon as required.
- c. The squadron may submit supplementary demands to adjust the previous routine demand. Headquarters squadron echelon control considers and if necessary consolidates and forwards these demands to the service battalion for delivery that night.
- d. The SSM and A2 echelon agree on a time and RV for the resupply of A1 echelon for that night.
- e. The SSM conducts routine resupply of F echelon.
- f. The squadron A2 echelon resupplies squadron A1 echelon. Where possible empty vehicles should be exchanged for full ones.
- g. Regimental A2 echelon resupplies the squadron A echelons as required. Squadron routine demands for delivery the next night are passed to headquarters squadron.
- h. The squadron routine demands are consolidated into a regimental routine demand. If time is short, the transport Officer (Tpt O) may consolidate the demand without returning to echelon control.

The regimental A2 echelon moves to the DP. It is resupplied by the service battalion and B echelon. A2 echelon submits the regimental routine demand for delivery the next night.

- k. On receipt of the regimental routine demand, the service battalion and the QM liaise to determine whether the demand is to be filled from the service battalion stocks or B echelon stocks. The QM in conjunction with the SQMS, prepares commodities for delivery forward. Commodities may be delivered by service battalion resources or by the SQMS.
 - m. Service battalion replenishes B echelon.
5. Figure 4-1 illustrates a typical resupply cycle over a two day period.

SQUADRON RESUPPLY

6. **Routine Resupply.** Every attempt is made to carry out routine resupply as soon after last light as the tactical situation permits. Routine resupply may be conducted in a harbour or as running resupply.

- a. **Harbour.** Once the harbour has been secured, the A echelon vehicles enter and adhere to the track plan. Echelon vehicles circulate and distribute ammunition and POL. If refuelling is by jerry cans, the cans are dumped and the empties are picked up by a vehicle making another circuit. Other commodities may be delivered with the ammunition and POL or may be drawn from a central location. **Resupply in a harbour should only be undertaken when it is not possible to resupply by any other means.**

REPRESENTATIVE TIMINGS OVER A 48 HOUR PERIOD											
1800 — 2400 — 0600 — 1200 — 1800 — 2400 — 0600 — 1200 — 1800											
SERIAL	ECHELON	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(j)	(k)
1	Squadron A1 Echelon	Battle Resupply (As Required)									
		1. Routine Resupply.					Supplementary Demands.	1. Routine Resupply.			Supplementary Demands.
		2. Resupply by A2 Echelon and submit routine demands.						2. Resupply by A2 Echelon and submit routine demands.			
2	Regimental A2 Echelon	Resupply A2 Echelon and receive routine demands.			DP by service battalion and submit routine demands.			Resupply A2 Echelon and receive routine demands.	DP by service battalion and submit routine demands.		Consolidate supplementary demands and if necessary pass to service battalion.
3	B Echelon					Co-ordinate demands with service battalion	Demand replacement stocks.			Co-ordinate demands with service battalion.	Demand replacement stocks.
4	Service Battalion	Resupply of B Echelon (As Required)									
			Resupply A2 Echelon and receive routine demands.			Co-ordinate demands with B Echelon.			Resupply A2 Echelon and receive routine demands.		Co-ordinate demands with B Echelon.

Figure 4-1 Typical Resupply Cycle

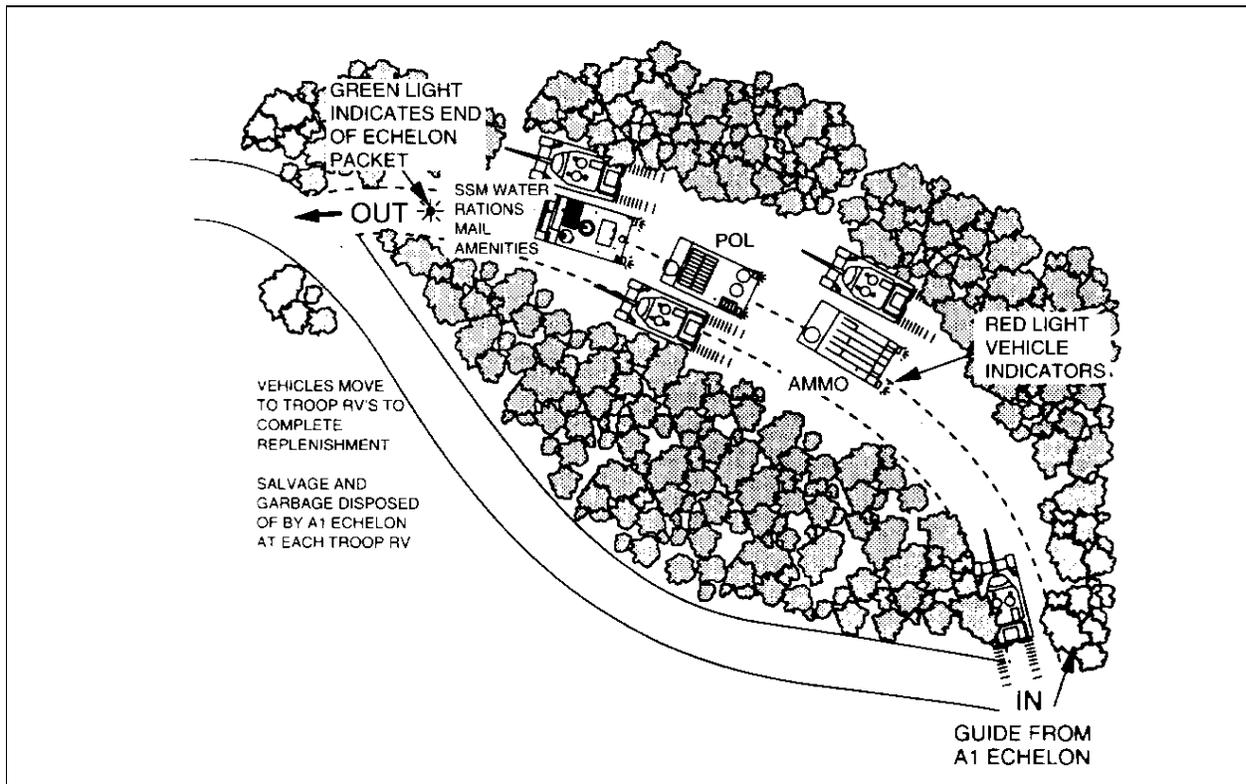


Figure 4-2 Layout of a Typical Running Resupply

- b. **Running Resupply.** This is the resupply of vehicles as quickly as possible as they move past a point. This type of resupply may also be conducted by second line resources. The echelon can move through the F echelon vehicles or the F echelon vehicles can move through the A echelon vehicles. As the tanks move into the circuit they are directed to specific vehicles where they pick up the necessary commodities, normally in bulk. The tanks continue in the circuit until complete and then discard salvage prior to returning to their positions. Figure 4-2 illustrates a typical running resupply.

7. **Battle Resupply.** Battle resupply is conducted in concealed RVs behind F echelon and usually provides only fuel and ammunition. It may be necessary to have individual troop RVs for battle resupply. The OC or the BC details the time and location for the resupply. The SSM then moves with required elements of A1 echelon to the RV. F echelon moves back to be resupplied, individually or by troop, as directed. As soon as resupply is complete, the troop vehicles return to their battle positions.

8. **Dumping.** Commodities are dumped to meet forecast requirements. Dumps may be established at the request of the unit or ordered by a higher headquarters. The user unit is responsible for the security of the dump. Commodities in the dump may be picked up by regimental echelon vehicles or drawn in a running resupply.

9. **Ammunition Reporting (MASH).** As part of the after action procedure, crews and troops report the amount of ammunition remaining. The SSM monitors troop reports to ensure adequate replenishment. The following format is used to report ammunition remaining:

- a. M - MG ammo left;
- b. A - APFSDS ammo left;
- c. S - SMOKE ammo left; and
- d. H - HESH ammo left.

REGIMENTAL HEADQUARTERS AND RECONNAISSANCE TROOP

10. Normally regimental headquarters and the reconnaissance troop receive their administrative support from headquarters squadron A echelon. However, they may receive support from any tank squadron and the procedure is the same as described in section 4, paragraph 6.

REGIMENTAL RESUPPLY

11. **Delivery Point (DP).** The A2 echelon is resupplied by a service battalion and the B echelon at a DP, where in addition to combat supplies, spare parts, replacement stores, expendable stores, mail, individual replacements, and salvage may be transferred.

12. **Establishing a DP.** A DP is established, organized, secured, and controlled by the regiment. The 21C Headquarters squadron selects the general area. Normally the Tpt 0 is responsible for reconnoitring the DP and the alternate. These locations, their contact points, and the time of opening, are sent to the service battalion. The service battalion requests approval from brigade headquarters (see Figure 4-3 for layout of DP).

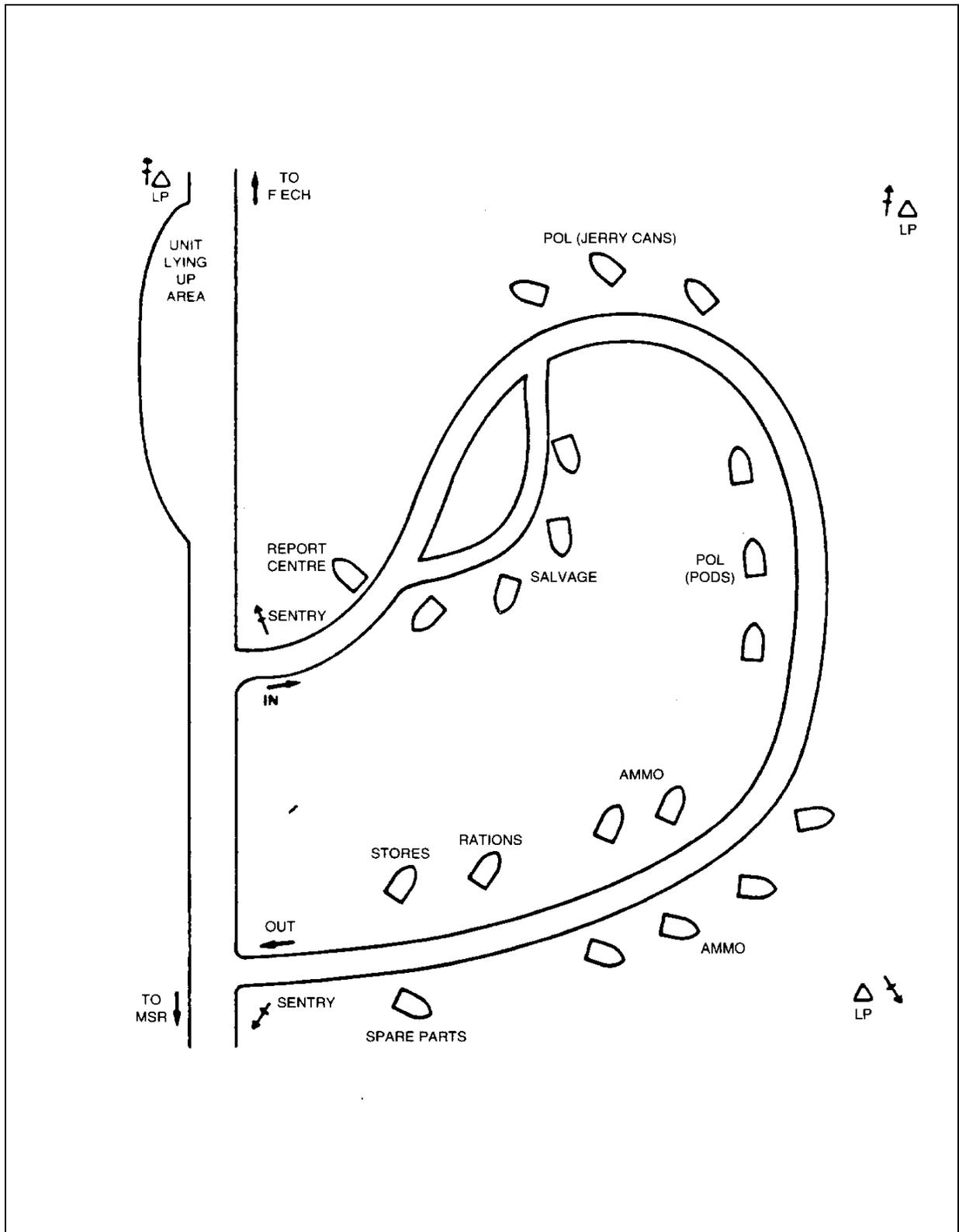


Figure 4-3 Layout of a Typical Delivery Point

13. **Requirements of a DP.** The requirements of a DP include:

- a. a site that -
 - 1) is accessible to main routes,
 - 2) provides firm standing,
 - 3) provides adequate space to prevent traffic congestion,
 - 4) permits dispersion,
 - 5) allows tailgate to tailgate loading, and
 - 6) is defensible;
- b. a traffic circuit that -
 - 1) is easily discernible at night, and
 - 2) provides adequate in and out routes;
- c. waiting areas that -
 - 1) are near contact points,
 - 2) provide space for both empty and loaded vehicles, and
 - 3) provide concealment; and
- d. an alternate site that is within a reasonable distance of the primary site.

14. **DP Drill.** Prior to the DP opening, the Tpt 0 ensures that:

- a. The site is clear of enemy.
- b. Listening posts and security are established.
- c. The routes and waiting areas are signed and the location of each commodity is marked.
- d. The reporting centre is established and the contact point(s) are manned.
- e. The radio station for contacting the service battalion convoy is operating; and
- f. The RV for the crash DP is known by all.

15. **Procedure in the DP.** Once security has been established and the service battalion vehicles have arrived the following occurs:

- a. The service battalion drivers are directed to their designated positions. They park their vehicles so that unit drivers can reverse their vehicles up to them for tailgate loading.
 - b. Unit vehicles are driven forward in packets to the report centre.
 - c. At the report centre, the regimental routine demand for the next day's DP is submitted. The A echelon drivers are directed to the commodity areas where they load their supplies and turn in salvage. They return to the waiting area, reform packets and return to the A2 echelon location.
 - d. When resupply is complete the service battalion vehicles depart.
 - e. The Tpt 0 removes the signs and clears the site.
16. The entire operation should take less than one hour. Security depends on a quick, silent operation.
17. **Commodity Point.** A commodity point is established to handle one commodity. It is operated by the service battalion for a relatively long period of time, and issues its commodity to most units in the brigade.
18. **Other Delivery Means.** Commodities may be delivered to DPs by helicopter, fixed wing aircraft or by parachute. In these cases special arrangements for delivery are made with the service battalion.

SECTION 5

MAINTENANCE

GENERAL

1. Maintenance is a commander's responsibility. It involves servicing, reporting, assessing, recovering and repairing.
2. If possible repairs are made in-situ. Equipment which cannot be repaired within four hours is backloaded or reported to higher authority for direction.
3. Daily servicing of equipments continues, but periodic inspection is delayed until there is a lull in operations. Completion of minor repairs, which do not affect the battle worthiness of the equipment, is also delayed until there is a respite in the flow of more urgent work.
4. It is often necessary to cannibalize parts from unserviceable vehicles. Cannibalization is authorized by the CO and is controlled by the unit maintenance officer.

ORGANIZATION

5. Within each tank squadron there is a maintenance section and at regimental level there is a maintenance troop. The tank squadron maintenance section is commanded by a warrant officer (Maint WO) and is composed of an ARV and mobile repair teams (MRT) with vehicle, weapons, fire control systems and radio technicians. The Maint WO is experienced in the assessment of time, labour, repair parts and special tools and equipment needed for repairs. He co-ordinates the activities of all technical specialists at squadron level.
6. The maintenance troop, part of headquarters squadron, provides first line maintenance of the unit equipment including repair, servicing, recovery, inspection, modification and repair parts scaling. The troop has additional resources to provide for coordination, documentation, and specialist functions and tools such as welding equipment.
7. At regimental level, the maintenance officer coordinates all repair, recovery and backloading beyond squadron resources, manages repair parts and maintains technical records. This is accomplished through effective liaison between squadron maintenance sections, his control office and the echelon control.

CATEGORIES OF EQUIPMENT CONDITION

8. The condition of equipment is assessed at the time of inspection and categorized as follows:
 - a. **Serviceable.** The letter designator is "S".
 - b. **Repairable.** Letter designators are -
 - 1) X - the item can be made serviceable by first line repairs,
 - 2) Y - requires maintenance by a second line organization

- 3) Z - the item requires repairs that are beyond the capability of a second line maintenance organization.
- c. **Non-repairable.** Beyond repair (BR).

PRIORITY OF REPAIR

9. The priority of equipment repair within the unit is established by the CO. Normally it is:
 - a. F echelon
 - 1) CP vehicles,
 - 2) armoured fighting vehicles (AFVs),
 - b. A1 echelon;
 - c. A2 echelon including headquarters squadron A echelon; and
 - d. B echelon.

PROCEDURE

10. Equipment casualties are caused by battle damage, mechanical failure, or bogging. Regardless of the cause, once a crew determines that additional assistance is required it initiates repair or recovery procedures in accordance with unit SOPs. The actions include:
 - a. The crew submits repair and/or recovery request to SSM (A1 echelon).
 - b. MRT or ARV is dispatched from A1 echelon and arrives at casualty location.
 - c. MRT makes an assessment of the equipment casualty. The options at this level include -
 - 1) effect repairs or recovery using MRT resources;
 - 2) if beyond squadron MRT resources, report additional requirement to Main WO; and
 - 3) if necessary, or possible recover casualty to safe area.
 - d. SSM passes repair/recovery request to A2 echelon.
 - e. A2 echelon maintenance troop makes an assessment based on the repair or recovery request and the available resources. Options include -
 - 1) maintenance personnel, equipment and stores sent forward to do repairs or recovery;

- 2) A2 echelon recovers the casualty back to A2 echelon for repairs;
 - 3) A2 echelon passes repair or recovery request to supporting second line unit.
- f. Second line technicians make an assessment based on the request and available resources. Options include -
- 1) the equipment can be left in-situ and a second line MRT, stores and equipment go forward to do repairs or recovery;
 - 2) if second line resources are unavailable at the time, second line maintenance unit directs A2 echelon to recover the equipment casualty to the equipment collecting point (ECP);
 - 3) once in the ECP, a second line technician makes another assessment to determine if it will be repaired, backloaded to third line, or declared beyond repair; and
 - 4) if the equipment is beyond repair it may be abandoned; in which case it is always destroyed.

11. Throughout this process at least one member of the crew remains with the vehicle until such time as the vehicle is abandoned, is declared beyond repair, backloaded, or destroyed.

12. Technical stores that are not repaired in-situ are sent via A2 echelon to second line through the supply system. Similarly, replacement items are demanded and delivered through the normal resupply chain.

13. If unit equipment is likely to be captured, the CO orders its destruction. Destruction is completed in accordance with unit SOPs.

REPAIR PARTS

14. The regiment holds 15 days expected usage of repair parts. Each repair section and MRT deploys with a small holding.

15. The maintenance troop and sections demand replacements for repair parts. Routine demands are delivered at the DP while emergency demands are brought forward by the fastest means available.

16. Salvageable components are returned at the DP.

SECTION 6

PERSONNEL, AFV AND VEHICLE REPLACEMENT

PERSONNEL REPLACEMENT

1. Personnel casualties are reported in accordance with SOPs. Personnel replacements assigned to the regiment arrive in B echelon either:
 - a. as individual replacements delivered through the replenishment system from the COSCOM Personnel Replacement Battalion; or
 - b. as members of a formed armoured fighting vehicle (AFV) crew from the forward delivery company of the COSCOM Crewed Vehicle Replacement Battalion.
2. On arrival in B echelon the adjutant assigns individual replacements to sub-units based on the CO's priorities. Prior to dispatching the replacements the adjutant ensures that all documentation is complete, personal kit is in order, and regimental indoctrination is as thorough as time permits. Replacements are sent to their assigned squadron A echelon either at the DP or directly, depending on the situation.

AFV REPLACEMENT

3. Replacement AFVs are held in the forward delivery company of the COSCOM Crewed Vehicle Replacement Battalion. The regiment reports its holdings of AFVs and demands replacements in accordance with formation SOPs.
4. Replacement AFVs, released to the regiment are delivered fully kitted and, if necessary, crewed to B echelon by the forward delivery company. AFVs are allocated to the squadrons based on the CO's priorities. They arrive at the DP or they proceed directly to F echelon depending on the situation.

VEHICLE REPLACEMENT

5. When a vehicle is removed from unit charge, the regimental QM demands a replacement from the service battalion. Release of vehicle replacements is controlled by the corps staff. The COSCOM Vehicle Supply Battalion prepares and kits the vehicle. The vehicles are then delivered to a replenishment point (RP) or a unit or formation RV as appropriate.

SECTION 7

PERSONNEL ADMINISTRATION

MEDICAL

1. **Resources.** Each tank squadron administrative troop includes two APC ambulances and two medical assistants. Headquarters squadron administrative troop includes a unit medical station (UMS) with a wheeled ambulance and medical assistant, an APC ambulance and medical assistant, a medical stores vehicle, and the Medical Officer (MO).
2. **Deployment.** Depending on the tactical situation, tank squadron ambulances may be deployed with F echelon, with A1 echelon, with A2 echelon, or a combination thereof, as directed by the squadron commander. The headquarters squadron wheeled ambulance is normally located with A2 echelon. The UMS is deployed as far forward and as centrally as possible. The remaining tracked ambulance may be deployed with the UMS or with RHQ. Regimental medical resources may be regrouped by the CO.
3. **Casualty Handling.** Casualties receive first aid and are then: directed to an RV for pickup by an ambulance, directed to an ambulance, or directed to the UMS; or, picked up by an ambulance. Casualties are normally transported by APC ambulance to the UMS. Casualties in A2 echelon are transported by the wheeled ambulance to either the UMS or the field ambulance depending on the tactical situation, time and space. Casualties in B echelon are treated and transported by the field ambulance or service battalion medical station. Helicopter evacuation is used whenever possible.
4. **Combat Stress Casualties.** Combat stress casualties who are rendered ineffective with no apparent physical injuries. Regimental and squadron commanders must be aware of the causes, symptoms and the treatment of combat stress casualties:
 - a. **Causes.** Some causes of combat stress are -
 - 1) fatigue,
 - 2) climate,
 - 3) noise,
 - 4) NBC threat and posture,
 - 5) diet,
 - 6) fear,
 - 7) enemy fire, and
 - 8) isolation and confinement.

b. **Symptoms.** Most symptoms are not easily recognizable as stress related, because many appear to be physical in nature, while others are emotional. The following are some symptoms of combat stress -

- 1) immobility or muteness,
- 2) blank expression,
- 3) apparent lack of emotion,
- 4) irrational outbursts,
- 5) inability to concentrate,
- 6) argumentativeness,
- 7) loss of self-control,
- 8) moodiness,
- 9) decreased appetite,
- 10) apathy - cannot be bothered,
- 11) inability to sleep,
- 12) hyperactivity,
- 13) aggression,
- 14) repeated nausea and vomiting,
- 15) inability to use some parts of the body,
- 16) inability to perform a job,
- 17) feelings of guilt, and
- 18) drug or alcohol abuse.

c. **Treatment.** The treatment of combat stress depends on conditions of immediacy, proximity and expectancy -

- 1) **Immediacy.** Symptoms of combat stress should be treated as soon as possible. Leaders must recognize and treat combat stress at an early stage.

- 2) **Proximity.** Combat stress casualties should be removed only the minimal distance to ensure their security and permit treatment. They should be evacuated to A or B echelon, where they will be given rest, food, perhaps mild sedation, verbal reassurance and encouragement. Only severe cases should be removed from the regiment, with the understanding that they will be returned to the regiment when fit.
- 3) **Expectancy.** Throughout treatment, combat stress casualties must be treated as soldiers. They must be allowed to discuss the terror of battle, their normal emotions such as grief, guilt and remorse, and prepare themselves for return to their squadron or troop. At all times, their sense of self-respect must be bolstered.

5. **Classification of Casualties.** Personnel casualties are classified as follows:

- a. X - killed,
- b. Y - wounded,
- c. Z - missing, or
- d. ZR - missing and returned.

6. **Medical Stores.** Medical stores are not provided through the normal supply system. Medical supplies are demanded by the unit directly from the supporting field ambulance, usually via the normal ambulance shuttle or directly from the evacuation platoon. Medical supplies are received through the ambulance shuttle, but they may also be obtained at the service battalion DP, or through an emergency DP arranged by the field ambulance should the circumstances warrant.

POSTAL

7. The regiment's postal services are provided by a postal clerk located in the B echelon. He is responsible to the adjutant for:

- a. receiving and dispatching incoming and outgoing mail;
- b. sorting and preparing mail for delivery;
- c. providing postal financial services;
- d. diverting mail for censorship purposes; and
- e. liaising with the postal platoon as required.

8. Mail is moved through the administrative echelons during routine resupply via the appropriate SQMS.

LEGAL SERVICES

9. Legal services are located at division; however, legal officers may be employed throughout the formation. Their services are requested by the adjutant through the brigade G1 staff. Legal services include:

- a. supervision of the administration of military justice;
- b. legal guidance on government contracts, military personnel matters, and the utilization of public funds; and
- c. advice on military justice matters.

SPIRITUAL WELFARE

10. Chaplains are members of the regiment and they are advisors to the CO on the spiritual and moral welfare of all ranks. Their tasks include:

- a. provision of counselling services and spiritual comfort;
- b. conduct of religious services;
- c. battlefield casualty identification; and
- d. conduct of burial services.

11. The chaplains normally work from the UMS but may visit all elements of the regiment as time and the situation permit.

FINANCE

12. The regiment has a finance cell to administer public and non-public funds. It is located at B echelon and is responsible to the QM for the provision of pay and allowances as well as non-public fund accounting for unit canteens, messes and institutes. When required, funds are obtained from the DISGP finance company.

13. Changes to personnel pay records are done manually and reported by occurrence report to the DISGP finance company.

REGIMENTAL POLICE

14. The regimental police section is commanded by a military police sergeant who advises the CO on military police matters. The section is tasked by the operations officer and is responsible for the:

- a. conduct of traffic control in the regiment;
- b. operation of the regimental PW collecting point;
- c. escort of PW to the brigade PW collecting point;

- d. short term holding and movement of detainees to field detention facilities;
- e. conduct of investigations and the enforcement of discipline;
- f. control of stragglers; and
- g. liaison with the platoon commander of the affiliated military police platoon.

