ARMY FIELD MANUAL
VOLUME 1   COMBINED ARMS OPERATIONS

PART 2

BATTLEGROUP TACTICS

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"Battles are won by slaughter and manoeuvre. The greater the general, the more he contributes in manoeuvre, the less he demands in slaughter."

Winston Churchill

PREFACE

Aim

1. The aim of this Part of the Army Field Manual (AFM) is to describe the doctrine and tactical options for the employment of ground manoeuvre battlegroups in warfighting operations. It can be used as:

    a. A guide for battlegroup commanders and staff both in training and in the conduct of operations.

    b. A basis for instruction by training establishments.

2. The subject matter contained within this publication is authoritative. However, its application is a matter of military judgement.

Definition

3. A battlegroup is defined as 'a combined arms manoeuvre group based on the Headquarters of a combat unit, task organised for a specific mission'.

Scope

4. The large number of grouping options available to form battlegroups precludes the detailed descriptions of all the possible tactics, techniques and procedures (TTPs). Therefore, this publication describes, in a generic manner, the doctrine and tactical options available to ground manoeuvre battlegroup commanders and their staff. Summaries of detailed TTPs are available in the All Arms Aide Memoire (AATAM) and which should be read in conjunction with this publication

5. The introduction of the Apache Mk 1 and continuing development of air manoeuvre (AM) means that this tactical doctrine is evolving. Tactical doctrine for air manoeuvre has been included in Formation SOPs of the Land Handbook. However for Electronic Battle Box 05, only Annex A to Ch 4 has been updated to include Aviation doctrine and Apache Mk 1 capabilities and planning yardsticks, pending a complete review of BG Tactics in 2005. The next edition will include Air Manoeuvre.

6. The publication is in 2 Parts:

    a. Part A describes the application of the Manoeuvrist Approach and command at the battlegroup level and explains the component parts of a battlegroup.

    b. Part B explains the tactical operations available at battlegroup level.

7. The publication deals only with current equipments and practices. As such the useful life expectancy of this publication is considered to be no more than 3 years. The rationale for this is that within that timeframe, new equipments, such as Bowman Apache and Watchkeeper, will be deployed which will have a fundamental effect on procedures and the process and thus the need for major revision.

8. This publication, along with others, is now available in electronic format on the latest annual edition of the DGD&D Electronic Battle Box on a CD-ROM. Comments on this publication are therefore welcome and should be directed in the first instance to

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PART A

DOCTRINE, COMMAND AND THE CONTROL OF THE BATTLEFIELD

CHAPTER 1 - THE FUNDAMENTALS

SECTION 1 - THE ENDURING CHARACTERISTICS OF OPERATIONS

1. ***General****. Operations are the art of war: Tactics is the art of fighting.* The art of tactics is about placing or manoeuvring forces skilfully in battle for combat. Successful tactics comes from the aggressive, calculated and decisive use of combat power. Although two forces may have equal combat power, the commander who best employs the full means at his disposal will achieve the greater effect and should win.

2. ***Fighting Power****.* Fighting is an aggressive clash between hostile, independent and irreconcilable wills, each trying to impose themselves on the other. Fighting Power is the ability to fight and consist of three components:

   a. *The Conceptual Component – The Thought Process (Doctrine).* (See paragraphs 7-10).

   b. *The Physical Component – The Means to Fight. The Means to Fight consists of:*

      (1) Manpower.

      (2) Equipment.

      (3) Logistics.

      (4) Training and Readiness.

   c. *The Moral Component - The Ability to get People to Fight.* The ability to get people to fight involves three fundamental elements:

      (1) The motivation to achieve the task in hand.

      (2) Effective leadership from those placed in authority.

      (3) Sound management of all personnel and resources.

3. ***Friction****.* Friction may be mental; it may be physical. It may be externally imposed or it may be self-induced. Friction can be overcome by determination; high morale; a sound organisation (understood by all); and an effective command system.

4. ***Uncertainty and Chaos****.* Combat is uncertain and chaotic, therefore it can only be conducted against a background of probabilities, arrived at by judgement and a balancing of risks. Risk is reduced as information on the enemy is increased. Well rehearsed drills, improvisation, mission command (see para 10) and seizure of the initiative are the keys to exploiting chaos at battlegroup level.

5. ***Aggression and Danger****.* Overwhelming aggression - whether applied or threatened - is the means by which combat power is used to make an enemy to do

one's will. Aggression brings danger and with it fear. Everyone feels fear and leaders must study and understand it in order to control it and bring from within their manpower the necessary courage to ensure success.

6. **Human Stress.** The will of an individual man to stand and fight, magnified across the breadth of a unit or formation will dictate the scope of success or disaster. Success on the battlefield has, and always will, turn upon the relative resolve of opposing soldiers and their commanders. Stress can be reduced by good leadership and well rehearsed drills which create a 'default setting' in times of uncertainty.

SECTION 2 - DOCTRINE

7. **Principles of War**. The means by which a battlegroup commander is guided in the use of tactics is based on doctrine. Our doctrine is underpinned by the *Principles of War* - the fundamental truths that govern the execution of war. Their proper application is essential to the exercise of command and the successful conduct of military operations. With the exception of the *"Master Principle"*, which is placed first, the order in which the others appear and their degree of application will vary with each situation.

    a.   *The "Master Principle" - Selection and Maintenance of the Aim.*

    b.   *Maintenance of Morale.*

    c.   *Offensive Action.*

    d.   *Surprise.*

    e.   *Security.*

    f.   *Concentration of Force.*

    g.   *Economy of Effort.*

    h.   *Flexibility.*

    i.   *Co-operation.*

    j.   *Sustainability.*

Blind adherence to these principles does not guarantee success, but each deviation may increase the risk of failure. The battlegroup commander must therefore constantly check his plans and actions against these principles as a 'gross error check'**.** The practical applications of these principles at battlegroup level are explained in more detail under *Tactical Techniques in Combat* in Chapter 2.

8. **Doctrine**. Our doctrine is that of the Manoeuvrist Approach to Operations (ADP1) and Mission Command (ADP2 Chapter 3). The ability to implement a manoeuvrist approach, whilst adhering to the Principles of War, can be done by considering the Functions in Combat which are explained in Chapter 2.

9.   ***The Manoeuvrist Approach.***   The Manoeuvrist Approach's aim is to shatter the enemy's overall cohesion and will to fight. It requires an attitude of mind in which doing the unexpected, using initiative and seeking originality is combined with a ruthless determination to succeed. Shattering the enemy's cohesion is achieved by a combination of tempo, surprise, simultaneity and firepower. Once his cohesion has been shattered the enemies will to fight is broken through a combination of pre-emption, dislocation and disruption. The Manoeuvrist Approach aims to target the enemy's centre of gravity using the 3 core functions of find, fix and strike and not achieve the aim through attrition. The core functions are integrated through an operational framework, currently expressed as deep, close and rear. To achieve the end state, the Manoeuvrist Approach requires a decentralised style of command that promotes freedom and speed of action and initiative, this is met by Mission Command.

10.   ***Mission Command.***   In war commanders operate amidst fear and uncertainty. They must lead, direct and motivate their units to inflict death and destruction on the enemy quickly and at the least cost to themselves whilst, at the same time, providing for their command's existence. Command in battle, where your enemy is taking active measures to destroy you and avoid your blows, does not necessarily involve the measured unfolding of a carefully laid and rehearsed plan. Rather victory in battle comes from an iron resolve to maintain one's aim while adjusting one's method flexibly as circumstances unfold. To achieve this, the style of command must satisfy two fundamental requirements. Firstly, the will and aim of the commander must be transmitted throughout the command. Secondly, the command as a whole must have the flexibility or agility to alter the approach to achieving that aim as circumstances demand.

    a.   These requirements are met by Mission Command which has three enduring tenets:

        (1)   Timely decision-making.

        (2)   The importance of understanding a superior commander's intention and

        (3)   A clear responsibility to fulfil that intention.

    b.   Mission Command is designed to promote a robust system of command and to achieve unity of effort at all levels; it is dependent on decentralization of command, freedom and speed of action, and initiative at all levels.   It has the following key elements:

        (1)   A commander gives his orders in a manner that ensures that his subordinates;

            (a)   understand his intentions, their own missions and the context of those missions.

            (b)   are told what effect they are to achieve and the reason why it needs to be achieved.

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(c)   are allocated the appropriate resources to carry out their missions.

(d)   decide within their delegated freedom of action how best to achieve their missions.
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(2)   A commander uses a minimum of control measures so as not to limit unnecessarily the freedom of action of his subordinates.
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c.   Mission Command requires the development of trust and mutual understanding between commanders and subordinates throughout the chain of command, plus timely and effective decision-making, and initiative at all levels.   These are the keys to getting inside the enemy's "*decision-action cycle*". Ultimately, all commanders must have a manoeuvrist attitude of mind and apply it to every problem and task.

d.   Before embarking on any operation the battlegroup commander must understand the intent of his divisional commander and the mission and overall concept of operations of his brigade and divisional commander so he can properly employ his own forces. The battlegroup commander develops his own intent and concept, accepting measured risks to achieve decisive tactical results in the outcome of the current or immediate battle. He will strive to seize the initiative early on in any engagement, and to conduct offensive action. The objective of any plan will ultimately be to manoeuvre his strength against the enemy's weakness, to throw the enemy off balance and, whenever possible, follow up aggressively to complete the defeat or destruction of the enemy.

e.   The successful application of Mission Command on operations rests on its principles being fully understood, fostered and frequently practised in training, and applied at all levels of command. Its application, however, cannot be stereotyped.   A commander's style of command must reflect the local situation, including the personalities, capabilities and understanding of his subordinate commanders.

SECTION 3 - DEFEATING THE ENEMY

11.   **End State**. Success in modern conflict is defined by the achievement of a desired *end state* - a state of affairs which needs to be achieved at the end of the campaign either to terminate the conflict or resolve it on favourable terms.   To defeat an enemy it is necessary to deny him his goals. This can be achieved in a number of ways.

12.   **Destruction of the Enemy**. The physical destruction of the enemy's forces remains an imperative at the lower tactical levels but may not in itself lead to operational success. The destruction of the enemy's capacity to fight will be only one of a number of means to defeat him.

13.   **Attacking the Enemy's Cohesion**. At its simplest, cohesion is the quality that binds together the constituent parts thereby providing resilience against dislocation and

disruption. It minimises the adverse effects of pre-emption and vulnerability to defeat in detail. It is preferable to undermine the enemy's ability to resist, by shattering his moral and physical cohesion than to seek wholesale destruction. The successful shattering of cohesion will not, though, in itself guarantee immediate defeat. Therefore, once the enemy's cohesion is shattered, further operations to terminate or resolve the conflict may be required. If, however, the enemy's cohesion can be broken then his defeat becomes easier. The key is manoeuvring to the right place at the right time to achieve surprise.

    a.   *Surprise.* Surprise creates shock. Surprise is fundamental to the shattering of the enemy's cohesion. This is best achieved by a generating a high rate of tempo.

    b.   *Tempo.* Tempo is the rhythm or rate of activity relative to the enemy. It has 3 elements:

        (1)   Speed of *decision.*

        (2)   Speed of *execution.*

        (3)   Speed of *transition* from one activity to another. The greater the tempo, the better the decision/action cycle and the greater the potential surprise.

    c.   *Simultaneity.* Surprise and confusion are created by overloading the enemy C2 systems through simultaneous attacks in a variety of locations or by different means.

    d.   *Firepower.* The effects of firepower that destroys, neutralises, suppresses and demoralises will be greatly enhanced by a high rate of tempo.

14. **Attacking the Enemy's Will**. Attempting to destroy an enemy solely by direct attack on his forces may be too costly. If defeating the enemy by destruction alone has limitations, then the complementary approach is to attack the enemy's will to resist. Within the constraints of the rules of engagement and Law of Armed Conflict, combat must never be seen as a fair fight: *guile and ruthlessness are essential*. The enemy must be made to feel constantly off balance as a result of his actions being pre-empted, dislocated or disrupted.

    a.   *Pre-emption.* To pre-empt the enemy is to "beat him to the draw" by seizing opportunities, often fleeting, before he does, in order to deny him an advantageous course of action. It demands a keen awareness of time and a willingness to take risks, which offer a high return.

    b.   *Dislocation.* To dislocate the enemy is to deny him the ability to bring his strengths to bear. For example, mounting a hasty attack on an enemy in his FUP prior to launching his attack would dislocate his plans and capability to retain the initiative. Dislocation is critically dependent on timely and accurate intelligence, combined with the commander's military intuition.

c.   *Disruption*. Disruption is "throwing a spanner in the works" - attacking the enemy selectively to break apart and throw into confusion the assets, which are critical to the employment and coherence of his fighting power.

SECTION 4 - THE CORE FUNCTIONS - FIND, FIX, STRIKE AND EXPLOIT

15.   ***Finding the Enemy***. Finding the enemy is a basic function that endures throughout an operation. It spans locating, identifying and assessing the enemy. At lower tactical levels a fundamental part of this function is the effective use and coordination of all Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) assets in the commander's Intelligence Preparation of the Battlespace (IPB) and the associated Surveillance and Target Acquisition Plan (STAP). See AFM Vol 1 Part 8 for more details on IPB and STAP.

16.   ***Fixing the Enemy***. Fixing the enemy has a physical and psychological requirement. In military terms to fix the enemy is to:

    a.   Deny the enemy his goals (this includes physical action) and to

    b.   Distract him (which includes psychological action) and thus to

    c.   Deprive him of freedom of action in order to gain us the necessary freedom of action for successful operations.

17.   ***Striking the Enemy***. To strike the enemy is to use the freedom of action "bought" by finding and fixing the enemy to:

    a.   Utilise the benefits of *recce pull*. Recce in all its guises should find the gaps or weaknesses in the enemy. The commander then decides whether or not to exploit a particular gap with all or part of his force.

    b.   Manoeuvre into a position of advantage in respect of the enemy from which force can be threatened or applied.

    c.   Hit the enemy unexpectedly or in superior force, at the point selected in order to destroy or defeat him.

18.   ***Exploiting the Enemy***. To exploit is to turn enemy dislocation into decisive success. This requires a commander to seize opportunities whenever they occur throughout an operation. This will normally require an uncommitted reserve, able to react rapidly to an unexpected opportunity. It relies upon the principles of offensive actions, surprise and flexibility. A truly manoeuvrist commander will look to maximise the effects of striking the enemy, by seeking ways to exploit opportunities, but within the overall scheme of manoeuvre and respecting any constraints placed upon him.

SECTION 5 - THE INTEGRATED FRAMEWORK OF OPERATIONS

19.   To avoid confusion and to ensure that our simultaneous actions produce the maximum impact there must be some logic and order.   A *Framework of Operations* is required within which the Core Functions can be organised and closely integrated. In this Framework the terms *Deep, Close* and *Rear* are of crucial importance.

20.   It is essential to appreciate that these terms do not merely describe geographic areas. They also relate friendly forces to one another and the enemy in terms of time, space, resource allocation and, most importantly, purpose. In other words *Deep, Close* and *Rear* are ways of thinking about what we want to do, where we want to do it and when.   The integrated framework of Deep, Close and Rear operations is a means of visualising operations in terms of their effect on the enemy (see Figure 1-1); it is not merely the geographic description of forces on the battlespace.

Type of Op	Purpose	Conditions	Activities	Remarks
DEEP	Purpose most often is to *find* and *fix* the enemy, to keep him from his objectives and constrain his freedom of action, thereby helping to create the conditions for close ops. It expands the battlefield in time and space, making it difficult for the enemy to concentrate combat power without loss and disruption. Range and lethality of modern weapons tied to accurate and responsive acquisition and comms systems increasingly allow deep operations to contribute directly to *striking* the enemy.	Usually conducted at long range and over protracted time scale against the enemy's forces or resources not currently engaged in the close battle. Essentially offensive in nature. The scope for deep operations at battlegroup level is limited but it does exist particularly if it is linked firmly to higher formation surveillance resources.	4 principal activities: a. Deception. b. Information and Intelligence collection and Tgt Acquisition. c. Indirect fire. d. Manoeuvre. The latter seeks to prevent the enemy reinforcing or reacting to close operations and thus contributes to reducing his combat power.	Means of restricting the enemy's ability to manoeuvre by focusing on key vulnerabilities so enemy is unable to bring combat power. Enemy is delayed and diverted from his main effort and elements of his combat power are destroyed. Acquisition of target information is crucial. At battlegroup level deep operations will usually be conducted *before* H hour and *beyond* the immediate operational objective.
CLOSE	Primarily to strike the enemy in order to eliminate a discrete part of his combat power.	Usually conducted at short range and in an immediate timescale. Concerned with the winning of current battles and engagements by forces in direct contact with the enemy.	Includes combat forces as well as combat support and CSS units operating in their support. Activities include: a. Deception. b. Information and Intelligence gathering.	Deep and Close Ops ideally conducted <u>simultaneously</u>. Both will draw on limited assets and resources. Main effort should therefore be clearly designated. Likely to be with Deep Op initially as a successful outcome

			c. Manoeuvre. d. Close Combat. e. Fire Support. f. Counter-Bty Fire. g. Combat support and CSS forces in contact. Activities involved with Close Ops require precise control to avoid fratricide.	will dictate the conditions for Close Ops.
REAR	To ensure freedom of action by protecting the force, sustaining combat ops and retaining freedom of manoeuvre of uncommitted forces.	Rear Ops increase the overall depth of operations and provide the resources to vary the tempo of operations.	Types of activity include: a. Assembly, movement and security of reserves or echelon forces. b. Redeployment of forces out of contact. c. Establishment and protection of secure operating bases. d. Establishment and protection of lines of communication. e. Support for and protection of civilians and civilian installations. f. Anti-desant Ops. g. Sustainment Rear Ops control the provision of reinforcements, replacements, reconstitution and regeneration of forces.	Protection of Rear Ops against en Deep Ops is an important req. Rear Ops must be focused to support BG Comd's intent.

Figure 1-1 A Framework for Battlegroup Offensive Operations

21.   Although battlegroup assets are limited and vulnerable, this does not undermine the concept of a *Framework of Operations*. The lowest level at which deep, close and rear operations can be conducted simultaneously is normally at divisional level. Within a divisional or brigade scheme of manoeuvre, a battlegroup may be involved in a deep, close or rear operation. This would normally be a close operation for the battlegroup, but it could be a deep, close or rear operation for the brigade or division, depending upon circumstance.