POSTAL CENSORSHIP

15. Postal censorship is the editing of private correspondence to remove any information that could aid, abet or encourage the enemy or deteriorate the morale of friendly forces. Although the policy on censorship is established by the senior commander, censorship is a regimental responsibility. It is normally carried out by officers in B echelon.

16. Reference to the following is subject to censorship:

- a. strength, organization, order of battle, location, movement, employment and morale of own and allied forces;
- b. distinguishing marks of own, allied and enemy forces;
- c. reinforcements or the lack thereof;
- d. armament and equipment;
- e. plans, forecasts or orders for operations, movements, training programmes;
- f. use and condition of transportation facilities;
- g. casualties, before official publication;
- h. results and effects of enemy action;
- j. epidemics; and
- k. comment which would engender hostility among the local population or in allied or neutral countries, or, which would bring into disrepute own or allied forces.

PRISONERS OF WAR

17. Prisoners of war are the responsibility of national governments. They must at all times be treated fairly, firmly and humanely in accordance with B-GL-318-004/FP-001 Unit Guide to the Geneva Conventions.

18. In the handling of PW, there are seven basic rules:

- a. disarm, search, and segregate by rank and sex;

- b. prevent prisoners from destroying documents;
- c. prevent others from giving prisoners food, drink, or tobacco;
- d. enforce silence at all times;
- e. deliver PW to the designated collecting point as rapidly as possible;
- f. prevent escape or suicide; and
- g. prevent anyone except PW interrogators or G2 staff from questioning PW.

19. The following items are confiscated and turned over to the supply system through the normal resupply system:

- a. arms and ammunition,
- b. compasses, and
- c. binoculars.

20. The following items are confiscated, identified, and evacuated with the PW:

- a. maps;
- b. official and private papers; and
- c. photographs.

21. The following items are not confiscated:

- a. personal equipment including steel helmets, masks chemical-biological, and ground sheets;
- b. uniform including rank badges and identity tokens; and
- c. private property such as watches, jewelry and money.

22. The procedure for evacuating prisoners in the regiment is:

- a. Squadrons send PW and confiscated equipment back through the A1 echelon. If the tactical situation permits, PW are disarmed, searched and guarded by the forward troops until the A1 echelon comes forward to pick them up. Under certain circumstances PW simply may have to be disarmed and pointed towards the A1 echelon RV.

- b. A2 echelon collects the PW and segregated kit from A1 echelon and moves them to the regimental collecting point. If necessary, the move of PW to the brigade collecting point can be assisted by the regimental police or by the reconnaissance troop.
 - c. The regiment is responsible for administration including feeding while PM are in unit custody.
 - d. Wounded or sick prisoners are evacuated through medical channels. Medical units are not responsible for the provision of guards, so the regiment must provide guards until the PW are transferred to the next formation.
23. Considerations for siting a regimental PW collecting point are:
- a. cover from enemy interference;
 - b. accessibility to routes; and
 - c. an area which can be easily secured and isolated from friendly forces' operations.

STRAGGLERS

24. Stragglers are personnel who without apparent purpose or assigned mission become separated from their unit, column, or formation, with or without their personal equipment and the equipment which they serve. Stragglers generally fall into the following categories:
- a. uninjured personnel; and
 - b. injured personnel.
25. **Handling.** The object is to return all stragglers and their equipment to their host unit or nation as soon as possible:
- a. **Uninjured Personnel.** Stragglers are to be given directions and despatched with their personal equipment. If necessary, transport will be arranged.
 - b. **Injured Personnel.** Stragglers requiring medical care should be treated and, if necessary, evacuated through medical channels.
 - c. **Security/intelligence.** Any stragglers who appear to be of security interest should be passed to security personnel for further investigation. If there is reason to believe a straggler has information of immediate tactical value military intelligence personnel must be notified immediately.

REFUGEES

26. The control and movement of refugees as well as the provision of shelter, food and medical attention for them is the responsibility of the local civil authorities. The policy for dealing with refugees is issued through brigade headquarters. Unit procedures are contained in SOPs.

BURIALS

27. It is important for morale that the dead are buried with dignity and without delay. Burials are a regimental responsibility and are categorized as follows:

- a. **Emergency Burial.** An emergency burial is hasty burial on the battlefield, when circumstances do not permit evacuation for interment in a cemetery.
- b. **Group Burial.** A group burial is a burial in a common grave of two or more individually unidentified remains.
- c. **Trench Burial.** A trench burial is used when casualties are heavy. A trench is dug and the individual remains are laid in it side by side.

28. Burial services are organized by the deceased's troop or squadron, if practicable. A chaplain should conduct burial services. If this is not possible the senior officer present performs this act.

29. Emergency burial sites should have the following characteristics:

- a. be as near as convenient to the scene of death;
- b. facilitate subsequent relocation and identification;
- c. not be located at roadsides where they will be seen by passing troops;
- d. prepared to a minimum depth of one meter; and remains should be enclosed in a pouch, shelter half, poncho or blanket.

30. An appropriate grave marker high enough to be readily seen is to be erected whenever possible. At its base a container is half buried, open end downwards, containing a paper on which is recorded:

- a. name;
- b. rank;
- c. sex;
- d. service number;
- e. national force and unit;

- f. date and cause of death, if known;
- g. date buried;
- h. by whom buried; and
- j. religious faith.

31. All personal effects including personal and official papers, are removed from the remains and placed in a suitable receptacle. An identification tag is buried with the corpse. The removable part is sent with the personal effects to the adjutant for disposal in accordance with unit sops.

32. In the case of trench and group burials a marker and identification in a suitable container is placed at each end of the grave and the distance of the remains from the marker is to be shown against the relevant entry in the list. In group burials the number of bodies buried must be recorded.

33. Unidentifiable dead are buried and reported as others except that the word "unknown" is to be used in place of the name. Particular care must be taken to list all information which may assist identification later, including a physical and dental description and finger prints if possible. Other details such as uniform and vehicle markings are also useful.

34. The regiment is responsible for initial identification, collection and evacuation of remains and passing records of emergency burials onward to grave registration organizations in accordance with formation procedures. The above procedures are based on STANAG 2070 and are routinely included in unit SOPs. Note particularly paragraph 18 of STANAG 2070. It is US Army policy to return remains and personal effects to USA for burial.

PERSONNEL SUPPORT PROGRAMMES

35. Personnel support programmes contribute to morale and include:

- a. leave;
- b. rest and recreation centres, including those integral to convalescent centres;
- c. messes and institutes;
- d. entertainment including the provision of reading material, videos, radio programmes and live shows;
- e. social welfare programmes; and
- f. amenities.

36. The policy for these programmes is the responsibility of the formation commander. Within the Regiment, the Adjutant co-ordinates these programmes.

HONOURS AND AWARDS

37. It is important for morale that meritorious action, bravery and courage is recognized by the awarding of appropriate honours and awards. The policy and procedures are given by brigade headquarters and the adjutant coordinates preparation and submission of recommendations.

OTHER ROUTINE SERVICES

38. Other services are coordinated by the adjutant in accordance with brigade directives and policies. Such services include:

- a. dependents and next-of-kin affairs;
- b. service investigations including boards of inquiry and summary investigations;
- c. disciplinary matters including courts martial and summary trials;
- d. redress of grievance; and
- e. protocol and ceremonial.

ANNEX A, CHAPTER 4

**HEADQUARTERS SQUADRON SOPs
SUGGESTED HEADINGS**

1. Organization for Resupply:

a. Internal Organization is:

1) A2 Echelon -

- a) CP group,
- b) Administrative Troop,
- c) Transport Troop, and
- d) Maintenance Troop.

2) B Echelon -

- a) QM,
- b) Administration Troop, and
- c) Maintenance Troop.

3) Echelon Control -

- a) basic CP procedures,
- b) routine, and
- c) shifts.

2. Duties and Responsibilities:

- a. OC,
- b. 21C,
- c. AO,
- d. QM,
- e. Maint O,

- f. MO,
- g. Tpt O,
- h. SSM,
- j. Sig Det Comd,
- k. Adm NCO,
- m. Echelon Control DO,
- n. DP Comd, and
- p. Resup Comd.

3. **Hides and Harbours:**

- a. recce party,
- b. squadron order or march,
- c. occupation and departure drills,
- d. routine, and
- e. layout.

4. **Detailed Resupply Procedures:**

- a. DP request procedure;
- b. Headquarters squadron responsibilities at a DP;
- c. primary and alternate DP locations;
- d. routine demand procedure including times;
- e. supplementary demand procedure including times;
- f. emergency demand procedure including times;
- g. IOR demand procedure; and
- h. supply disposal.

5. **Medical Procedures:**
 - a. responsibility of UMS,
 - b. hygiene,
 - c. transportation of casualties, and
 - d. medical stores.

6. **Repair and Recovery Procedures:**
 - a. equipment collecting point;
 - b. backloading point;
 - c. spare parts;
 - d. repair of wheeled and tracked vehicles; and
 - e. recovery.

7. **PW Handling:**
 - a. responsibility of headquarters squadron;
 - b. movement of PW to brigade collecting point; and
 - c. care of wounded PW.

8. **Stragglers:**
 - a. categories, and
 - b. responsibilities.

9. **Burial Procedures:**
 - a. responsibilities,
 - b. marking,
 - c. emergency burials,
 - d. temporary burials, and
 - e. documentation and personal effects.

10. **Personnel Services:**

- a. postal;
- b. pay;
- c. chaplains;
- d. laundry and bath; and
- e. honours and awards.

11. **Personnel and Vehicle Replacement Procedures:**

- a. reporting;
- b. receipt;
- c. preparation; and
- d. despatch.

CHAPTER 5

COMMON OPERATIONAL PROCEDURES

SECTION 1

INTRODUCTION

GENERAL

1. This chapter deals with procedures which apply at all levels in the regiment in all types of operations.

SECTION 2

SECURITY

GENERAL

1. Security is a condition that results from actions taken by a commander to shield his force against any enemy act or influence. It enables a commander to maintain his freedom of action and to safeguard his force for its mission. Every commander is responsible for the security of his force.
2. At regimental level, security is achieved by active and passive measures:
 - a. reconnaissance and surveillance, primarily the task of the reconnaissance troop; and
 - b. protective measures including -
 - 1) cover and concealment,
 - 2) nuclear, biological and chemical defence (NBCD) measures,
 - 3) safety and control measures,
 - 4) electronic counter-counter measures (ECOM),
 - 5) passive air defence measures,
 - 6) moves of headquarters, and
 - 7) posting of sentries;
 - c. deception; and
 - d. standing orders for the security of personnel, information, installations, and materiel.
3. Many security measures are contained in SOPs (non procedural measures are contained in an operation order).

COVER AND CONCEALMENT

4. **Cover.** Cover is protection from the effects of enemy weapons. It is achieved by using ground, field fortifications, hardened equipment and personal protective equipment.
5. **Concealment.** Concealment is protection from enemy surveillance. It is achieved by the use of ground, camouflage, movement during periods of reduced visibility, and elimination of noise and light. The following considerations apply:

- a. **Minimum Dismounted Movement.** Unnecessary vehicle traffic can give away a position. Centralized feeding, use of ammunition and fuel dumps, common latrines, and mail calls, are avoided whenever possible.
- b. **Tracks.** Particularly in soft ground, tracks are almost impossible to hide. Either they must be kept to a minimum, blended with existing natural features, or be created around other features. When possible, tracks are concealed or erased.
- c. **Conspicuous Landmarks.** These are avoided as they are obvious targets for enemy fire.
- d. **Dust.** Routes likely to produce dust are avoided. If dusty roads cannot be avoided then vehicle speed should be reduced and tracking avoided.
- e. **Noise.** Vehicle noise cannot be avoided, although it can be partially concealed by weapon effects. Indiscriminate engine running is not acceptable. When unavoidable, noise must be reduced, for example, by burying generators.
- f. **Electromagnetic Radiation.** This can be masked or reduced through the selection of appropriate areas, for example, vehicle thermal radiation can be masked by thermal radiation found in built-up areas.

NUCLEAR BIOLOGICAL AND CHEMICAL DEFENCE MEASURES

6. **General.** All NBCD measures, including early warning, wearing of NBCD clothing and equipment, contamination monitoring, decontamination and dispersion contribute to security.
7. **Early Warning.** Details of friendly nuclear strike warning and reporting nuclear detonations, biological and chemical attacks, and the prediction and warning of associated hazards and polluted areas are contained in Staff Duties in the Field, and in B-GS-316-011/AG-000 to B-GS-316-015/FP-001.
8. **Graduated Levels of NBC Threat and Minimum Individual Protection.** Annex A details threat levels and personal NBCD measures.
9. **Air attack and NBC Alarm and Warning Signals.** Details of standard NATO and ABCA alarm and warning signals are explained at Annex B.
10. **Regimental NBCD Responsibilities.** These are:
 - a. **Regimental Headquarters (RHQ).** The intelligence cell of RHQ provides the regimental NBCD cell and is responsible for collecting and disseminating NBC data within the regiment, maintaining NBC records, and forwarding NBC data to brigade headquarters.
 - b. **Reconnaissance Troop.** The reconnaissance troop is trained and equipped to conduct monitoring, reconnaissance and survey of chemical and radiological

contamination.

- c. **Squadrons.** Each squadron is responsible for NBC warning, monitoring, reconnaissance, and survey in its immediate area. This is normally done with sentries and monitoring devices.

11. **Preparation For Operations In An NBC Environment.** In preparing for operations in an NBC environment, commanders ensure that:

- a. all sub-units are warned;
- b. external stowage is covered or stored internally;
- c. collective protection systems are tested;
- d. monitoring and decontamination equipment is prepared; and
- e. NBC reconnaissance teams are thoroughly briefed.

12. **Operations In An NBC Environment.** Commanders must be prepared to act independently in the event of the destruction or degradation of normal command channels. The first priority is to continue with assigned tasks unless ordered otherwise. Commanders must remember that:

- a. prolonged use of full protective measures impose physical and psychological strain;
- b. vehicles that have been in an area contaminated by a persistent chemical agent may spread contamination outside the original area;
- c. the enemy may use chemical weapons in conjunction with conventional and nuclear weapons; and
- d. the use of NBC weapons will pose decontamination and administrative problems such as -
 - 1) requirements for decontaminants and decontamination equipment,
 - 2) an increase in the time required to carry out most activities,
 - 3) increased medical and casualty evacuation support, and
 - 4) requirements to replace equipment which cannot be adequately decontaminated.

13. **Unit Decontamination.** It is a formation responsibility to provide complete decontamination facilities for the unit, but it is the responsibility of the unit being decontaminated to man these facilities. Detailed procedures for the operation and use of these facilities is included in formation SOPs. The unit is responsible for:

- a. the overall security of the decontamination site during decontamination operations;
- b. providing the decontamination unit with the necessary personnel to support the decontamination operation; and
- c. resupply of personal clothing and equipment.

SAFETY AND CONTROL MEASURES

14. **General.** Safety and control measures are designed to protect our troops from friendly fire. They include:

- a. recognition signals;
- b. surface fire co-ordination measures; and
- c. notification of safety distances for various types of ammunition, particularly those delivered by naval gunfire and tactical air.

15. **Recognition Signals.** These include visual signals such as: aircraft recognition panels, light signals, flares and coloured smoke; and audible and electronic means. They may be established by formation headquarters and advised in SOPs and operation orders. Those intended for use within the regiment or squadrons must be authorized by brigade headquarters.

16. **Surface Fire Co-ordination Measures.** The following surface fire co-ordination measures are used:

- a. **Boundaries.** Boundaries extend into enemy territory and establish the limits for co-ordination. Fire or its effects may not be directed across a boundary unless co-ordination with forces on the other side has been made.

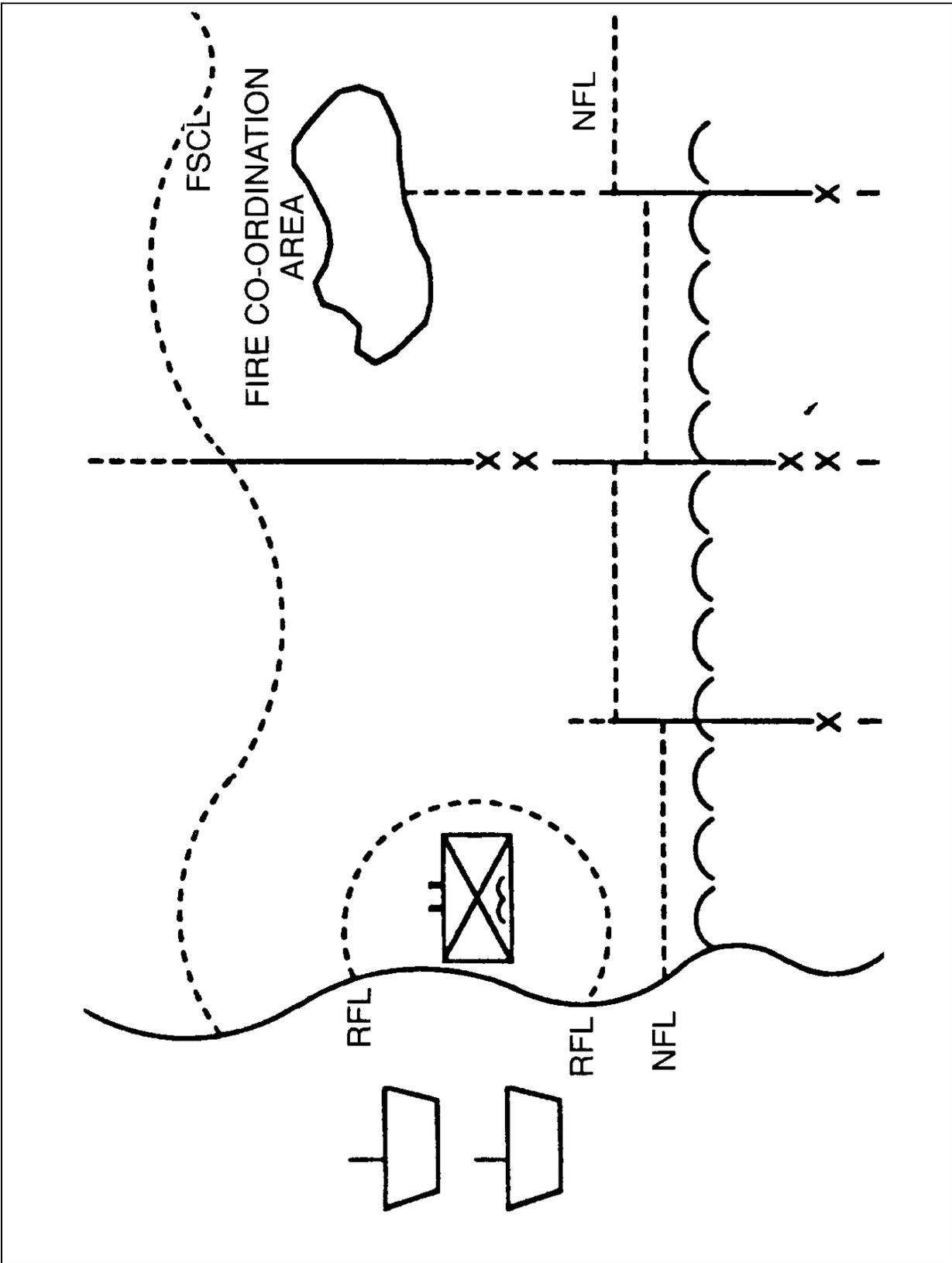


Figure 5-1 Fire Co-ordination Measures

- b. **Fire Support Co-ordination Line (FSCL).** This is a line established by the army commander, normally at corps level, to co-ordinate fire which while not under his control, may affect current operations. Supporting forces may engage targets beyond the FSCL without prior co-ordination with the army commander, provided that the attack does not produce adverse surface effects short of the line. Attacks against surface targets short of the FSCL must be coordinated with the army commander.
- c. **No Fire Line (NFL).** This is a line, established by formations below corps, short of which fire may not impact except with approval of the formation commander. Beyond this line, firing is possible without danger to friendly troops. Beyond respective NFLs, formations may direct fire across unit boundaries.
- d. **Restrictive Fire Line (RFL).** This is a line established by a superior headquarters to co-ordinate fire between airborne, airmobile, or amphibious forces and link-up forces, or between any converging friendly forces. It is used to co-ordinate direct and indirect fire. All fire, with effects extending beyond this line, must be coordinated with the forces on the other side. Within the context of fire support co-ordination, a handover line is an RFL.
- e. **Fire Co-ordination Area.** This is an area with specified weapon fire restraints. Fire in excess of those restraints must not be delivered without the approval of the commander who established the area.

ELECTRONIC COUNTER-COUNTER MEASURES (ECCM)

17. **General.** ECCM is that division of electronic warfare involving actions taken to ensure friendly effective use of the electromagnetic spectrum despite the enemy's use of electronic warfare. This includes not only actions taken to avoid jamming and deception, but also those which minimize the probability of enemy intercept and direction finding. ECCM includes training and the use of alternate means. It also includes the broad range of measures embraced by the term signal security. Signal security consists of communications security and electronic security and is designed to protect the content of emissions as well as minimizing the value to the enemy of studying emission patterns.

18. **The Threat.** Most armies have an integrated electronic warfare system called radio electronic combat support (RECS). RECS combines signal-derived intelligence, direction finding, jamming, deception and suppressive fire to attack enemy command and control systems. The goal of RECS is to disrupt or destroy a significant portion of enemy communications systems, either by jamming or indirect fire.

19. **ECCM In Tank Operations.** In tank operations, very high frequency radio is the primary but most vulnerable means of communication. The use of high frequency radio and morse code assists in minimizing the effects of enemy jamming. In addition to RECS very high frequency radio may be affected by terrain and weather. Commanders must be aggressive in applying ECCM. Whenever possible an alternate means to radio is used.

20. **Alternate Means.** The following alternatives to radio are available:
- a. **Line.** Land line which includes commercial telephone systems, is used for communicating between static elements. Line is less susceptible to RECs than radio. However, it takes time to install and is vulnerable to damage by vehicles and the effects of fire. Line is not secure, and normal signal security measures apply. The regiment has a limited line laying capability.
 - b. **Dispatch Riders (Drs) and Runners.** One of the most secure methods of transmitting information, especially lengthy messages and graphic items such as tactical overlays, is the use of Drs or runners. Helicopters can be used for the rapid movement of information.
 - c. **Personal Contact.** Another effective and secure means of communicating is by personal contact between commanders. This method should be used whenever possible.
 - d. **Liaison.** Liaison officers (LO) represent their commander at other headquarters. Los are completely conversant with the operational situation and the orders and instructions of their commander.
 - e. **Acoustic and Visual Signals.** These signals are used to transmit pre-arranged signals quickly over short distances. They can be used for alarms and as recognition signals. Some examples are whistles, horns, sirens, voice amplifiers, pyrotechnic devices, flags, lights, hand signals, and panels.
 - f. **Timed Programmes.** Timed programmes may permit the conduct of an operation if other means of communication are not available.

DECEPTION

21. **Purpose.** Deception is carried out to cause an enemy to act, or fail to act, thereby assisting in the success of our operations. A commander may achieve surprise through deception. Its use should be considered in all operations.
22. **Control.** Deception is planned and controlled at the highest practicable level of command. The commanding officer (CO) may be ordered to support his superior's plan, or he may be directed or permitted to create his own plan.
23. **Types of Deception.** Deceptions are classed as:
- a. **Feints.** These are attacks, including counter attacks, which have limited objectives. They are presented to the enemy as the main attack.
 - b. **Demonstrations.** These are a show of force conducted in an area away from the location of the main attack. No contact with the enemy is intended.

- c. **Ruses.** These are tricks designed to deceive the enemy. They are characterized by the deliberate placing of false information into the collection means of the enemy. This is the most common method of deception used within the regiment.
- d. **Display.** This is a means of deception which uses simulation or disguise. A display using simulation uses dummy vehicles equipment, and installations. In a display using disguise, something is altered to make it look like something else.

SECURITY OF INFORMATION

- 24. The minimum amount of information needed to conduct an operation should be given to the forces involved. This limits the loss of security if friendly forces are taken prisoner, or marked maps are captured.
- 25. Commanders must ensure that subordinates mark the minimum information on maps. Boundaries, unit and headquarters locations, and complete details of the obstacle plan are especially useful to the enemy.

SECTION 3

AIR DEFENCE

GENERAL

1. Air defence (AD) encompasses all measures designed to nullify or reduce the effectiveness of enemy air action. AD measures are either passive or active.
2. The regiment may operate under conditions of enemy air superiority where the threat to tanks is from offensive air support aircraft and anti-armour helicopters.

PASSIVE AIR DEFENCE (PAD)

3. **General.** PAD includes all measures, other than active air defence (AAD), taken to minimize the effects of enemy air action. It does not involve the employment of weapons.
4. **Measures.** Passive measures are the primary form of AD in the unit and include:
 - a. siting,
 - b. dispersion,
 - c. concealment,
 - d. control of movement,
 - e. field defences,
 - f. ECCM, and
 - g. warning.
5. **Siting.** The air threat is considered during the planning of any operation to ensure that selected positions are as difficult as possible to attack from the air. Considerations include:
 - a. avoiding conspicuous geographical features that could be used to reference the position;
 - b. avoiding positions which provide the pilot with clear attack and exit routes; and
 - c. avoiding positions which can be acquired by pilots at long ranges.
6. **Dispersion.** Unnecessary concentrations are avoided. SOPs specify minimum distances when moving and when stationary.
7. **Concealment.** Camouflage is used to counter visual and electronic observation. Locations are carefully selected to avoid giving an indication of the presence of troops and equipment.

8. **Control of Movement.** Movement is readily spotted from the air, therefore, the control of movement is enforced. Units take advantage of reduced visibility conditions to conduct large scale moves. The CO considers redeployment when:

- a. there has been a recent air reconnaissance of the area; and
- b. enemy activity indicates that the position has been compromised.

9. **Field Defences.** Personnel and equipment that are dug in are much less likely to be affected by air attack than if they are unprotected.

10. **ECCM.** Active use of the electromagnetic spectrum is minimized to avoid detection and air attack.

11. **Warning.** Air sentries are deployed and alarm systems developed down to and including troop level. Standard warning signals are described in Annex B.

ACTIVE AIR DEFENCE (AAD)

12. **General.** AAD is the action taken to destroy or reduce the effectiveness of enemy aircraft and helicopters. It includes small-arms fire in self-defence.

13. **Weapons Systems.** Army AD weapons are grouped in the following systems:

- a. area missile systems including high, medium and low-level missiles;
- b. point gun systems;
- c. point missile systems; and
- d. other weapons including attack helicopters and small-arms.

14. **Purpose of AAD Within The Regiment.** The purpose of AAD is to provide self-defence against attacking aircraft when PAD measures have failed.

15. **AD Results.** The kill probability of small-arms used for AD against fighter ground attack (FGA) is very low, but it is somewhat higher against helicopters and transport aircraft. Tank guns and indirect fire may also be effective against helicopters. A high volume of AD fire from regimental weapons can be effective. Such fire may achieve the following:

- a. **Morale.** Morale is increased by the ability to fire back at attacking aircraft.
- b. **Deterrent Effect.** The knowledge that he will be engaged by ground fire may distract the pilot's attention from his mission.
- c. **Damage.** Damage to the aircraft, even from small-arms fire, increases the repair and logistics problems for the enemy and in time reduces the availability of the aircraft to carry out future missions.

16. **Technical Aspects.** Technical aspects and methods of engagement are covered in B-GL-318-017/PT-000 All Arms Air Defence.

CONTROL OF AIR DEFENCE WEAPONS

17. **General.** The control of AD weapons involves restrictions upon the use of AD weapons, main armament and small arms. B-GL-318-017/PT-000 includes detail on AD weapons control. Within the regiment, the following control measures are found in unit SOPs:

- a. weapon control orders (WCOs),
- b. AD warning conditions, and
- c. rules of engagement.

18. **WCOs.** These are passed down the chain of command. They are used to control AD weapons:

- a. **Weapons Free.** A control term meaning that weapons may be fired at any aircraft not positively identified as friendly, ie, hostile or unknown.
- b. **Weapons Tight.** A control term meaning weapons may fire only at aircraft identified as being hostile.
- c. **Weapons Hold.** A control term meaning weapons may fire only in self defence or in response to an order. This is the normal WCO for the regiment.

19. **AD Warning Conditions.** These are designed to indicate the likelihood of air attack. They are passed to the regiment on the brigade command net. AD warning conditions are:

- a. **Warning White.** Attack by enemy aircraft is unlikely.
- b. **Warning Yellow.** Attack by enemy aircraft is probable.
- c. **Warning Red.** Attack by enemy aircraft is imminent or in progress.

20. **Passage of WCO and AD Warnings.** Immediately upon receiving an AD warning or WCO, RHQ relays the message throughout the regiment by the quickest means. An example of a transmission is:

ALL STATIONS. THIS IS O. WARNING RED, WARNING RED, FOUR AIRCRAFT APPROACHING FROM NORTH, OUT.

21. **Definition of Enemy Aircraft/Hostile Act.** Enemy aircraft and hostile acts are defined by the theatre Air Defence Commander and are included in SOPs. The SOP may include the following definitions:

- a. an aircraft is recognized as enemy by its identification features; or
- b. it commits a hostile act, such as -
 - 1) attacking any friendly unit,
 - 2) dropping paratroops, where aircraft and troops are visually identified as other than friendly, or
 - 3) manoeuvring unmistakably into position to attack friendly forces or facilities.

AIR DEFENCE TACTICS

22. **General.** Tactics discussed in this section are included in unit AD SOPs.

23. **Air Sentries.** A minimum of one air sentry at troop level or equivalent is needed. The arc assigned to each sentry depends on the ground and the number of sentries.

24. **Action on Receipt of AD Warning Condition.** On receipt of an AD warning condition the following actions take place:

- a. **Warning White.** Carry on with tasks.
- b. **Warning Yellow.** Carry on with tasks. Weapons are loaded for AD engagement.
- c. **Warning Red.** On the receipt of Warning Red AD weapons are manned and personnel prepare for air attack. In the event of attack -
 - 1) crews in hides, harbours, leaguers, and waiting areas disperse,
 - 2) crews continue on with tasks if possible, and
 - 3) control of the AD engagement passes to the local commander.

25. **Action Under Air Attack When Moving.** There are three alternative actions which may be taken:

- a. disperse,
- b. continue, or
- c. stop.

26. **Disperse.** Crews anticipate attack and continuously look for concealment and cover:

- a. **Advantages -**

- 1) the chance of multiple hits are reduced, and
- 2) it is more difficult to detect all targets at once, both dispersed and concealed.

b. **Disadvantages -**

- 1) detection while moving is easier,
- 2) forced dispersal interrupts the operation, and
- 3) volume and density of small-arms fire is reduced.

27. **Continue.** Movement continues, with drivers increasing speed and changing direction as much as possible while avoiding bunching:

a. **Advantages -**

- 1) moving vehicles are more difficult to hit, and
- 2) control and momentum are maintained.

b. **Disadvantages -**

- 1) detection is easier, and
- 2) the volume and density of small-arms fire is reduced.

28. **Stop.** Vehicles stop in position:

a. **Advantages -**

- 1) stationary vehicles are less obvious to a pilot,
- 2) once the threat has passed, the operation continues immediately without the need to regroup, and
- 3) the volume and density of small-arms fire is greater.

b. **Disadvantage.** If acquired stationary vehicles provide easy targets.

SECTION 4

WARNING FOR MOVEMENT

GENERAL

1. Prior to deployment, troops can make best use of the time available for preparation if they are told how much time they have for preparation before moving. If this is not given, then troops are assumed to be ready to move immediately. This reduces the usefulness of waiting time because such important tasks as replenishment, maintenance, feeding and rest are not possible.

WARNING PROCEDURE

2. Orders anticipating movement will state a time before which there will be no move of at least the main body of the regiment, eg, **No move of main body before 061800**. When this order has been given, a further order must be issued before 061800 giving the timings for the move, or extending the period before which there will be no move.

3. It is better for the regiment if the **no move before...** order is coupled with a second order placing it at a state of readiness to move, eg, all squadrons at thirty minutes notice to move from 061800. This order not only indicates that there will be no move before 061800, but after that time troops will have thirty minutes warning before beginning the move. The above order does not indicate that the regiment will move at 061830. This permits administrative activity which would be impossible if the regiment had to be fully ready for movement at 1800 hours and without notice at any time thereafter.

STATES OF READINESS

4. Regimental and formation SOPs include states of readiness and related activities. They detail what activities must be done, or are permissible.

5. Changes to states of readiness may be included in operation orders, as described above, or passed by radio, either in clear language or using codewords. States or readiness are shown in Figure 5-2 below.

ACTIVITY	TIME	30 MINUTES	15 MINUTES	5 MINUTES	NOW
ENGINES		OFF	OFF	OFF	ON
RADIO WATCH		RUNNERS	1/TP	ALL	ALL
LINE		YES	YES	NO	NO
CANVAS		UP	DOWN	DOWN	DOWN
CREWS		REST	DRESSED	AROUND VEHICLE	MOUNTED
GUNNERY		SWITCHED ON AS LATE AS POSSIBLE, ALLOWING TIME FOR WARMUP			
CAMOUFLAGE NETS		UP	UP	DOWN	DOWN
PERSONAL KIT		OUT	STOWED	STOWED	STOWED
COOKING		YES	YES	NO	NO
MAINTENANCE		YES	YES	EMERGENCY	NO
SENTRIES		OUT	OUT	OUT	IN
OBSERVATION POSTS		OUT	OUT	IN	IN

Figure 5-2 States of Readiness

SECTION 5

HARBOURS, HIDES, WAITING AREAS

HARBOUR

1. **General.** Harbours are occupied when enemy interference is considered unlikely. Regimental harbours are seldom used. Normally the regiment is allocated an area in which separate squadron harbours are designated by the CO. While a harbour is not a defended locality, squadrons are responsible for their security. There are three types of harbours; woods, urban and dispersed.
2. **Characteristics of a Harbour.** The essential characteristic of a harbour is concealment from enemy ground and air observation. Other desirable characteristics include:
 - a. ground suitable for the movement and parking of vehicles;
 - b. good entrances and exits;
 - c. accessibility to administrative vehicles;
 - d. terrain which permits suitable communications;
 - e. ground which lends itself to all round protection by a minimum force; and
 - f. accessibility to firing positions on or near the perimeter.
3. **Built-Up Areas.** Built-up areas provide concealment from enemy visual and electronic observation and surveillance, particularly when vehicles are parked inside buildings or are blended with shadows. Track plans are easy to conceal, and hard-surfaced areas should be available for administration and maintenance. Dispersion may be greater than in other areas which along with the presence of civilians may increase security requirements. Rubble may adversely affect movement.
4. **Wooded Areas.** Some wooded areas provide reasonably good concealment from visual observation from the ground and the air; however little concealment is provided from airborne electronic surveillance. The larger the area, the greater the security problem and if too small, the concentration presents a lucrative target. Comparing wooded area and built-up area, security in the former may be less a problem.
5. **Dispersed.** This type of harbour is one that will see a squadron occupying whatever open ground is available to provide dispersion. Security is enhanced by establishing all round defence and by utilizing any additional available cover from copses and buildings located in the harbour area.
6. **Orders For Movement To Harbours.** Orders for the move into a harbour include:
 - a. location of the harbour,
 - b. routes,

c. order of march, and any changes to occupation drill.

7. **Harbour Parties.** They are composed as follows:

a. Regimental harbour party -

- 1) harbour master (regimental second in command (21C)), and
- 2) regimental police;

b. RHQ -

- 1) harbour master (regimental sergeant-major (RSM)),
- 2) one guide for reconnaissance troop, and
- 3) one guide for RHQ;

c. tank squadron -

- 1) harbour master (squadron sergeant-major (SSM)),
- 2) one guide for squadron headquarters (SHQ),
- 3) one guide per troop, and
- 4) one guide for squadron A1 echelon;

d. Regimental A2 echelon -

- 1) harbour master (headquarters squadron administrative officer (AO) or SSM),
- 2) one guide for each squadron A2 echelon, and
- 3) a minimum of one guide for each headquarters squadron A echelon element, including SHQ;

e. Regimental A1 echelon -

- 1) harbour master (an SSM designated by the RSM), and
- 2) one guide for each Squadron A1 echelon; and

f. Regimental B echelon -

- 1) harbour master (regimental technical quartermaster sergeant (T Q M S)),

- 2) one guide for each squadron B echelon, and
- 3) a minimum of one guide for each headquarters squadron B echelon element.

8. **Duties and Responsibilities of Harbour Parties.** The personnel and their duties are:

a. Regimental harbour master -

- 1) receives orders allocating the regimental area;
- 2) prior to departure selects probable routes from release point, and regimental rendezvous (RV) and notifies squadron harbour parties;
- 3) reconnoitres assigned area and determines squadron areas;
- 4) RV with squadron harbour parties and designates -
 - a) squadron areas,
 - b) security tasks,
 - c) routes,
 - d) RVs for crash harbour, and
 - e) time and place squadron guides are to meet their squadrons,
- 5) dispatches guide(s) to the regimental RV;

b. Squadron harbour master -

- 1) reconnoitres assigned areas and selects squadron harbour;
- 2) makes a thorough sweep of squadron harbour to ensure it is clear of enemy;
- 3) allocates areas to troops, SHQ and echelons;
- 4) allocates arcs of responsibility to each troop;
- 5) determines security tasks and sites sentry locations;
- 6) selects and signs in and out routes;
- 7) selects squadron RV for crash harbour if not already allocated;
- 8) ensures that guides know the location of SHQ, troop areas, and the squadron RV for crash harbour; and

- 9) sends guides to RV with the squadron;
- c. guides -
 - 1) select and mark position for each vehicle;
 - 2) make sketch of harbour;
 - 3) brief squadron harbour master;
 - 4) proceed to RV with squadron and guide troops into the harbour;
 - 5) indicate each vehicle position in the harbour; and
 - 6) notify the troop leader of the following:
 - a) troop arc of responsibility and security tasks,
 - b) location of squadron RV for crash harbour,
 - c) location of SHQ and other troops,
 - d) routes and track plan,
 - e) administrative details, and requirement for camouflage.
9. **Priority of Work.** Within a harbour, priority of work is:
 - a. security,
 - b. resupply,
 - c. maintenance,
 - d. feeding, and
 - e. rest.
10. **Occupying a Harbour.** Occupation is done as follows:
 - a. squadron meets guides at RV;
 - b. guides lead assigned tanks into position using the in route and following the track plan;
 - c. tanks are individually positioned, to allow a forward exit;
 - d. vehicles are switched off individually;

- e. after the last vehicle has been switched off, there is a period of two minutes absolute silence while everyone watches and listens;
- f. establish security;
- g. group leaders co-ordinate troop arcs with troop on the right;
- h. within 20 minutes, troop leaders reports to SHQ with a list of administrative requirements and vehicle state;
- j. arcs of responsibility, locations of security elements, and crash Rvs are coordinated by the Battle Captain (BC) and troop leaders; and
- k. squadron commander (OC) gives harbour orders.

11. **Harbour Orders.** Prior to receiving further orders from RHQ, the OC issues orders detailing activity in the harbour. These orders include:

- a. expected duration of stay;
- b. harbour defence requirements, including stand-to and control of fire;

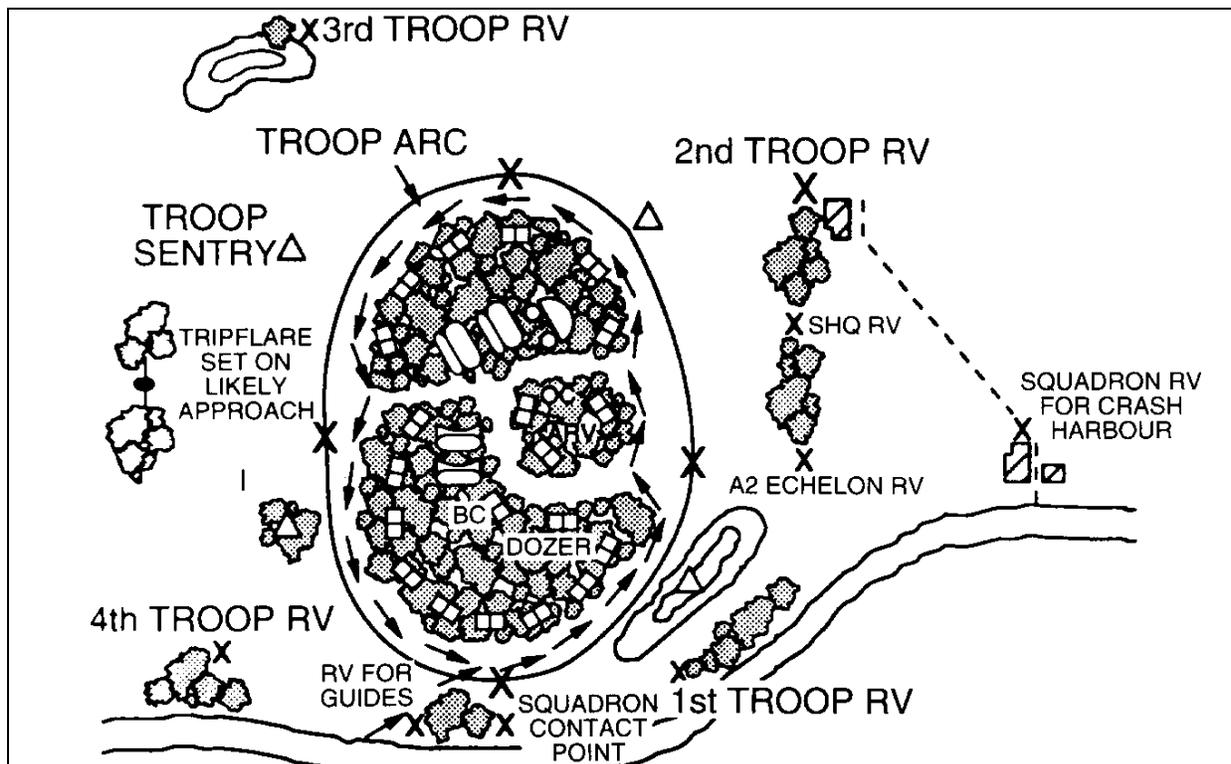


Figure 5-3 Example Squadron Harbour (Wooded Area)

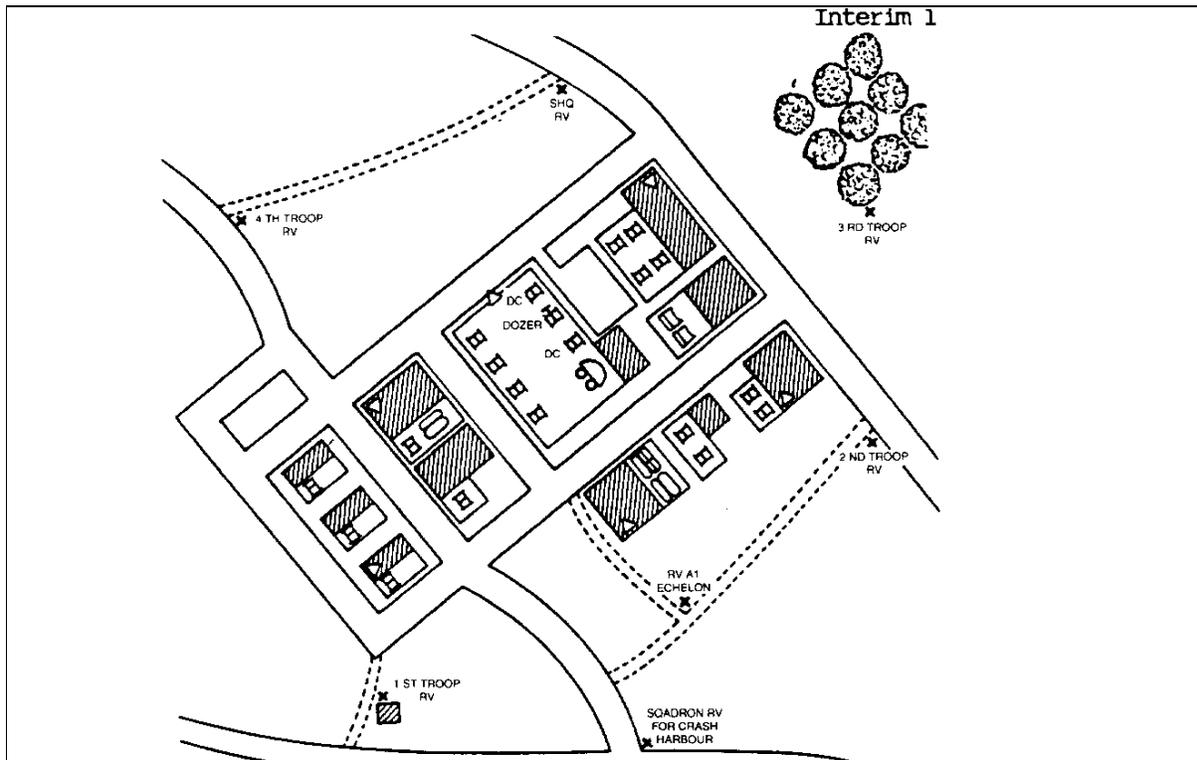


Figure 5-4 Example Squadron Harbour (Urban Area)

- c. state of readiness;
 - d. confirmation of Rvs for crash harbour;
 - e. order of march for routine exiting;
 - f. communication requirements;
 - g. passwords;
 - h. priority of work; and
 - j. administrative details.
12. **Harbour Security.** Harbour security requirements include:
- a. early warning, provided by sentries, trip flares, and outposts;
 - b. NBC and air sentries;
 - c. camouflage nets;
 - d. coordinated troop arcs of fire and responsibility, and artillery targets;
 - e. battle trench, for each vehicle crew;

- f. strict fire discipline;
- g. strict control on engine operation;
- h. location of sentries and outposts including their return routes and recognition signals being known by everyone; and
- j. crew commanders being responsible for the defence of their tanks against attack by ground troops.

13. **Routine Exiting.** When a squadron moves out of a harbour the procedure is as follows:

- a. crews mount and start up on order;
- b. security elements move in on start up of engines; and
- c. on order to move, vehicles move out in the order of march following the track plan.

14. **Action on Attack.** If the harbour is under attack, the OC will either order the squadron to stay and fight, or order a crash harbour.

15. **Crash Harbour.** The sequence for a crash harbour is:

- a. crews mount and start up individually;
- b. security elements move in;
- c. tanks move individually to troop Rvs, adopt all round defence, and then move under troop control to the squadron RV; then
- d. the squadron adopts all round defence.

HIDES

16. **General.** The characteristics, procedures, and drills for hides are similar to harbours. However, while the purpose of a harbour is to provide a concealed area in which to resupply, reorganize, conduct maintenance and to rest, the purpose of a hide is to provide concealment prior to occupying battle positions. Although undesirable, resupply and maintenance may be conducted in the hide. Troops in hides are grouped for battle.

17. **Characteristics of a Hide.** A hide must:
- a. be situated close to battle positions to reduce reaction time;
 - b. provide concealment;
 - c. be sited so that locations of battle positions are not compromised; and
 - d. be defensible.

WAITING AREAS

18. The characteristics, procedures and drills for waiting areas are similar to those for harbours. However, the purpose of a waiting area is to provide concealment and dispersion adjacent to a route or an axis while an element is waiting to resume movement. For example, waiting areas are used during obstacle crossing operations. Waiting areas are selected by formation headquarters.

19. Another unit may be responsible for the reconnaissance, layout and perhaps security of a waiting area. In this case, the squadron enters, occupies, secures it as necessary and exits waiting areas as directed.

20. If waiting areas are not established and controlled, they are reconnoitred, occupied, secured and exited by the squadron in the same manner as harbours.

SECTION 6

MANOEUVRE

GENERAL

1. Manoeuvre is the employment of forces on the battlefield, combining movement and gun fire or potential gun fire, to achieve an advantage over the enemy in order to accomplish the mission.

SQUADRON FORMATIONS

2. **General.** A formation is the arrangement adopted by a force when all elements are moving at the same time.

3. **Formations.** When a regiment is manoeuvring, squadrons may move in the formations shown in Figure 5-5. The formations adopted by troops may be the same as the squadron, or may differ depending either on the troop leader's appreciation, or the OC's direction.

SQUADRON MANOEUVRE

4. **General.** Squadron manoeuvre is the move of one or more troops supported by the fire of one or more troops.

5. **Methods.** Squadron manoeuvre is either:

- a. leap-frog, or
- b. caterpillar.

6. **Leap-frog.** This is based on alternating positions. The squadron initially occupies two positions. The rear element moves through or past the forward element and occupies a new position. This action is repeated as necessary. The advantages and disadvantages of leap-frog are:

- a. advantages:
 - 1) movement may be quicker than with caterpillar; and
 - 2) troops are more dispersed.

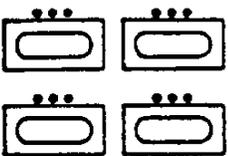
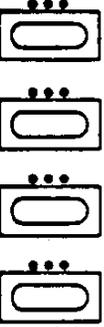
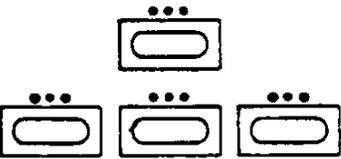
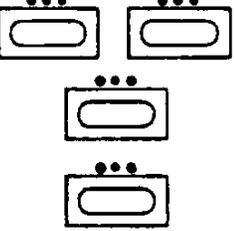
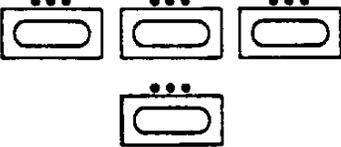
FORMATION	NAME	CHARACTERISTICS	POSSIBLE USE
	BOX	<ul style="list-style-type: none"> - GOOD FIREPOWER AND OBSERVATION IN ALL DIRECTIONS - GOOD CONTROL - GOOD DEPTH 	<ul style="list-style-type: none"> - CROSS COUNTRY MOVEMENT
	LINE	<ul style="list-style-type: none"> - MAXIMUM OBSERVATION AND FIREPOWER TO FRONT - GOOD FIRE CONTROL - LACKS DEPTH 	<ul style="list-style-type: none"> - DURING ASSAULT - FIRE SUPPORT POSITIONS
	COLUMN	<ul style="list-style-type: none"> - GOOD CONTROL - MINIMUM FIREPOWER AND OBSERVATION TO FRONT BUT MAXIMUM TO FLANKS - GOOD DEPTH 	<ul style="list-style-type: none"> - ADVANCING OUT OF CONTACT - MOVEMENT DURING PERIODS OF REDUCED VISIBILITY
	ONE-UP T	<ul style="list-style-type: none"> - GOOD SUPPORT AND FIRE CONTROL - GOOD DEPTH 	<ul style="list-style-type: none"> - WHEN CONTACT EXPECTED ON CROSS-COUNTRY MOVEMENT WITHOUT INFANTRY SUPPORT
	TWO-UP T	<ul style="list-style-type: none"> - GOOD SUPPORT AND FIRE CONTROL - GOOD DEPTH 	<ul style="list-style-type: none"> - AS FOR ONE-UP T
	THREE-UP T	<ul style="list-style-type: none"> - AS FOR TWO-UP T BUT MORE FIREPOWER AND OBSERVATION TO FRONT 	<ul style="list-style-type: none"> - AS FOR ONE-UP T - DURING ASSAULT

Figure 5-5 Squadron Formations

- b. disadvantages:
 - 1) before moving, crew commanders may not see all the ground they must cover; and
 - 2) this manoeuvre may not be possible without using radio.

7. **Caterpillar.** Caterpillar movement uses successive positions. The squadron initially occupies one position. Part of the squadron moves and occupies a new position. The remainder of the squadron supports this move, then joins the troops in the new position supported by the troops in place. The advantages and disadvantages of caterpillar are:

- a. advantages -
 - 1) may be done without using radio; and
 - 2) crew commanders are able to view ground before moving.
- b. disadvantages -
 - 1) may be slower than leap-frog; and
 - 2) may concentrate squadron into a lucrative target.

8. **SHQ.** SHQ may travel as a group or the OC may be forward with the leading troop(s) while the BC controls the rear elements. The dozer tank normally travels with the OC to provide protection. The OC is always located where he can best command the squadron.

USE OF GROUND

9. **General.** Before commencing a move, a commander studies his map and the ground, anticipates possible locations for enemy contact, selects routes and makes preliminary plans to counter enemy action, and groups his force for battle.