CHAPTER 2 - THE FUNCTIONS IN COMBAT

SECTION 1 - TACTICAL APPLICATION OF THE FUNCTIONS IN COMBAT

1. ***General***. The Principles of War are the basis for the successful employment of force in any conflict. From these we can extract the functions required to apply a manoeuvrist approach to operations. These conceptual tools are typically called the *Functions in Combat.* By considering these functions at the planning stage, battlegroup and sub unit commanders will ensure that they are adhering to the Principles of War in the conduct of operations. The Functions in Combat are:

    Command.

    Manoeuvre.

    Firepower.

    Protection.

    Information and Intelligence.

    Combat Service Support (CSS).

2. ***Deductions***. From these functions a series of deductions can be made about the factors which will be central to the successful outcome of an operation and over which a battlegroup or sub unit commander will have a measure of tactical control.

    Command and Control

3. ***General***. The effectiveness of a battlegroup depends largely on the personality and professional ability of its commander (whose presence has to be felt in all its activities), supported by appropriate command, control, communication, computing and intelligence (C4I) systems. In order to operate effectively and efficiently a battlegroup needs to apply command *and* control. In essence, therefore, command and control is about acquiring information, assessing whether any new decisions are required, determining what the response should be, and directing the appropriate action in order to execute the other functions in combat.

4*.* ***Command*** is the authority vested in an individual for the direction, co-ordination and control of military forces. Successful command depends on information, communications and control; its effectiveness will be undermined by the absence of any one of these. A commander requires information to make decisions; communications to acquire information and to promulgate decisions; and control to co-ordinate and monitor his assets and the actions of his forces. These three components must be available and sustained throughout the period of operations

5. ***Control*** is the process by which the commander, assisted by his staff, organizes, directs and co-ordinates the activities of his forces. To achieve this, standardised procedures are used in conjunction with C4I to form the command and control (C2) system.

Manoeuvre

6.   *General*. For the battlegroup, manoeuvre is principally a product of movement and firepower used to gain a position of advantage relative to the enemy. To do this, and to be secure at all levels of command, movement must take place in conjunction with fire or with fire on call.

7.   *Movement*. The object of movement is to concentrate force at a point and to exploit the consequence of that action in furtherance of the aim. It involves operations that provide freedom of manoeuvre, including obstacle crossing and breaching, route development and movement control. It requires the ability to navigate accurately across whatever terrain has to be crossed. Movement is controlled by drills and procedures. These are required for the operations of war (offence and defence) and the transitional phases during operations. These transitional drills are most important, for it is their slick execution which enhances a command's agility.

8.   *Manoeuvre*. Manoeuvre is therefore important in enabling friendly forces to engage the enemy and control terrain:

      a.   *Engaging the Enemy*. Speed of movement and momentum are required to retain the initiative in battle. Once in contact, forces can engage the enemy using co-ordinated direct and indirect fire closely integrated with movement.

      b.   *Controlling Terrain*. Through manoeuvre, terrain can be controlled by occupation or domination by fire. This can help to destroy the enemy's cohesion and hence his eventual defeat.

Firepower

9.   The primary role of firepower is to facilitate manoeuvre by shattering the enemy's will or undermining his cohesion. *It is usually quicker to concentrate fire to establish a main effort than to mass forces*. This can improve flexibility, surprise the enemy and lead to economies of effort. The application of firepower should be judged solely by the effect required in terms of neutralisation, suppression or destruction of the enemy. The appropriate mix of weapon systems, in terms of volume, duration, lethality and the precision and range of munitions, both direct and indirect, can then be chosen to achieve the desired effect. A combination of systems can serve to complicate the enemy's response.

10.   In order to maximise the full effect and flexibility of firepower, battlegroup commanders must consider the following factors:

      a.   Firepower must be synchronised with other battlefield activities in terms of time, space and purpose to achieve the maximum unity of effort.

      b.   Weapon systems should be *commanded at the highest level* that matches their range. The commander can then concentrate force at a point and shift the concentration flexibly across the width of his command. Fire, however, must be directed or *controlled at the lowest level* by those who are moving in concert with it. Failure to do this can result in either the fire or the movement not being directed to the same aim: co-operation then breaks down.

c.   At different stages of an operation priorities must be allocated for the use of systems which are capable of both information collection and target acquisition.   Information collection will be a high priority to meet the battlegroup commander's intelligence requirements. Target acquisition will be the priority to carry out engagements with offensive fire support assets. The choice will be dictated to some extent by the course of the operation.

d.   A communications network must be provided to exercise command and control effectively.

e.   Whatever means is used to provide firepower, its mobility, protection and re-supply must match that of the forces it is supporting. The decision as to the weight or concentration of fire to apply is the commander's and in making it he must bear in mind that it must be possible to sustain, or support the fire plan logistically.

11.   To be at its most effective, firepower must be used in conjunction with sensors capable both of acquiring targets and of carrying out damage assessment. Offensive fire support systems, cued directly by Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) assets, achieve the objective:

a.   *Finding the Target*. The Find Function and subsequent decision of effect to apply is a process which requires detailed co-ordination with manoeuvre forces. Guidance and direction as to target selection will be made by the Battery Commander (BC) in consultation with the battlegroup commander. The BC will then select a suitable system to undertake the task and produce the necessary orders to carry it out.

b.   *Engaging the Target*. Once the system has been selected and the orders given the engagement will then take place. Depending on the task it may be either a lethal or a non-lethal engagement (ie conventional land, air and sea delivered munitions or exploitation of the electro-magnetic spectrum).

c.   *Integrating Firepower*. In order to enhance the chances of success, firepower must be fully integrated into the plan. This includes, in particular, the integration of all-arms firepower.

Protection

12.   *General*.   In its widest sense protection is achieved by fixing the enemy and, if necessary, destroying him before he can attack effectively.   At the tactical level, narrower and more specific deductions can be derived from this function.

13.   *Mobility*.   By maintaining mobility, principally during offensive operations, the battlegroup commander can enhance the protection of his forces. This requires the positioning of suitable engineer resources well forward in the order of march to ensure that obstacles can be breached and routes repaired and maintained. By so doing the tempo and momentum of the operation can be preserved without forces becoming bunched and vulnerable to enemy firepower. Mobility in the rear areas also requires attention to ensure the enemy does not interdict reserves and echelon forces.

14.   ***Counter-mobility***. During fluid manoeuvre and defensive operations and in some transitional phases counter-mobility tasks are particularly applicable. They require careful planning and must be fully incorporated into the operational plan. Planning must be carried out by the G3 staff in consultation with the Battlegroup Engineer (BGE) and assault pioneers. This ensures the most advantageous use of terrain for locating and placing obstacles, in particular for flank protection.

15.   ***Survivability***. Enhancing survivability can be accomplished in a number of ways. Major considerations are:

a.   *Covering Force*. A covering force should be deployed in all operations of war when required by the threat.   Within the battlegroup this can be task organised from sub units and/or the close recce element. The size of the covering force must be sufficient to ensure the protection of the battlegroup main body.

b.   *OPSEC*. This concentrates on identifying those aspects of a plan which, if revealed to an enemy, would enable him to deduce its details, aim and objective*.* It addresses the overall security of the whole operation in the light of the enemy's known or suspected ISTAR capabilities. An examination of friendly force activities from an enemy viewpoint must be conducted and an estimate made of what the enemy may conclude from any battlegroup indicators. Security weaknesses can then be identified by the battlegroup G2 staff and the commander who set appropriate security priorities and initiate OPSEC measures which might include:

(1)   *Defensive Measures*. This is to counter enemy ISTAR assets such as:

(a)   Emission Control (EMCON) measures.

(b)   Camouflage and concealment.

(2)   *Active Measures*. To disrupt or destroy enemy ISTAR capability by:

(a)   ECM.

(b)   Increased Patrol Activity.

(c)   Increased Air Defence Activity.

(3)   *Deception*.

(a)   *Offensive Deception Measures*. The active dissemination of false evidence to the enemy in order to mislead him about future intentions.

(b)   *Defensive Deception Measures*. The offering of false evidence to an enemy who holds the initiative. The use of credible substitutes to divert the enemy's attention and effort away from genuine dispositions and targets.

(4)   *Changes of Plan*.   If compromise is suspected, movement timings, deployment locations and other details of a plan may have to be altered.

16.   **Air Defence**.   One of the enemy's most effective means of destroying the cohesion and freedom of action of the battlegroup is through attack from the air by attack helicopters and fixed wing aircraft. Air defence is consequently of vital importance to commanders at all levels.   Air defence will normally be carried out by two complementary components, surface to air weapon systems and air defence aircraft.

a.   *Surface to Air Systems*.

(1)   The battlegroup commander must ensure that his forces are protected by appropriate air defence assets, grouped where possible, under his command. If there are not enough assets available to cover the entire operation then he will need to request a change in priorities.   The systems available may range from close and area AD artillery, to the use of weapons with a secondary AD role eg tank guns, AFV cannon/chain guns, and MGs. Ideally these are deployed to provide a layered defence covering all heights at which the enemy might operate.

(2)   Air defence systems will be employed to provide both area and close defence.

(a)   *Area Defence.* Area defence is a formation function, designed primarily to give uniform cover over a broad area, within which movement or deployment is taking place.   The only area air defence system available to the British Army is SHORT RANGE (SHORAD) Field Standard B2 or Field Standard C RAPIER.

(b)   *Close Defence*.   Close air defence (CAD) provides cover is designed to provide very short range (VSHORAD) defence of vital points routes, crossing sites or key resources. The British Army's CAD system is the High Velocity Missile (HVM) which is usually held under OPCON of brigades. HVM has a passive thermal acquisition system called the Air Defence Alerting Device (ADAD) with a range of up to 9km. HVM can be given to battlegroups for specific tasks or missions. It has a maximum engagement range of 5.5 km.

(3)   Air defence units can make a variety of other contributions to the battle. They contribute to the intelligence and electronic warfare effort by gathering and disseminating information about the enemy air order of battle.

b.   *Aviation.*   The battlegroup commander could employ/task armed and attack helicopters against enemy attack and troop carrying helicopters.

c.   *Aircraft*. At battlegroup level, the commander will have no influence over the counter-air campaign, but he will need to be aware of its status and progress.

17. ***NBC Defence (NBCD)***. NBCD is part of the protection function in combat and must therefore be considered for operations in theatres where Weapons of Mass Destruction (WMD) (nuclear, chemical or biological) may be used. In addition NBCD should also be considered in all theatres where Toxic Industrial Materials (TIM) could pose a potential hazard to troops through battlefield damage. Toxic Industrial Hazards (TIH) may appear in the form of Low Level of Radiation, Toxic Industrial Chemicals or Toxic Industrial Biologicals. TIH can be released as a result of collateral damage, deliberate targeting, or in crude weapon form. All NBCD procedures are designed to limit friction and maintain tempo.

   a. *Information and Direction*. Information on the NBC threat to an operation is provided by the G2 staff. Full details of delivery systems, warheads, agents, industrial infrastructure and the enemy's NBC offensive and defensive doctrine will be essential to permit commanders and their staffs to make realistic risk assessments. Locations of TIM sites are collated by formation G3 NBC staff.

   b. *Battlegroup Responsibilities*. All detail on battlegroup NBCD measures will be covered in a dedicated NBC annex to OPOs. The commander is responsible for the detailed NBCD plan within his AO. The commander should consider NBCD in his mission analysis and estimate, as well as including NBC within the IPB. NBC is then integrated as part of the protection function within the operational plan.

18. ***Health and Risk***. Keeping soldiers healthy and protecting them, their equipment and supplies against loss or damage helps to maintain the morale, cohesion and confidence necessary to produce soldiers who can carry out their commander's plans in an effective manner. Commanders at all levels should embrace safety as a principal element in all that they do. Sustained, high-tempo operations can put soldiers at risk. Strong command and high levels of discipline lessen those risks. Safety in training, planning, and operations is crucial to the preservation of fighting power and successful combat operations. This must be balanced by the danger of overly constricting boldness and audacity in combat.

19. ***Fratricide***. Fratricide is the unintentional killing or wounding of friendly personnel by our own fire. The destructive power and range of modern weapons, coupled with the intensity and tempo of the battlefield, increase the likelihood of fratricide. Battlegroup commanders must be aware of the conditions that increase its probability of occurring and take measures to reduce them.

Information and Intelligence

20. ***General.*** Success in combat is dependent on the possession of accurate and timely intelligence. This in turn is reliant upon the ability to obtain timely information on the composition, capabilities, deployment and intentions of the enemy. This, together with information about the battlespace environment, is then analysed by the IPB procedure. This will produce the intelligence and offensive support targeting data from which the battlegroup commander can task organise his force; allocate appropriate resources; determine target priorities; and establish the most favourable

conditions for combat. The battlegroup commander will usually be concerned about three specific areas:

a. *Area of Intelligence Responsibility.* The area for which the battlegroup commander is responsible for the provision of intelligence within the means at his disposal. The efforts of his G2 staff will be devoted mainly to this area.

b. *Area of Influence.* The geographical area wherein a commander is directly capable of influencing operations by manoeuvre or with fire support systems normally under his command or control.

c. *Area of Intelligence Interest.* That area of concern to the battlegroup commander, including the area of influence, areas adjacent, and extending into enemy territory to the objectives of current or planned operations. This area also includes areas occupied by enemy forces who could jeopardize the accomplishment of the mission. The necessary information and intelligence will invariably have to be requested from brigade, or flanking units and formations.

21. ***The Intelligence Cycle.*** The process through which intelligence and targeting data is collected, produced and disseminated is known as the intelligence cycle. This is a dynamic and cyclical process the object of which is to meet the commander's intelligence requirements at the outset of his decision making, and to continue to meet the requirements as they are updated and altered throughout the course of an operation.

22. ***Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR).*** At the tactical level, raw information and intelligence is collected through ISTAR. This is a system which meets the commander's intelligence requirements by integrating and processing information collected through systematic observation, with that collected from specific missions. It also permits targets to be detected, identified, and located in sufficient detail and time, to enable successful engagement by offensive strike assets. ISTAR characteristics are as follows:

a. *Intelligence.* Intelligence derived from strategic sources and higher and neighbouring formations may be used to cue other assets in the system.

b. *Surveillance.* Continuous surveillance provides full coverage of the area including gaps and exposed flanks, and maximises the use of all available surveillance resources. Area surveillance enables the collection of general information about the enemy. It may be used to:

(1) Provide basic information concerning deployment, activity levels, equipment and capability.

(2) Cue the use of fine grain sensors in order to obtain more detailed information.

(3) Provide early warning of enemy activity in gaps between friendly deployments, on exposed flanks or in rear areas.

c. *Target Acquisition*. Target Acquisition is the process of collecting detailed information about the location of enemy forces with sufficient accuracy to enable weapons systems to suppress or destroy those elements of the enemy selected as targets. Direct Fire weapons will normally have their own target acquisition systems while Indirect Fire weapons rely on information collection systems operating beyond their line of sight.

d. *Reconnaissance.*

(1) *Reconnaissance in Depth.* The aim of reconnaissance in depth is to collect information from areas beyond the range of direct fire weapons. It may be cued as a result of information or intelligence from external sources or agencies. At battlegroup level most reconnaissance will be conducted by the Close Recce element, but assistance *may* be given in the form of SF, UAVs or EW. It has the capability to:

(a) Identify or locate known or suspected enemy forces.

(b) Acquire targets for indirect fire weapon systems.

(c) Identify going, routes and obstacles.

(d) Acquire HUMINT eg attitude of population.

(2) *Combat Reconnaissance*. Combat Reconnaissance is the means by which the intelligence requirements and targeting data for forces in or near contact with the enemy is met, normally through the Close Recce Platoon/Troop. However, other elements of the battlegroup may be used.

23. ***The Surveillance and Target Acquisition Plan*** (**STAP).** To fill the intelligence gaps identified from the IPB, the battlegroup commander gives his Comanders Critical Information Requirement (CCIR). The G2 staff produce the Intelligence Collection Plan (ICP), which details the battlegroup's information and intelligence needs, including those which will be met by external sources and agencies (through brigade HQ). The ICP reflects, in order of priority, the commander's requirements, the specified requirements of brigade and other formations, and, requests for information of less pressing importance. The battlegroup staff develops the STAP from the IPB and ICP. Amongst other matters the STAP will:

a. Take into account the brigade STAP.

b. Show the intelligence and information requirements clearly and in order of priority, and set out the questions arising from them which are to be put to elements of the battlegroup and, possibly, other sources.

c. Indicate which sources and sub units are to be tasked to answer the questions.

d. Show how the burden of collection has been spread.

e. Specify the form in which the report is to be made and the time by which the information is required.

f. Show what information has and has not been collected so that the available collection assets may be re-allocated.

24. **Control and Tasking of ISTAR Assets**. ISTAR assets must be controlled at the highest practicable level in order to achieve economy of effort. The ISTAR assets within the battlegroup, which are closely related and often overlap, are tasked from the STAP.

Combat Service Support

25. **General**. CSS deals with support to combat forces and essentially describes the functions covered by G1 and G4 staffs at formation and battlegroup level. CSS is an integral part of the planning, preparation and execution of any operation and is the responsibility of commanders at all levels.

26. **Operational Framework**. CSS has a key place in the operational framework and must be considered in the commander's estimate for all types of operation. Manoeuvre warfare presents the battlegroup commander with two particular problems in terms of CSS planning:

a. Manoeuvre warfare can require high rates of fire, great mobility and endurance. All of these are demanding in terms of volume of support and speed of action.

b. The manoeuvrist approach not only assumes that confusion on the battlefield will be inevitable, it actively encourages commanders to create chaos in order to wrong foot an adversary. It may therefore be difficult for commanders and planners to produce rigid template solutions for the provision of CSS from the outset.

SECTION 2 - TACTICAL TECHNIQUES IN COMBAT

Seizing the Initiative

27. **General**. In order to translate the Principles of War and Functions in Combat into action on the battlefield, battlegroup commanders should think of them in the context of a number of techniques. These tactical '*techniques in combat*' are the means by which the principles and functions can be applied to break the cohesion of the enemy and bring about his defeat. This section considers, briefly, the impact and effect of the most important techniques during operations.

28. **Independent Action**. Seizing the initiative means having the power to make the enemy react to your agenda. The morale of an army which is continually on the defensive will suffer. An offensive spirit is therefore important in the conduct of all operations. To seize and then retain the initiative requires a constant effort to force the enemy to conform to your operational purpose and tempo whilst retaining freedom of action. To achieve this, battlegroup commanders must be prepared to act independently within the framework of the higher commander's intent.