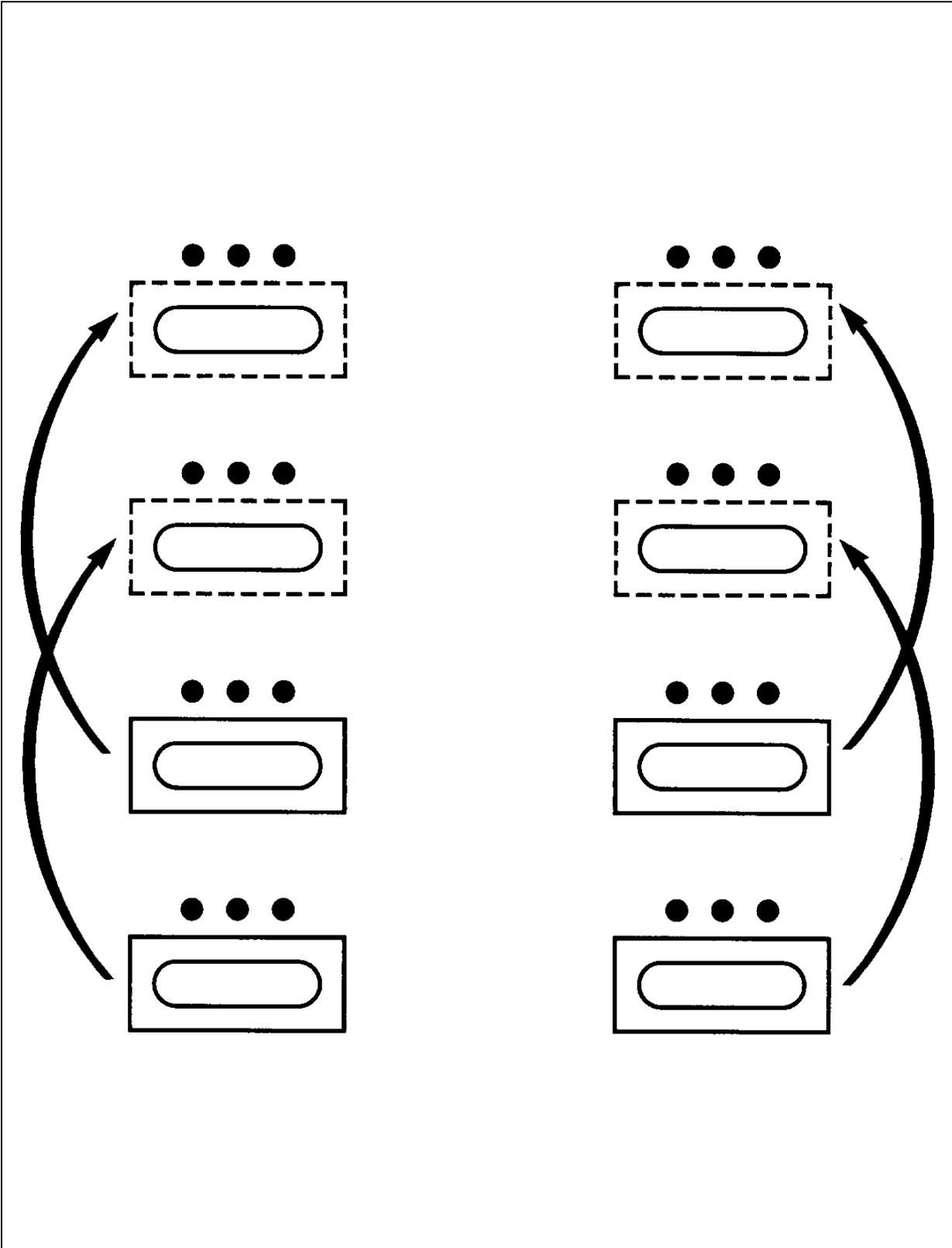


Figure 5-6 Squadron Leap-Frog Manoeuvre

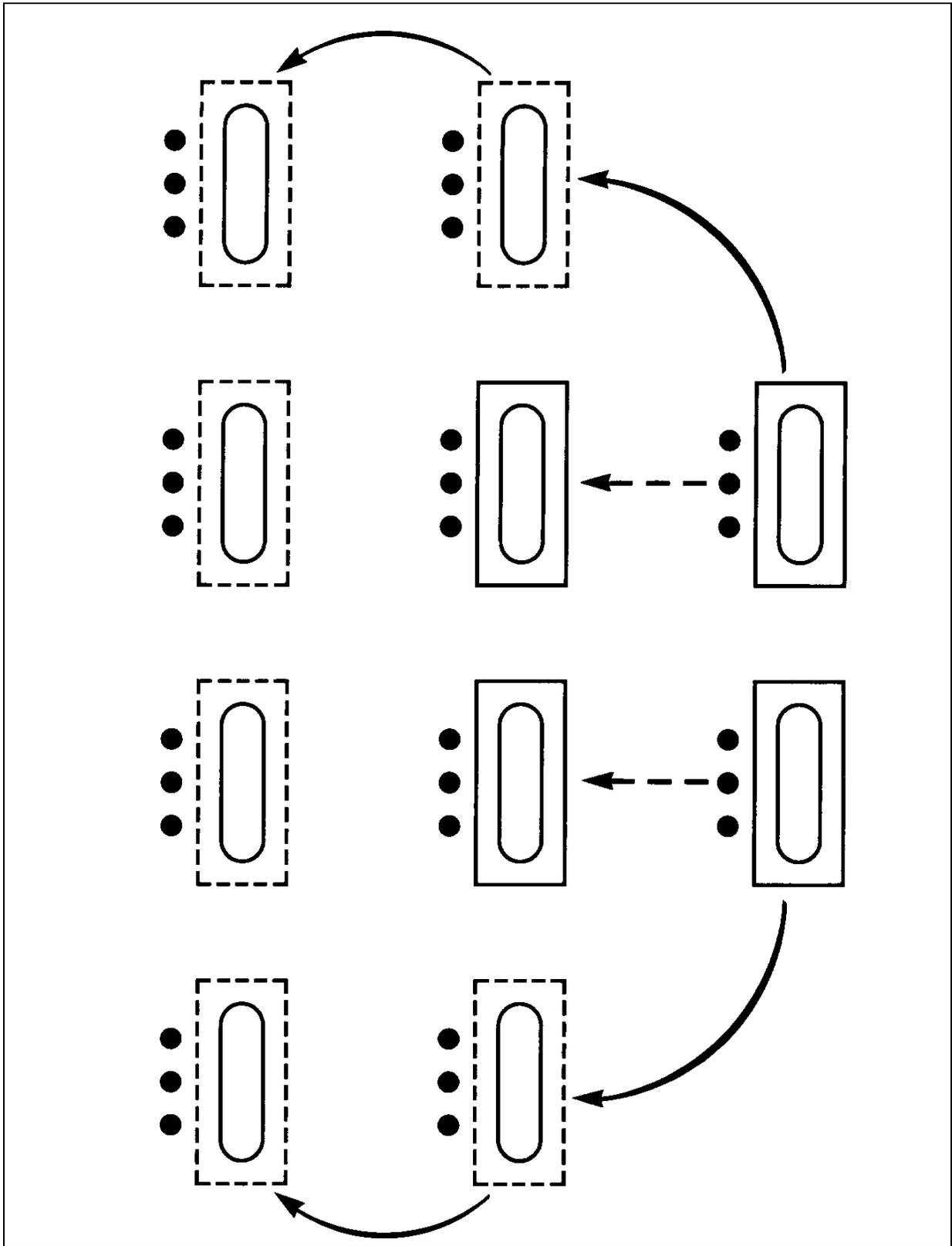


Figure 5-7 Squadron Caterpillar Manoeuvre

10. **Regimental/Squadron Commander's Estimate.** In making his estimate, the CO or the OC asks himself the following questions:

- a. What do I want to achieve next?
- b. Where is my next bound?
- c. How can the enemy interfere with my move? What are his known or estimated locations, strengths and intentions?
- d. What are my approaches?
- e. How can I achieve what I want to do next? and
- f. What is my plan? (Who supports, who moves, and by what routes?)

SECTION 7

FIRE DISCIPLINE

GENERAL

1. Tank gunfire must be controlled to make the most efficient use of each round, to enhance security and to achieve surprise.

PROCEDURES

2. **General.** Fire Discipline is required before, during, and after an action.
3. **Before Action.** While planning an action, a commander considers the following:
 - a. priority of targets, either those assigned or those based on the greatest threat; and
 - b. open fire orders which include -
 - 1) maximum engagement range,
 - 2) no fire areas, and the effect of his fire on other units,
 - 3) use of sniper tanks, and
 - 4) primary and secondary tasks.
4. **During Action.** During an action, a commander:
 - a. allocates fire, considering -
 - 1) who engages what,
 - 2) reaction to enemy action,
 - 3) economy of effort, and
 - 4) security and surprise, and
 - b. sustains fire, considering -
 - 1) control of jockeying,
 - 2) movement to alternate positions, and
 - 3) cease fire.
5. **After Action.** Troops report their ammunition, casualty and tank state to SHQ.

SECTION 8

FIRE BASE

FIRE BASE

1. **General.** Fire bases are established during operations to dominate the target area by fire. Considerations in selecting a fire base include:
 - a. effective range of weapons,
 - b. visibility of targets; and
 - c. ability to fire on approaches to and exits from the target area.
2. Purpose of a fire base:
 - a. destroy enemy tanks and anti-tank weapons; and
 - b. suppress enemy movement, and isolate the objective.
3. **Assault.** During the assault the fire base may be required to:
 - a. provide smoke;
 - b. destroy, suppress and isolate the enemy;
 - c. once the assaulting force masks the fire support, execute one or more of the following -
 - 1) provide depth to the assault,
 - 2) protect exposed flanks,
 - 3) assist in consolidation, and
 - 4) act as counter-attack force.
 - d. provision of cut-off or exploitation force.

SECTION 9

AFTER ACTION PROCEDURE

PROCEDURE

1. After each action, a commander considers the following and takes action as required:
 - a. security;
 - b. first aid and casualty evacuation;
 - c. redistribution of ammunition, personnel, and equipment;
 - d. prisoners of war;
 - e. repair and recovery;
 - f. resupply; and
 - g. reporting situation to his superior.

SECTION 10

MEETING ENGAGEMENT

GENERAL

1. A meeting engagement occurs when a moving force, incompletely deployed for battle, engages an enemy at an unexpected time and place. It differs from the advance to contact in that contact with the enemy occurs unexpectedly. Meeting engagements are characterized by a shortage of information about the enemy and limited time available for a commander to develop the situation. Success depends primarily on the ability of a commander to commit his combat power quickly. The initiative must be seized and retained.
2. A meeting engagement may be:
 - a. with tactical surprise; or
 - b. without tactical surprise.

WITH TACTICAL SURPRISE

3. This situation occurs when our troops react first and they are able to conceal their movement. In this situation it is essential to exploit your advantage.
4. The OC must:
 - a. stop his lead troops and ensure that they do not open fire;
 - b. warn remainder of squadron;
 - c. maintain surprise and deploy the squadron to create a killing zone;and
 - d. when the enemy reaches the optimum range, open fire suddenly, with maximum firepower.

WITHOUT TACTICAL SURPRISE

5. This situation occurs either when the enemy reacts first, or both forces discover each other at the same time. In this situation, the OC ensures that:
 - a. troops in contact return fire immediately, move to cover, and continue to engage;
 - b. the remainder of squadron deploys to achieve security; and then
 - c. all available gun fire is directed to neutralize the enemy.
6. Based on his estimate and his superior's direction, the OC can:
 - a. disengage;

- b. fight in place awaiting reinforcement; or
- c. manoeuvre to destroy the enemy.

SECTION 11

RELIEF IN PLACE

GENERAL

1. A relief in place is an operation in which all or part of one force is replaced in sector by another force which assumes responsibility for the continuation of operations. The two forces are identified as the moving force and the force in place.
2. This operation is conducted when forces are:
 - a. successful in accomplishing their task;
 - b. required for operations elsewhere or are being redeployed to a more favourable position;
 - c. being replaced to avoid exhaustion;
 - d. unable to continue with their task; or
 - e. not suitable to undertake a new task.

FORCES AND TASKS

3. **General.** The force in place continues with its task until relieved. Normally the moving force is given the same task and area of responsibility and, initially at least, it adopts a similar deployment.
4. **Fire Support.** The force in place provides fire support for the moving force. The moving force assumes the fire plan of the force in place so that the enemy is not alerted to the fact that the operation is taking place. In many cases the artillery supporting the force in place will remain to support the moving force.
5. **Air Defence.** Because the concentration of forces creates a lucrative target, commanders may have to temporarily readjust their AD deployment or ask for additional resources to provide better coverage, especially at defiles along important routes.

PLANNING

6. **General.** The CO is told the time by which a relief in place is to be completed. Brigade assigns report lines, routes, assembly areas, and details of additional resources available to assist with traffic control. It also arranges for reconnaissance, liaison, deception, movement of advance parties, and signals, including emission control, and the coordination of fire support, airspace control, air defence, and combat service support (CSS). In coordinating CSS, Brigade states the policy for the handover of combat supplies and equipment.
7. **Factors.** When planning a relief in place the major factors to be considered are security, timings, sequence, and the allocation of routes and areas.

8. **Security.** The intention to conduct the operation should be concealed from the enemy. Preferably it should take place during a period of reduced visibility, ideally darkness. It may be necessary to use smoke, perhaps in several locations, to confuse the enemy as to the existence of or the actual location of the relief. Deceptive measures include the continuation of normal patterns of activity, such as fire support, patrolling, vehicle movement, employment of surveillance devices and radio traffic. Other security measures include: restricting the size and movement of advance parties; using only the vehicles of the force in place as far as possible; and restricting the use of radio by the moving force until the operation is completed.

9. **Timings.** The CO or squadron commander is told the time by which the relief is to be completed. He should consider: his current task; his subsequent tasks; distances involved; nature of the terrain; enemy action; and time and resources available. Consideration of these factors lead to deductions concerning: ceasing current task, dispatching reconnaissance, plan for movement and sequence of relief.

10. **Sequence.** The sequence of the operation depends on the time available and anticipated enemy action. It may take place simultaneously throughout the sector or, it may be staggered with regard to time and location. In the former situation, a shorter time is required, but the readiness of the defence is reduced and the enemy is more likely to detect movement.

11. **Allocation of Areas and Routes.** Assembly areas and waiting areas are designated. The moving force uses as many routes as practicable while moving to the location of the force in place. If possible, separate routes are allocated to the two forces to avoid confusion and provide security.

CONDUCT

12. **The Moving Force.** Actions of the moving force include the following:
- a. early liaison is established with the force in place;
 - b. reconnaissance is done in as much detail and at as many levels of command as possible;
 - c. advance parties are deployed;
 - d. plans are prepared in conjunction with the force in place;
 - e. orders are prepared and delivered, and troops are briefed;
 - f. elements move from assembly areas along designated routes to contact points to meet guides from the force in place;
 - g. elements are guided through regimental and squadron control points to troop Rvs where they are met by representatives of the advance party, briefed, and directed to their location; and
 - h. troops occupy their defensive positions, take over stores, equipment, and

barriers and assume their new tasks, including patrolling and surveillance responsibilities.

13. **The Force in Place.** Activities of the force in place include the following:
- a. advance parties of the moving force are briefed;
 - b. plans for the subsequent task and those to support the moving force are prepared or adjusted;
 - c. orders are prepared and delivered, and troops are briefed;
 - d. elements of the moving force are guided forward from contact points through control points to Rvs;
 - e. responsibilities are handed over in defensive positions; and
 - f. elements of the force in place move through Rvs and regimental control points to assembly areas and prepare for their next task.

COMMAND AND CONTROL

14. **General.** The commander of the force in place is responsible for the defence of his sector until responsibility is transferred to the commander of the moving force. He takes command of elements of the moving force as they take over their sectors. Before the operation begins the time at, or circumstances under which command changes is determined by the two commanders, unless directed otherwise by the superior commander. Normally command changes when forward elements of the moving force have assumed responsibility for their sectors and, the commander of the moving force has sufficient communications to exercise control over the entire sector. Both commanders should be collocated throughout the operation. Following the transfer of responsibility, the new commander assumes command of all elements of the outgoing force which have not been relieved. The change of command is reported to the superior commander.

15. **Co-ordination.** The two commanders co-ordinate: the sequence of relief, arrangements for briefings, handover of intelligence, operation orders, plans and barriers, defence stores and combat supplies, and control measures.

16. **Communications.** Communication links remain unaltered for the duration of the relief. The moving force is on radio silence for as long as possible.

17. **Control Measures.** The normal control measures such as boundaries, report lines, assembly and waiting areas, routes and fire support co-ordination, check points and RVs apply.

ADMINISTRATIVE SUPPORT

18. Administrative elements of the force in place should be withdrawn as early as practicable. Generally the moving force takes over bulk supplies and defence stores.

SECTION 12

FORWARD PASSAGE OF LINES

GENERAL

1. in a forward passage of lines, a moving force passes through a force in place which is in contact with the enemy.
2. This section should be read with Section 11, as many parts of this operation are similar or identical to a relief in place. The cross referencing will assist the reader.

FORCES AND TASKS

3. **General.** The moving force is grouped to conduct the subsequent force in place should adjust its disposition to facilitate and support the passage of lines. Usually it is also tasked to secure the line of departure.
4. **Fire Support.** The force in place provides fire support for the moving force.
5. **Other Support.** Also see Section 11, paragraph 4.

PLANNING

6. The Brigade Commander provides direction as in Section 11, paragraph 6. If there is to be an attack he designates H-hour and the line of departure for the moving force. He specifies the extent of support to be provided by the force in place and, its subsequent task. Command relationships and specific reconnaissance requirements are also indicated.
7. The plans of the commander of the moving force take priority over those of the commander of the force in place. The commander of the moving force takes advantage of the security provided by the force in place to deploy his force. The move from assembly area, through attack position and the force in place, and across the line of departure is planned as a single fluid movement in order to avoid congestion.

CONDUCT

8. **The Moving Force.** The moving force follows the sequence of activities indicated in Section 11, paragraph 12, subparagraphs a. to e. Troops then move from the assembly area through the force in place, cross the line of departure, which normally is located immediately forward of the force in place, and proceed with their task.
9. **The Force in Place.** The force in place follows the sequence of activities outlined in Section 11, paragraph 13, subparagraphs a. to c. It secures the line of departure and provides fire support for the moving force until its fire is masked or no longer required. Following a successful passage of lines, it proceeds with its new task.

COMMAND

10. The brigade commander maintains overall command of the operation. Normally the commander of the moving force assumes responsibility for the conduct of operations beyond the line of departure at the time the attack begins.
11. Co-ordination requirements are similar to those stated in Section 11, paragraph 14.

ADMINISTRATION

12. The moving force is replenished prior to the operation. The force in place should provide assistance with casualty evacuation and vehicle recovery. It may also assist with prisoner of war evacuation.

SECTION 13

REARWARD PASSAGE OF LINES

GENERAL

1. In a rearward passage of lines, a force, which is moving to the rear in contact with the enemy, passes through a force which is occupying a defensive position.
2. This section should be read with the preceding two sections, as many aspects of this operation are similar or identical to a relief in place or a forward passage of lines and, they are not repeated here in the interest of brevity. Cross referencing will assist the reader.

FORCES AND TASKS

3. **General.** The moving force prepares for disengagement and attempts to make a clean break from the enemy. The force in place deploys so that it can carry out its task when it assumes responsibility for the continuation of operations. Additionally, it facilitates the disengagement of the moving force.
4. **Fire Support.** For details, see Section 11, paragraph 4.
5. **Other Support.** For details, see Section 11, paragraph 3.

PLANNING

6. The Brigade Commander provides direction as outlined in Section 11, paragraph 6. In addition, he designates routes for the moving force, the handover line and the location where the moving force will assemble or deploys.
7. Generally planning follows the provisions of Section 11, paragraph 6. To reduce the congestion of forces, the sequence of the operation allows for the early redeployment of elements not essential to the immediate operation. The moving force has priority on designated routes, providing that this does not prejudice the defence by the force in place. Routes should not be through defensive positions.

CONDUCT

8. **The Moving Force.** The moving force follows the sequence of activities indicated in Section 11, paragraph 12 subparagraphs a. to e. It establishes control points at the point of passage and at reserved demolition targets, to identify elements as they pass through and to indicate which elements are yet to come. Non-essential elements are moved rearward to an assembly area early. The moving force then conducts a delaying action back towards the handover line, disengages from the enemy, and attempts to make a clean break. The movement across the handover line is made without interruption. The moving force then proceeds to its assigned location and, assembles or deploys in preparation for its next task.

9. **The Force in Place.** The force in place follows the sequence of activities indicated in Section 11, paragraph 13 subparagraphs a. to c. It ensures that its elements in location at the handover line are strong enough to conduct a temporary defence until the rearward passage of lines is completed. It gives fire and other support to the moving force to assist its disengagement. Once responsibility is transferred, it assumes responsibility for the continuation of operations.

COMMAND AND CONTROL

10. **General.** The movement control plan is usually the responsibility of the force in place. Normally the actual time of transfer of responsibility is agreed to between the two commanders executing the operation. This is done most effectively if they are collocated. As the operation progresses, subordinate commanders may also be collocated. The commander of the force in place reports the change of responsibility. The commander of the moving force reports when all of his elements have completed the passage of lines.

11. **Control Measures.** Normal control measures apply, however, certain measures require special consideration:

- a. **Handover Line.** A handover line is designated by brigade to indicate where the commander of the force in place will assume responsibility for operations. This line should have the following characteristics -
 - 1) be forward of the terrain where the enemy can first engage the main defensive position with observed fire;
 - 2) be situated so that crossings and defiles used by the moving force can be protected;
 - 3) be in an area which can be defended, at least temporarily; and
 - 4) be easily recognizable on the ground. The area behind the handover line should contain good lateral routes to permit the use of alternate entry points.
- b. **Boundaries and Points of Passage.** Control is simplified if boundaries for both forces coincide. Points of passage through the defensive position should be kept to a minimum.
- c. **Reserved Demolition Targets.** The authorized commander controls the firing of reserved demolitions so he can conduct the operation under the most advantageous conditions. In the early stages, he is likely to retain authority to fire; in the latter stages, he may delegate authority to subordinate commanders. If the demolition is fired too early, he risks losing parts of the moving force or the force in place. If it is fired too late, the obstacle may not impose the desired delay on the enemy and the demolition guard and firing party may be captured.
- d. **Recognition Signals.** A detailed recognition plan is agreed to by both commanders. Liaison detachments from the moving force with the force in place eases the problem of recognition.

ADMINISTRATION

12. Before the operation, casualties, non-essential vehicles, equipment and supplies are evacuated so that routes are clear for the movement of the main body. The moving force may turn over fuel and ammunition to the force in place.

SECTION 14

HASTY BREACHING

GENERAL

1. Hasty breaching is the rapid creation of a route through a minefield by any expedient method. It takes place from the line of march, with little preparation, using resources available within the regiment. It is conducted against undefended or lightly defended minefields.
2. Mine rollers and mine ploughs attached to main battle tanks (MBTs), simply referred to as rollers and ploughs, are the principal resources available within the regiment for conducting hasty breaching. The use of the tank dozer to clear surface laid mines is only feasible on flat ground and, because the blade cannot be angled to throw the accumulated mines to the side, for short distances. Clearing a minefield lane by "bulling" is only appropriate when a commander is prepared to accept casualties.

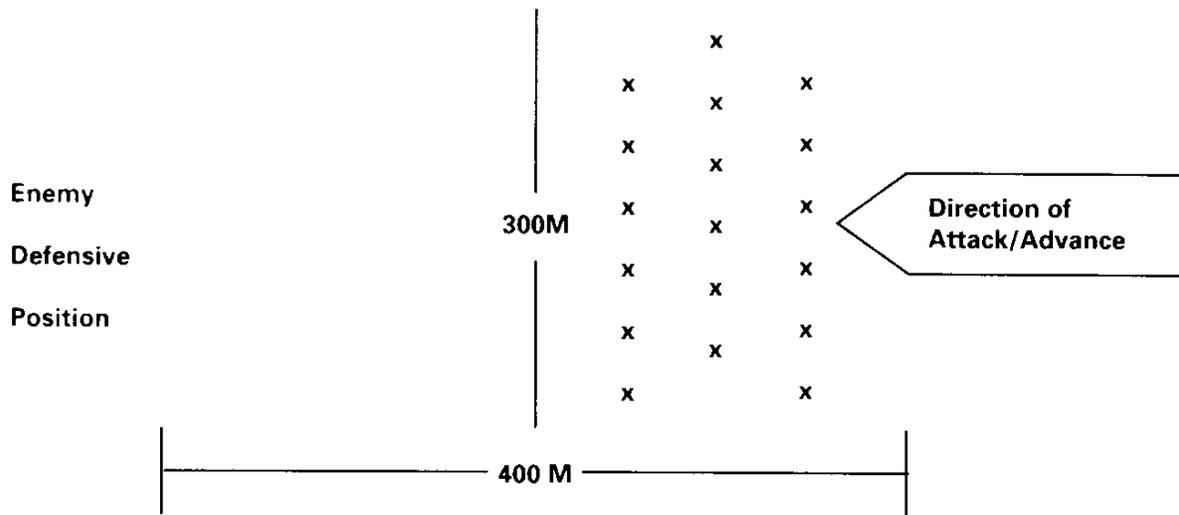
THREAT

3. Enemy doctrine emphasizes:
 - a. laying a large number of anti-tank mines in a relatively short period of time;
 - b. using mines, particularly scatterable mines, in offensive operations to secure flanks, block counter-attacking forces and cut off withdrawing forces;
 - c. using mines in defensive operations to block an attacker and canalize him into Killing Zones, inflicting casualties and separating his armour from his infantry; and
 - d. a heavy reliance on pressure fuzed mines laid on the surface in simple patterns, using mechanical mine laying equipment.
4. There are two types of enemy minefields, deliberate and nuisance:
 - a. **Deliberate Minefields.** Deliberate minefields consist of one or more belts, each laid in a regular pattern, providing an overall density of one mine per metre of front. These minefields are usually buried, blended into other natural and artificial obstacles and covered by fire. Bypassing may be difficult or impossible and a coordinated brigade or division effort, a deliberate breaching, is normally required.

- b. **Nuisance Minefields.** Nuisance minefields have no specific pattern or density. They are laid mechanically or by hand and mines are buried or on the surface. Scatterable mines may be delivered by aircraft or artillery and may be encountered anywhere. Bypassing may be possible and the minefields may or may not be covered by fire. A typical enemy nuisance minefield is the 300 metre long minefield consisting of three, four or five rows and providing a density of approximately .6 mines per metre of front. Figure 5-8 illustrates a typical enemy nuisance minefield.