29.   ***Offence***. Offensive action does not imply attacking indiscriminately and regardless of casualties. It embodies, however, a state of mind (at all levels) which breeds determination to gain and hold the initiative and to create opportunities to harass and destroy the enemy. This is achieved by identifying the enemy's weaknesses and then selecting the time and place of the attack with the use of surprise and simultaneity. Manoeuvre, closely integrated with firepower, is then employed to create a fluid situation in which the enemy is forced to react to events. As this occurs, the battlegroup must act quickly to exploit the situation. Retaining the initiative throughout the operation necessitates looking ahead beyond the initial operation and anticipating events that may occur. This requires the use of the integrated framework of deep, close and rear operations.

30.   ***Defence***. In the defence, seizing the initiative implies turning the tables on the enemy who will inevitably have the initial advantage. Planning should take account of likely enemy courses of action, using intelligence and information from ISTAR assets, to give prior warning of the enemy's actions. Once the attacker is committed to a course of action; the battlegroup must prevent him achieving his aim, and must pre-empt any adjustments he may make to his plan. In this way the battlegroup can seize the initiative as a prelude to offensive action; although this may not necessarily occur in the area in which the enemy attack takes place.

31.   ***Security***. Never permit the enemy to acquire the initiative. Every military operation requires that degree of security which will give our forces the freedom of action to achieve their aim despite the enemy's interference. Security is not merely defensive. Bold measures to seize and hold the initiative are one of the surest ways of achieving security. Active measures include the defence of bases and entry points, the maintenance of a favourable air situation, the protection of flanks to secure freedom of action, and the availability of an adequate reserve. Use a covering force at all times; this does not imply undue caution or avoidance of risk. The correct Electronic Protective Measures, both in comms and non-comms bands, will also be an essential component in this process. At the lower level security implies constant alertness.

32.   ***Leadership***. Initiative is enhanced by ensuring that mutual trust exists between leaders and led at all levels, and that subordinate commanders understand their higher commander's intent. This requires a command system and a practised understanding of doctrine, tactics and drills, which encourages the exploitation of tactical opportunities. The selection of soldiers and, in particular, their leaders is therefore of paramount importance. Soldiers must be selected who seek by their own actions to win; soldiers who have the physical and mental endurance to maintain pressure on the enemy and are professionally aggressive and cunning. Practical and resourceful soldiers are needed who have been trained to use their initiative and, when necessary, will take risks in the knowledge that their actions will be supported.

33.   ***Risk***. Seizing the initiative requires audacity, leadership, good teamwork and, almost inevitably, a willingness to take and accept risks. *A refusal by commanders to accept initiative and the associated risk in training or other peacetime activities, can stifle individual, team and sub-unit initiative on operations*. If in doubt over what

course to adopt, take the most aggressive option. This wins the initiative and provides further information for analysis.

Synchronization

34.   Synchronization is the focusing of resources and activities to produce maximum fighting power at the decisive time and place, with the greatest economy of force. Careful co-ordination will be required to use every resource when and where it will make the greatest contribution to success. The battlegroup commander must therefore first determine what he wishes to achieve, and how the activities should be sequenced to produce this. Synchronization includes, but is not limited to, the actual concentration of the manoeuvre force and firepower at the decisive point. There is also an important requirement for information to be passed quickly across the levels of command. This allows information to be processed and disseminated to enhance synchronization and increase tempo.

35.   Some operational activities, such as interdiction with manoeuvre, must, however, be synchronized well before the decisive moment, and may be widely separated geographically. This requires good administration, which in turn depends upon an organization, which uses its resources efficiently and economically. Many requirements can only be foreseen and provided for if the logistic staffs are taken into the commander's confidence sufficiently early in the planning stages, and thereafter work closely with the operations staff.

36.   Less detailed co-ordination will be required if the elements that make up or support the battlegroup have a thorough understanding of the commander's intent and can respond promptly to any contingency. This will be enhanced by co-operation between Arms, Services and allies. The kind of co-operation which creates efficient synchronization requires goodwill, a shared aim, a common understanding of doctrine and a clear division of responsibilities. It is born of team spirit based on a thorough understanding of each other's capabilities *and* limitations obtained during training in peacetime. Concentration of Force, Economy of Effort and Flexibility all depend upon co-operation, effected by an efficient communication and liaison mechanism as well as a spirit of mutual understanding, trust and loyalty. Only by full co-operation can synergy and full synchronization be achieved within the battlegroup.

Tempo

37.   "Tempo is the rate or rhythm of activity relative to the enemy, within tactical engagements and battles and between major operations. It incorporates the capacity of the force to effect the transition from one operation of war to another." Tempo generates threats to which the enemy is increasingly unable to react. His responses become inappropriate in terms of either space or time. He reacts too late or in the wrong place. Tempo can be enhanced by varying the speed or type of activity.

38.   Tempo is dictated by three elements; speed of decision, speed of execution and the speed of transition from one activity to another. Not only is there a requirement, therefore, to think and decide fast. Forces must also be organised and grouped to achieve rapid execution. To a large extent this will rely on the ability of subordinate commanders to conduct independent action within the superior commander's intent.

Success will be achieved if friendly forces act faster than the enemy who, although he may know what is about to happen, will not be able to do anything about it (ie getting inside the enemy's decision action cycle). As a consequence the enemy will lose the cohesion required to continue the fight.

Main Effort

39. The "Master Principle" - Selection and Maintenance of the Aim - demands that every action should be directed towards a clearly defined, decisive and attainable objective. In British doctrine this is enshrined in the *Main Effort:*

> *"the activity which the commander considers crucial to the success of his mission at that time."* - ADP 2

For ease of understanding and to link the Main Effort to the commander's Concept of Operations, the activity should be qualified by location, time and the sub units directly involved in conducting that activity. The sub units are then described as *"being on the Main Effort".*

40. A battlegroup commander has to designate a Main Effort in order to provide a focus for the actions of his subordinates. It is mandatory for subordinates to support their commander's Main Effort. The identification of Main Effort encourages initiative and maintains cohesion in accordance with mission command. Supporting the Main Effort requires the synchronization of all units.

41. Designating a Main Effort may require a concentration of force in one location, matched by dispersion elsewhere. Because it will be impossible to be strong and secure everywhere, decisions have to be made on where to place the Main Effort. This will necessarily involve some risk which will be reduced by effective decision making. Concentration is not necessarily advantageous and should always be seen in relation to the enemy's capabilities and concentration of force; it can be a cause of collapse if the logistic means do not exist to sustain it. Concentration can also be achieved, in relative terms, by preventing the enemy from concentrating. In practical terms for the battlegroup, concentration of force can be achieved by the concentration of *fire*, and not necessarily of manpower or equipment.

42. Knowing when to concentrate and when to disperse is a matter of timing and judgement depending on the analysis of the situation. Rapid concentration and dispersion demand good communications and drills; thus selection of the Main Effort will rely on timely information and a commander capable of recognizing where the point of decision lies, and of exploiting that judgement. A single command and leadership structure with one vision must control the operation. If it is necessary to ensure success, a commander should be prepared to shift the Main Effort and the resources required to support it. The execution of the plan will then depend upon the ability to move forces (or fire potential) to create or shift the Main Effort.

43. A Main Effort also demands Economy of Effort with all available combat power employed in the most effective way and with the minimum of combat power allocated to secondary tasks. Economic use of resources is dependent upon knowing where and against whom to apply them, making an effective plan and having trained forces to carry it out. Over-insurance and hoarding of resources are to be avoided.

Economies can be achieved by ensuring that there are the minimum levels of command between the commander and the soldiers required to carry out the mission, allowing for some built-in redundancy and resilience. Economies of effort can be achieved by establishing commonality in the application of doctrine, training and SOPs. Such a system will encourage decision-making at the lowest possible level.

Surprise

44.   Surprise is the major contributor to breaking enemy cohesion and hence to his defeat through 'shock'. Surprise can be absolute ie a bolt out of the blue, or it can be relative to the ability of the enemy to react ie getting inside his decision-action cycle through superior tempo. Although modern sensors are such that the enemy will rarely be completely surprised, and its effect will be relatively short lived, surprise may well serve to degrade his reaction. Ultimately though, surprise rests on the enemy's susceptibility, expectations and preparedness.

45.   Because surprise is such an essential condition for victory, it must be considered by commanders at the outset of planning, not as an afterthought. Surprise will depend largely upon the successful collection of information about the enemy and the ability to exploit that information. Surprise can be achieved by doing the unexpected through physical manoeuvre, deception and fire mobility. All of these will be even more surprising if their effect is multiplied by speed, secrecy, audacity and simultaneous action (including command or control warfare tasks) executed by formation assets. A unit will be more likely to do this if its command system is structured to shift quickly from one activity to another. This requires subordinates to be given the maximum freedom of action and a concept of co-operation within a clear statement of Main Effort.

Deception

46.   Deception consists of those measures designed to mislead the enemy by manipulation, distortion or falsification of evidence, which induce him to react in a manner prejudicial to his interests. It is a vital part of tactical operations serving to mask the real objectives, and in particular the Main Effort. Consequently, it delays effective enemy reaction by misleading him about friendly intentions, capabilities, objectives, and the location of vulnerable units and installations. Tactical and operational level deception plans must be co-ordinated so that they reinforce rather than cancel each other. A sound deception plan should be simple, believable and not so costly that it diverts resources from the Main Effort. Because it seeks an enemy response, it must be targeted against the enemy commander who has the freedom of action to respond appropriately. The deception plan is more likely to be successful if it encourages the enemy to pursue his already chosen course of action.

Echeloning and Reserves

47.   *General*. Commanders must be capable of exploiting opportunities made possible by anticipated and unexpected tactical success. This requires timely information, a command system that is capable of knowing when exploitation is appropriate, and a balanced force structure trained to react to changing circumstances. In planning for this, care must be taken to distinguish between true reserves (retained for the

unforeseen) and echelon forces (those already committed or held ready for committal as part of the plan - usually to maintain momentum). The distinction which should be clear from the commander's estimate is illustrated below.

48. ***Echeloned Forces***. Sub-units held in echelon whose committal is vital to the success of their commander's mission should themselves receive a mission. It follows that sub-units held in echelon should not lightly also be given a reserve role because, if they are used in a reactive fashion, the commander risks losing the initiative. A commander who combines these two roles in a single sub-unit must accept the risk of compromising his mission.

49. ***Reserves***. A sub-unit held wholly in reserve to exploit unexpected success or unforeseen setback will be given planning tasks (options) rather than a mission, for example: 'Be prepared to ... conduct A, B and C.' The unifying purpose of the reserve will be implicit in the commander's Concept of Operations. Before it is committed, such a reserve should be given a specific mission. *An uncommitted reserve is an essential element of flexibility and, once it has been committed, a fresh reserve must be created.* However, the need to create another reserve should not deter a commander from deploying his reserve.

Integrating CSS

50. Tactical plans will seldom succeed without fully integrated CSS. Logistic considerations are often the deciding factor in assessing the practicability of a course of action or the feasibility of an operation. The battlegroup commander must ensure that his operation can be sustained at every stage of its execution. The art of sustainability lies not in over-insurance but in monitoring, staff checking and prudent planning. Sustainability also depends upon an organisation which is designed and trained to use its resources efficiently and economically. Requirements can only be foreseen and provided for if the logistic staffs, and in particular the BGLogO, are taken into the commander's confidence early in the planning stage and thereafter work closely with the operations staff. Scarce resources may have to be controlled at the highest level and the operational plan must balance logistic capability with acceptable risk.

51. The logistic organization must be flexible enough to react quickly to changes in situation; to meet the unforeseen; and to provide for interruptions in the supply system caused by conventional, chemical and nuclear attack. CSS elements must plan their own activities to give the battlegroup the greatest possible freedom of action throughout the operation. They should be bold and innovative in producing a plan that will contribute to surprise by allowing the CSS effort to achieve more than the enemy thinks possible. In this respect CSS operations must be thoroughly integrated into any deception plan. In addition CSS units and echelons must play a role in rear operations thereby contributing to the collective security of the force.

CHAPTER 3 - COMMAND OF A BATTLEGROUP

SECTION 1 - BATTLEGROUP HEADQUARTERS

1. ***The Battlegroup Commander.*** The effectiveness, unity and morale of a battlegroup depend fundamentally on the personality, professional ability and presence of its commander. The commander should not normally allow himself to become tied to a static command post. While not divorcing himself from communications, he has to always retain the flexibility to move to a position from which he can monitor the situation for himself and be able to influence the battle.

2. ***Roles.*** The roles of the battlegroup HQ are to:

   a. Provide the battlegroup commander with the information and facilities required to exercise effective command.

   b. Carry out the essential staff work and co-ordination which translate the battlegroup commander's plans and decisions into orders and actions.

   c. Provide sub-units with the information and resources they need to carry out their tasks.

   d. Keep formation HQ and flanking units informed of battlegroup activities and intentions.

3. ***Functions.*** In order to carry out its roles, the battlegroup HQ must fulfil six critical and interrelated functions:

   a. Receipt and collation of information.

   b. Identification and analysis of critical information.

   c. Recommendations to the battlegroup commander.

   d. Distribution of information.

   e. Integration of resources from outside the battlegroup.

   f. Synchronisation of resources to produce maximum combat power at the decisive time and place.

4. ***Organisation.*** The battlegroup HQ consists of a number of elements deployed in different locations, described below. The roles and detailed responsibilities of the battlegroup commander and his key staff are tabulated at Annex A.

5. ***Tactical HQ (Tac).*** Tac gives the battlegroup commander the ability to exercise direct command of the battlegroup. The battlegroup commander will normally fight the battle from Tac which should be located so that the commander is in the best position to influence the battle whilst not compromising his own security. The manning of Tac will vary and will depend on the prevailing tactical situation. The following personnel might accompany the battlegroup commander:

a. *Operations Officer.* The Operations Officer is the battlegroup commander's principal operations staff officer. He is the commander's main assistant in co-ordinating and planning the battle.

b. *Battery Commander (BC).* The BC provides artillery advice, communications and liaison to the battlegroup and he is responsible for co-ordinating all the battlegroup's offensive support. He will be involved in all stages of the planning process and will formulate the OS fire plan to reflect the battlegroup commander's Concept of Operations.

c. *Specialists and advisers.* The Battlegroup Engineer (or the OC of the CS engineer squadron) and specialist troop/platoon commanders may join the group for particular tasks.

d. *Protection.* Depending on the threat it may be necessary to include a protection element.

6. ***Main HQ (Main).*** The majority of planning and co-ordination takes place at Main, which will normally be located towards the rear of the lead sub units. Main HQ is likely to consist of the following elements:

a. *Second-in-Command.* Although the Second-in-Command is the battlegroup commander 'in-waiting' he also fulfils the role of chief of staff (COS) within the Main HQ. He supervises the running of Main and is directly responsible to the battlegroup commander for the co-ordination and synchronisation of all current and future plans. He is responsible for the production of the Synchronisation Matrix. He monitors the battle and ensures that the battlegroup commander is informed of all recommendations made by the staff. He monitors CSS within the battlegroup, particularly replenishment, defence stores and recovery, and in close liaison with the BGLogO, he ensures that all plans are logistically supportable. He ensures that all regrouped sub units are properly briefed.

b. *G3 (Command) Cell.* The G3 Cell co-ordinates all activities in Main and monitors and controls the battlegroup command net and the rear link. It must be prepared to assume command in the event of Tac losing its communications. Radio operators and an officer watch-keeper permanently man it. There are several key personnel:

 (1) A*djutant.* The principal staff officer in the command cell is the Adjutant, who assumes the COS role if the Second-in-Command is otherwise employed. He is responsible for the allocation and control of real estate in the battlegroup area of operations (details are in Annex B); this includes co-ordinating the requirements of other units and detachments that may be temporarily located in the area and which may be under TACON. He is also responsible for the production of movement orders and retains the focus for G1 issues.

 (2) *STAP Coordinator.* The Surveillance Target Acquisition Plan (STAP) Coordinator is the staff officer responsible for creating and maintaining the battlegroup STAP. In an Infantry battlegroup this task usually falls

to the OC Fire Support Coy whereas in an Armoured battlegroup the responsibility is retained by the 2IC.

      (3)   *Regimental Signals Officer (RSO).* The RSO is responsible for all communications matters, routine administration and support of battlegroup HQs and is also one of the watch-keepers. He conducts the recce of potential Main locations and, during moves, deploys with Step-Up.

      (4)   *Battlegroup Engineer (BGE).* The BGE is permanently under OPCOM battlegroup HQ, acting as the engineer advisor/staff officer to the battlegroup, and liaison officer for the CO Engineer Regiment (CS) within the formation. His role is explained more fully in Chapter 3, Annex A.

  c.   *G2(Int/NBC) Cell.* The Intelligence/NBC Cell is manned by the Intelligence Officer (IO), an NBC Officer (if available) and a small staff. It assesses the enemy's intentions, capabilities and vulnerabilities; continually updates the IPB and manages the Commander's Information Requirement; and is closely involved in the war-gaming process. The Cell is also the focus for the battlegroup's NBC warning and reporting, and the vetting and assessment of the value of prisoners of war.

  d.   *Fire Planning Cell (FPC).* The FPC controls and synchronizes all forms of fire support available to the battlegroup and co-ordinates OS fire with adjacent formations and units. It also co-ordinates battlespace management issues in conjunction with the Adjutant. The FPC also prepares and issues fire plans and target lists in support of the battlegroup. It will be responsible, through the Adjutant, for updating the STAP. The Cell must include representation from all elements of the battlegroup which provide fire support, such as the Mortar and Milan Platoons. The FPC is commanded by the BC or, in his absence, by the FPC WO2 / SSgt.

  e.   *G4 (Logistics) Cell.* The G4 Cell is manned by the Battlegroup Logistic Officer (BGLogO) and a small staff who advise the CO and co-ordinate all CSS. The BGLogO, usually OC HQ Company, will normally divide his effort between Main and the A2 Echelon. His duties are explained more fully in Chapter 3 Annex B.

7.   **Step-Up HQ**. A command vehicle will be held within Main to ensure continuity during moves. Battlegroup HQ will rarely have enough officers to man Step-Up on a permanent basis. When a move is imminent, the RSO and other appropriate personnel will therefore deploy in the Step-Up vehicle to be in a position to assume command once established in a new location. When command has passed, Main will move to join Step-Up or it may leapfrog to another location. If the vehicles are available, some key personnel may be moved to Step-Up as soon as command has been passed, rather than wait for Main to complete its move. When the complete HQ is firm in its new location, either the Step-Up vehicle, or the original Command Cell vehicle will be used for command purposes, the other being available for further recce, as a planning vehicle or as a reserve. As a routine procedure, Step-Up's maps and other relevant documents must be kept up to date.

8.   ***Echelon HQs****.*

     a.   *A1 Echelon.* A small mobile HQ will command, and be collocated with the A1 echelon. The HQ will act on requests for replenishment and is responsible for co-ordinating the defence and movement of the A1 Echelon. It will normally be commanded by the MTO. It will often be located at, and be known as the battlegroup RV.

     b.   *A2 Echelon.* A2 Echelon CP is the focus for the battlegroup CSS effort and is the controlling station on the battlegroup admin net. It will always be collocated with the A2 Echelon that will normally be in the Brigade Support Group. The A2 Echelon commander is responsible for co-ordinating the defence and movement of the A2 Echelon. The A2 Echelon CP is likely to be close to the QM(T)'s CP and, where appropriate, the RLC LSD and the LAD CP. It will normally be commanded by the QM(T).

     c.   *B Echelon.* B Echelon, commanded by the QM, will normally be located in the Divisional Support Group, with other B Echelons from the same brigade. Its only means of communication is by HF radio on the brigade log net.

9.   ***Alternative Command****.* A battlegroup HQ is normally too small to provide its own alternative HQ over extended periods but SOPs and operation orders must designate an alternative commander and alternative HQ. If the battlegroup commander is disabled the BC will usually assume command until the commander designated in the orders can take over. Either Step-Up or a sub-unit HQ is to be designated as the alternative HQ.

10.   ***Battlegroup HQ Administration****.* Because battlegroup HQ does not have its own dedicated CSS assets an officer must be made responsible for overseeing the provision of service support for the HQ. This will normally be the RSO. The HQ Squadron/Company/Bty SQMS/CQMS will normally carry out routine logistic replenishment in the same manner as for individual sub-units. Where and when possible, battlegroup HQ will join one of its sub-units for a running replenishment. It is likely that the REME assets at A2 Echelon will provide ES. The HQ should have its own first aid trained personnel; an ambulance from the RAP will ideally, carry out casualty evacuation.

SECTION 2 – OPERATING WITH A BATTLEGROUP

11.   ***General****.* The keys to the efficiency and the survival of battlegroup HQs are their small size, and simple well-rehearsed drills for movement, concealment, defence and working routine. If a HQ is too big, or it becomes over dependent on complicated step up or rebroadcast procedures, its flexibility, efficiency and survivability will be impaired:

     a.   *Siting.* Siting of battlegroup HQ will be decided in consultation with the 2IC after recce by the RSO. The principal factors are:

          (1)   *Communications.* The site must offer good communications to subordinate and other HQs. It should, if possible, be screened from enemy offensive EW devices. Access to civil communication and information systems may also be important.

      (2)   *Concealment.*   Built-up areas or woods offer the best cover from both aerial and ground-based observation. Housing the HQ inside barns or large sheds helps to counter visual, EO, radar, thermal imagery (TI) surveillance and provides some basic protection against chemical attack, but isolated or predictable cover must be avoided.   A carefully selected fold in the ground plus skilful camouflage is often equally as effective as any other form of concealment.

      (3)   *Security.*   Battlegroup HQ must always provide its own local security. Responsibility for security rests with the RSM and the unit provost staff, reinforced by drivers and signalers from all vehicles deployed in a given location. The best security, however, lies in concealment and in selecting sites shielded by sub-unit defences.

      (4)   *Accessibility.*   The site should be readily accessible with a comprehensive track plan. It should not be liable to accidental discovery by enemy land or aerial recce. The use of tac signs, a useful peacetime expedient, should be controlled carefully on operations. Escape routes and drills must be prepared.

  b.   *Movement.* Battlegroup HQ must be prepared to move frequently, with little or no notice, in order to avoid detection by the enemy, to react to unexpected developments and to move with a mobile battle, especially over a large Area of Operations.

  c.   *Working Routine.* Good organisation within the HQ is vital if it is to function efficiently and effectively Comprehensive Standing Operating Procedures/Instructions (SOPs/SOIs) should be compiled to provide the basic framework for its operation. These should contain the details of all routine procedures such as the layout of battle-boards, the contents of battle-boxes and the movement and staff tables. Once deployed, responsibility for establishing a smooth working routine and clear passage of information within the HQ rests with the 2IC. Cell commanders will also need to establish a system for the detailed management of information within their cells.

  d.   *Layout.* The layout of battlegroup HQ will vary according to the type of unit, the tactical situation and the wishes of the commander. Typical layouts are at Figures 3.1, 3.2 and 3.3.
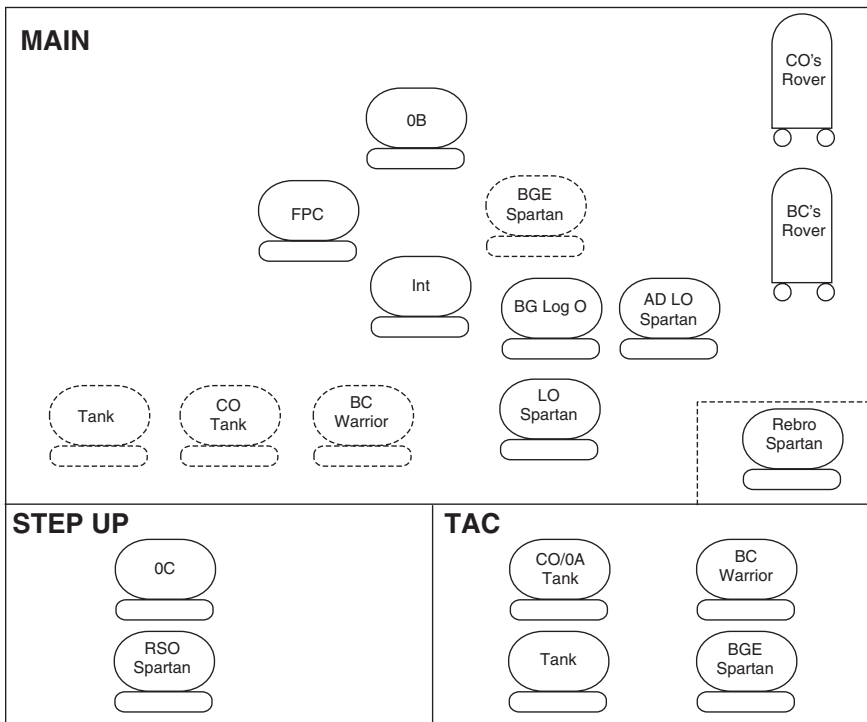
Figure 3-1 Battlegroup Headquarters based on an Armoured Regiment

Notes:

1.   All tracked vehicles are Sultan unless otherwise stated.

2.   If the battlegroup is supported by an engineer squadron headquarters, the BGE would be based at MAIN and the squadron commander at TAC.
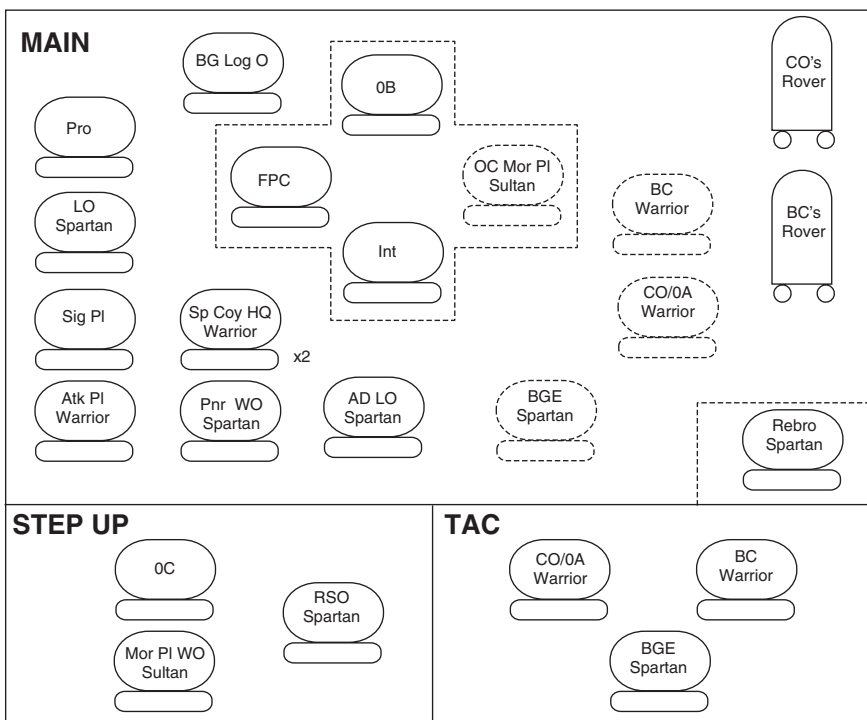
Figure 3-2 Battlegroup Headquarters based on an Armoured Infantry Battalion

Notes:

1.   All vehicles are FV432 unless otherwise stated.

2.   If the battlegroup is supported by an engineer squadron headquarters the BGE would be based at MAIN and the squadron commander would deploy to TAC.
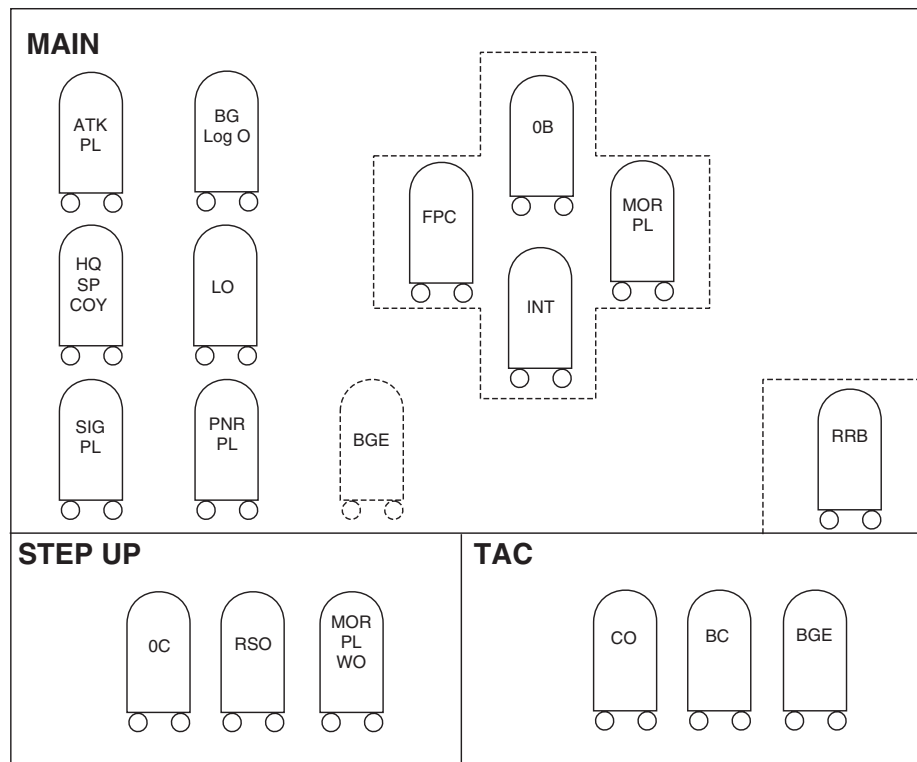
Figure 3-3 Battlegroup Headquarters based on a Light Roled Infantry Battalion

Notes:
1.   All vehicles are L/R
2.   If the battlegroup is supported by an engineer squadron headquarters, the BGE would be based at MAIN and the squadron commander would deploy with TAC.
3.   TAC may operate without vehicles.

12.   ***Battle Procedure***. This is an essential drill that can be tailored to the time available and should not slow down the tempo of operations. Timely orders are essential to ensure the most efficient use of resources and the time available. The warning order allows subordinates to prepare for a new operation and initiates the concurrent activity of all groups; it is the basis of good battle procedure. SOPs and SOIs should be well known by all concerned, and frequently practised. The anticipation of future tasks and moves increases the time available to prepare for battle and consequently reduces confusion and helps breeds confidence. Information, warning orders, or instructions, which help the battlegroup to anticipate future tasks should be passed on promptly. The purpose of which is to be ready and correctly balanced for the next task. The battlegroup commander and his staff should always adhere to the "1/3rd, 2/3rd rule"[1] to ensure that subordinate elements themselves have sufficient time to prepare for battle.

13.   ***The Grouping System***.   To achieve effective concurrent activity prior to an operation, a battlegroup will normally divide into functional groups, as shown below. The composition of each group will vary according to the task, but a general guide is at Figure 3.4.

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[1] For the rule to be effective the clock "starts ticking" on receipt of a mission and finishes at H hour. The 1/3rd available to the commander includes the time for him to give orders and ends on completion of his orders; this acts as a driver to maintain tempo. Commanders should consider the implications that preliminary moves may have on the sub-units ability to complete their battle procedure.

Gp	R Gp	O Gp	Har Party	Rear Recce Gp	Remarks
(a)	(b)	(c)	(d)	(e)	(f)
BG Level	CO BC Ops Offr IO (for IPB) OC MILAN – in def BG Engr (2) Radio Op Protection Party	R Gp, plus: BG 2IC (3) Sub Unit Comds FOOs attached to sub units Mor Pl Comd OC MILAN Pl Recce Tp/Pl Comd Adjt (3) RSO EME IO LOs BGLogO (1) NBC Cell Adviser (2) RSM RMO BE Engr) OC AD Det) (2) Asslt Pnr WO)	BG 2IC Sub Unit Reps RSO RSM RP Sgt/Det Sp Arms Reps Step Up HQ Protection Party	BG 2IC Mor Pl 2IC Rep per mor line MILAN Pt 2IC Sub-unit parties RP Sect Step Up HQ RSO (to site BG MAIN)	(1) A1/A2 Ech Comd, QM and QM(T) may attend, or they may be briefed by BGLogO, depending on the circumstances. (2) If appropriate. (3) Adjt and BG 2IC may attend if not involved in other main body activity.

Figure 3-4 Tactical Grouping: Probable Composition

a.   *Reconnaissance Group (R Group).*   The R Group is responsible for reconnaissance and planning. The group includes that necessary to give the appropriate advice, a security element and communications.

b.   *Orders Group (O Group).*   The O Group receives orders and contains all those with a part to play in the forthcoming operation. From these orders, recipients extract the appropriate information and issue their own orders. The principle of attendance is that everyone, including attachments to the battlegroup, get relevant information in good time.

c.   *Main Body.*   The main body prepares for the operation and may undertake preliminary moves, whilst orders are being written and given.

d.   *Harbour and Rear Recce Parties.*   If the main body has to move forward to a concentration or assembly area, a harbour party will be despatched ahead of the main body. Its tasks will be to recce and lay out the new area and then to guide the main body, as they arrive, to their positions. If it is necessary for a battlegroup to withdraw, it is usual to despatch a rear recce group. This group combines a tactical reconnaissance function with that of the normal harbour party in the event of having to fight from this position upon their arrival.

14.   **Command and Staff Procedures**. The command and staff principles and practices needed for commanders and their staff on how they carry out the decision making process and prepare and give orders are contained in AFM Vol 1 Part 8 *Command and Staff Procedures*. Secure Orders Cards (SOCs) are contained in LCH *(Voice Communications Procedures)*.

Annexes:

A.   Duties of a Battlegroup Headquarters Staff
B.   Real Estate Management

DUTIES OF A BATTLEGROUP HEADQUARTERS STAFF

	Receipt of Bde Wng O	After Bde Os	For BG PrelimOs	BG Recce	After BG Recce	For BG CfmOs	For Deployment	During Battle
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
CO	1. Carry out mission analysis. 2. Task Ops Offr with BG Wng O. 3. Discuss IPB and int requirements with IO, BGE and BC. 4. Confirm Pty to Bde 'O' Gp.	1. Discuss updated IPB with IO. 2. Produce R Gp Plan. 3. Carry out Recce. 4. Carry out Estimate. 5. Decide COA What if COA with Ops Offr, IO, BC and BGE	1. Confirm Information Requirement. 2. Prepare for Orders. 3. Rehearse orders if time permits.	1. Carry out BG Recce.	1. Confirm Plan and changes. 2. Check STAP, OPSEC, Obs, Synchronisation . Matrix, DSO. 3. Wargaming with staff.	1. Think 2 battles ahead. (Deep, Close and Rear).	1. Comd BG. 2. Confirm STAP. 3. Confirm Synchronization Matrix. 4. Confirm DSO	1. In a position to influence the battle (Tac or Main HQ). 2. Command the Manoeuvre sub units. 3. Reinforce success. 4. Exploit. 5. Maintain a reserve. 6. Prepare for next battle.
BG 2IC	1. Time Estimate 2. Initiate STAP, DSO. 3. Supervise G2-G3 link for future ops 4. Coordinate Staff effort.	1. Receive planning direction from CO. 2. Initiate Synchronisation Matrix from Commanders Concept of Operations. Coord G3 and FPC input. 3. Coord DSO with IO , BC and BGE.	1. Coord BG Deployment. 2. Supervise prep for BG 'O's. 3. Coordinate STAP with IO and Adjt.	1. Coord any BG prelim mov.	1. Wargaming 2. Coord BG Plan - Synchronisation Matrix - DSO - Obs Plan - Anti-Armr Plan - Fire Plan - STAP - OPSEC - CSS 3. Discuss any anomolies with CO and Ops Offr. 4. Prep Deception Plan for CO's approval.	1. Coord of all BGCfmOs and sp plans. 2. Prep special deployment instrs. 3. (With Adjt) prep OGp. 4. Issue Deception Plan.	1. Con BG.	1. Coord at BG MAIN. 2. Be prep to take comd if ordered. 3. Be prep to occupy BG STEP UP. 4. Integrate G1/G2/G3/G4 ops. 5. (Be prep to) brief LOs. 6. Initial planning with BGLogO for further ops. 7. Initial planning with ISTAR officer.
OPS OFFR	1. Send initial BG WngO (incl ISTAR tasking).	1. Send Cfm WngO. 2. Asst CO with and R Gp Recce	1. Prep Battle Trace (DSO). 2. Orientation and	1. Monitor input from OCs. 2. (Prep and)	1. Wargaming. 2. Coordinating Instructions - confirm.	1. Produce Cfm Notes/OpO. 2. Issue relevant	1. Monitor. 2. Issue fol-up instrs.	1. Oversee development of battle. 2. (Be prep to) brief