PLOUGH AND ROLLER SYSTEM

5. The plough is the primary breaching device. It forces buried mines to the surface and discards them to the outside of the furrows. It also detonates tilt-rod fuzed mines between the furrows. Lanes breached by the plough are easily identified.
6. The purpose of the roller is to detect mines and to prove the breached lanes. It detonates pressure fuzed mines under the rollers in front of the tank's tracks and tilt-rod fuzed mines across the width of the tank. The roller proves and marks the land breached by the plough. In the absence of a plough, the roller may be used to breach a lane. A cleared lane marking system is attached to a tank on which a roller is mounted.
7. The most effective method of clearing a lane is the employment of the plough and roller in combination. The speed of the plough when breaching is 5 - 10 kph depending upon the terrain. The maximum speed at which the roller is effective is 16 Kph.
8. All MBTs are equipped with the special fittings required to attach the plough and roller.



- Notes:**
1. three, four, or five rows.
 2. five – five point five M between mines.
 3. 10-40 M between rows.
 4. Between 60-100 mines per 100 M frontage.

Figure 5-8 Typical Enemy Nuisance Minefield

9. There are two rollers and four ploughs in each tank squadron. Ploughs are attached to one tank per troop. Rollers are mounted on other tanks in the troop when required. Rollers are not attached to SHQ tanks. When not attached, rollers are transported in A Echelon.

PLANNING

10. The rollers are attached when ordered or prior to an operation, when a hasty breaching is likely. There is no time for delivery from A echelon nor time for attaching the rollers after a minefield is encountered. As much as possible breaching assets should be grouped and used so as to maintain troop integrity.

11. The OC must be prepared to regroup his tanks and breaching devices. If he has formed two breaching troops, he may employ the two remaining ploughs as a reserve to replace those in the breaching troops, or he may employ them to create one or more additional lanes which may be subsequently proved.

12. Normal command arrangements are maintained. Troop leaders are tasked to clear lanes and to provide covering fire.

13. When the roller is employed, it leads by at least 100 metres, as it is possible that it may not detect mines until it is almost through a nuisance minefield.

14. If a minefield is encountered and rollers have not been attached, the OC has to clear one or more lanes using ploughs only. Where possible a lane is chosen that takes advantage of cover and concealment.

15. A squadron should attempt to breach two lanes simultaneously a minimum of 300 m apart. If a lane becomes blocked there must be an SOP to direct following vehicles to by-pass on the left or right.

16. The length of the lane to be cleared depends upon the terrain or the depth of the minefield. If mines are encountered in a defile, it may be necessary to clear a lane the entire length of the defile. If surface mines are encountered, it may be possible to determine the extent of the minefield. Breaching is conducted from fire position to fire position and it commences at least 100 metres from a detonated mine and ends at least 100 metres beyond the last detonation. Once the plough completes the lane, the roller proves it.

17. Cleared lanes are marked or guides are left. Guides may be available from the crews of disabled tanks or from A echelon. The OC makes arrangements to replace these squadron personnel as soon as possible.

18. If a minefield is covered by fire, the OC directs covering fire during the breaching. Smoke may be required. He should request indirect fire support.

TROOP HASTY MINE DRILL

19. If a mine is detonated by any tank in the squadron the crew commander or another crew commander reports it by radio. The troop leader will order tanks into supporting fire positions and deploy his mine plough in an attempt to conduct a hasty breach and maintain the momentum of the advance. The OC will decide if a more deliberate breaching operation is required and will report to RHQ.

20. The OC does a reconnaissance, makes his plan and issues radio orders detailing:

- a. the lanes to be cleared and by who;
- b. the lanes to be proved;
- c. the fire support, including smoke, to be provided, and by who;
- d. additional fire support to be provided;
- e. how lanes are to be marked or who will provide guides;
- f. what bound to be secured when clearing is completed; and
- g. movement of the remainder of the squadron through the lanes.

21. The OC informs RHQ during the conduct of the breaching and when the hasty breaching is completed.

SECTION 15

COVERING FORCES

COVERING FORCES

1. **General.** A covering force is a force which operates apart from the main force for the purpose of intercepting, engaging, delaying, disorganizing and deceiving the enemy before he can attack the force covered. Covering forces are used in the front, rear and on the flank, and normally consist of:

a. screens, or

b. guards.

2. **Screen.** A screen is a security element that observes, identifies, and reports, and fights only in self-defence.

3. **Guard.** A guard is a security force that protects the main force by fighting to gain time, while also observing and reporting.

4. **Application.** Tank forces may provide the guard or elements of the guard for a formation covering force. If providing the entire covering force, screen elements may be placed under command.

SECTION 16

FIRE PLANNING

GENERAL

1. The planning is the process of planning the fire of available weapons to assist in achieving the mission.
2. Fire plans are classified as either offensive or defensive. Each type may be either quick or deliberate which usually indicates the level of command at which the fire plan is prepared. Quick fire plans, either offensive or defensive, are usually prepared at the battle group level and below. Deliberate fire plans are normally prepared at brigade and higher levels.

FIRE PLANNING RESPONSIBILITIES

3. Responsibility for the fire plan rests with the tactical commander.
4. An artillery officer assigned to advise and assist the tactical commander is responsible for:
 - a. keeping the tactical commander informed of the capabilities of all fire support resources available;
 - b. preparing orders and instructions on behalf of the tactical commander for the implementation of the fire plan; and
 - c. as delegated, issuing orders for the execution of a fire plan on behalf of the tactical commander.
5. The artillery officer is normally the commander of the field artillery battery allotted in direct support of the regiment. Forward observation officers (FCO) from this battery are usually assigned as advisors to squadron commanders. Artillery advisors are kept informed of the tactical situation and other developments as they occur. They should be included in all tactical planning from the outset and should normally accompany the tactical commander on his reconnaissance.

FUNDAMENTALS OF FIRE PLANNING

6. **Co-operation.** Close co-operation between tactical commanders and fire support elements implies a reciprocal understanding of each other's capabilities and limitations so that the former may be knowingly exploited and the effects of the latter minimized. It demands the timely passage of information regarding current intentions and availability of firepower to support those intentions.

7. **Concentration of Fire.** In any situation there will probably be more worthwhile targets than can be effectively engaged at one time. Tactical commanders should avoid the temptation of planning the simultaneous engagement of multiple targets. Fire support is much more effective if it is concentrated in time and space. Important targets should ideally be dealt with one at a time using all available weapons.
8. **Flexibility.** The plan must be flexible to enable alterations to be made rapidly thus allowing for unforeseen situations. Superimposing and concentrating artillery fire allows tactical commanders to lift some but not all fire from a planned engagement to deal with a surprise threat. Maintaining a reserve of ammunition contributes to flexibility.
9. **Simplicity.** Ease and speed of preparation, understanding and execution require fire plans be simple. Fire plans become complex if multiple simultaneous engagements are undertaken because of strict timings, non standard procedures or munitions. If a fire plan cannot be kept simple then additional time is needed to prepare it.
10. **Surprise.** Fire is most effective if it is delivered with little or no warning. Fire planners should avoid adjusting fire particularly in large target areas where a slight inaccuracy is tolerable.

ALLOTMENT OF ARTILLERY FIRE SUPPORT

11. **General.** This is the method of placing field artillery fire power at the disposal of a unit or formation without having the actual artillery unit(s) under command of the manoeuvre unit or formation. Field artillery fire support is allotted to supported units or formations as follows:
 - a. in direct support,
 - b. at priority call, or
 - c. in support.
12. **In Direct Support.** A field artillery unit in direct support provides liaison, observation and artillery communications to the manoeuvre unit.
13. **At Priority Call.** A field artillery fire unit at priority call to a manoeuvre unit provides fire support on call and ahead of other lower priority targets. Liaison, observation and communications are not usually provided and such support to control fire is provided by the manoeuvre unit.
14. **In Support.** A field artillery unit provides fire support to the manoeuvre unit but not necessarily as its top priority. Although guaranteed fire is not implied, the degree of assurance that fire will be provided when requested is such that the fire planner may plan on it.

FIRE PLANNING PROCESS

15. Early in the formulation of this plan the tactical commander should consult with his artillery advisor and prepare the fire plan.

16. The artillery advisor synchronizes the tactical plan and the outline fire plan and recommends changes as required. In more detail the artillery advisor confirms the following with tactical commander:

- a. the employment of all fire support weapons which may include direct fire weapons, artillery, close air support, mortars, naval gunfire and armed helicopters;
- b. precise target areas, target numbers and nicknames;
- c. timings including H-hour if applicable;
- d. employment of special munitions such as smoke;
- e. deployment and allocation of observers;
- f. authority and plans for modifying the plan should the need arise;
- g. signals and control measures; and
- h. adjustment for accurate fire and the need for surprise.

DEFENSIVE FIRE (DF) PLANNING

17. **General.** Planned targets in a defensive fire plan are usually of two types:

- a. a close DF, including FPF; and
- b. DF in depth.

18. **Close DF.** This is to break up the enemy's assault while it is forming up, on the line of departure or during the assault. The total number of close DF targets is not more than three per sub-unit battle position.

19. **FPF.** One or more close DF targets may be designated, usually by the regimental commander, as being so critical that immediate response to a call for fire is warranted. Guns are loaded and trained at all times when not engaged on other tasks.

20. **DF in Depth.** Planned targets aimed at disrupting attack preparations, striking reserves and command and control systems are usually referred to as DF in depth. The selection of such targets is usually made by a formation commander.

OFFENSIVE FIRE PLANNING

21. **General.** The aim of an offensive fire plan is to destroy or neutralize the enemy before and during an attack.

CONTINUOUS FIRE SUPPORT

22. During advance to contact, delay or withdrawal operations a fire plan providing continuous fire support throughout the move is prepared. The plan consists of planned on call targets along the intended route or axis. Selection of targets is based on known or suspected enemy positions. These targets are not, for security and safety reasons, used as reference points or for reporting locations.

PLANNING THE EMPLOYMENT OF SMOKE

23. If the tactical commander intends to employ smoke, he gives the following details to the artillery advisor:

- a. the area or enemy position to be blinded;
- b. the area or friendly position to be screened;
- c. when the screen is to be effective;
- d. an estimate of how long the screen is needed;
- e. whether the needs of surprise allow the employment of smoke testers before the screen is fired; and
- f. action if smoke is ineffective.

SECTION 17

COUNTER-AMBUSH ACTION FOR VEHICLE CONVOYS

GENERAL

1. This section deals with the precautions taken before contact, the action taken when a convoy is ambushed, and the drill for dealing with road blocks.

ACTION BEFORE CONTACT

2. **Preparation of Vehicles.** Prior to moving, vehicle floors are sand bagged against the effects of mines. Any parts of the vehicle superstructure which could prevent the crew from firing, throwing grenades or dismounting quickly are removed. If available, bolt-on armour is added to vehicles.

3. **Weapon Distribution.** Automatic weapons, grenades and rocket launchers are distributed throughout the convoy. Vehicle crews are briefed on the effects of firing weapons from inside vehicles, for example rocket launcher backblast.

4. **Sentries.** Vehicle crew members are assigned arcs of observation, ensuring that the threat of both ground and air attack are considered.

5. **Armoured Vehicles.** Armoured vehicles either attached to or forming part of the convoy are spread throughout the convoy to provide fire support to any counter ambush operation.

6. **Convoy Commander.** The convoy commander positions himself where he considers he can best control the convoy. He designates a commander for each vehicle and briefs them thoroughly before moving. He always nominates a successor.

7. **Briefing.** The convoy commander briefs all vehicle commander and as many other crew members as possible before moving. The briefing includes:

- a. detail of timings, routes, speed density, order or march, maintenance of contact, procedure when contact is lost and action on break down;
- b. distribution of personnel to vehicles and their responsibilities; and
- c. appointment of vehicle commanders, sentries and details of action on ambush.

8. **Rehearsal.** Whenever possible, counter-ambush drills are rehearsed prior to moving.

9. **Security.** Movement by road should never become routine. Telephone and radio communications are not necessarily secure, and codes and veiled speech are used when discussing future convoys.

10. **Routes.** If possible, likely ambush sites such as defiles and heavily wooded areas are avoided when selecting routes.

COUNTER-AMBUSH DRILLS

11. If attacked by snipers, the convoy continues moving, returning fire if the enemy has been located.
12. When a convoy is ambushed, it attempts to keep moving while returning fire. If the convoy is forced to stop, armoured vehicle crews remain mounted and return fire. Crews of soft skinned vehicles dismount, take cover, and return fire. The convoy continues its move as soon as possible.
13. If a packet of the convoy is ambushed but can continue to move, packets behind it keep moving but detour to avoid the ambush site.
14. If a packet is ambushed and halted, packets behind halt under cover. If armoured vehicles are available, the senior commander present organizes them to go to the relief of the ambushed packet. If there are no armoured vehicles, the senior commander organizes the vehicle crews with all available automatic weapons, grenades and rocket launchers, leaves a small guard on the vehicles, and attacks the enemy position.

ROAD BLOCK DRILL

15. Road blocks are often used by the enemy to stop convoys prior to an ambush. They are usually sited so that they cannot be detected until the leading vehicle is on top of it. Road blocks may take the form of fallen trees, boulders, wire obstacles, craters, or mines. Some road blocks such as fallen trees occur naturally, however all obstacles are regarded with suspicion until they are cleared.
16. The drill for road blocks is:
 - a. lead vehicle stops immediately on encountering the road block;
 - b. if firing does not break out, a crew member is sent back to halt the following vehicles to prevent bunching-up and to report the obstacle;
 - c. personnel from the leading vehicles search the ground around the road block;
 - d. automatic weapons and rocket launchers are dismounted to provide fire support in case of an ambush;
 - e. if an armoured vehicle is present it moves forward to cover the road block from a covered fire position; and
 - f. when the ground has been cleared, either the obstacle is removed or a bypass route is found and the convoy continues moving.
17. If the convoy is attacked while conducting a road block drill then its action is the same as for a normal vehicle ambush.

ANNEX A, CHAPTER 5

GRADUATED LEVELS OF NBC THREAT AND NORMAL PROTECTION

Serial	NBC Threat	NBC Threat Level (1)	Normal Protection Required		
			Chem/Bio (Individual)	Nuclear (Individual)	NBC (Collective)
(a)	(b)	(c)	(d)	(e)	(f)
1	The enemy has an offensive NBC capability but there is no indication of it use in the immediate future.	LOW	All personnel carry their personal equipment or have it readily available.		Make regular checks that all collective protection components are complete and serviceable.
2	Nuclear weapons or chemical/biological weapons have been used in another area of operations and/or there are strong indications that the enemy will use these weapons in the immediate future.	MEDIUM	Body protection worn, less over-boots and gloves; masks chem/bio carried (2a & b).	Low level applies.	Test static collective protection systems. Mobile units earmark locations for the installation of collective protection shelters and erect them if the tactical situation permits. Personnel equipments to be kept under cover as much as possible to protect them for liquid contamination or radioactive fallout.
3	Nuclear attack or chemical/biological attack is imminent.	HIGH	Increase protection level as necessary to achieve full body protection (2a).	Low level applies. Eye protection as required appropriate.	Put collective systems into a state of readiness including those of combat vehicles and, wherever tactically possible, collective protection shelters belonging to mobile units.

Notes: (1) The threat level to a particular area will be decided by the appropriate commander in accordance with NATO or national instructions.

(2) These normal levels of individual protection may be:

- a. Reduced if warranted by special conditions (ie, personnel inside collective protection and/or commanders assess the risk of chem/bio casualties is outweighed by benefits or reduced individual protective equipment).
- b. Increased if local conditions demand a higher degree of protection.

ANNEX B, CHAPTER 5

**EMERGENCY ALARMS OF HAZARD OR ATTACK (NBC AND AIR ATTACK ONLY)
(STANAG 2047 AND QSTAG 183)**

Serial	Type of Hazard/Attack	Visual Alarm	Sound Alarm
1	Imminent air attack	RED	(1) Unbroken warbling SIREN sound for one minute. (2) Succession of long blasts on whistles or bugles (approximately three seconds on and one second off). (3) Series of continuous long blasts on vehicle horn. (4) Vocal: "Air Attack"
2	Warning of imminent arrival of, or presence of NBC hazards.	BLACK Donning mask, chemical, biological and taking protective measures followed by locally prescribed hand signals. A BLACK visual signal is not practiced at night and must be replaced by audible alarm signal.	(1) Rapid and continuous beating of metal on metal. (2) Succession of very short vehicle horn blasts (approximately one second on, one second off). (3) Interrupted warbling sound on a siren. (4) Automatic NBC alarms complement the devices referred to above.
3	All clear.	Removal of previous visual alarm signals.	(1) Vocal: "ALL CLEAR" by voice, telephone, radio, etc. (2) Steady siren for one minute. (3) Sustained blast on vehicle horn, whistle, bugle, etc.
Notes: (1) No reference is made to ground attack in order to reduce to the minimum the numbers of signals. Signals for ground attack remain the commander's prerogative.			

- (2) Visual alarm signals are usually more appropriate to rear area installations.
- (3) The US Army does not use the Red Visual Warning Signal for Imminent Air attack.
- (4) The US Army does not use the black visible warning signal to mark the presence of chemical or biological agents or radiological hazards. The triangular flag used by the Army to mark nuclear contamination areas is white. The flags for chemical and biological contaminated areas are yellow and blue respectively.
- (5) The US Army uses "rapid and continuous beating on metal or other object" versus "a radio of 1:1; approximately 1 second on and 1 second off" as an Audible Alarm Signal.

CHAPTER 6
OFFENSIVE OPERATIONS

SECTION 1
INTRODUCTION

GENERAL

1. Ultimate victory in battle can only be achieved through offensive operations. Offensive operations include the advance to contact, the attack and the pursuit.
2. A commander undertaking offensive operations possesses the initiative, because he decides the location, time, direction and weight of combat power to be concentrated. His purpose may be one or more of the following:
 - a. destroy, erode or repulse enemy forces;
 - b. recapture or gain ground;
 - c. seek information;
 - d. deprive the enemy of his resources;
 - e. fix an enemy in place to prevent him from moving to reinforce another force; and
 - f. divert the enemy's attention from other areas or activities.
3. Offensive operations may occur in sequence or they may be separate operations. For example, a force may conduct an attack without being involved in either an advance to contact or a pursuit. As well, a force may conduct an offensive operation with forces executing other types of operations.
4. The tank regiment, because of its inherent characteristics, is ideally suited for offensive operations. By employing his regiment boldly, a commanding officer (CO) can concentrate superior force at a critical time and place and exploit this success.
5. The principles of war that affect offensive operations the most are:
 - a. Selection and maintenance of the aim;
 - b. Offensive action;
 - c. Concentration of force; and

d. Surprise.

6. Selection and Maintenance of the Aim is the key to success in offensive operations. Every plan or action must be tested by its bearing on the chosen aim and then executed to achieve that aim.

7. Offensive Action aims at defeating the enemy's will to resist. This means using manoeuvre, speed, and initiative. By wresting the initiative from the enemy, one acquires freedom of action and a distinct psychological advantage. The CO must maintain constant pressure, and be prepared to exploit penetration.

8. To achieve concentration of force the CO tries to concentrate combat power superior to that of the enemy at a decisive time and place. Concentration not only implies massing of forces but also massing of fire power. The ability to concentrate is dependent upon movement, flexibility and communications.

9. Surprise can create success out of all proportion to the size of the force used. Its elements are secrecy, concealment, deception, originality, audacity and speed.

FORMS OF MANOEUVRE

10. **General.** Offensive operations may be directed against the front, flank or rear of the enemy. Normally the point of main effort is placed where the enemy is weakest or where the terrain offers possibilities of breaking deep into his defensive area. The forms of manoeuvre are frontal, penetration, envelopment and turning movement. At regimental level and below the most common forms of manoeuvre are frontal and envelopment.

11. **Frontal.** In this form of manoeuvre, the main effort is directed against the front of an enemy position. It can be effective against a weak, disorganized enemy, and it may be used to overrun and destroy him or to fix him in position. It is often required to support a penetration or envelopment. Unless supported by a heavy weight of fire, it may not be successful and, even if successful, it may result in an unnecessarily high number of casualties.

12. **Penetration.** A penetration seeks to break through the enemy's main defensive area and seize objectives in depth, thus destroying the continuity of his defence. The main effort is made on a relatively narrow front. Successful penetration requires the concentration of superior combat power at the point selected for breaking into the enemy's defences. The concentration must be such that the force can break through quickly, widen and secure the breach, and maintain momentum while seizing the deep objectives. It is a suitable form of manoeuvre when strong combat forces are available and the enemy is over-extended or his flanks are firmly secured.

13. **Envelopment.** Envelopment includes flank attacks and attacks against the enemy's rear. In an envelopment, a force passes around one side, both sides or over the enemy's main defensive positions to secure objectives within direct fire range of the rear of his positions. This action leads to his destruction or makes his defence untenable. A force conducting an envelopment avoids the enemy's main strength en route to the objective. That force must have good mobility, be deployed in depth and have secure flanks.

14. **Turning Movement.** In a turning movement, a force passes around the enemy's main defensive positions to secure objectives deep in his rear beyond the range of his direct fire. The force attempts to avoid contact with the enemy en route to its objective. This compels him to abandon his position or divert major forces to meet the threat.

SECTION 2

ADVANCE TO CONTACT

GENERAL

1. The purpose of the advance to contact is to gain or re-establish contact with the enemy under favourable conditions. The advance is the prelude to a subsequent operation; either the destruction of the enemy or the seizure of key terrain in support of subsequent operations. In either case the mission is stated in terms of securing terrain objectives.

CONCEPT

2. An advance to contact is led by a covering force which seeks to define enemy strength and locations and prevent unnecessary delay of the main body. Forward elements maintain momentum by bypassing pockets of resistance and leaving them for follow-up elements. The formation commander seeks to find and exploit weak points in the enemy defence, to surprise him and to keep him off balance. An advance to contact ends when the enemy resistance has increased to the point where the deployment and coordinated effort of the entire formation is required.

CONDUCT OF THE ADVANCE TO CONTACT BY FORMATIONS

3. **Force Organization.** A formation is organized with one or more advance guards, a main body and protective elements. A covering force may be provided by the superior commander or the commander of the formation conducting the operation. Only one covering force is deployed, eg, if a corps deploys a covering force, its subordinate formations do not.

4. **Action by the Covering Force.** The covering force advances on a wide front. Reconnaissance elements screen to the front or flanks depending on the enemy threat. The guard element of the covering force moves by bounds. On contact with the enemy, the covering force returns fire and either bypasses in accordance with the bypass policy or conducts a hasty attack. If the enemy is astride an axis and is bypassed, it must be picketed until handed over to the advance guard. Reconnaissance continues to probe forward and to the flanks to find gaps in the enemy's deployment.

5. **Action by the Advance Guard.** The distance between the covering force and advance guard must not be so great that enemy forces are able to interpose themselves undetected and hinder the conduct of the Advance to Contact nor so short that the advance guard interferes with the manoeuvre of the covering force. The advance guard moves astride the axis. Leading elements move by bounds on a wide front. Elements in depth move from waiting area to waiting area along the axis, or by bounds, depending on cover and anticipated or known enemy action. The rate of advance of the advance guard depends on the ground, enemy action, whether the axis must be cleared and the rate of movement of the covering force. Ideally, the advance guard should encounter only that enemy which has been reported by the covering force and which is picketed by one of its elements. In order to maintain momentum, it is preferable that the advance guard assumes the picket and bypasses the enemy leaving it to be destroyed by elements of the main body. If it is necessary to overcome the enemy, and providing the advance guard has sufficient combat power, it conducts a hasty attack.

6. **Action by the Main Body.** A commander must appreciate the time required by the advance guard to conduct its activities and not allow the main body to follow so closely that it is halted continually by actions of the advance guard. Neither can he allow it to fall so far behind that enemy forces can interpose themselves. The main body moves through successive waiting areas along the axes. On order, leading battle groups destroy enemy bypassed by the advance guard, take over its tasks, or defeat enemy attacks from the flanks. Battle groups in depth are prepared to reinforce leading elements or defeat enemy attacks from the flanks or rear.

7. **Action by Protective Elements.** Flank screens move on routes parallel to the axes. They occupy a series of observation posts (Ops) on the flanks. If the advance to contact is long, new Ops are established forward by troops from Ops in the rear when the latter are no longer required. The movement of the flank screen conforms to that of the main body, and no OP is abandoned until the main body has passed. Flank guards occupy delaying positions covering approaches, or remain centralized while prepared to occupy the positions. In a long advance to contact, new delaying positions are established forward in the same manner as Ops. Rear guards move by bounds, astride the axes, behind the main body.

TASKS FOR THE TANK REGIMENT IN THE ADVANCE TO CONTACT

8. If the brigade is providing the covering force for a large formation, the tank regiment may be tasked to provide the following:

- a. the basis of the covering force;
- b. the basis of the advance guard;
- c. one of the battle groups in the main body; and
- d. squadrons for protective elements (flank and rear guards).

9. If the brigade is conducting the advance to contact alone the tank regiment may be tasked to provide the following:

- a. the basis of the advance guard; and/or
- b. squadrons for the covering force protective elements and the main body.

10. The remainder of this section is written in the context of a regiment tasked as the advance guard of a brigade. The same planning and conduct apply to the covering force.

PLANNING THE ADVANCE

11. **Estimate of the Situation.** Analysis of his commander's concept of operations and his assigned tasks leads the CO to the definition of his aim. He must be clear as to whether the security of the main body or maintenance of momentum is paramount. Having determined his aim, the CO considers enemy, ground, meteorology, time and space and assessment of tasks. From the analysis of these factors the CO must make deductions concerning:

- a. plan for manoeuvre;
- b. objectives;
- c. bypass policy;
- d. fire plan;
- e. command and control; and
- f. communications.

12. **Plan for Manoeuvre.** The plan for manoeuvre will be greatly influenced by the task, the security and momentum required, the width of the regiment's zone of action and the number of routes it will use. An advance on one route creates a narrow front which facilitates control and concentrates force which may result in greater momentum. Advancing on one route may also permit the enemy to concentrate and impose greater delay. On the other hand, deployment over a broad front on two or more routes may force the enemy to disperse his resources. It may however, demand a more restrictive bypass policy for the lead squadrons because of the lack of depth troops to deal with bypassed enemy, and it may increase the requirement for flank security.