	Receipt of Bde Wng O	After Bde Os	For BG PrelimOs	BG Recce	After BG Recce	For BG CfmOs	For Deployment	During Battle
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
	2. Org R Gp. 3. Check maps. 4. Update BG States. 5. Mark Maps (CO, 2IC, BGHQ, own). 6. Arrive early enough at Bde OGp to mark maps. 7. Check NBC preparatory measures.	3. Recce with CO. 4. Advise CO on NBCD. 5. Liaise with IO on NBC IPB.	ground brief. 3. Prep for Os: - Task Org - Friendly Forces - Atts and Dets-Coord Instrs (vital) for recce. 4. Coord BG Recce Plan . 5. Conduct NBC risk assessment. 6. Produce outline NBC plan and confirm W&R umbrella.	Amdts as agreed by CO. 3. Coord use of tpt for BG recce. 4. Confirm NBC defence plan.		parts of Os. 3. Coord details of BG Pt 1 Plan. 4. Give NBCD Plan and Defence Measures.	3. Contingency planning with CO.	LOs. 3. Org any nec reg. 4. Coord Tac HQ. 5. Deploy in Tac HQ with CO. 6. Coord/monitor input for SITREPs on BG/Bde nets. 7. Issue amdts to plans. 8. Advise CO on enemy use of NBC and appropriate protection levels. 9. Assist CO to plan next battle.
IO	1. Initiate own IPB; check on aval Bde IPB products. 2. Assess/adjust BG Area of Int Responsibility and Area of Int Interest. 3. Discuss IPB with CO and advise on ISTAR tasking. 4. Ensure Int Cell is functional. 5. Attend Bde Os.	1. Brief CO on Bde Int Sit. 2. Cont IPB; issue elms to other planners as completed. 3. Liaise with Bde G2. 4. Update CO on En and Ground for Comd's Est. 5. What if en COAs to produce worst case and most likely en COA. 6. Continue drafting Comds Information Requirement.	1. Prep and issue PICINTSUM to coys 2. Cont IPB; brief CO and obtain endorsement of: - Event Overlay NAIs showing no earlier/later than timings. - Decision Sp Overlay/(DSO) with TAI/DP; HVT List - Int Collection Plan. 3. Issue STAP and ensure all sub-	1. Accompany CO if required. 2. Advise on en courses and capabilities.	1. Wargaming. 2. Update IPB with Ops staff and BGE; adjust Event/Decision Sp Overlays and STAP as/if nec. 3. Liaise with Bde G2 - IPB/Int Collection Plan, IRs - check on Int atts/ dets (eg BG tac) - Check on Higher Fmn sources likely to be op in BG TAOR and cfm real estate	1. Int Update. 2. Cfm/Update BG INTREPs. 3. Issue updated Int Collection Requirement as an annex to CfmOs if required. 4. Prep explanation of en doctrine for OGp (if nec).	1. IPB continuum (vital). 2. Issue Vital Int/info as applicable.	1. Monitor en developments; IPB continuum. 2. Check productivity of sources; retask as /if nec; update in Collection Require-. ment. 3. Brief CO. 4. Issue INTREPs to Bde, sub-units and flanks. 5. Maint BG Master Map; update MAIN staff. 6. Coord Int aspects of PW and captured eqpt of Int interest handling. 7. NBC matters.

(a)	Receipt of Bde Wng O (b)	After Bde Os (c)	For BG PrelimOs (d)	BG Recce (e)	After BG Recce (f)	For BG CfmOs (g)	For Deployment (h)	During Battle (i)
		7. Liaise with Ops Offr and NBC Cell Controller ON NBC IPB.	units aware of BG info requirements (IR).		clearance with Adjt.			
ADJT	1. Ensure BG Main HQ is fully manned. 2. Coord STAP. 3. Brief Close Recce Comd on ISTAR tasking taken from. STAP from BG Wng 'O'. 4. Produce Movement Wng O.	2. Maintain STAP from Comds Information Requirement from IO.	1. Prep BG for deployment. 2. Prep OGp. 3. Distr cl docs. 4. Prep MovO for Os.	1. Maintain BG Main HQ Staffing. 2. Assist BG 2i/c.		1. Prep/coord OGp. 2. Obtain latest veh and eqpt states. 3. Amend MovO. 4. Man BG MAIN HQ. 5. Real Estate alloc.	1. Coord mov. 2. Coord R2. 3. Collate and maint Cbt Info 4 Sp BG 2i/c.	1. Comd Ops Veh. 2. Primary wkpr. 3. Internal running of BG MAIN HQ. 4. Con Real Estate. 5. BG ptl coordinator.
NBC Cell Controller	1. Wg Order to NBC Cell.	1. Confirm location of Bde Units. 2. Obtain latest Met information. 3. Obtain location of all Toxic Industrial Material (TIM) sites in BG area with Bde. 4. Liaise with IO over NBC IPB.	1. Confirm W&R requirements.	1. Plot locs of TIM sites and assess potential impact of hazards. 2. Plot details of BG dispositions.	1. Confirm location of TIM sites in BG area with Bde. 2. Confirm BG dispositions.	1. Outline likely downwind hazard areas for likely CW agents and Toxic Industrial Hazards (TIH).		1. Monitor for, and provide up to date hazard prediction from NBC Reports. 2. Track all Fr forces in AOR and provide W&R as necessary. 3. Monitor battle damage of TIM sites.
RSO	1. Check CEI and EMCON. 2. Initiate BG Comms planning for future op.		1. Be prep to give Comd and Sigs details.	1. Recce potential MAIN and Step-Up sites. 2. Recce for rebro, radio, line and civ tel links.		1. Agree final Comms Plan with CO. 2. Amdts to CEI and Comms Plan. 3. Prep Comd	1. Occupy and secure initial HQ locs. 2. Estb comms fwd and rear. 3. Site Step-Up and	1. Wkpr. 2. Con radio states. 3. Monitor COMSEC. 4. Comms Deception Plan. 5. JAMREPs to Bde.

	Receipt of Bde Wng O	After Bde Os	For BG PrelimOs	BG Recce	After BG Recce	For BG CfmOs	For Deployment	During Battle
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
						and Sigs for Os. 4. Issue CEI. 5. Brief MAIN pers on future ops	next MAIN.	6. Supervise admin of BG HQ.
RECCE TP PL COMD	1. Liaise with IO during IPB prep. 2. Issue prelim WngO to Recce Pl. 3. Expect tasking.	1. Recce with RGp as nec. 2. Maintain tasking as required by STAP.	1. Issue full WngO to Recce Pl.	1. Recce OP sites. 2. Recce posns/ routes. 3. Coord with 2IC and IO (NAI/TAI)	1. Provide Recce Pl STAP input to 2IC. 2. Continue STAP tasking.	1. Be prep to give Recce Pl Plan and deployment.	1. Be prep to asst with BG deployment if nec.	1. Pl tasking(s).
ATK PL COMD	1. Discuss IPB with G2 staff. 2.Discuss direction with BG 2IC.	1. Recce with R Gp as nec. 2. Liaise with IO from IPB assessed Mob. Corridors/Avenues of Approach and HVT list.	1. Be prep to give concept of BGAtk Plan. 2. Consult IO on latest indications en armr and high pri tgt (HPT) list.	1. Recce Atk Plan. 2. Coord Anti- armr trace with sub-unit OCs. 3. Cfm plans with CO/2IC/Ops Offr.	1. Provide Atk Pl STAP input to BG 2IC. 2. Ensure Pri Engagement List matches HPT list from IO.	1. Brief OGp on Anti-armr Plan and issue trace(s).	1. Monitor, check siting and prep of ATGW posns.	1. Monitor MILAN Net and resup sit. 2. Liaise with IO regarding threat. 3. Advise CO on re- deployment of anti-armr assets as nec.
BC	1. WngO to FOOs. 2. Ensure Fire Planning Cell (FPC) is functional 3. Discuss Bde Wng 'O' with CO and IO. 4. Initiate targetting process.	1. Asst CO in map est and plan. 2. Accompany CO on recce. 3. Asst in STA planning. 4. Briefed by CO Arty Regt at bde O Gps. Guidance on likely fire sp assets. 5. Warns own CO of BG plans/needs. 6. Bid for fire sp assets.	1. Advise CO on: - GP, loc and tasks of FOOs and MFCs - Wpn system integration. - Provide input for STAP. 2. Cfm availability of fire sp. 3. Alloc tgt pris. 4. Input to Synchronisation Matrix.	1. Coord application of OA/ AD systems. 2. Coord Indir Fire Obsn Plan. 3. Agree/cfm Fire Plan.	1. Deconflict ARAs where nec. 2. Provide Arty STAP input to BG 2IC. 3. Wargaming.	1. Issue and explain Offensive Support Concept. 2. Coord 'Time'.	1. Receives sitrep from Arty and TAC on state of available guns loc/ammo/ readiness. 2. Begins adjust- ment with own bty.	1. Execute Fire Plan and amend as nec. 2. Deploy with Tac HQ. 3. Report on Arty Net. 4. Cont to coord all OS/AD assets. 5. Asst CO with fwd planning.

(a)	Receipt of Bde Wng O (b)	After Bde Os (c)	For BG PrelimOs (d)	BG Recce (e)	After BG Recce (f)	For BG CfmOs (g)	For Deployment (h)	During Battle (i)
		7. Advise CO on deployment of any close AD assets. 8. Asst IO in est of TAI/DPs and pre-diction of en arty. Provide Met for IPB TERA aspects. 9. Liaise with OC Mor Pl as nec.						
MOR PL COMD	1. Wng O to Mor Pl. 2. Be prepared to assist FPC.	(Indir fire sp coord if nil arty/BC sp to BG) (Otherwise, tasks in colms assume BG in sp)		1. Advise CO on integration of Mor Fire.	1. Provide Mor Pl STAP input to BG 2IC (if not incl within BG input).	1. Plan alloc of MFCs and loc of Mor Line. 2. Asst BG on tgt pris.	1. Coord occupation/est of Mor Line	1. Asst running of FPC. 2. Coord mor fire with BC. 3. Monitor Mor Net and resup sit. 4. Deploy with Tac HQ as required.
BG ENGR	1. Commence IPB with IO. Discuss with CO. 2. Liaise with higher fmn HQ Engr to determine: Availability of engr assets and resources. - Bde Engr Plan. - Engr Task org and C3.	1. Send WngO to BG Engr tps on engr assets and resources aval. 2. Assist CO with R Gp planning.	1. Cfm availability of engr assets and resources. 2. Be prep to give ground detail in OGp. 3. Develop DSO with 2IC, BC, IO.		1. Wargaming. 2. Coord detail of Engr Plan with sub-unit OCs, Ops Offr, BC, Sp Pl Comds and engr Tp Comd. 2. Coord the integration of sub-unit plans within BG Engr Plan.	1. Be prep to up-date Ground detail incl battle-fd damage. 2. Be prep to explain Engr Plan and pri of work. 3. Produce engr traces for BG and higher fmns/flank units.	1. Assist with prep of MINEREPs, OBSREPs etc.	1. Cont to review the Engr Plan and provide input for the estimate (continuing process) to BG HQ and higher fmn HQ. (continuous process) to 2. Assist with the planning of future ops.

	Receipt of Bde Wng O	After Bde Os	For BG PrelimOs	BG Recce	After BG Recce	For BG CfmOs	For Deployment	During Battle
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
OC CS Engr Sqn			1. Advise CO: - Engr Plan and linkage to IPB. - Alloc of engr sp assets and recce within BG. 2. Explain engr Concept of Ops and pri of work (if not covered by CO).	1. Accompany CO on recce. 2. Advise CO on: - Engr matters. - Critical deficiencies. - Pri of engrs/asslt pnrs to task. - Formulate engr options to meet CO's tac plan.				1. Advise CO on engr matters.
OC FIRE SP COY	His role will vary between BGs and may be dependent on the situation. His primary role may be to: - Deputise for the BG 2IC, with particular responsibility for forward planning. - Assist the BC in the running of the FPC at BG HQ (the BC and OC Mor Pl may deploy to Tac HQ). - Coord the BG STAP. - Comd an addl sub-unit (such as a screen or gd force). - Provide a coord or liaison HQ. - Work up/coord deception plan.							
BGLogO (OC HQ SQN/ COY) (see Note 1)	1. **Throughout**: Coord and monitor BG CSS effort. 2. Issue Wng O to echs. 3. Initiate regrouping procedures as nec. 4. Attend Bde DCOS Os/conference.	1. Cfm Bde CSS concept, particularly log plan. 2. Bid for second line log sp if nec. 3. Brief key CSS pers on Bde concept. 4. Provide CSS input to BG Wng O. 5. Issue BG CSS Reports and Returns policy.	1. Advise O Gp of current CSS pris, aval and shortfalls. 2. Advise O Gp of Bde CSS pris and concept if relevant. 3. Coordinate BG CSS recce.	1. Accompany BG recce if nec. 2. Conduct BG CSS recce.	1. Advise CO on sustainability of BG concepts. 2. Coordinate BG CSS plan. 3. Coordinate BG tac and CSS plans with BG 2IC. 4. Participate in war gaming.	1. Prep CSS notes in sp of BG O Gp. 2 Issue Svc Sp para of orders in conjunction with advisors. 3. Cfm Formation G1/G4 aware of BG plan. 4. Brief B ech as nec.	1. Coord mov of all CSS orgs. 2. Monitor use of CSS resources and assets. 3. Advise and anticipate implications of changes in plans. 4. Initiate post battle CSS planning.	1. Working between MAIN and A2 ech in conjunction with 2IC. 2. Monitor BG CSS reports and returns. 3. Oversee CSS in sp of battle. Anticipate requirements and amend plans as appropriate. 4. Oversee CSS liaison and reporting to Formation HQ. 5. Oversee development

	Receipt of Bde Wng O	After Bde Os	For BG PrelimOs	BG Recce	After BG Recce	For BG CfmOs	For Deployment	During Battle
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
		6. Cfn CSS dmd action in hand.						and initate post battle plans.
A1 ECH COMD (MTO/ RSM)	1. **Throughout**: Con mov and def A1 ech. Monitor and trouble-shoot A1 ech resup activities. 2. Issue Wng O to A1 ech. 3. Initiate regrouping procedures for A1 ech elms as nec.		1. Attend BG Os.	1. Attend BG CSS recce. 2. Provide A1 ech input to BG CSS concept.	1. Brief A1 ech. Initiate recces and rehearsals as nec.	1. Attend BG Os. 2. Conduct O Gp for A1 ech.	1. Contribute to post battle plann-ing process.	1. Monitor effectiveness of log sp plan and advise BGLogO and OC Log Sp as nec. 2. Be prep to assume responsibilities of A2 should it prove nec. 3. Supplement G3 sitreps to A2 as nec.
A2 ECH COMD (QM(T))	1. **Throughout**: Coord BG log effort. Be prep to take over as BGLogO. 2. Issue Wng O to log elms at A2 ech, incl LSD. 3. Initiate prelim log dmd and regrouping action.	1. Liaise with LSD/ Bde Sp Sqn as nec. 2. Ensure log dmd action in hand.	1. Advise BGLogO of probable log aval and shortfalls.	1. Provide log input to BG CSS concept as nec.	1. Liaise with LSD/ Bde Close Sp Sqn as BG plan develops. 2. Cfm and advise on aval of material. 3. Monitor log elms regrouping.	1. Attend BG O Gp. 2. Conduct O Gp for log elms at A2 ech, incl LSD.	1. Monitor log plan. 2. Liaise with second line via LSD as nec. 3. Contribute to post battle plan-ning process and initiate dmd action.	1. React to BG log reports and returns. Oversee genera-tion of log reports and returns for Bde HQ. 2. Update LSD/Bde Sp Sqn as battle develops. 3. Monitor development of log aspects of post battle plan.
RMO	1. **Throughout**: Provision of health advice and med treatment. 2. Initiate prelim med stores dmd action.	1. Liaise with Forma-tion Med Comd and Fd Amb as nec, particularly in respect of second line sp. 2. Assist BG develop-	1. Advise O Gp of likely sp and cas estimates.	1. Attend BG or BG CSS recce as nec. 2. Provide med input to BG CSS concept.	1. Advise CO as BG plan develops. 2. Cfm med sp aval and monitor regroup-ing arrangements as nec.	1. Attend O Gp. Deliver med plan when nec. 2. Conduct O Gp for RAP and Med Sect.	1. Oversee med plan, particularly deployment of RAP and Med Sect.	1. Monitor effectiveness of med plan and adjust as necessary. 2. Oversee submission of med reports and returns. 3. Liaise with Formation

(a)	Receipt of Bde Wng O (b)	After Bde Os (c)	For BG PrelimOs (d)	BG Recce (e)	After BG Recce (f)	For BG CfmOs (g)	For Deployment (h)	During Battle (i)
	4. Issue Wng O to RAP and Med Sect.	ment of Bde cas estimates. 3. Ensure med stores dmd action in hand.				3. Coord and lead med recce and rehearsals as nec. 4. Advise Fd Amb and med chain of comd of BG plan.	2. Contribute to post battle planning process. 3. 2nd line liaison as nec.	Med Comd and Fd Amb as nec. 4. Monitor development of med aspects of post battle plan. 5. Treat casualties. 6. Coord treatment and evacuation.
OC LAD	1. **Throughout**: Monitor, advise on and troubleshoot BG eqpt state. BG Rec Offr. 2. Liaise with QM(T) over tech spares. 3. Issue Wng O to LAD. 4. Initiate/monitor regrouping action as nec.	1. Cfm Bde ES plan with BEME, particularly second line sp arrangements and allocation of E&MAs. 2. Develop Bde ES plan within BG. 3. Bid for second line ES sp if nec.	1. Advise O Gp of probable eqpt state for op and current ES priorities.	1. Attend BG or BG CSS recce as appropriate. 2. Provide ES input to BG CSS concept.	1. Advise CO and BEME as BG plan develops. 2. Cfm ES second line sp and monitor regrouping arrangements.	1. Attend BG O Gp. Deliver ES plan as nec. 2. Conduct O Gp for LAD CP. 3. Coord and lead ES recce and rehearsals as nec.	1. Oversee ES plan. 2. Liaise with BEME for second line for sp as nec. 3. Contribute to post battle planning process.	1. Monitor effectiveness of ES plan and adjust as nec. 2. Ensure LAD CP appraised of battle picture. 3. Oversee ES reports and returns. 4. Update BEME and FRG as battle develops. 5. Monitor development of ES aspects of post battle plan.