13. **Bypass Policy.** While the commander normally imposes a bypass policy, the CO must establish the policy for the lead squadrons. It should be as liberal as possible leaving bypassed enemy to be destroyed by the depth squadrons or other units. In general, a bypass policy depends on the degree to which bypassed enemy can interfere with the cohesiveness of the operation. A bypass policy must indicate the size of enemy force which may be bypassed, whether it is to be picketed by the lead or depth squadrons and must also detail responsibility for the subsequent destruction of bypassed enemy. The following points must be observed when bypassing:

- a. precise information on the location and size of the bypassed enemy must be passed to all concerned;
- b. the bypassed position must be kept under observation; and
- c. the bypassed position must not be able to seriously interfere with the following elements. This may necessitate positioning a guard element to ensure no interference occurs.

14. **Fire Plan.** The Brigade Commander's continuous fire support programme includes indirect fire on call on likely targets along the axis. These targets are used as the basis for covering or defensive fire tasks. During the operation, some guns are laid on targets immediately ahead and to the flanks of the advance guard to provide rapid response to requests for fire. The guns are adjusted automatically onto new targets as the advance to contact progresses and as they come within range. The CO may have to plan and request additional targets along his routes.

15. **Command and Control.** The CO must move well forward in his tank, behind the lead squadrons. He should not hesitate to move into a position where he can observe major contacts himself, for only then can he properly influence the battle. He controls the rate of advance by means of report lines, boundaries, waiting areas, and objectives.

16. **Communications.** Usually the emission control policy is limited to radio silence, as most electronic emitters, such as surveillance radars, target acquisition radars and laser designators, must continue to operate. Normally radio silence is imposed until first contact with the enemy. If it is then lifted for the entire force, control is simplified and the rate of advance may be quicker, however, surprise may be lost. If it is lifted for each element as they make contact, the reverse is true. In general, radio silence should not be lifted for the entire force until a commander is sure that the element of surprise is no longer a factor. While radio silence is in effect, line, dispatch riders and liaison detachments must be used. Information may also be passed at meetings at predetermined times and locations.

CONDUCT

17. **Lead Squadrons.** Lead squadrons move by bounds on as wide a front as possible. They must not interfere with the manoeuvre of the covering force but must follow close enough behind it so that it is not possible for an enemy force to interpose itself between the two groups undetected. Ideally lead squadrons should encounter only the enemy which has been reported and picketed by the covering force. In order to maintain momentum, it is preferable that lead squadrons bypass the enemy and leave it to depth squadrons to either attack or assume the picketting of the enemy. If the bypass policy does not permit this, lead squadrons conduct a hasty attack.

18. **Depth Squadrons.** Depth squadrons move from waiting area to waiting area, or by bounds, depending on the cover and anticipated or known enemy action. They are prepared to attack or assume the picket of any enemy that has been bypassed by lead squadrons. They are also prepared to take over the lead or to reinforce lead squadrons.

SECTION 3

ATTACK

GENERAL

1. An attack is launched to defeat the enemy and sometimes to seize ground. A tank squadron normally conducts an attack as part of a battle group operation, but it could be ordered to attack as a separate operation or it could attack on encountering the enemy. An attack may be necessary to allow us to conduct reconnaissance, to deceive the enemy, to relieve pressure on friendly forces, or to seize the initiative in a meeting engagement.

2. An attack is usually executed with maximum shock action and violence. This involves the coordinated participation of armour, infantry, artillery and other troops such as armoured engineers.

TYPES

3. Attacks may be described as either hasty or deliberate. The commander will decide the type of attack and issue the appropriate orders.

4. **Hasty Attack.** This type of attack is characterized by trading preparation time for speed. To maintain momentum or retain the initiative, minimum time is devoted to preparation; the tank commander uses those forces which are readily available. The tank commander seeks to take advantage of the enemy's lack of readiness or capability through a combination of boldness, surprise, and speed. A hasty attack is normally launched off the axis of advance and relies primarily on SOPs and drills.

5. **Deliberate Attack.** This type of attack is required against a well-prepared position. Deliberate attacks are characterized by the need to regroup and redeploy forces. This will take time which allows for other concurrent activities such as the collection of intelligence and other preparations for battle.

CONCEPT

6. A tank commander should achieve success if he isolates the objective, suppresses the enemy and concentrates his force at the critical time and place to destroy the enemy.

STAGES OF THE ATTACK

7. The three stages of an attack are mounting, assault, and consolidation. Although these stages are sequential, they are not separate. The mounting stage includes the preparation which occurs before H-hour. The assault stage begins as the assault element crosses the line of departure and then includes the breaking into the enemy defensive position, and fighting through the objective to destroy the enemy or cause his surrender. The consolidation stage involves the preparations to meet enemy counter-attacks or to undertake a new task. The consolidation stage may actually begin before the fighting through has finished. The activities during the stages of an attack are summarized in the following paragraphs 8 to 11.

8. **Mounting Stage.** The tank commander must consider the following activities during the mounting stage: the locating, defining and picketing of the enemy, preparations for battle, fire support, direct fire from a firebase, protection and security, and reserves.

- a. **Locating and Defining the Enemy.** The tank commander must utilize the reconnaissance assets available to him. It is vital that reconnaissance of the enemy position begin as soon as possible and continue throughout the assault. The tank commander must be responsive to information received after he has given his orders and must be prepared to alter his plan accordingly. A great deal of information can be provided by the tank troops in contact. The tank commander must strive to fix the enemy by first locating their weapons systems, trenches, and obstacles. The tank commander must then coordinate his direct and indirect fire to suppress any enemy who could otherwise influence our manoeuvre. In this way the tank commander can isolate the enemy position and choose the point of main effort.
- b. **Preparation for Battle.** Activities may include rehearsals, improving routes, preparing for the crossing or breaching of obstacles, moving to assembly areas, grouping, replenishing, firing preparatory fire, deploying, conducting a forward passage of lines or infiltrating. Battle procedure is conducted concurrently at all levels. Good SOPs and such things as well-practised marrying-up drills will allow a force to prepare more quickly than enemy expectations and may contribute to achieving surprise, It is also important for the tank commander to plan his ammunition requirements and to ensure that there will be adequate stocks available.
- c. **Indirect Fire.** Indirect fire is essential to achieve isolation of the objective and neutralization of the enemy. Field Artillery, mortars, naval gun fire, and close air support must be incorporated, as available.
- d. **Fire Base.** A fire base provides covering fire and security for the assault element. It is the norm to establish a fire base during the mounting stage but ground or the enemy's deployment may delay the forming of a fire base until a subsequent phase of the assault. A fire base should be sited to allow isolation of the objective, suppression of the enemy and the destruction of point targets. Any direct fire weapon systems, including ATGMs, APC cannons and HMGs can be employed in a fire base but tanks are best suited to the task. Subsequent tasks for the fire base are assigned once their fire is no longer effective or is masked by the assault element. It is preferable to site a fire base

at an angle to the axis of advance but this may not be possible if the proposed fire base is enfilade to the enemy. The fire base may have to be sited on ground that will allow it to fire over the heads of the assault element. Tanks in the fire base must take care not to endanger friendly dismounted troops with such consequences of fire as discarding sabot pots. If the enemy has adopted a reverse slope position, it may be difficult or impossible to establish a fire base. If this situation occurs, then the tank commander will have to use his indirect fire resource isolate and suppress was to I the enemy in coordination with the direct fire from the assault element on the move.

- e. **Protection and Security.** The tank commander must ensure the protection and security of his force through the attack. This includes passive and active defence measures such as camouflage, air defence, and EW. Some elements may have to be tasked to secure routes forward from the assembly area and the line of departure and to protect flanks. If tank squadron is conducting the assault as part of a battle group attack, it is likely that other elements will be tasked to provide flank protection, a fire base, and a secure line of departure.
- f. **Reserves.** The tank commander must assess the requirements for a reserve in relation to this combat power. The tank commander may have to task elements to be in reserve for a particular phase even if they have another task in a previous or subsequent phase. One example may be the tasking of the fire base to be the reserve following the break-in. The indirect fire plan should include a reserve of artillery and mortar ammunition.

9. **Assault Stage.** In this stage the assault element crosses the line of departure, breaks into the enemy defensive position, and fights through the objective to destroy the enemy. The tank squadron should expect obstacles even when they are not apparent. The break-in element must be grouped to be capable of commencing the fighting through. If it does not encounter an obstacle or is successful in breaching the obstacle quickly. The assault must be conducted with speed using the shock action the tanks can produce. Movement must be covered with fire. It is during the break-in that the isolation of the objective and suppression of the enemy are most important. The tank commander chooses his point of main effort and concentrates his force to achieve the breaking. It is at this point in the assault that troops are most exposed to the enemy's direct and indirect fire.

- a. **Break-in.** Assault elements will or should be prepared to use fire and movement from the line of departure to the actual fighting through. The element must be grouped and deployed to breach any obstacles encountered on the way to the objective because it may not be possible to confirm their exact location or types. Armoured engineer resources would be provided to the battle group to conduct deliberate breaches. Although the tanks possess the capability to conduct hasty minefield breaches, it remains primarily the task of the engineers to breach obstacles. Tanks may form a part of a breaching force and the tank commander may be designated commander for that task. The breaking element would consist of tanks, infantry, and engineer elements, with their FOOs and FCs. The infantry would remain mounted to make best use of the speed and protection of the APC, to benefit from indirect and direct fire and to achieve the concentration of force required on the objective at the critical time. If the infantry possesses a vehicle mounted weapon capable of

accurate sustained fire, then their APCs can be positioned to contribute their suppressive fire to the fire plan. If the APCs do not possess such a capability, then they can be positioned in cover ready to move forward quickly with the leading tanks as they emerge from the breaches. It is critical that tanks and infantry arrive on the objective together. A tank squadron has the breaching resources to attempt two breaches. Once through the obstacle, tanks will lead the infantry onto the objective. The tanks are vulnerable at this point and the infantry must arrive with them to commence the fighting through. The tank commander will designate tanks to suppress the infantry objectives while other tanks will be allocated arcs in depth.

- b. **Fighting Through.** This is the action by the infantry and their supporting elements to clear the objective. It includes killing or capturing the enemy and controlling the terrain. The infantry will attempt to dismount as close to the objective as possible to take advantage of the covering fire. The tank commander should utilize the offensive capability of the tanks which have four main tasks during this part of the battle: to lead the infantry onto their objectives; to fight through with the infantry; to isolate the objective by destroying anti-tank systems and defeating counterattacks; and to suppress the enemy both on the objective and in mutually supporting positions. Tanks in the assault force should be grouped so that all of these tasks can be accomplished. The tank commander will remain responsive to requests for support from the infantry. Tanks and infantry support each other during the fighting through. Tanks will employ fire and movement to and across the objective to achieve the concentration of force and to support the infantry. Indirect fire will be critical in maximizing this concentration of force. If the infantry have a suppressive fire capability, it will augment or replace the tanks in that role. The infantry may use one of a variety of methods to clear the objective. They may clear trench systems by fighting within them or they may assault on a wider front utilizing the neutralizing effects of indirect fire and the suppression of direct fire to achieve speed.

10. **Consolidation Stage.** Consolidation may begin even as the fighting through is still in progress. Consolidation is complete when the threat from within the position has been eliminated, a hasty defence has been achieved and the attacking force is ready to repel counter-attack or to be assigned a new task. Consolidation will normally be carried out beyond the objective area, but the proximity of other enemy positions or enemy indirect fire may prevent moving off the objective, so the infantry would either stay in the captured trenches or mount up and move with the tanks.

11. **Exploitation.** This is not a stage of the operation but an attack frequently creates opportunities to maintain pressure on the enemy. Exploitation may prevent the enemy from mounting counter-attacks, reorganizing his defence, or conducting an orderly withdrawal. The tank commander must plan for the possibility of exploitation and can make it a subsequent or lower priority task for the assault element, the fire base or reserves. Elements committed to exploitation must have the capability to coordinate indirect fire. The squadron should place its leading troops on the next tactical bound from the objective covering forward and to the flanks.

PLANNING

12. The amount of time available for the tank commander to complete his estimate will vary depending on the tactical situation. For the hasty attack the key factors are the enemy and the ground:

- a. **Enemy.** From his own observations, and from reconnaissance reports, the tank commander builds up as clear a picture as possible of the enemy's strengths and dispositions. This is best done by dividing the enemy into groups each defined by a description and a single reference point. (Use points of the compass - not left and right). Western group of 6 trenches and 2 tanks at grid..., Eastern group of 4 trenches and a tank at grid... is far clearer than a string of individual grid references.
- b. **Ground.** The ground should be considered in relation to the positions of the enemy and your own troops. If there are two equally feasible lines of attack, take the one which is nearest to the troops already on the ground. This will keep the plan simple and keep up momentum. The further off the axis the attacking force has to go to its FUP, the greater is the need for control measures such as marking the FUPs by recce.
- c. **Phasing.** If there are more tasks than there are elements available to do them, the attack should be divided into phases. Among other considerations availability of fire support may also necessitate phasing.
- d. **Timing of the Assault.** In many instances the tank commander HI be given a clear indication of when he should assault in the formation orders: "capture objective APPLE by 0600 hrs". Notwithstanding such direction the commander must strike a balance between the time required for preparations and the time he allows the enemy to strengthen defences. A commander must always allow time for his subordinate commanders to complete their battle procedure. This is essential because the assault tends to be a platoon and section commander's war.
- e. **Form of Manoeuvre.** The tank commander selects the form of manoeuvre by considering the mission, enemy strength and disposition, terrain, weather, troops and resources available, and time and space. Once across the line of departure the assault element will most likely come under both direct and indirect fire. The opportunity of launching a flanking attack against anything other than an isolated enemy position will be rare. A flanking attack will likely come under enfilade fire from another mutually supporting enemy position. Reconnaissance will guide the commander to choose the best point to attack but the freedom of manoeuvre for squadron will likely be restricted.

- f. **Assault Formation.** Tanks can assault on a narrow or broad front. The assault formation is expressed as one up, two up or three up. The formation adopted depends on: the mission; enemy strength, disposition, and anticipated action; cover and space for manoeuvre; and the troops available and their mobility. The assault element should possess the strength to break in and secure the objective. Assaulting on a narrow front provides greater depth and concentration of force.
- g. **Grouping and Tasks.** The tank commander should consider the following tasks when allocating troops for the assault: main assault element including the composition of the break-in element and the troops to fight through the objective, fire base (if possible), and protective elements. Exploitation may also be a task.
- h. **Fire Plan.** The tank commander's fire plan includes all direct and indirect assets. The fire plan is crucial to the assault and directs how he intends to suppress and isolate the enemy in order to manoeuvre to destroy the enemy. FOO's and MFCs must be split, to provide indirect fire observers both with the assault force and with forces nominated as fire base, flank guard or reserve. The fire plan for a hasty attack should be based on a simple SOP covering the use of both high explosive and smoke. Figure 6-1 provides a useful guide to assist in fire planning.

ORDERS

13. As soon as it is clear that an attack is to be carried out, the squadron commander issues a warning order giving an assessment of the enemy situation, and a summary of his intentions. He does this **BEFORE** he has worked out the detail of his plan, so that battle procedure is not held up. The rest of the information needed for the attack should follow as it becomes available, although the probable axis should be given as early as possible. Forces involved in an attack need to know:

- a. **Enemy.** The tank commander must ensure that everyone has the same picture of the enemy as he does.
- b. **Mission.** To seize ground or destroy enemy.
- c. **Execution:**

Phase of Attack	Fire Support Planning Guide
Mounting	<ol style="list-style-type: none"> 1. Arty adjust all tgts. Provide prep fire to assist dir fire wpns (tks) in winning the initial fire fight. 2. Mors adjust those tgts they are reqr to engage during fire plan.
Assault Aslt elms in atk posn	<ol style="list-style-type: none"> 1. Arty at slow rate on fwd positions of obj. 2. Mor probably not firing. 3. Fire base engaging pri pt tgts: A armour wpns, tks, APCs 4. Tks and APCs in aslt elm may or may not be able to engage from the atk posn dependent on grd and rge (ideally atk posn in dead grd to obj).
Crossing ld break in a dv to obj	<ol style="list-style-type: none"> 1. Arty at rapid rate on fwd portion of obj. 2. Mor provides Wp or illum. If WP/ILLUM not reqr HE rapid rate on fwd portion of obj. 3. Fire base continues to engage pri hard tgts and fwd portion obj (indiv trenches) with HESH/HEAT. 4. Tks in aslt elm fire on mov at hard tgts and fwd portion of obj.
Dismount	<ol style="list-style-type: none"> 1. Arty shifts to depth of obj at normal rate. 2. Mor shift WP/ILLUM task to depth or flank posn. 3. Fire base concentrates on fwd position of obj with HESH/HEAT. 4. Tks concentrate on fwd positions of obj with main armament and coax MG. 5. Inf APC is equipped with stabilized MG engage fwd edge of obj at rapid rate.
Fighting through	<ol style="list-style-type: none"> 1. Arty shifts to depth or flank at slow rate. 2. Fire base changes to tgts of opportunity only, depending on ammo sit. 3. Tks, engage tgts of opportunity in depth of obj. 4. Tks engage tgts in sp of and as dir by inf. 5. APC continue to fire if good comms and visibility and on order of Coy/Pl comds.
Consolidation	<ol style="list-style-type: none"> 1. Arty on Df or tgts of opportunity. 2. Mor probably mov fwd to cover next bound. 3. Tks engage tgts of opportunity and tgts in sp of inf.

Figure 6-1 Fire Support Planning Guide for the Attack

- 1) **General Outline.** Overall intentions. Axis of attack (left or right flanking, or frontal).
 - 2) **Assault force.** Composition of the force and location of the FUP.
 - 3) **Other forces.** Composition and location of direct fire support, flank protection and reserves.
 - 4) The indirect fire plan.
 - 5) **Coordinating Instructions.** Any essential coordinating instructions, such as H hour, exploitation details, or any changes to SOPs.
- d. **Roles and Functions.** A tank regiment given a task to launch an attack will have at least tanks, infantry and fire support. Additional elements such as engineers, air defence artillery, EW elements, attack helicopters and close air support may be provided. The commander must balance the often scarce resources he has, with the tasks to be accomplished. Tanks may be required more in the assault element than in the fire base, or APC cannons may be needed to supplement a fire base. The commander must remember the essential tasks that must be accomplished at each stage of the attack and allocate resources so that the capabilities of the systems are maximized. This has implications for how the assault element should be grouped to achieve a command and control relationship to achieve the suppression, isolation and concentration of combat power required. All arms cooperation does not necessitate creating subordinate command relationships amongst the arms for every tactical situation. The battle group commander may determine that the best way to achieve certain tasks may be with combat team groupings, while others may be best done by maintaining standard company and squadron grouping.

14. **Command and Control.** The tank commander should place himself well forward where he can influence the battle. Control will be decentralized to sub-unit commanders who will be responsible for their part in the overall plan. The tanks and infantry must be able to communicate during the assault. This can be accomplished with radio, tank telephone, hand signals and personal liaison. Commanders of tanks and APCs with cannons must remain alert to calls for support from the infantry. An assault is a chaotic, confused situation once battle is joined and communications may quickly break down. The tank commander must develop a simple plan that is understood at all levels to compensate for any loss of communication.

15. **Control Measures.** The following control measures may be used during an attack:

- a. assembly area,
- b. attack position,
- c. line of departure,
- d. assault position,

- e. zulu harbour,
- f. objective,
- g. objective area,
- h. consolidation area,
- j. limit of exploitation,
- k. axis of advance,
- m. routes,
- n. boundaries,
- p. report lines,
- q. coordinating points,
- r. phases,
- s. phase lines,
- t. code words,
- u. timings,
- v. fire coordination measures,
- w. bounds, and
- x. cleared land markers.

16. **Operations in Unique Environments.** Specific operations include attacks during periods of reduced visibility and fighting in built-up areas. Attacks are generally conducted in the manner but tank commanders must be aware of some unique considerations when planning and conducting such operations.

REDUCED VISIBILITY

17. Night and poor visibility often produce favourable conditions for an attack. The need for careful preparation will usually make this a deliberate attack (except in the case of an immediate counter-attack during defensive operations). The principles are the same as those applicable by day, but with even greater emphasis on simplicity and surprise.

18. **Concept of Operations.** A night attack will be either:
- a. **Noisy attack.** This makes maximum use of firepower and shock action. It uses the maximum available illumination and fire support from the outset - tanks would normally lead a noisy attack.
 - b. **Silent attack.** This form of attack achieves surprise through stealth. Illumination and fire plans are on call, but are not employed until the moment of detection by the enemy. Tanks would be held back until this stage or used in deception before being switched onto the true axis of attack.
19. **Command and Control.** Nothing should be left to chance - if things can go wrong, they usually will. The uncertain conditions of the night battle can lead very quickly to a loss of control - foolproof methods of identifying friend from foe are required, and scrupulous coordination of both direct and indirect fires are essential. The attack should be planned in a way which will minimize the difficulties of night navigation. Aids should include identifiable routes, axis and lines of departure, traffic control, signing, indirect fire, and direct fire on fixed lines.

FIGHTING IN BUILT UP AREAS

20. **General.** Tanks are very useful in FIBUA adding greatly to the weight of supporting fire available to the infantry. They will however draw enemy fire, and crews must remain closed down against the risk of sniper fire.
21. Tanks should be deployed as troops but will normally work in pairs and will seldom be able to move without infantry support. Where possible tanks should take advantage of parks and gardens which offer the best fields of fire. The weight of tanks must also be remembered - cellar collapse is a constant risk.

SECTION 4

PURSUIT

GENERAL

1. The purpose of a pursuit is to defeat an enemy force that is attempting to evade combat. It is characterized by a series of rapid advances and sudden combat actions during which a withdrawing enemy is given no respite.
2. Normally opportunities for a pursuit occur following a successful attack. The CO conducting exploitation may find the enemy in disarray and attempting to withdraw. If so, he should advise his commander and continue to press the enemy unless ordered to do otherwise.

CONCEPT

3. The enemy must be prevented from withdrawing in an orderly manner and re-establishing a cohesive defence. The CO must maintain relentless pressure against the enemy and attempt to encircle or separate his forces in order to defeat him. The point of main effort is placed at the location which provides the best conditions for blocking the enemy withdrawal.

PLANNING

4. Once a decision is made to pursue there is little time for planning and preparation. Simple plans must be prepared and issued quickly, probably as radio orders. Usually the regiment is assigned a zone of action, phase lines and axes. These same control measures must be assigned to squadrons to prevent them from diverging and to control movement.
5. The regiment must maintain a higher than normal state of readiness to operate in an NBC environment, as the enemy is more likely to use such weapons to compensate for the reversals he has suffered.
6. Special arrangements, including resupply by air, may be required for combat service support, as lines of communication may be over extended. Supply convoys may require additional protection against the increased threat from pockets of bypassed enemy.

CONDUCT

7. A pursuit must be conducted aggressively. Perhaps more than in any other operation, the CO must take calculated risks to keep the enemy off-balance and maintain momentum.
8. As soon as the situation permits, the regiment should advance swiftly to cut off the enemy. Other forces are committed for a swift advance on roads and tracks. Minor enemy elements are bypassed and picketed, and mopped up by following elements. Major enemy forces are blocked and overtaken. Every effort is made to encircle the enemy or divide and separate his forces to permit his defeat.

9. The CO must demand the ultimate effort from his regiment to exploit the situation and achieve success with minimum losses. The pursuit must be pressed even when troops are fatigued or lines of communication are strained. Pursuit at night increases the enemy's confusion and accelerates his collapse.

10. The CO must not be concerned unduly with his flanks. Command and control is exercised primarily by radio. The CO must position himself well forward in his tank to command the operation and be able to redirect his squadrons to exploit favourable situations. Supplies found during the operation are taken over and used. Wounded personnel and prisoners are handed over to the following forces.

11. The pursuit continues until the enemy is defeated.

CHAPTER 7

THE DEFENCE

SECTION 1

INTRODUCTION

GENERAL

1. Defensive operations include:
 - a. the defence conducted to prevent the enemy from seizing terrain or breaking through into a defence area;
 - b. withdrawal operations in which a force seeks to disengage and move away from an enemy in order to execute a new task; and
 - c. delay operations in which a force under pressure trades space for time slowing the enemy's momentum and inflicting maximum damage on him without, in principle, becoming decisively engaged.
2. The delay and withdrawal are discussed in Chapters 8 and 9.
3. A defence may be conducted for any of the following reasons:
 - a. to weaken the enemy's offensive capability and cause his attack to fail;
 - b. to retain a defence area and to prevent the enemy from breaking through;
 - c. to gain time to prepare for or resume offensive operations;
 - d. to contain the enemy in one area, while applying decisive force elsewhere; or
 - e. to force the enemy to concentrate so that he is more vulnerable to fire.

PRINCIPLES OF WAR

4. The following principles of war require emphasis during the planning and conduct of defensive operations:
 - a. **Concentration of Force.** The commanding officer (CO) must be able to concentrate his force at the enemy point of main effort. Concentration not only implies massing of forces but also massing of fire power. It includes such elements as movement, flexibility and communications.

- b. **Offensive Action.** Commanders must maintain the offensive spirit in the defence. This implies manoeuvre, speed and aggressiveness: the particular characteristics of armour. Aggressive patrolling and counter-attacking are also elements of offensive action.
- c. **Security.** Security is the ability to meet an attack from any direction. It is achieved by the employment of covering forces, co-ordination and mutual support at all levels, maintenance of surveillance and the ability to concentrate forces.

CONCEPT

- 5. Every defence requires that vital ground be held, or protected. Loss of vital ground makes the defence untenable. The defence plan must be based on a balance between holding ground and manoeuvre. A commander deploys his formation to hold or protect his vital ground while retaining the flexibility to concentrate or disperse his combat power to defeat the enemy. Forces strong in infantry normally hold ground while forces strong in armour manoeuvre. The enemy is forced, by use of obstacles and fire to concentrate in areas where he can be destroyed. These areas are called killing zones (KZs).
- 6. Defence is conducted in the following stages:
 - a. the covering force stage;
 - b. the main defence stage; and
 - c. the countermoves stage.

ORGANIZATION OF A DEFENSIVE AREA OF RESPONSIBILITY

7. **General.** A commander's defensive area of responsibility is shown in Figure 7-1. Normally it includes:

- a. a covering force area (CFA), and
- b. a defence area, which includes a main defence area (MDA) and a rear area.

The CFA and the defence area are separated by the forward edge of the battle area (FEBA). However, the responsibility for the conduct of operations changes forward of the FEBA at the handover line.