Note:

1. *A2 Ech Comd*. In addition to the BGLogO and OC Log Sp, the A2 ech will require a tactical commander, responsible for defence, movement and co-ordination at A2. This should usually be the QM(T) not BGLogO.

REAL ESTATE MANAGEMENT

1.   ***General***.   The allocation of real estate on the battlefield is of critical importance. Close control and coordination are required to ensure that disputes and friction do not occur and that appropriate priorities are applied. Responsibility for real estate management will normally be held at Divisional level, although it may be delegated to Brigades. The Adjutant is responsible for the bidding, allocation and control of, real estate in the battlegroup AO.

2.   ***Definitions***.

      a.   *Real Estate*. Real estate is an area allocated to a unit or formation, though not always for its exclusive use, for tactical and administrative purposes. Allocation is often done in multiples of square kilometres and is controlled by the appropriate HQ.

      b.   *Priority 1 User.*   Where more than one user is allocated a particular area, the superior HQ will establish a status of command between the users and the responsibilities that go with the relationship. One unit will be nominated as the Priority 1 user (in effect the landlord), the remaining users (the lodgers) will normally be TACON to the landlord.

      c.   *Allocation*.   Real estate will be allocated to Brigades by Divisional HQ. Brigades will, in turn, allocate it down to their Battlegroups.   It is the responsibility of Brigade HQ to ensure that the real estate allocated to a particular unit is appropriate to the size and role and/or mission of that unit. Unless stated otherwise, Battlegroups will be the Priority 1 users of all real estate within their operational boundaries.

3.   ***Reporting***. Divisional HQ (Main) must receive regular updates on real estate usage and availability. To that end, Battlegroup HQ must submit regular Location States and, if required, Presence reports to Brigade HQ on a regular basis.   Both reports are contained in the Land Component Handbook Part 2. In particular, Battlegroup HQ must notify its superior HQ when it, or its sub-units, vacate pieces of real estate.

4.   ***Responsibilities***.

      a.   *Priority 1 User*. Once nominated as Priority 1 users, Battlegroup HQ are responsible for coordinating such measures as NBC warning and reporting, local defence and air defence weapon control orders. Battlegroups must not assume that lodger units will receive the necessary warnings and instructions through their own chains of command.

      b.   *Lodger Unit*. Without exception, incoming or lodger units are responsible for establishing liaison with the Priority 1 user. Liaison must take place at the earliest opportunity, preferably before, or during, reconnaissance.

5.   *Manoeuvre Rights*

   a.   Once a Battlegroup HQ has been nominated as the Priority 1 user of an area, it may manoeuvre at will within that area with the following exceptions:

      (1)   *Artillery Reserved Areas (ARAs)*.   ARAs are areas cleared for the exclusive use of the artillery and may not be entered by Battlegroup units unless authorized by their Brigade HQ.

      (2)   *Artillery Manoeuvre Areas (AMAs)*   AMAs are allocated primarily to AS90 and MRLS units.   Any unit can move into an AMA although liaison will be required with the artillery unit.

      (3)   *High Spots (HISPOTS)*.   A HISPOT is real estate reserved for the primary use of communication or electronic warfare installations/assets. HISPOTS are normally designated and reserved by Communications Branch at Corps level.   Air defence forces may also need HISPOTS. Troops may need to move between HISPOTS to maintain security and survivability.

      (4)   *Designated Areas*.   Some areas within Battlegroup boundaries may be reserved by superior HQ for counter attack routes, assembly areas, obstacle belts etc, and units will not be able to occupy or manoeuvre across them.

   b.   With the exception of area security forces, and unless told otherwise, Battlegroups may control and restrict the movement of any other unit or sub-unit within their area.

CHAPTER 4 - THE BATTLEGROUP

SECTION 1 – THE BATTLEGROUP IN A COMBINED ARMS SETTING

General

1.   The combined arms approach to conducting warfare is a doctrinally established tactical concept. It is accepted that weapons and units are more effective when they operate in concert than when they function separately. The basic combined arms manoeuvre unit is the battlegroup, organized from a combination of Combat Arm and Combat Support Arm sub-units.

2   Armour, infantry and aviation - the nucleus of the combined arms team - provide flexibility during operations. For example, in the advance infantry assists tanks in difficult and close terrain, armour provides protection in open terrain, and aviation provides protection over longer ranges in open terrain. This synergy also exists in defence.

3.   It is essential that in formulating his concept of operations, the commander synchronises his combat power. Each element might have a different purpose, but the intention of this synergy will be to confront the enemy with a full array of complementary assets that defeats him. The commander employs infantry, armour, and aviation for manoeuvre; close support artillery, and air to enhance and ensure the effectiveness of this manoeuvre; engineers and air defence to enhance his own mobility, protection, and to counter enemy movement. These are just a few examples of combining arms to achieve the greatest effect.

Battlegroups

4.   A battlegroup is a combined arms manoeuvre group based on the Headquarters of a Combat Unit.   For example; Infantry, armour, aviation or reconnaisance. Battlegroups are the basic units of tactical ground or air manoeuvre within a formation.

5.   Battlegroups are normally grouped under the command of a brigade headquarters. Exceptionally, they may be placed under the direct command of a divisional headquarters for a specific task. The fundamental benefit of the battlegroup is the synergy generated by a combined arms grouping tailored to a specific mission. Battlegroups, therefore, will be *task organised* for a specific mission.   For task organisation to occur the battlegroup must:

    a.   Be able to regroup easily by day or night, and in any operation of war.

    b.   Have common battlegroup and sub-unit drills which will allow the successful regrouping and employment of the re-deployed elements.

6.   The characteristics and employment of specific elements of the ground manoeuvre battlegroup are considered throughout this manual. Together they form a combat unit that combines manoeuvre and firepower under a coherent command system. It

is a flexible fighting force that must be capable of conducting all operations of war in virtually all environments.

7.   Regardless of its specific grouping, the full potential of a battlegroup can only be achieved if its collective training and unit leadership is of the highest order. In particular:

    a.   The characteristics of the Manoeuvrist Approach to Operations and Mission Command must be fully understood and implemented at all levels.

    b.   Offensive action should be undertaken whenever the opportunity arises, in support of the overall commander's concept of operations, and in accordance with the manoeuvrist approach to operations.

    c.   The battlegroup must be capable of achieving and sustaining a high tempo of operations. This stems from effective training, strong leadership, a common doctrine, well rehearsed drills, and a sound logistic base. This is expressed in tactical terms through the use of a timely decision-action cycle, well practised battlegroup drills, and effective battlefield procedures.

Command and Control Relationships

8.   ***States of Command***. States of command describe the status of formations or units relative to each other. They are concerned primarily with the ability of the receiving unit or formation to assign an independent mission, to reorganise a unit to suit its purpose or to direct specific tasks within an agreed mission. In order to establish the status of units placed under his command the battlegroup commander must seek clarification of the following:

    a.   Can he use them for any purpose (ie give them a mission)?

    b.   If the mission is not within his gift, can he give them tasks within the given mission (ie direct the execution of it)?

    c.   Can he break up a unit or must he retain its integrity?

    d.   Are there any caveats on their use eg "for hostilities only" or "for a specified duration"?

9.   ***Definitions of States of Command***. Command is the authority vested in an individual for the direction, co-ordination and control of military forces. The states of command listed below are shown as a matrix in Figure 4-1.

    a.   Full Command (Full Comd).

    b.   Operational Command (OPCOM).

    c.   Operational Control (OPCON).

    d.   Tactical Command (TACOM).

e.   Tactical Control (TACON).

f.   Under Command Administration (UCADMIN).

g.   Under Command for Admin (With Caveats) (UCADMIN...).

h.   Under Command for Daily Maintenance (UCDM).

	FULL COMD	OPCOM	OPCON	TACOM	TACON	UC ADMIN	UC ADMIN LESS	UCDM
1. Assign Separate Employment of Components of Units/Fmns	X	X						
2. Assign Missions	X	X	X					
3. Assign Tasks	X	X	X	X				
4. Delegate Equal Comd/Con Status	X	X	X	X				
5. Delegate Lower comd/Con Status	X	X	X	X				
6. Coord of Local Mov, Real Estate and Area Def	X	X	X	X	X			

Figure 4-1 States of Command

SECTION 2 - TASK ORGANISATION

Grouping

10.   ***Principle of 4***. The capability of a specific battlegroup is determined not simply by its leadership or equipment but by its grouping or task organisation. Based on his estimate and plan the formation commander will task organise his battlegroups by cross-attaching sub-units (companies and squadrons) or other elements within the formation. The task organisation should be the most appropriate to carry out the allotted mission. Simply put, any sub-unit or battlegroup task organisation, as a minimum, should comprise elements which are capable of being a:

a.   Find/fix/covering force.

b.   Manoeuvre - strike force

c.   Echelon - momentum force.

d.   Reserve - uncommitted force.

This is known as the *'Principle of 4'*.

Regrouping

11.   Battlegroup commanders should consider in detail the task organisation of every sub-unit for each mission. Regrouping is, in principle, a simple process but it does require practice and training. Regrouping will only occur smoothly and successfully if basic, simple and sound drills are followed, and if some anticipation and pre-planning have taken place.

12.   Regrouping within and between battlegroups may occur prior to, or during, an operation. Deliberate or pre-planned regrouping should be notified in the warning order, and at the start of orders as part of the Task Organisation. When ever possible sub-units should be structured to avoid the need for a subsequent regrouping within an operation. This takes time and can result in a loss of momentum although there will be occasions when the reasons for doing this are over riding. It may be essential to regroup to exploit success or conform to a change in the main effort.

13.   When regrouping is necessary, the regrouped elements will require up-to-date information and clear orders for their new deployment and mission. It is therefore vital that an element being regrouped arrives in time to receive the up to date information, clear orders, and has immediate access to the communications and CSS of the receiving Battlegroup or sub-unit.

14.   The regrouping process and the responsibilities of the receiving HQ and the regrouped sub-unit, are detailed in Land Component Handbook (LCH) and Tactical Aide Memoires (TAMs). The outline sequence is as follows:

    a.   Command decision to regroup.

    b.   The issue of a warning order followed by full orders.

    c.   Action by the parent unit HQ. (These are listed in LCH and TAM)

    d.   Action by the receiving unit or sub-unit.

    e.   Action by the sub-unit changing command.

Yardsticks for Battlegroup Drills

15.   *Purpose*. The role of drills is to enable the battlegroup or sub-unit commander to maintain a high tempo of operations and to allow regrouping to occur efficiently. This can be achieved through the conduct of one or more standard, rehearsed manoeuvres when the unit is under pressure to react quickly, in a co-ordinated manner. Use of drills reduces the need for detailed orders. It is the abbreviation of this element of the decision-action cycle which can save time and free the commander's mind to think ahead. In short, drills help increase the tempo of operations.

16.   *Context*. The drills contained in this publication have been adapted to reflect experience and lessons learned on operations, in training, and through operational

analysis. The tactical commander has to understand the principles behind the drills and the doctrine underlying each operation of war or transitional phase. The battlegroup commander needs to understand what each sub-unit within each executed drill is achieving.

17. **Limitations**. Drills are not intended to be template solutions in all situations because they are predictable. If time permits commanders should continue to develop and issue proper orders tailored to suit the specific situation. If, however, time is short and speedy reaction is essential, then the use of well rehearsed drills will enable a swift and co-ordinated response to be made rather than waiting for orders to be issued. Drills should be "default settings" used in circumstances when other orders cannot be issued due to lack of time, failure of communications, inappropriateness, etc.

18. **Scope**. Battlegroup or sub-unit drills are incorporated as Annexes throughout this publication. They should be used as a basis in which to develop drills for individual battlegroup types, the tactical situation and task organisation.

19. **Numbering**. Throughout the drills, squadrons/companies (platoons/troops in sub-unit drills) are allocated numbers. This enables commanders to adapt drills to suit task organisations and also to rotate subordinates through difficult or high-risk positions (eg the lead sub-unit in the advance). The allocation or alteration of subordinate tasks within the drills to numbers can be effected quickly and effectively using, for example, BATCO Vocabulary Card 12, but changes should be kept to a minimum to avoid confusion. At the start of operations commanders should, therefore, allocate initial numbering.

20. **Yardsticks**. Battlegroup and sub-unit commanders have to know in detail the time taken to execute and make the transition between drills and manoeuvres. These details are the planning yardsticks; the means by which the commander understands what his command is capable of doing.

SECTION 3 - BATTLEGROUP COMPOSITION

21. The battlegroup will normally comprise:

a. Tactical (Tac), Main and Step Up HQs.

b. Between three and five manoeuvre sub-unit groups, normally made up of infantry, armour, reconnaissance and possibly aviation.

c. A close reconnaissance troop or platoon, supplemented when necessary with armour, infantry, aviation, or engineer reconnaissance assets.

d. A manoeuvre support sub-unit, which may include ATGW, Mortars, SFMG and Assault Pioneers.

e. Artillery Tactical Group of BC FPC and up to 3 FOOs.

f. Possibly a close air defence troop or fire unit.

g.   A Battlegroup Engineer assigned to battlegroup HQ, plus task-organised engineer assets up to squadron size.

h.   Logistics elements from:

    (1)   HQ Company, Bty or Squadron of the parent unit comprising LAD/Wksp, RAP, A1 Ech, A2 Ech and B Ech.

    (2)   A logistic slice from the parent unit of each combat arm under command.

    (3)   A Logistic Support Detachment (LSD).

    (4)   A medical section from the CS Med Sqn.

22.   Combat Arms, Combat Support Arms and Combat Service Support units are described in detail in Annexures A, B and C.

Annexes:

A.   The Role and Function of Combat Arms
B.   The Role and Function of Combat Support Arms
C.   The Role and Function of Combat Service Support (CSS)

THE ROLE AND FUNCTION OF COMBAT ARMS

Armour

1.   ***General***. The role of armour is to engage in shock action (aggressive mobile action to destroy enemy armour) and close combat in conjunction with the infantry. Even in defence, tanks must be allowed to exploit their firepower and mobility; any temptation to use them as static "pillboxes" or to "penny-packet" them throughout the force should be avoided. The shattering effect of armour against an enemy is maximised when tanks are concentrated against a decisive point, usually in support of the commander's main effort. It follows that commanders engaged in planning armoured operations should allocate sufficient manoeuvre space in order to allow the tank commanders to use the ground to best effect, thus enhancing surprise and protection for the armoured force.

2.   ***CHALLENGER 2 (CR2)***. CR2 is a highly reliable tank with improved accuracy and weight of firepower, protection, mobility and agility. It can engage effectively light armoured and older generations of MBTs to ranges of 3000m (modern tanks to 2000m) and its optics provide the battlegroup with a highly capable near 24 hour/all-weather observation capability that can detect out to 4000m. Its integral smoke generation capability can also quickly build up an effective smoke screen that will assist in the protection of the individual tank. It can also be used with other protection and deception tasks in support of the battlegroup. Enhancements to the mobility of CR2 mean that its performance now complements that of WR. It should be understood that these 2 vehicles are now significantly more mobile and agile than all others in the battlegroup. In short, the introduction of CR2 has resulted in an increase to the armoured capability available to battlegroups and this gives commanders the freedom to use and group armour in a more flexible and imaginative way than has been the case until now.

3.   ***Roles***. Key considerations for the employment of armour within the spectrum of operations will include:

a.   *Finding*.

(1)   Tanks, tasked to provide overwatch or immediate protection, can be employed within a reconnaissance force to allow the less well protected reconnaissance assets to collect information and intelligence. They should not allow themselves however to become fixed, by concentrating on the destruction of enemy armour, but should keep to their specified mission.

(2)   Where the acquisition of vital information or intelligence about the enemy cannot be obtained by stealth, tanks can be tasked to acquire it through combat. This may also involve including tanks within the task organisation of the reconnaissance force. This is a high-risk activity and commanders must consider carefully the potential risk to their

subsequent plans should they choose to use scarce armour resources in this way.

(3)   The surveillance and target acquisition capabilities of tanks can offer the force commander significant potential when effecting the STAP. Challenger 2 (CR2) thermal imagery enables targets to be detected and engaged at ranges out to 3000 metres in most weather conditions, although heavy rain and mist will reduce performance.

b.   *Fixing.*

(1)   *Fire Support Group.* The Fire Support Group suppresses and fixes the enemy in position. The main and co-axial armament of CR2 provide substantial, accurate firepower for fixing and/or destroying enemy positions. The ability of the tank to fire on the move, or to change position rapidly, provides a degree of security and flexibility that is not present in other systems. The short "into action" time for armour, whether static or on the move, assists the force commander in seizing the initiative and in maintaining tempo.

(2)   *Concentration.* The effectiveness of the tank's fixing function depends on the ability of the commander to concentrate fire from at least a half squadron of armour at the same time. Having sufficient manoeuvre space to make best use of ground (unexpected direction and defilade positions) will maximise the effect of the fire.

(3)   *Command and Control.* When armour operates in conjunction with other systems during the fixing process, co-ordinated fire control between all the elements of the fixing force is vital. This is best achieved by appointing one commander for the Fire Support Group. The armoured commander is ideally suited for the task of co-ordinating all firebase assets.

c.   *Striking.*

(1)   *Assault Tanks.* Assault tanks strike the enemy in advance of the infantry and intimate support tanks. The assault tanks will subsequently attempt to isolate the enemy position from external reinforcement and mutual support by providing a "ring of steel". Once the position has been successfully destroyed, they are joined by the armoured assets of the Fire Support Group and the advance continues.

(2)   *Intimate Support.* Intimate support tanks provide direct fire support onto enemy positions for the accompanying infantry. Careful co-ordination between the armoured commander and his infantry counterpart will be vital for success, and this should be rehearsed previously where possible. When tanks support dismounted infantry in this role, the tanks must be able to use their manoeuvreability and weapons to best effect. This will require close co-operation with the infantry, without relying solely on the presence of tanks on the objective.

4.   ***CSS***. Commanders given armoured assets for particular operations must appreciate the significant CSS load that tanks will place upon their support organisation. The distance between the A1 and F echelons will depend on the operational situation but, in the advance, 2-5 kms separation is usual. The availability of maintenance, recovery, ammunition and fuel will be vital elements of the CSS planning process if commanders are to exploit armour successfully.

5.   ***Conclusion***. Rapid manoeuvre and concentration of force are essential criteria for successful armoured operations. Allocation of manoeuvre space, the ability to exploit opportunities created, and a detailed CSS plan, will enable commanders to maximise the effects of armour within their commands during operations.