- 8. **CFA.** This area extends from the FEBA to as far forward as forces are deployed. Forces within this area observe, engage, intercept, delay, disorganize and deceive the enemy during his advance to the FEBA.
- 9. **Defence Area.** This is the area that a commander must defend to fulfill his mission. It consists of the MDA and a rear area.

- a. **MDA.** In this area a commander fights his main defensive battle. The MDA of a formation extends rearward from the FEBA to the rear boundary of its forward subordinate formations.
 - b. **Rear Area.** Normally it is in this area that a commander locates his reserves. In addition, some long range fire support units and other combat support units, are located here. The rear area extends back from the rear boundary of forward subordinate formations to the formation rear boundary.
10. **Frontage.** The frontage assigned to a formation depends upon the nature of the terrain, enemy, own troops and the time available to prepare the defence. In close terrain, frontages are generally narrower.

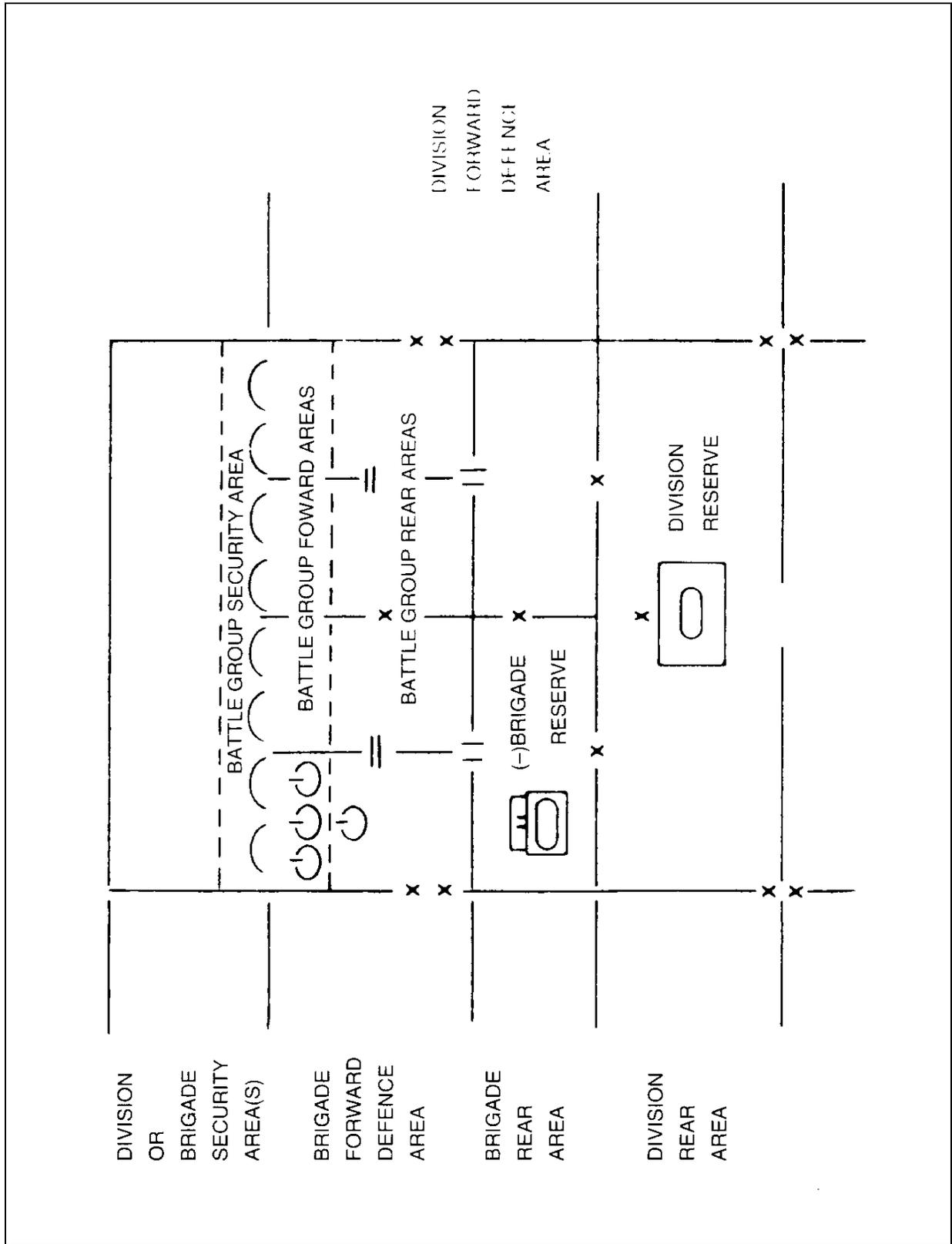


Figure 7-1 Typical Division Defensive Area of Responsibility

If the enemy is not expected to attack in strength, then frontages may be wider. The following frontages are guidelines only.

- a. division 16-40 kms;
- b. brigade 8-20 kms; and
- c. battalion 4-10 kms.

CONDUCT OF THE DEFENCE BY FORMATIONS

11. **General.** The battle begins when the corps commander employs resources assigned to him against the enemy located in or advancing through his area of influence. The battle is then fought through its three stages and concludes when the defence area has been successfully defended. Although the stages of the defence are sequential, the transition from one stage to another is seldom distinct and it often occurs at different times and in different areas of the battlefield. A commander must adjust his plan to the situation and he must make every effort to wrest the initiative from the enemy. A commander must create and seize opportunities for offensive action.

12. **Covering Force Stage.** Normally the covering force of a corps or a division acts as a guard and conducts a delaying operation. A covering force strives to: slow the enemy's advance; inflict casualties; strives to provide information to enable the commander to determine the enemy's main point of effort; protect the deployment of forces and preparation in the defence area; and channel the attacker towards a given area and place him in a position which leads to his subsequent destruction. If the commander of a covering force is ordered to delay for a specific length of time, he may have to accept decisive engagement in order to achieve his aim. Generally at corps and division, only one covering force is deployed forward of the FEBA. As well, forward brigades are usually ordered to deploy a covering force, based on their armoured reconnaissance squadron, to assist the higher formation covering force to disengage.

13. **Main Defence Stage.** The main defence stage is conducted as follows:

- a. Generally formations fight to stop the attack well forward, however, they must be prepared to defend in depth should penetration occur. As enemy units approach the FEBA, they are engaged with indirect fire and then with direct fire beginning with long range anti-armour weapons (LRAWW). As ranges close, the full spectrum of anti-armour fire is employed. The greatest possible damage is inflicted on the enemy as he attempts to cross the barrier. The enemy may attempt to secure a bridgehead using air mobile troops. This must be countered by mobile forces which can destroy the enemy before he has a chance to assemble and organize.
- b. Surveillance must be maintained and attempted crossings must be met by fire. Engineer crossings and breaching equipment are high priority targets. Scatterable mines may be particularly effective in this regard.

- c. As the attack develops, the defending units, if not already deployed move into their battle positions and engage the enemy at the maximum effective ranges of their weapons. This fire increases in intensity as the enemy closes to the defensive position. As the battle progresses, the enemy is slowed due to canalizing and bunching and presents good targets for defensive fire and tactical air. The maximum weight of fire is delivered at this point.
- d. Throughout the main defensive battle, counter-attacks may have to be launched by elements from within a unit's own resources to regain key terrain or to restore defensive positions. Should the enemy penetrate the FEBA, units sited in depth block the enemy and define a KZ. Once the enemy has been contained, a counter-attack by unit or brigade reserves is launched. Elements in place may then be tasked to mop up the penetration and restore the area. If the circumstances preclude a brigade counter-attack or limit its success, the committed reserve assists in containing the enemy. The responsibility to counter-attack then passes as to division. This same process of containment, followed by counter-attack is followed through to corps.
- e. A commander must also be concerned with rear area security and earmark forces accordingly.

14. **Countermoves Stage.** This stage is conducted as follows:

- a. **Blocking.** In the defence, sub-units are tasked to be prepared to defend several blocking positions with alternates, in priority. Uncommitted elements must be prepared to move to areas that block enemy penetration. If time permits, reconnaissance of these positions is completed and approach routes are selected.
- b. **Reinforcing.** By reinforcement, elements which are engaged, are provided with additional combat power either from a designated reserve unit or formation or any uncommitted forces.
- c. **Counter-attacking.** A counter-attack force moves from its assembly area, through an attack position and across a line of departure (LD). Initially it does not close with the enemy. Elements take up fire positions dominating the KZ and commence the destruction of the enemy. Direct fire is complemented by fire support provided by artillery, close air support (CAS) and attack helicopters (AH). Defence within the sector is reestablished, including the restoration of the barrier. Elements of the counter-attack force are dispersed rapidly in order to improve their chances of survival and ensure their readiness for subsequent tasks.

TASKS FOR THE TANK REGIMENT IN THE DEFENCE

15. Tasks for the tank regiment in the defence are to:
 - a. block;
 - b. reinforce;
 - c. counter-attack; and
 - d. provide support to infantry in defended areas.

SECTION 2

BLOCKING

GENERAL

1. Enemy penetrations must be contained before a counter-attack is launched. A commander's plan to deploy forces to contain or stop the enemy's advance is part of his plan for defence. Blocking forces, held in depth, move to reconnoitred positions between and behind defended areas to block.
2. It may be necessary for a commander to employ troops other than those in depth to block. Troops in the MDA who are uncommitted, or troops which have been tasked to counter-attack, may be tasked to move on short notice to blocking positions.
3. The regiment is well suited to execute deliberate and hasty blocking operations. Regiments in forward brigades are more likely to be tasked to block while regiments in depth and reserve brigades are more likely to be tasked to counter-attack.
4. The regiment may be assigned one or more blocking tasks.

ESTIMATE OF THE SITUATION AND PLAN

5. **General.** Before making his estimate of the situation a CO must know his commander's concept of operations, the disposition of other forces in the defence area and the location of planned obstacles. He must consider his aim and the following factors: enemy; ground (general, obstacles, approaches, key terrain); time and space; meteorology; and assessment of tasks. This examination leads to deductions concerning the following:
 - a. blocking positions;
 - b. sniping positions;
 - c. manoeuvre plan;
 - d. fire plan;
 - e. hides;
 - f. mobility and counter-mobility tasks;
 - g. reserves, reconnaissance and surveillance tasks;
 - h. control measures;
 - j. administration;
 - k. co-ordination adjustments required during periods of reduced visibility;
 - m. time available for planning and preparation;

- n. degree of preparation possible; and
- p. priority of work.

6. **Blocking Positions.** A blocking position is a defensive position sited to deny the enemy access to a given area or to prevent his advance in a given direction. They are reconnoitred, prepared and occupied from hides, as required. Blocking positions should be deep enough within the defended area to prevent being over-run in the early stages of the battle, and yet far enough forward to prevent a complete breakthrough.

- a. **Regimental Blocking Positions.** Normally a regimental blocking position is based on a number of squadron blocking positions which must cover the complete KZ. In selecting squadron blocking tasks the CO must plan down to troop level and allocate sufficient terrain to permit jockeying and alternate positions. If more than one blocking task is assigned to a squadron, a priority must be stated and secondary positions allocated if required.
- b. **Squadron Blocking Positions.** A squadron commander (OC) deploys his troops in battle positions ensuring that the entire area of assigned KZs and approaches are covered. If a troop is given more than one task, an OC must detail a priority. Troop battle positions have the following characteristics: be defiladed to the enemy and sited to achieve enfilade fire; be large enough to permit deployment in depth and jockeying, and have a minimum of one covered approach.

7. **Sniping Positions.** Sniping positions are normally outside of and generally forward of, a blocking position. They are occupied to prevent the primary position from being disclosed prematurely or to achieve long range attrition of the enemy. Tanks in sniping positions must be supported. Individual tanks or a complete troop, normally from depth positions, are deployed in the sniping role.

8. **Hides.** Hides, which may be used for more than one blocking position, are selected after blocking positions are determined. Squadron hides are preferable to troop hides in order to economize on security elements and to facilitate communication; but ground or time and space may dictate the requirement for troop hides. Primary and alternate routes are selected from hides to battle positions.

9. **Plan for Manoeuvre.** The CO develops a plan for movement to and between blocking positions. The plan includes primary routes and alternates, fire support and control measures. The OC develops a similar plan.

10. **Fire Plan.** When preparing a fire plan, the CO and the OC consider the requirement for defensive fire for the hides and blocking positions and covering fire for all movement. Illumination may be required.

11. **Mobility and Counter-Mobility Tasks.** The CO determines and co-ordinates through brigade headquarters any additional obstacles required to strengthen the blocking positions and to force the enemy into the KZ. Routes may require improvement and must be maintained. He may have to request engineer assistance to supplement his dozers, ploughs and rollers.

12. **Reconnaissance and Surveillance Tasks.** Continuous surveillance of the Killing Zones and the enemy approaches to them must be maintained to ensure early warning and security of the positions. The routes from the hides to the blocking positions must be patrolled periodically. These are likely tasks for the Reconnaissance Troop. It may also be possible to obtain this reconnaissance and surveillance from other units. The CO-ordinates this activity.

13. **Control Measures.** The following control measures should be considered:

- a. **Fire Control.** All fire (tank, artillery, fighter ground attack, antitank helicopter) must be planned, coordinated and controlled. For the control of tank fire see Chapter 5. It may be necessary to delegate authority to open fire down to individual tanks.
- b. **Control of Movement to and between Blocking Positions -**
 - 1) routes and alternates,
 - 2) order of march,
 - 3) reference points,
 - 4) reference positions,
 - 5) blocking positions, and
 - 6) brigade control measures.
- c. **Visual Signals.** In the event that radio or line communication is not possible, visual signals must be used for the occupation of battle positions, the control of fire and the control of movement.

14. **Administration.** Normal administrative planning takes place for blocking operations. Particular attention must be paid to planning for battle resupply. It may be necessary to conduct routine resupply in hides.

- a. **Medical.** The unit medical station (UMS) must be sited as far forward as possible and evacuation of casualties must occur promptly, using air if available.
- b. **Ammunition.** A high consumption of ammunition requires special planning for battle resupply.

15. **Planning the Occupation of a Hasty Blocking Position.** Should an unplanned blocking task become necessary without time for reconnaissance, the following occurs:

- a. issue a warning order moving the forces involved to an RV to the rear of the area of the task;
- b. establish procedures to monitor the enemy situation;
- c. conduct a quick map study and estimate of the situation;
- d. form a plan; and
- e. issue radio orders.

PREPARATION

16. **Reconnaissance.** Primary, secondary, sniping positions and their alternates are reconnoitred by all crew commanders. If possible reconnaissance is done from the tanks and positions are staked and marked.

17. **Rehearsals.** If possible, rehearsals for occupying all blocking positions are conducted by day and by night. Communication methods, other than radio or line, such as visual or acoustic signals should be practised.

18. **Movement Times.** Movement times from hides to blocking positions are determined by troop leaders and reported to the OC. Based on these times the OC determines his minimum occupation time for each assigned blocking position. These times are passed to the CO who in turn determines the minimum warning time required for each regimental blocking task. These times are passed to the brigade commander.

19. **Coordination.** The CO and Ocs must liaise and co-ordinate with units through whose area they must pass, units on the flanks, and any counter-attack forces. Liaison officers may have to be exchanged.

CONDUCT

20. **Occupation by the Regiment.** The occupation occurs as follows:

- a. As the battle develops, the brigade commander orders the CO to execute one or more of his assigned blocking tasks.
- b. The CO orders squadrons, as required, to occupy blocking positions. The squadrons move from their hides on assigned routes and in the designated order of march to their battle positions. Squadrons engage in accordance with the open fire policy.
- c. As the regimental battle develops, the CO may move squadrons not required for their primary task to execute secondary tasks.

- d. The regiment continues to fight until orders are received from the brigade commander to return to hides or to support a counterattack or to execute another task.

21. **Occupation by the Squadron.** The occupation is as follows:

- a. As the battle develops, the CO orders the OC to execute one or more of his assigned tasks.
- b. Troops are ordered to move from the hide and occupy battle positions. They move on assigned routes, in the designated order of march, to their battle positions and engage the enemy in accordance with the open fire policy. Sniping positions are occupied first.
- c. As the enemy advance continues, tanks in sniping positions withdraw as ordered through tanks in depth to their primary battle positions.
- d. Troops engage the enemy within their assigned arcs or target areas. Troops not required for their primary tasks may be ordered to occupy their secondary positions covering another troop's primary arc or target area.
- e. Battle resupply takes place as required on order of the OC.

SECTION 3

REINFORCEMENT

GENERAL

1. Reinforcement is the provision of additional combat power to achieve success. It can be achieved either by the addition of more combat troops or an increase in fire support. Forces can come from designated reserve units, formations, or uncommitted forces. Reinforcement takes place only when it can restore a favourable situation.
2. The regiment is ideally suited for this task and tank reserves in both forward and rear brigades may be used. Normally, reinforcement is a squadron or regimental task.

PLANNING AND CONDUCT

3. Planning and conduct of reinforcement are identical to providing support to infantry in defended areas and blocking operations.

SECTION 4

COUNTER-ATTACKING

GENERAL

1. A counter-attack is an offensive action to regain lost ground or destroy enemy penetrations in order to restore the integrity of the defence. It is launched as soon as possible after the penetration has been contained and is normally conducted by a reserve.
2. Counter-attack forces may have more than one task and be employed more than once during the conduct of the defence. Counterattack forces may be required to restore the situation by concentrated fire, leaving the mopping up to the forces already in place or if key terrain has been lost they may be ordered to launch a complete attack including assault and mopping up.
3. The regiment is ideally suited to execute counter-attacks. Normally regiments deployed in depth and reserve brigades will be tasked to counter-attack while those in forward brigades are more likely to be tasked to block.

PLANNING

4. Except for the fact that the CO may have a limited objective planning for a counter attack is identical to planning for a deliberate attack. See Chap 6 Section 3.

PREPARATION

5. Preparation includes:
 - a. reconnaissance down to the lowest level for each task in order of priority;
 - b. rehearsals if time and enemy activity permit;
 - c. continuous liaison with units in place and the higher commander; and
 - d. maintenance and surveillance of counter-attack routes.

CONDUCT OF THE COUNTER-ATTACK

6. The counter-attack proceeds as follows:
 - a. The commander who ordered the counter-attack will reduce the state of readiness of the force. However, the armour commander must be prepared on his own initiative to reduce states of readiness depending on his reading of the battle.
 - b. The force may be moved to forward assembly areas and during the move may be required to deploy in waiting areas.

- c. The superior commander will order the counter-attack to be launched. This will be ordered in time to ensure that the counterattack force arrives in the attack position and crosses the LD after the enemy penetration has been contained but before they are able to consolidate or reinforce.
- d. The force moves on assigned routes to attack positions. Here the force deploys and crosses the LD. Maximum supporting fire is applied to the enemy in the KZ while the counter-attack force manoeuvres to reconnoitered fire positions and commences destruction of the enemy.
- e. Once the counter-attack force and the blocking force have reduced the enemy's combat power, the assault is launched. This may be the responsibility of the counter-attack force, or forces in place, or both.
- f. When the commander decides the force is no longer required he may order them to return to an assembly area, take up a blocking position or execute another counter-attack task.

COMMAND AND CONTROL

7. Command of the counter-attack force may be executed by one of the following:
 - a. the superior commander who ordered the counter-attack;
 - b. the commander of the counter-attack force;
 - c. the commander who is responsible for the terrain; and
 - d. the commander of the blocking forces.
8. **Communication and Liaison.** It is essential that the armour commander ensures that the following are established:
 - a. coordinating points with forces in place;
 - b. communications with forces in place;
 - c. personal contact;
 - d. liaison; and
 - e. alternate means of communication as radio silence will normally be imposed.
9. **Control Measures.** Normal control measures are used however the following are of particular importance:
 - a. control measures required for passage of lines, and
 - b. fire support co-ordination measures.

10. **Orders.** Orders for counter-attacks are normally produced as overlay orders indicating as a minimum:

- a. routes and alternates;
- b. boundaries; and
- c. attack positions, LDs, and limits of exploitation.

SECTION 5

SUPPORT TO INFANTRY IN DEFENDED AREAS

GENERAL

1. Support to infantry in defended areas will include the destruction of enemy armour, infantry, artillery and administrative units. The squadron fights under command of the OC with the infantry providing the firm base around which the squadron manoeuvres to execute its tasks.
2. Tasks will be given in priority to the squadron, designating the Kzs and approaches to be covered by fire.
3. Armour and infantry commanders at all levels conduct combined battle procedure (see B-GL-301-002/FP-001).

ESTIMATE OF THE SITUATION AND PLAN

4. **General.** An OC analyzes his mission and considers the factors of enemy, ground general, obstacles, approaches, key terrain, meteorology, friendly, forces including disposition of the remainder of the battle group, time and space, and assessment of tasks. He makes deductions concerning:
 - a. battle positions;
 - b. sniping positions;
 - c. hides;
 - d. fire plan;
 - e. control measures;
 - f. administration;
 - g. plan for manoeuvre;
 - h. co-ordination;
 - j. mobility and counter-mobility tasks;
 - k. reconnaissance and surveillance tasks;
 - m. reconnaissance and rehearsals;
 - n. adjustments required during periods of reduced visibility;
 - p. time available for planning and preparation;

- q. degree of preparation possible; and
- r. priority of work.

5. **Battle Positions.** An OC must deploy his squadron in troop battle positions so that he covers all assigned approaches and the entire area of all Kzs. A minimum of one tank troop is required to cover an approach which is suitable for the manoeuvre of an enemy tank company. If it is necessary to assign more than one task to a troop, priorities must be stated. Troop battle positions should have the following characteristics:

- a. be defiladed to the enemy and sited to engage the enemy in enfilade;
- b. be large enough to permit the troop to jockey and deploy in depth;
- c. have a covered approach; and
- d. if possible, be sited to derive some protection from dismounted infantry.

6. **Sniping Positions.** Sniping positions are occupied to prevent the primary tank positions from being disclosed prematurely, or to achieve long range attrition of the enemy positions outside of and generally forward of the primary positions. It may be necessary to task individual troops with sniping tasks, in which case the OC designates the sniping positions. Tanks in sniping positions must be supported.

7. **Hides.** Having determined the location of troop battle positions, an OC selects a squadron hide or troop hides dependent on the cover available. If possible, each hide should have an alternate. A squadron hide is preferable to troop hides to economize on security elements required and to facilitate communication.

8. **Fire Plan.** An Oc may require defensive fire for his hides and covering fire for movement to battle positions. He may also require illumination for his Us or target areas. He requests the battle group commander to include these targets in the battle group defensive fire plan.

9. **Control Measures.** An OC should consider the requirement for the following control measures:

- a. **Fire Discipline.** See Chapter 5 section 7.
- b. **Control of Movement to Battle Positions -**
 - 1) routes, including alternates,
 - 2) order of march, and
 - 3) reference points.
- c. **Visual Signals.** In the event that radio or line communication is not possible, visual signals must be used for the occupation of battle positions, the control

of fire and the control of movement.

10. **Administration.** An OC must pay particular attention to planning for battle resupply. While undesirable, it may be necessary to conduct routine resupply in hides.

PREPARATION

11. Primary, secondary and sniping positions and their alternates are reconnoitred. If possible reconnaissance is done from the tank, positions are staked or marked.

12. Movement times from the hide to each troop position are determined by troop leaders and reported to the squadron commander.

13. If possible occupation rehearsals are carried out by day and by night. The use of visual signals rather than the use of radio or line for control should also be practised.

14. Troop leaders and crew commanders should liaise with infantry and any other elements in or adjacent to the squadron area of operation to ensure that they know the layout of troops on the ground. They should also ensure that troops on the ground are briefed on the movement and the fire positions of the tanks.

15. Liaison is conducted to ensure that each arm becomes familiar with the routine and operating procedures of the other arm including patrolling, stand-to and alarm signals.

CONDUCT

16. As the battle develops, the battle group commander orders the OC to execute one or more of his assigned tasks.

17. Troops are ordered to move from the hide and occupy battle positions. They move on assigned routes, in the designated order of march to their battle positions and engage the enemy in accordance with the open fire policy. Sniping tanks move into position after supporting tanks are in position.

18. As the enemy advance continues, tanks in sniping positions withdraw as ordered through supporting tanks to their primary battle positions.

19. Troops engage the enemy within their assigned arcs or target areas. Troops not required for their primary task may be ordered to occupy their secondary positions covering another troop's primary arc or target area.

20. Battle resupply takes place as required on order of the OC.

CHAPTER 8

THE DELAY

SECTION 1

INTRODUCTION

GENERAL

1. A delay may be a separate operation, or an action conducted in conjunction with offensive or other defensive operations. This chapter emphasizes the conduct of the delay by the regiment during the covering force stage of the defence. The same procedures apply at the squadron level.
2. A delay is an operation in which a force, under pressure, trades space for time by slowing the enemy's momentum and inflicting damage on him, without, in principle becoming decisively engaged.
3. A delay may be conducted for any of the following reasons:
 - a. to slow the enemy's advance and reduce his offensive capability by inflicting casualties;
 - b. to determine the enemy's main point of effort;
 - c. to protect the deployment and preparations of forces tasked with other operations; and
 - d. to channel the attacker towards an area or, to place him in a position which leads to his destruction.
4. In the case of flank or rear guards, delaying actions are fought for one or more of the following reasons:
 - a. to allow the main force time to react to a new threat;
 - b. to prevent the enemy from interfering with the main force;
 - c. to stop the enemy from gaining information concerning the actions of the main force; and
 - d. to permit the main force to disengage and move away from the enemy during a withdrawal.

PRINCIPLES OF WAR

5. Although all principles of war apply to the delay, the following principles bear special consideration:

- a. **Offensive Action.** Although the general initiative rests with the enemy, the commanding officer (CO) should create and seize opportunities for offensive action. Enemy forces which overreach themselves or expose a flank are particularly vulnerable. Limited attacks are undertaken when losses or damage can be inflicted on the enemy with low risk.
- b. **Security.** Security is essential to avoid surprise and decisive engagement. Concealment, camouflage, and communications security must be stressed. The CO requires a balance among his forces maintaining surveillance, conducting reconnaissance, delaying the enemy, withdrawing to new delay positions and acting as reserves. Contact with the enemy must be maintained throughout.
- c. **Concentration of Force.** The CO must manoeuvre his regiment to apply maximum fire at long range to surprise, confuse and destroy the enemy. He must use the terrain and take advantage of natural and easily improved obstacles to canalize the enemy into killing zones (Kzs) where the concentrated fire of the regiment can be brought to bear.
- d. **Selection and Maintenance of the Aim.** The CO must know either the minimum length of time he must delay or the percentage of his force that he must preserve for subsequent tasks. If the area allocated does not have sufficient depth to allow the required delaying action, the duration of the delay must be shortened, additional forces must be assigned or a greater risk of higher losses and decisive engagement accepted.