Infantry

6.   ***General***. The primary mission of infantry is to close with and engage the enemy in all operational theatres, in order to bring about his defeat. Although there are different types of infantry battalion they all share one common role: close combat. Infantry are able to operate continuously over all types of terrain and in all climatic conditions, either independently or as part of a combined arms group or joint force, and can be delivered by land, sea and air. The in-theatre mobility of infantry makes it employable in the deep, close and rear battles. The basic infantry battalion structure is designed to be tactically self-sufficient, in that it has its own integral recce, direct and indirect fire, mobility and counter mobility, and combat service support. In order to generate its full potential, however, infantry will usually operate in close co-operation with other arms. The infantry is the primary ground holding arm.

7.   ***Types of Infantry Battalion***. There are five types of infantry battalion:

    a.   *Armoured Infantry*. Armoured infantry battalions equipped with Warrior will fight in intimate support of armour. They provide close protection for the armour, and lead in close terrain and conditions of limited visibility. Warrior allows the infantry to conduct high tempo manoeuvre and provides the armoured infantryman with protection and firepower.

    b.   *Mechanised Infantry*. Mechanised battalions fight in concert with armour and armoured infantry by providing a pivot around which the armoured force can manoeuvre. Saxon provides a measure of protected movement but is not a fighting vehicle and should not be involved in close combat.

    c.   *Air-assault Infantry*. Air-assault battalions are optimised for the deep operations and are equipped with light weapons. The battalions are equipped with light vehicles and work in close co-operation with support helicopters. Their deployability makes them well suited to employment in the deep, close or rear battles. One battalion is an in-role parachute battalion.

    d.   *Light Role Infantry*. Light role battalions are the most basic infantry organizations and are equipped with light scales of weapons and equipment. They have no armoured vehicles. Their lightness, however, makes them well suited to rapid strategic mobility where they can be used to demonstrate political resolve, while heavier forces are assembled and moved.

e.   *Royal Marine Commandos*. Royal Marine Commandos are optimised for amphibious operations. They have strategic reach but limited tactical range once deployed. Their capability to sustain operations after the initial assault is governed by the rate of amphibious re-supply by sea, or the ability to seize a beachhead or port.

8.   **Roles**. The basic fighting unit is the company which should, whenever possible, be kept as an entity. It will fight better together and its organization and command structure are designed for this.

a.   *Finding*. The integral recce platoon provides the ability to acquire information by close reconnaissance within the battalion's area of operations. This is supplemented by a range of surveillance and target acquisition devices within the rifle companies and support platoons. The ability to acquire information by stealth is a significant capability, although this will usually be a lengthy procedure.

b.   *Fixing*. The infantry fixes the enemy by denying him freedom of manoeuvre by controlling and holding ground. This is supplemented by the use of direct and indirect fire assets.

c.   *Strike.* Regardless of the way in which they deploy to battle, all infantry units strike with infantrymen on their feet in close combat with the enemy. The one exception is armoured infantry which can also generate combat power by integrating the Warrior IFV's firepower and manoeuvre potential into both the infantry and combined arms battles. War at this level will continue to be characterized by a combination of fire and manoeuvre. Although set within a manoeuvre framework the infantry battle will continue to be largely one of attrition.

Army Aviation

9.   **Introduction**. The primary function of Army Aviation is to take part in [1]integrated aviation operations as part of Land Manoeuvre within the Land Component Commanders operations. In warfighting operations the principle task of Army Aviation will be to form the core element of Air Manoeuvre. Aviation units will routinely be task organised into Combined Arms Battlegroups (BGs). Aviation BGs will be given missions, as opposed to sorties, that will see them using fire and manoeuvre and operating within the context of mission command. They will be expected to operate in and dominate their own battlespace employing organic and non-organic (including Joint) systems to prosecute operations. Additionally Aviation BGs or Aviation manoeuvre units will be expected to integrate and operate in support of other BGs and Component Commanders (Maritime, SF and Air). However, the function of Army Aviation is wider than Attack Aviation BGs within Air Manoeuvre. Aviation units will continue to support Land and Joint Operations in Combat, Combat Support and Combat Service Support roles in both war-fighting and stabilizing operations. This section provides the structural backdrop to Army BG Aviation

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[1]   In each Attack Aviation BG there are 2 Squadrons of AH (8 per Sqn) and 1 Light Utility Helicopter Sqn (Lx). (Apache Mk 1 capabilities are covered in more detail at Appendix 1.to Annex A).

operations. Detailed Tactics, Techniques and Procedures (TTPs) are published in Pam 101(B) Army Aviation Battle Drills.

The roles of Army Aviation are:

a.   Offensive Action.

b.   Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR).

c.   Control and Direction of Firepower.

d.   Command Support.

e.   Movement of Personnel and Materiel.

10.   ***Roles of Army Aviation.***

a.   *Offensive Action.* Offensive Action is focussed on the delivery of firepower in Combat or Combat Support missions in war-fighting and stabilizing operations. Offensive operations will seek to maximise the effect of Army Aviation's firepower through a combination of detailed integration of fire and manoeuvre and fire support. This role is not confined to war-fighting or AH. Armed LUH will often be expected to provide fire support to ground forces in stabilizing operations. Firepower capabilities will be needed in the following areas: Anti-Armour, Anti-Personnel, Anti-Structure, Anti-Materiel, Anti-Air Vehicle.

b.   *Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR).* Aviation can conduct ISTAR extremely effectively, even in hostile environments: high-performance observation devices are complimented by the ability to self-protect with capable weapon systems, and Defensive Aid Suites. Army Aviation's ISTAR function will be best exploited as part of a planned matrix of all arms-sensors. In its reach and granularity, it is an ideal complement to ground reconnaissance, able to move rapidly within in a dynamic, changing environment, to fill gaps. Aviation becomes the primary asset, during Air Manoeuvre missions. Army Aviation ISTAR will include 'in contact' and 'out of contact' manned airborne ISTAR. AH will be able to take on more combat ISTAR tasks than Light Utility Helicopter (LUH) or other Army Aviation systems. AH and LUH should be able to integrate and team with other ISTAR systems such as UAVs and Formation Reconnaissance. ISTAR tasks will not be limited to war-fighting, they will encompass different scenarios and different equipment systems. Army Aviation will have to interact with other Land, Joint and non-military ISTAR agencies. Task areas include; Area/Zone reconnaissance, battlefield damage assessment, assistance with Engineer Reconnaissance, and Movement of OP parties (SF/Arty Tac Gps etc).

c.   *Control and Direction of Firepower.* The role includes collective and co-ordinated use of target acquisition data achieved from ISTAR, control of indirect fire weapons, armed aircraft and other lethal and non-lethal means

against ground targets, in support of manoeuvre force operations. Firepower includes artillery, mortars and other non-line of sight weapons, naval gunfire, 'air' delivered effects and electronic support. Airborne fire control can be provided by the crew in an AH or LUH or carried FOO teams. In addition the control and co-ordination of Joint Air Attack Team (JAAT) operations.

d.   *Command Support*. A task of Army Aviation is to provide commanders with a tactical C2 vehicle, able to provide a physical overview and to maintain reliable communications.   With an airborne CP, a commander can move quickly to be at the right place in a battle; this allows him to maintain the tempo of operations, and when necessary, to bring his influence more directly to bear.   This task requires the aircraft to be under command of the appropriate tactical commander, available to him on demand and to move in and out of small landing sites, particularly when HQs are sited in urban or forest areas. LUH due to its size and agility, has been used in this role over a number of years. Aviation BGs will use integral LUH as Airborne CP in order to provide C2 'Tempo' and 'Reach' for Aviation BGs. LUH can also conduct Airborne CP tasks in support of wider Land Manoeuvre. Army Aviation also has the ability to conduct airborne radio rebroadcast either as a dedicated task or as an adjunct to other activities

e.   *Movement of Personnel and Materiel*. The majority of the tasks for helicopters to move land component personnel and materiel fall to medium and large support helicopters (SH). However as a rule, the closer the task is to combat and the smaller the load, the more appropriate the task for LUH.   The need to sustain the soldier brings a raft of administrative tasks that very often require the movement by helicopter of individuals, very small parties of personnel or of small loads. The provision of immediate helicopter evacuation, including limited Combat Recovery for downed aircrew and the Casualty Evacuation (CASEVAC) of frontline casualties is an important part of the moral component

Appendices:

1.   Aviation Missions, Groupings and Limitations.
2.   AH Capabilities and Planning Yardsticks.

AVIATION MISSIONS, GROUPINGS AND LIMITATIONS

1. ***Army Aviation Missions***.   The following mission statements underpin Army establishment development for the Army Aviation mission:

   a. *Combat Army Aviation*. To Find, Fix, Strike and Exploit either independently or as the lead element or as a constituent of Combined Arms groupings throughout the battlefield and the 24 hour (hr) battle and throughout the full spectrum of operations.

   b. *Combat Support Army Aviation*. To provide enabling capabilities for Joint and Combined Arms operations, throughout the depth of the battlefield and the 24 hr battle and throughout the full spectrum of operations.

   c. *Combat Service Support Army Aviation*. Although primarily the realm of Support Helicopters (SH), limited movement of men and material remains one of the roles of Army Aviation.

2. ***Army Aviation Patrols***.   Aviation will normally task organize into a patrol . This may be a flight of 2 aircraft or a regimental level patrol, involving all available aircraft in the unit. The 3 types of Army Aviation Patrol include:

   a. *The Fighting Patrol*.   In offensive operations, the indivisible grouping for Army Aviation is the fighting patrol. A fighting patrol is designed to harass, ambush and attack or create a diversion. It can operate aggressively, to defeat, or it can be used to shape enemy activity.

   b. *The Reconnaissance Patrol*.   A reconnaissance patrol is usually a small patrol used to gain information on the enemy, preferably without his knowing, which avoids fighting except in self-defence.

   c. *Task Specific Army Aviation Patrols*.   The flexibility of Army Aviation will result in its use for other tasks besides fighting and reconnaissance. Examples include:

      (1)   Command and Control (C2).

      (2)   Logistics/Combat Service Support (CSS).

3. **Army *Aviation Battlegroups***. Aviation regiments routinely form Battlegroups with integral all arms attachments under command.   Likewise aviation will also be integrated into other all arms BGs. In these cases the BG must be given aviation LOs to assist in the planning process. (In the case of AH it will come with its Mission planning Station (MPS)).

4.   ***Aviation Battlegroup Operations***.

a.   *Offensive Operations*. Co-ordinated support from indirect fire, AD, Electronic countermeasures (ECM), UAVs and CAS will all need to be considered when conducting offensive aviation operations. Army Aviation Battlegroups offensive operations include:

(1)   *Hasty Attack*. Hasty attacks may be conducted against an enemy who is moving, temporarily halted, or is in hasty defence.

(2)   *Deliberate Attack*. Army Aviation will normally conduct deliberate attacks against a well organised enemy. These attacks could be carried out as deep operations and at night. Where surprise is important, limited reconnaissance and target acquisition may be conducted using UAVs and other STA assets. Resources can then be made available to fight the day battle and carry out a simultaneous recce of the specified night tasks.

(3)   *Joint Air Attack Team (JAAT) Operations*. A JAAT operation is a co-ordinated attack involving a combination of aviation and air aircraft normally supported by artillery and, where possible, by Electronic Warfare (EW) assets. The combination of these elements provides a highly mobile force with a destructive capability which, if used correctly, can considerably influence the course of the ground battle. The purpose of a JAAT is to provide a commander with a flexible combination of firepower that can be utilised quickly across the battlefield. JAATs are usually planned and co-ordinated at formation level.

(4)   *Ambush.* An Army Aviation ambush can be a most effective operation when sensor and weapon ranges are used for stand off (up to 8 kms) to create maximum surprise. Aviation moves to planned reconnoitred battle positions prior to the arrival of the enemy; the enemy is then engaged once he has entered the killing area.

(5)   *Blocking*. Aviation may be used to conduct blocking operations.

(6)   *Rolling Attack*. A rolling attack is two or more successive attacks by Army Aviation normally co-ordinated by the battlegroup. A rolling attack will probably require fire teams to relay through a Forward Arming and Refuelling Point (FARP) to maintain aircraft on task.

(7)   *Raids and Depth Operations*. Army Aviation raids and depth operations involve the swift penetration of hostile territory to secure information, confuse the enemy and ultimately destroy selected high value targets and installations. They should be considered for a commander's plan where the gains are likely to outweigh the risks involved. They will invariably be undertaken at night. Success will depend on the avoidance of detection, moving between or through thinly defended areas, may require a deception plan. All must part of a co-ordinated SEAD and COMAO plan to succeed.

b. *Tactical Security Operations.* When carrying out screen or guard missions, Army Aviation should be supported by artillery, and may be grouped with formation or close reconnaissance troops, AD, airmobile infantry, engineers and Support Helicopters. Tactical security is achieved through a mixture of Operations Security (OPSEC) measures, screens and guards.

    (1) *Screens.* Fighting Patrols may be tasked as Army Aviation screen. The Patrol should have ready access to indirect fire support.

    (2) *Guarding and Delaying Operations.* Depending on frontage, guarding and delaying operations can be carried out based on either an Army Aviation squadron or at battlegroup level, preferably in conjunction with formation reconnaissance. The firepower and flexibility of Army Aviation makes it highly suitable for this type of operation. However it is best coordinated with formation recce to give sustainability and cover in poor weather conditions. The ability of aviation to control JAAT missions provides a highly mobile and reactive combination of firepower to cover gaps, guard flanks and impose delay.

    (3) *Flank Guards and Blocks.* Army Aviation fighting patrols may be tasked individually or as a squadron to provide a flank guard or to block a likely enemy 2nd echelon route.

    (4) *Escort.* AH is a proven deterrent in escort operations, able to support effectively both ground manoeuvre and air manoeuvre tasks e.g. AH covering the insertion of airmobile troops and combat recovery. It has appropriate speed of movement, range and communications, to cover the flanks, front and rear of a packet and is not tied to the same route as the escorted package.

    (5) *Guarding or Screening in the Advance or in Pursuit.* If terrain is suitable patrols can be used to provide overwatch for other troops and protect flanks.

c. *Reserve.* Army Aviation can be employed to form a highly mobile and flexible reserve force.

d. *Close In Fire Support.* CIFS is where aviation operates ad hoc, in direct support of troops in contact. It is a simple procedure, similar to tank target indication. (This is detailed in AATAM 05).

e. *Support (Utility) Operations.* Lynx and Gazelle helicopters can undertake utility tasks. The following are examples of aviation battlegroup utility tasks:

    (1) Commander's recce group moves.

    (2) Signal elms recce/harbour party moves.

    (3) Engineer recce and route denial.

    (5) Support of deception plans.

5.   ***Army Aviation Battle Procedure***.   The battle procedure for aviation is similar to other ground manoeuvre troops. Time is required for reconnaissance, fire planning, orders co-ordination, equipment preparation, rest and rehearsals. For tasks at night, more detailed battle procedures and time will be required and, where possible, will need daylight reconnaissance. Army Aviation manoeuvre at night without prior reconnaissance increases the risk of aircraft casualties, and is particularly difficult when ambient light levels are low or contrast is poor.

6.   ***Command and Control***.   Effective passage of information is essential to the success of any aviation mission or task. This will normally be achieved by the deployment of LOs or the collocation of HQs. Where necessary Army Aviation LOs should be deployed to flank units. In the case of Attack Aviation units they will come with an Air Manoeuvre Planning Team (AMPT). This is primarily designed to give AM advice and expertise to enable effective AM operations. (LH - Formation SOP 2003 refers).   It comes equipped with the Mission Planning Station (MPS) which loads planning data into the Apache[1]. Likely information requirements are:

    a.   *Information*. On regrouping or during planning, Army Aviation information requirements are similar to those of other units.   Additional details are, however, required:

        (1)   *Gun Positions*. Gun positions, ARA and AMA locations, mortar lines, FSCMs and AD Co-ordination and Airspace (promulgated by Bde).

        (2)   Air activity.

        (3)   LLTRS, TMRRS, ROZs and Weapons Free Zones.

        (4)   UAV launch sites, routes and recovery areas.

        (5)   IFF, IDM and Pre Flight Message (PFM), Multiple Words of the Day (MWODs for the Havequick 11) details to upload aircraft.

        (6)   CAS/AI/FAC/Laser Target Marker (LTM) Codes, priorities and plan.

        (7)   C/S, frequencies and authentication.

        (8)   SEAD.

        (9)   Indirect Fire: Tac Group or FDC C/S. CEI, BATCO, CRYPTO. Authorised OP status.

    b.   *Boundaries*. Where possible, boundaries should not limit aviation freedom of action, but properly co-ordinated airspace control is required if fratricide is to be avoided.

    c.   *Counter Surveillance Control Measures (CSCM)*. The CSCM measures applied to aviation must take account of RF (Fire Control Radar (FCR)), IFF, radar altimeters (for NVG operations), TOW and requirements for indirect fire

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[1] MPS are installed in Div, Bde and BGHQs.

support. CSCM should take into account white light illumination as it can obscure the vision of aircrew wearing NVG.

    d.   *AD Co-ordination and Airspace Control Measures*. Helicopter IFF systems can be screened by low level flight. This screening and the CSCM in force, will put helicopters at risk from friendly AD systems at WCO "Weapons Free". Commanders should warn their troops of the presence of friendly helicopters and, where appropriate, impose "Weapons Tight Helicopters".

    e.   *Real Estate*. Aviation locations, in particular FARPs and rebroadcast stations, will need to move regularly and be sited well forward to give timely support to aviation operations.

7.   **Communications**. See Appendix 2 to Annex A to Chapter 4 (Para 3).

8.   **Frontages**. Planning yardsticks for Attack Aviation are at Appendix 1 to Annex A. The yardsticks are generic and need common sense application to take into account the environment.

9.   **Endurance**. When a mission or task exceeds the endurance of an individual patrol, then they will be relieved in place. Where this involves large distances, Army Aviation commanders will use their integral CSS elements to provide FARPs and rebroadcast stations. The yardsticks are determined by aircraft endurance and aircrew fatigue. Aircraft endurance is finite and is normally about two hours, although ferry tanks can be used to increase the endurance for specific and specialist missions. Apache Mk 1 endurance yardsticks are at Appendix 1 to Annex A.