CONCEPT

6. A delay is conducted by a combination of defensive and offensive actions, mostly by a mixture of hasty defences and vigorous countermoves. Reconnaissance elements establish initial contact with the enemy. As the enemy pushes these elements back he should encounter a hasty defence that should be strong enough to mislead him into believing that he has encountered the battle positions of a main defence area. The delaying force engages the enemy and conducts limited countermoves until decisive engagement is threatened. Before this occurs, a commander disengages or fights his way back to the next delay line. Contact is maintained either by reconnaissance elements, who in the interval have redeployed to receive the enemy, or by forces fighting their way back.
7. The same general sequence of activity is repeated until the mission is achieved. At a handover line, the delaying force attempts to break contact and the responsibility for dealing with the enemy is assumed by the force in place. At no time during a delay may a commander accept decisive engagement without the authority of his superior.
8. The regiment may be conducted delaying operations as the covering force for a brigade or it may be part of a formation conducting delaying operations.

SECTION 2

PLANNING AND PREPARATION

COMMANDER'S DIRECTION

1. The Commander directs:
 - a. the minimum length of time the CO must delay or the percentage of the regiment required for subsequent tasks;
 - b. the boundaries of the area in which the delay is to be conducted, reserved routes, and reserved demolitions;
 - c. phase lines to control required movement, particularly if the area for the delay has considerable depth and there are flanking elements whose movement must be coordinated;
 - d. the area the regiment is to occupy once it completes its mission and its subsequent tasks; and
 - e. coordination measures for the rearward passage of lines.

ESTIMATE OF THE SITUATION

2. **General.** The commander's direction and concept of operations determine the CO's aim. He makes his estimate of the situation, develops his concept of operations and prepares his plan. The following factors must be considered: ground, enemy, time and space, meteorology, and assessment of tasks.
3. From consideration of these factors, the CO must make deductions concerning:
 - a. delay positions,
 - b. ambush positions,
 - c. plan for manoeuvre,
 - d. fire plan,
 - e. reserves,
 - f. mobility and counter-mobility tasks,
 - g. reconnaissance and surveillance tasks,
 - h. counter-attack plan, co -ordination,
 - k. passage of lines,

- m. control measures,
- n. security measures,
- p. degree of preparation possible,
- q. priority of work, and
- r. administration.

4. **Delay Positions.** Delay positions along the delay lines should be far enough apart to cause the enemy to consolidate before continuing his advance. They should be astride the likely enemy approaches and located obliquely to them. They should offer good fields of fire and observation; natural obstacles that can be easily developed, and covered withdrawal routes. If withdrawal routes are not covered, they may have to be covered by fire.

5. **Ambush Positions.** Ambush positions are required to hit the enemy with sudden fire from the flank. The shock will force the enemy to waste time on reconnaissance and deployment. The position will normally be established at a choke point. Concealment is vital, the action is quick and the troop withdraws immediately.

6. **Manoeuvre.** The CO can delay on alternate or successive lines:

- a. **Delay on Alternate Lines.** In this option the regiment initially occupies two delay lines. The element in the first line engages the enemy and under pressure moves back through or around the element in the second line and proceeds to a third line. The procedure is repeated. This method has the advantage of providing more time for the occupation and possibly the improvement of delay positions. A smaller reserve may be required as the element in the rear provides combat power which can be used if necessary. It has the disadvantage of decreasing the width of the delay line, thus increasing the risk of being bypassed.
- b. **Delay on Successive Lines.** The regiment occupies a single delay line. Under pressure an element withdraws and occupies a second delay line. It then covers the withdrawal of the remaining elements to the second line. The action is repeated. Delaying on successive lines has the advantage of increasing the firepower from each line. It also permits a wider frontage. It has the disadvantage of decreasing the time available to occupy and possibly improve delay positions. A larger reserve may be required. See Figure 8-1.

7. **Fire Plan.** The fire plan must provide:
 - a. a continuous fire support programme (CFSP) to cover movement; and
 - b. defensive fire (DF) for each delay position, ambush and obstacle.

8. **Reserves.** Reserves are required to counter-attack or block. The reserve is likely to be used several times during the delay. If a dedicated reserve is not possible, it may consist of forces not in contact. Once the CO has committed his reserve he must designate another or ask the commander for one.

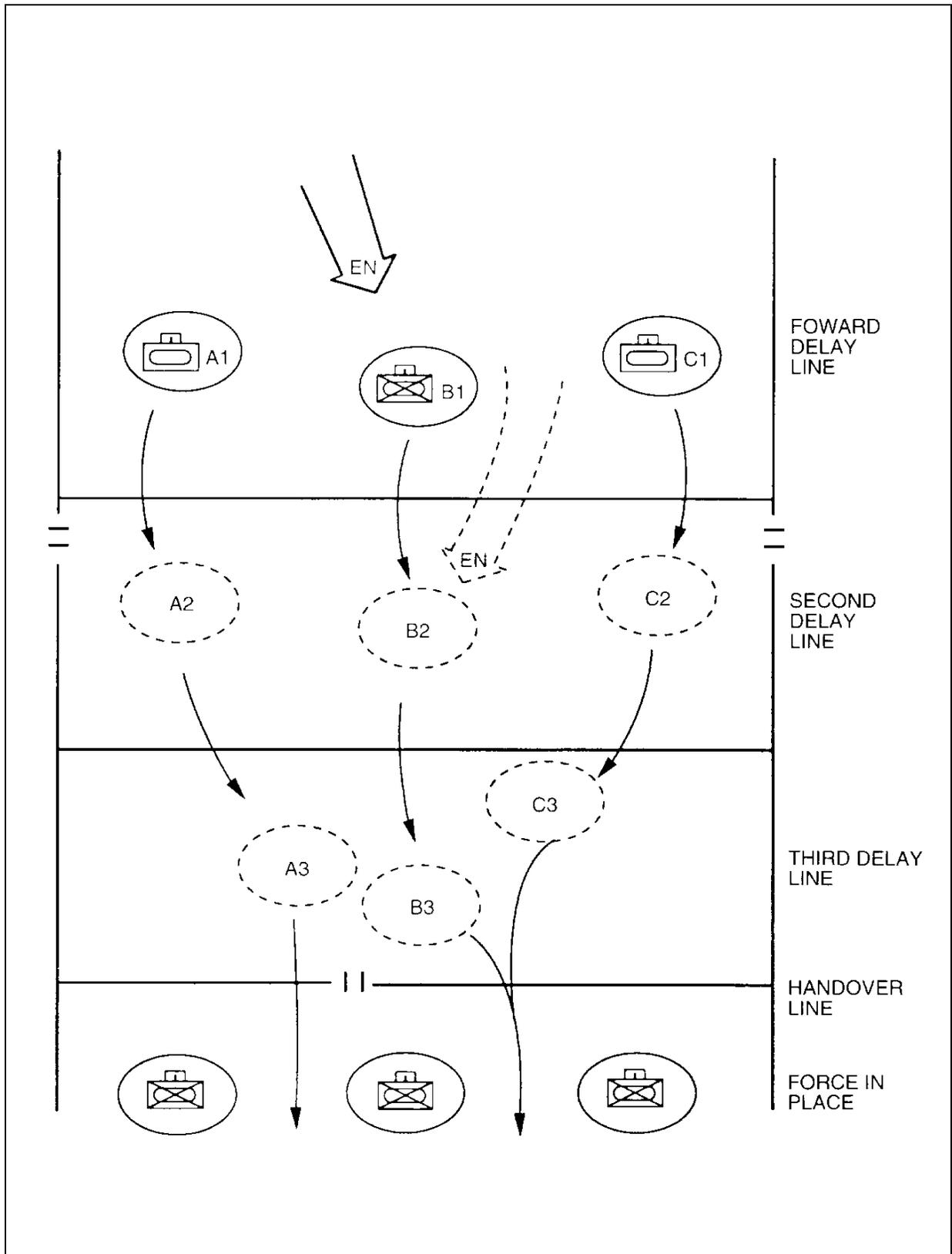


Figure 8-1 Delay on Successive Positions

9. **Mobility and Counter-mobility Tasks.** If time and resources are available, minefields should be prepared to protect delay and ambush positions. Nuisance and phoney minefields make the enemy more cautious and craters and roadblocks will slow his movement. Routes rearward must be maintained particularly at critical points.
10. **Reconnaissance and Surveillance Tasks.** The CO must maintain contact with the enemy to avoid surprise, and estimate his rate of advance. He may require a screen between delay lines, to achieve this. Surveillance and traffic control may be necessary at critical points along routes required for rearward movement.
11. **Counter-attack Plan.** Counter-attack plans must be developed for each delay position. Counter-attacks may be required to extricate elements which are decisively engaged. The procedures for planning and conducting the counter-attack are detailed in Chapter 7.
12. **Co-ordination.** The disposition of delay and ambush positions, withdrawal routes, obstacle plan, recognition signals, counter-attack plan, selection of routes, procedures for handing the enemy from one element to another, and plan for disengagement must be closely coordinated within the regiment.
13. **Passage of Lines.** The passage of lines at the handover line is one of the most critical parts of the operation. Details of a rearward passage of lines are contained in Chapter 5, Section 13.
14. **Control Measures.** Normal control measures include: liaison, boundaries, coordinating points, traffic control, check points, fire support co-ordination measures, recognition signals, report lines, delay lines, and the handover line.
15. **Concept of Operations.** The CO indicates the likely enemy approaches, how he intends to delay, specifies the delay lines, the amount of delay he intends to impose between them, his plan for manoeuvre, action at the handover line, as well as employment of reserve, should be covered.

SECTION 3

CONDUCT OF THE DELAY

INITIAL CONTACT

1. If deployed in front of the first delay line, the reconnaissance troop reports on the enemy and may engage him with indirect fire. Under pressure, the screen withdraws and establishes a screen line behind the first delay line. This action is repeated each time the screen withdraws.
2. Squadrons occupying the forward delay line engage the enemy with maximum fire. Often it will be more satisfactory to open fire at long range and force him to waste time on reconnaissance and deployment. On the other hand the shock effect of sudden fire at shorter ranges may have the same result. At this stage the battle is very similar to the defence and the enemy should be led to believe that he has encountered a main defence area.
3. As the enemy deploys to attack the delay position and it is in danger of being overrun or outflanked, the CO orders the squadron to move to the rear. The timing of this action is critical. The CO must ensure that he does not begin his rearward movement too early, as there may be insufficient forces remaining to cause the enemy to deploy. Conversely, if he begins rearward movement too late, the squadrons may become decisively engaged.
4. If the regiment is delaying on alternate lines the forward squadrons may be able to withdraw under cover of the squadrons in the second positions. The objective is to break clean, and a counter-attack may be required to facilitate disengagement. If this is not possible the squadrons will fight their way back to the next delay either covered by the second position or using fire and movement.
5. Squadrons hold as long as cohesion is maintained. It may be possible to delay longer than planned. Rearward movement need not occur at the same time across the front. Squadrons fighting on different axes on the same delay line may not receive the same pressure and need not be withdrawn at the same time providing there is not an imminent danger of them being outflanked or encircled.

DECISIVE ENGAGEMENT

6. In principle, a delaying force should not become decisively engaged. This situation should not arise unless the delay has been less successful than anticipated. If the regiment has withdrawn to a delay line relatively close to the handover line, and if it must continue the delay for a considerable time, the CO may have to accept decisive engagement. Before this occurs, he must consult with his commander.
7. The commander may authorize decisive engagement, he may reinforce the regiment to enable it to continue to delay without decisive engagement, or he may alter the task by reducing the time the delay must be conducted.

SECTION 4

COMMAND AND CONTROL

COMMAND

1. A delay is a difficult operation. The conditions under which it takes place are often adverse. Normally the enemy has the initiative and a favourable air situation. The fact that the regiment is giving up ground may have a negative psychological impact on the troops. The CO must strive to maintain morale, particularly by emphasizing local successes achieved by blocking actions and counter-attacks and, by pointing out the success of the delay itself.

2. In a delay, a major task of the CO is to maintain the cohesion of his force. He accomplishes this task primarily through the commitment of reserves and control of rearward movement.

CONTROL

3. A delay requires centralized, coordinated planning, but decentralized control of execution. The authority to order a withdrawal from a delaying position prior to the stated time will remain with the OC unless it is specifically delegated to the CO.

SECTION 5

ADMINISTRATION

GENERAL

1. The delay creates a heavy demand for fuel and ammunition. Sufficient stocks of these supplies should be kept forward so that squadron emergency demands can be met. The CO may have to request the establishment of dumps. Running resupply is the norm. The echelon must be kept as small as possible.
2. Disabled vehicles which cannot be repaired are recovered or destroyed as directed. Recovery vehicles should be positioned at critical locations to keep routes open and additional recovery which should be requested to assist in this task.
3. Medical support must provide for the rapid evacuation of casualties to medical facilities in the rear. The CO may be required to request additional evacuation support because of the distances involved. In accordance with the Geneva Conventions, medical supplies and equipment which cannot be evacuated must be marked as such and left in place.

CHAPTER 9

THE WITHDRAWAL

SECTION 1

INTRODUCTION

GENERAL

1. A withdrawal is an operation in which a force disengages from an enemy in accordance with the will of the commander. Usually, the enemy has the initiative and superior combat power.

1. **Purpose.** A force conducting a withdrawal seeks to disengage and move away from an enemy in order to execute a new task.

3. A withdrawal may be conducted for any of the following reasons:

- a. to disengage, as the purpose of the operation has been achieved;
- b. to disengage, as the continuation of the operation offers no prospect of success;
- c. to draw the enemy into an unfavourable situation;
- d. to conform to the movement of adjacent friendly forces;
- e. to allow the use of the force elsewhere;
- f. to ensure the safety of troops when nuclear weapons are used; and
- g. to disengage for reasons of logistics.

PRINCIPLES OF WAR

4. **General.** The commanding officer should stress the following principles of war:

- a. **Security.** It may be difficult to prevent the enemy from anticipating a withdrawal, particularly after an unsuccessful battle. A commander must make best use of reconnaissance, surveillance, deception, protective measures and the armour protection, firepower and flexibility of tanks to safeguard his force.
- b. **Surprise.** Although difficult to achieve, a degree of surprise is necessary to allow a force to disengage and move away from an enemy. It is achieved largely through deception and speed. A withdrawal during inclement weather and during periods of reduced visibility, including the use of smoke, may help to achieve surprise. The conduct of limited offensive action may cover the operation and catch the enemy off guard.

- c. **Maintenance of Morale.** A withdrawal can adversely affect morale. At the earliest time permitted by security, troops should be briefed on the purpose and conduct of the operation. The positive aspects must be emphasized. Every man must be assured that he will not be left behind. Rumours must be quashed and every opportunity for offensive action seized. The provision of administrative support, particularly the replenishment of combat supplies and casualty evacuation, does much to instill and maintain confidence.

CONCEPT

5. A withdrawal takes place in four general stages, which may overlap:
 - a. thinning out, which involves the early evacuation of non-essential elements of a force, particularly the wounded, and the backloading of vehicles, equipment and supplies not immediately required in the forward area;
 - b. preparations, such as the development of intermediate positions, redeployment of forces, development of barriers, firing demolitions and the implementation of deception plans;
 - c. disengagement and withdrawal of the main body; and
 - d. protective and delaying actions by the covering force and security elements.

The tank regiment may participate in any of the four stages but not simultaneously or necessarily in sequence.

CONDUCT OF A WITHDRAWAL BY FORMATIONS

6. **General.** A withdrawing force has a main body and normally advance, flank and rear guards. Depending on the threat, some of these security elements may only be screens. A withdrawing force is also protected by a covering force, which may be provided from its own resources or those of its superior commander.

7. **Disengagement and Withdrawal.** The main body disengages at the designated time. This is done as quickly as possible, consistent with the need to maintain control. Maximum combat power is kept forward until the last possible moment to prevent the enemy from detecting the movement and responding to it. Elements occupying forward positions should continue to act aggressively. Fire support and communications should be seen by the enemy as normal. Local counter-attacks may deceive the enemy, keep him off guard and discourage him from closing with friendly force positions. The last elements to disengage should attempt to depart undetected. These elements should be mechanized, armoured or airmobile because of the need for speed, firepower and protection. Rearward movement must be orderly. A commander should appreciate, that unless the enemy happens to be attacking during the disengagement, it takes time for him to react. As the main body withdraws, a commander must continue to be concerned with developments on his flanks and front, as well as to his rear. He has to deal quickly with threats to his rearward movement. Specifically, he must revise his plans continually to deal with airborne, airmobile and possibly amphibious threats. He must consider the threat posed by guerilla forces as well as the activities of the civilian

population. Frequent adjustment of the deployment of his combat support resources may be required. Once a force completes its rearward movement, it may either occupy an assembly area to consolidate or proceed directly to a new position to carry out its next task.

8. **Protective and Delaying Actions.** The covering force prevents the enemy from engaging the main body. As soon as the main body has disengaged and is at a safe distance, the covering force may start its disengagement. To achieve maximum deception and delay, its commander may be required to remain in the original positions until the enemy attacks in force. If the enemy launches a strong attack, the covering force continues its protective task by the conduct of delaying actions using previously reconnoitered, and preferably prepared, positions. If the covering force is unable to disengage or prevent the enemy closing on the main body, it may be reinforced by elements from the main body, or, a commander may have to commit the majority or all of his force. In this situation or, if the enemy engages the main body directly, a commander must be prepared to switch to another type of operation. Typically, his force will occupy an intermediate position and conduct a hasty defence. In this event the withdrawal has been interrupted temporarily, but it must be resumed at the earliest possible time. This action is taken in accordance with the superior commander's direction or his concept of operations.

TASKS OF THE REGIMENT IN A WITHDRAWAL

9. In a brigade withdrawal the regiment may be employed as:
- a. all or part of the covering force described in Chapter 5 and 8;
 - b. protective elements or guards described in Chapter 5;
 - c. a counter-attack force which is described in Chapter 7; and
 - d. part of the main body which disengages and withdraws away from the enemy to execute a new task.
10. The remainder of this chapter deals exclusively with the disengagement and withdrawal of the regiment as part of the main body. In this context, the regiment will be either in contact, necessitating both disengagement and withdrawal, or out of contact, necessitating only a withdrawal.

SECTION 2

PLANNING

FORMATION COMMANDER'S DIRECTION

1. A brigade commander, usually provides some or all of the following direction to his Cos:

- a. critical withdrawal timings include -
 - 1) the time until which the positions must be denied to the enemy;
 - 2) the time before which there will be no rearward movement except for reconnaissance parties and normal administrative traffic;
 - 3) the time by which the positions will be finally abandoned (optional);
 - 4) the time by which all troops must be clear of a line to the rear of the positions to be abandoned, allowing supporting artillery and air to engage freely beyond this line (optional);
- b. intermediate positions as required;
- c. locations and tasks of friendly forces providing flank, rear and demolition guards;
- d. route denial tasks and control;
- e. grouping of units;
- f. control measures such as phase lines, report lines, delay lines, withdrawal routes, routes, boundaries, fire support coordination lines and traffic control;
- g. security measures;
- h. coordination measures for the rearward passage of lines;
- j. policy for the destruction of equipment and combat supplies; and
- k. details regarding future tasks.

2. Normally, no commander gives the order to withdraw without the agreement of his superior commander. In some cases, a superior may direct a subordinate to withdraw and provide him with detailed orders for the operation. In other cases, particularly in unfavourable circumstances, he may provide only the authority to withdraw without detailed direction regarding its conduct.

WITHDRAWAL ESTIMATE

3. **Aim.** A CO must be absolutely clear on his superior's intention. He must carefully analyse his assigned tasks in relation to this intention so that he can determine the correct aim for his estimate. In a withdrawal the CO's intent is normally to break contact, effect a clean break and move back quickly to be ready for his next mission.
4. **Factors.** Factors which must be considered in the withdrawal estimate by the armour commander are ground, enemy, own troops, meteorological conditions, time and space as well as an assessment of tasks.
5. **Deductions.** Consideration of these factors leads the CO to deductions concerning:
 - a. control measures,
 - b. administration,
 - c. sequence of disengagement and withdrawal,
 - d. deception,
 - e. manoeuvre,
 - f. fireplan, and
 - g. timings.
6. A withdrawal may have a greater chance of success during periods of reduced visibility; however this could result in a loss of some control. Difficult going may make a withdrawal in daylight the only practical way to avoid loss of control. Control by radio is not always employed because of the need for security and formation deception plans or it may be unavailable because of the enemy's use of EW. Alternate control measures must be incorporated into the plan to cater for these contingencies. There may be a requirement for LOs for a rearward passage of lines and reserve demolitions. Critical timings are also used to control the withdrawal. RVs are required to assist in concentrating squadrons.
7. **Administration.** A CO should plan to resupply prior to thinning out and withdrawal of his A2 Echelon. A1 Echelon might be augmented by additional vehicles for stragglers, ambulances and recovery. The Unit Medical Station (UMS) should be initially positioned well forward and moved only as necessary to improve casualty evacuation throughout the operation. COs must plan to have maximum recovery resources forward before the disengagement starts. The plan must also include a clear policy for the destruction of equipment and supplies that are to be abandoned. There will be a need for resupply after the withdrawal.

CASUALTY EVACUATION

8. During disengagement casualties may often have to be carried on vehicles other than ambulances.

9. **Sequence of Disengagement and Withdrawal.** As early as practicable, a CO should plan to deploy any necessary traffic control elements. Non-essential elements or those required for rear reconnaissance or subsequent tasks must follow as soon as possible consistent with the need for security. When the withdrawal is conducted during darkness or conditions of reduced visibility rear sub--units normally withdraw first. If the withdrawal is conducted in daylight, forward subunits withdraw through depth sub-units. The order of march for the withdrawal is determined by the sequence of the disengagement and the time required for concentrating the squadrons after achieving a clean break from the enemy. Disengagement may be on a timed programme or on order dependent on the formation deception plan and the need for security.

CONDUCT

10. **Thinning Out.** Thinning out is conducted as follows:

- a. regrouping, if required, is completed;
- b. rear reconnaissance and advance parties are despatched as soon as possible;
- c. traffic control is established;
- d. resupply is conducted and A2 echelon withdraws; and
- e. RHQ step-up is deployed to the rear.

11. During the disengagement stage, special attention should be paid to the following points:

- a. forward troops should act offensively for as long as possible;
- b. sub-units should be kept intact and groupings unchanged. As sub-units move out of the forward area, they will move to an RV where they will be reunited with their parent unit;
- c. movement must be carefully staged through RVs and check points to ensure that the commander has an accurate knowledge of the location of all sub-units; and
- d. there may be a need for guides, signs, and traffic control en route and at obstacles or other critical points.

REFERENCES AND STANDARDIZATION AGREEMENTS

1. The following publications are related to and may be used in conjunction with this manual:
 - a. B-GL-300-000/FP-000, The Army, Interim 1;
 - b. B-GL-301-001/FP-001, Land Formations in Battle;
 - c. B-GL-301-002/FP-001, The Battle Group In Operations;
 - d. B-GL-303-002/FP-001, Staff Manuals, Volume 2, Operational Staff Procedures;
 - e. B-GL-303-002/FP-Z01, Operational Staff Procedures, Volume 2, Supplement 1, Military Symbols;
 - f. B-GL-303-002/FP-Z03, Operational Staff Procedures, Volume 2, Supplement 3, Army Glossary;
 - g. B-GL-303-002/FP-Z09, Operational Staff Procedures, Volume 2, Supplement 9, Army Abbreviations;
 - h. B-GL-304-002/FP-001, Operational Training, Volume 2, Unit Administration;
 - j. B-GL-305-003/FT-001, Armour, Volume 3, Tank Troop Leader's Manual;
 - k. B-GL-306-001/FT-001, Artillery in Battle, Field Artillery, Volume 1, Command, Control and Employment;
 - m. B-GL-309-001/FT-001, Infantry, Volume 1, The Infantry Battalion in Battle;
 - n. B-GL-311-001/FP-00 1, Administration in Battle;
 - p. B-GL-312-002/FP-001, Combat Service Support, Volume 2, Division Service Group in Battle;
 - q. B-GL-312-003/FP-001, Combat Service Support, Volume 3, Corps Service Command (COSCOM) in Battle;
 - r. B-GL-313-002/FP-001, Medical, Volume 2, Medical Support in Divisions and Independent Brigade Groups;
 - s. B-GL-316-011/AG-000, NBCD, Volume 11, Concept and Weapons Effects;
 - t. B-GL-316-012/FP-001, NBCD, Volume 12, Operational Equipment;
 - u. B-GL-316-013/FP-001, NBCD, Volume 13, Individual Procedures;

- v. B-GL-316-014/FP-001, NBCD, Volume 14, Formation and Unit Procedures;
- w. B-GL-318-004/FP-001, Military Training, Volume 4, Unit Guide to the Geneva Conventions;
- x. B-GL-318-017/FP-001, Military Training, Volume 17, All Arms Air Defence;
- y. AC 70590 (Part 1) Armour, Volume 1, Part 1, The Armoured Regiment; and
- aa. ABC 101, Règlement d'emploi du régiment de chars de bataille, Edition 1979.

2. The following NATO Standardization Agreements have been wholly or partially incorporated into this manual:

- a. STANAG 2044 (Edition 4, Amendment 5) Procedures for Dealing with Prisoners of War (PW);
- b. STANAG 2047 (Edition 6, Amendment 3) Emergency Alarms of Hazard or Attack (NBC and Air Attack Only);
- c. STANAG 2067 (Edition 5) Control and Return of Stragglers;
- d. STANAG 2070 (Edition 3, Amendment 3) Emergency War Burial Procedures; and
- e. STANAG 2984 (Edition 3) Graduated Levels of NBC Threat and Minimum Individual Protection.

3. The following ABCA Quadripartite Standardization Agreements have been wholly or partially incorporated into this manual:

- a. QSTAG 523 (Amendment 1) Procedures for Dealing with Prisoners of War (PW);
- b. QSTAG 655 (Amendment 1) Emergency War Burial and Graves Registration; and
- c. QSTAG 183 (Edition 2) Emergency Warning Signals and Alarms for NBC Hazards or Attacks (NBC and Air Attacks Only).