10.   **Army *Aviation Limitations***. Army Aviation suffers from the following limitations:

    a.   *Sustainability*. Continuous deployment, using echeloned patrols or units, is possible, but this will be costly in resources.

    b.   *Communications*. Army Aviation by its nature will tend to range over larger distances than ground based manoeuvre units. It is important that battlegroup planners take this into account as the rebroadcast facilities within an Army Aviation regiment are finite. RSOs should liaise early with AMPTs to ensure they fully understand the Army Aviation communications requirement.

    c.   *Weather*. Severe weather may limit aviation operations, especially if visibility is below 1 km and cloud base of 300 ft, and when winds are in excess of a constant 40 knots.

    d.   *Vulnerability*. To reduce vulnerability, Army Aviation operations must maximise the agility and mobility of the helicopter. In addition operations should always be part of an integrated plan which includes additional OS assets for example for SEAD.

APACHE AH MK1 CAPABILITIES AIDE MEMOIRE[1]

AH SQN NUMBERS

1.   91 Personnel, 32 Prime moving vehicles, 8 aircraft. Real estate required 3 km x 3 km.

MISSION ENDURANCE

SER	FUEL	RESERVE	LOITER	GROUND SPEED	ROA/RANGE	COMMENT
(a)	(b)	(c)	(d)	(e)	(f)	(g)
1.	Internal	20 mins	20 mins	90 - 110 kts	150 km (ROA)	Any weapons configuration. Temperate climate.
2.	External	20 mins	N/A	90 - 110 kts	1050 km (567 nm) (Range)	2 external tanks Temperate climate.
3	External	20 mins	N/A	90 - 110 kts	1628 km (880 nm) (Range)	4 external tanks Temperate climate.

Note.   The shaded endurance figures will only become valid on modification or procurement of replacement external auxiliary fuel tanks or their use under Service Deviation for operations.

PLANNING YARDSTICKS

2.   As detailed below:

SER	TERRAIN	AIRCRAFT NOS	FRONTAGE	TASK DURATION
(a)	(b)	(c)	(d)	(e)
1.	Rolling Terrain	2	10 – 12 km	Squadron – 9 hours, Regimental - Indefinitely
2.	Rolling Terrain	6	24 km	Squadron – 2 hours, Regimental – 12 hours
3.	Flat Terrain	2	16 km	Squadron – 9 hours, Regimental - Indefinitely
4.	Urban/Low Level	2	2 km	Squadron – 9 hours, Regimental - Indefinitely

AH COMMUNICATIONS

3.   **Communications capability**.   AH is equipped with an impressive communications capability. It is capable of passing both voice and data securely across VHF and UHF bands to compatible radio systems. The communications equipments installed are described below:

a.   *ARC 232*.   AH is fitted with two ARC 232 radios. The ARC 232 is a multi-band AM/FM radio for air-to-air and air-traffic control purposes.   KY-100 crypto provides secure UHF and VHF transmission from the ARC 232.   In standard configuration, these, HAVEQUICK II digital signal processor controlled, radios have the frequency range of 30 – 400 MHz. They are based on SATURN

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[1] Based on D/DAAvn/9/4/3/1 dated 23 Sep 02 *Aviation Tactics Manual.*

technology to guarantee full NATO interoperability. The ARC 232 also has its own digital "telegram" system as an integral part of the system.

b. *ARC 201 D.*   AH is fitted with two ARC 201 D VHF radios. The ARC 201 D is a tactical airborne radio that provides secure, anti-jam voice and data communications. Operating in the frequency range of 30 to 88 MHz, the ARC 201 D was procured for the AH programme as part of an interim ground-air-ground voice solution. It is compatible with secure CLANSMAN VHF radios, but not BOWMAN VHF radios.

c. *Improved Data Modem.*   AH is equipped with an Improved Data Modem (IDM). This is a lightweight, six-channel tactical modem providing digital connectivity between and among airborne and ground platforms using existing radios and crypto.

d. *Interim Data Solution.*   The AH BOWMAN Connectivity (ABC) System is an interim solution to provide limited data connectivity to and from AH and ground support units. It utilises a limited set of AH LONGBOW messages. These messages can be passed from the aircraft via an ABC gateway vehicle, across the BOWMAN data network to BOWMAN User Data Terminals (UDT) equipped with BOWMAN AH Mission Planning software (BAMPS).

e. *BOWMAN AH Secure Voice.*   The AH communications suite is not interoperable directly with BOWMAN radios in secure voice mode. Non-secure communications can be established with AH and the BOWMAN VHF subsystem, providing that the BOWMAN radio is switched to non-secure mode. BOWMAN radios can be used to talk securely with AH utilising a NATO Appliqué unit (KY-99a). This system is not satisfactory as it does not allow direct communications to the BOWMAN network and the number of KY-99as is limited.

f. *AH Communications to Special Forces.*   AH communications system is compatible with a number of Special Forces radio systems. This allows the Special Forces operator to speak directly to AH in secure and non-secure voice across a range of frequencies.

g. *Data Interoperability with Other Air Platforms.*   AH has limited data sharing capabilities with other AAvn and air assets. Trials have been conducted that prove that messages can be passed utilising AFAPD and TACFIRE protocols and IDM to Jaguar. Other IDM equipped platforms do not have the correct AFAPD message subset to be compatible. TACFIRE protocols have limited use on AH.

AH WEAPON CAPABILITIES

4. AH weapon capabilities are detailed below:

SER	WEAPON CAPABILITIES	TARGET	RANGE
(a)	(b)	(c)	(d)
	HELLFIRE		
1.	AGM114L (Radar Frequency (RF) Hellfire)	Armour Moving	500m – 8km
2.	AGM114L (RF Hellfire)	Armour Static	500m – 8km
3.	AGM114L (RF Hellfire)	Helicopter Static	500m – 8km

4.	AGM114L (Semi-Active Laser (SAL) Hellfire)	Remotely Designated	500m – 8km
5.	Lock On Before Launch (LOBL) and Lock On After Launch (LOAL) RF missiles rely on target information from the FCR and are 'fire and forget'. SAL missiles require designation by coded laser, either by launch aircraft (autonomous) or remote designator (TACP/SF/TIALD). 4 missiles per launcher.		
	CRV7 ROCKETS		
6.	M261CRV7 (High Explosive Multi Purpose Sub-Munition (HEMPSM))	Bunkers, infantry positions, soft skin vehicles	3000 – 5000m
7.	RA79CRV7 (High Explosive Incendiary Semi Armour Piercing (HEISAP)).	Infantry and light armour	350 – 4500m
8.	WDV-500XB (General Purpose Flechette (GPF)	Infantry and light armour	860 – 4000m
9.	WTU – 5001/B Practice Rocket	Training rocket.	N/A
10.	M667 HE MPSM Training Rocket	Training rocket.	
11.	Rockets per shot 1,2,4,8,24 or all. Default setting is 2. 19 Rockets per launcher.		
	30mm CANNON		
12.	M789 30mm (High Explosive Dual Purpose (HEDP))	Light to medium armoured vehicles and soft skinned targets	Effective 3500m
13.	M788 30mm Target Practice Round	Gunnery Training	N/A
14.	625 rounds per minute (+/- 25 rounds). Gun duty cycle (for cooling) 300 rounds in 1 minute, followed by 10 min cooling period or 6 x 50 round bursts, followed by 10 min cooling period. Azimuth = 86° either side of centre line. Elevation = +11° to –60°.		

Note: The above figures are for planning purposes. Environmental and tactical conditions will affect system performance.

SENSOR CAPABILITIES

5.   As detailed below:

SER	SENSOR	TARGET	RANGE
(a)	(b)	(d)	(e)
	FIRE CONTROL RADAR (FCR)		
1.	35 GHz Low Probability of Intercept (LPI) 2 Ground Targeting Mode (GTM) – 4 selectable search sectors 90°, 45°, 30° and 15° and 1 Air Targeting Mode (ATM) – selectable scan sector of 180°, 90° or 30°. Classification of up to 256 air targets and 128 ground targets as either Air Defence, tracked, wheeled, fixed wing or helicopter. Pre-set prioritization of top 16 targets. Can link with TADS to give visual confirmation of radar target. Terrain Profile Mode (TPM) displays terrain and dead ground information.	Moving Targets Static Targets	8 km 6 km
	RADAR FREQUENCY INTERFEROMETER		
2.	Passive, phase comparison radar emission detector. 360° coverage will detect pulse, pulse Doppler, and continuous wave emission at 1.5x the engagement range of the emitter. Detects and		

	displays 10 highest threats (via programmable library) and can cue FCR to the threat for instant engagement. The RFI is not integrated into the Helicopter Integrated Defensive Aids Suite (HIDAS)		
	FORWARD LOOKING INFRA RED (FLIR)		

3.	TADS FLIR has 4 Fields Of View (FOV)
	  a. Wide = x1.2 magnification.
	  b. Medium = x6 magnification.
	  c. Narrow = x19.9 magnification.
	  d. Zoom = x39.8 magnification.
		Automatic tracking
		Manual tracking
			3500m
			3000m

	DAY TELEVISION (DTV)		

4.	DTV 3 FOV
	  a. Wide = x1.2 magnification.
	  b. Narrow = x6 magnification.
	  c. Zoom = x127 magnification.
		Automatic tracking
		Manual tracking
			5600m
			4000m

	DIRECT VIEW OPTICS (DVO)		

5.	DVO 2 FOV
	  a. Wide = x3.5 magnification.
	  b. Narrow = x18.2 magnification.
		Manual Track	3000m

Note: The above figures are for planning purposes. Environmental and tactical conditions will affect system performance.

THE ROLE AND FUNCTION OF COMBAT SUPPORT ARMS

Close Reconnaissance (Recce)

1.   *Role*.   The primary role of a close reconnaissance troop or platoon is to provide accurate and timely information for the battlegroup by day and by night, in all weather conditions, in all phases of war. This requires great inquisitiveness, initiative and aggression.

2.   *Employment*.   The troop/platoon is highly mobile, has good communications and night surveillance devices, and limited firepower. Manned by carefully selected and well trained crews it can be a flexible and responsive instrument for a whole variety of reconnaissance, liaison and communication tasks.   It may be reinforced or assisted by the FOO or engineer recce.

3.   *Command and Control*.   The troop/platoon is a battlegroup asset and is under the command of the battlegroup commander. If the battlegroup commander wants to regroup for particular operations he may:

   a.   Employ the troop/platoon intact under battlegroup control.

   b.   Split the troop/platoon to work under two squadron/companies.

   c.   Provide a recce section to every squadron/company.

4.   *Grouping*.   The most suitable grouping in any situation will depend on the ground, frontage and battlegroup/squadron/company tasks. A Recce Group of elements of the battlegroup, but based on the close recce troop/platoon, may be formed for specific tasks. However, all recce grouping should take into consideration:

   a.   The need for the rapid passing and co-ordination of information across the battlegroup front. This is best achieved by battlegroup control, thus allowing all the squadron/company commanders to be kept informed.

   b.   The need to find sub units for close reconnaissance which may be essential to the completion of the battlegroup's task, particularly in the attack.

   c.   The need for very close liaison and direct communication between reconnaissance vehicles, and tank troops or infantry platoons in whose squadron/company group area they are operating.

5.   *Communications*.   In the main, all close reconnaissance vehicles should be on the battlegroup net. The other radio, in one or more vehicles depending on the situation, could be on:

   a.   Squadron/company net.

   b.   Formation reconnaissance squadron net.

c.   Artillery or possibly mortar net.

d.   A troop/platoon net forward.

6.   *Tasks*. The most important of innumerable tasks which may be carried out by the close reconnaissance troop/platoon are:

a.   The establishment of mounted and/or dismounted OPs throughout the battlegroup area.

b.   The provision of a screen to the front and/or flanks.

c.   Participation in a battlegroup guard in conjunction with tanks or ATGW, but rarely alone.

d.   Location, identification and reporting of enemy defences.

e.   Target acquisition, particularly by night, for anti-tank weapons and artillery.

f.   Control of indirect fire.

g.   Advice to the battlegroup/company/squadron commander in the attack eg location of assembly areas and FUPs.

h.   Ground, route, obstacle, nuclear and chemical reconnaissance.

i.   Liaison, including the manning of co-ordination and contact points, and communication tasks.

j.   Rear area security within battlegroup boundaries.

k.   Traffic control.

7.   Its principal limitations are:

a.   Vulnerability to enemy tanks, ATGW and anti-tank mines.

b.   Limited capacity for dismounted action.

c.   Limited numbers.

The Role of Anti Tank Guided Weapons

8.   *Role*. The primary role of ATGW is the destruction of enemy armour.

9.   *Positive Characteristics*. The small firing signature of well sited ATGW mean that they are difficult for an enemy to locate. They are comparatively light, relatively mobile and have good killing power.

10.   *Limitations*. The main limitations of ATGW are:

a.   A minimum range restriction.

b. A long time of flight and a slow rate of fire.

c. Vulnerability to both direct and indirect fire. ATGW should be brought forward into prepared positions whenever possible and should have covered routes into and out of fire positions.

d. ATGW kill-performance against modern enemy tanks, particularly those fitted with Explosive Reactive Armour (ERA) or other defence mechanisms may be severely reduced in head-on engagements. Engagements should, whenever possible, be from defilade.

e. Limited ammunition holdings.

f. Performance degradation in rain and misty conditions to both optical and thermal imagery sights.

g. Most ATGW systems suffer from a relative lack of mobility on the battlefield. Any movement of ATGW detachments could involve a time penalty.

11. *Tasks*. The principle tasks of ATGW are:

a. In offensive operations and advance:

(1) To overwatch the movement of reconnaissance vehicles and tanks.

(2) Flank protection.

(3) To provide fire support for the assault.

(4) To provide anti-armour protection on the reorganisation.

(5) To provide a mobile reserve.

(6) To provide overwatch to FUPs, Log D, routes etc.

b. In defensive and delay operations:

(1) To be part of the battalion guard force or screen.

(2) To provide the framework of the anti-armour defence in conjunction with tanks whenever that is necessary.

(3) Flank protection in conjunction with flank protection minefields whenever possible.

(4) In the case of mobile systems, to act as an anti-armour reserve, either alone or with other forces.

(5) To provide anti-tank cover to withdrawing main forces.

(6) Establish OPs, employing TI and optical sights.

12. ***Tactical Employment***. Important considerations in the tactical employment of ATGW are:

    a*.* *Selection of Tasks*. ATGW complement tanks and Warrior, but care must be taken to match the characteristics of the weapon systems to the ground and the task.

    b. *Concentration and Mutual Support*. The allocation of tasks will depend on the threat, the troops available and the ground. The framework of the anti-armour defence will then be built up to co-ordinate and concentrate the necessary fire power to defeat the enemy armour. Commanders must balance the desire to concentrate armour in reserve with the need to support ground holding companies. MRATGW, which does not have the mobility and protection of tanks, should thus be sited to cover the most likely enemy approaches. This should be in defilade positions, firing across natural obstacles or minefields into relatively open areas to allow tracking.

    c. *Siting*. Full use should be made of defilade positions for which the medium range accuracy of ATGW is particularly well suited. Alternative positions should always be planned and obvious positions, such as the forward edges of woods or villages, should be avoided. The best fire positions may often be outside defended locations, and hence vulnerable to close range attack unless local protection can be provided. The protection provided by protective or tactical minefields should be considered when siting the weapons. The psychological and logistic problems associated with isolated ATGW detachments should not be under-estimated.

    d. *Engagement Priorities*. MRATGW are well suited to deployment in false front, guard or flank protection positions where concealed firing posts can engage enemy combat groupings. In the main defensive position it will be most effective when deployed with all the other available anti-armour systems. Alternative fire positions must be selected and prepared whenever possible. Authority to open fire and priority of engagement are key co-ordinating details which must be given in orders.

13. ***Command and Control***. All ATGW systems should be co-ordinated within the overall battlegroup anti-armour fire plan. The ATGW sub-unit commander will command his own sections either alone or reinforced by other elements for a special task. When sections are detached and placed under command of other sub units he should co-ordinate their deployment within the battlegroup commander's overall plan.

The Role of Sustained Fire Machine Guns (SFMG)

14. ***General Principles***. The following general principles on the tactical employment of SFMG apply to all operations:

    a. *Fire Planning*.

        (1) The GPMG(SF) is a support weapon and should be tasked by the battlegroup commander. Fire planning should be co-ordinated at

infantry battlegroup level along with the artillery, mortars and MILAN. SFMG should therefore be co-ordinated by the Fire Co-ordination Cell (FCC) in the battlegroup Main HQ.

    (2)   Guns must be carefully sited in order to establish the best fire effect and produce a concentration of fire onto the target area.

    (3)   Tasks must be given in order of priority.

    (4)   The wartime safety angle of 50 mils permits very close fire support to friendly troops, even after artillery and mortar fire have been lifted or been forced to switch to depth targets.

b.   *Command and Control*. The decision of how best to employ the SFMG will depend on the type of operation, but must be made by the battlegroup commander. The options are:

    (1)   Guns grouped together as Pl fire base or as part of battlegroup FSG commanded at battlegroup level.

    (2)   Guns grouped in sections of 3 detached to company groups commanded at company level.

c.   *Siting*. This will be determined by:

    (1)   *Fire Effect*. Guns should be sited to maximise their range, accuracy and the effect of their beaten zone. This will give an ideal from which compromise may well be necessary.

    (2)   *Survivability*. Where possible guns should be sited in hard, defilade positions in order to increase their survivability.

    (3)   *Mutual Support*. Guns should be sited with interlocking arcs to produce enfilade fire and mutual support within the battlegroup. Siting may also be affected by the need to support other company or battlegroup positions across boundaries.

    (4)   *Fire Control*. Strict discipline, fire control and target priority are essential to conserve ammunition and keep gun positions concealed for as long as possible.

d.   *Disadvantages*. The main disadvantages of the SFMG are the weight of the equipment, and the amount of ammunition required to sustain its high rate of fire.

15.   **Offensive Operations**. During dismounted offensive operations, the advantage that GPMG(SF) offers above all other weapon systems is its accuracy and weight of fire. The short safety distance between friendly troops and the enemy means it is the only weapon which can support assaulting Infantry right on to an objective. In armoured operations, Warrior and its Hughes Chain Gun (CG), will provide this same close supporting fire. In no order of priority, likely tasks may include:

a. *Approach to FUP/LD.* Flank protection on route.

b. *In the Attack.*

    (1) Neutralise enemy positions up to the Last Safe Moment (LSM).

    (2) Suppress enemy depth positions, including support weapons.

    (3) Cover enemy counter attacks or withdrawal routes.

    (4) Provide cut-offs.

    (5) Protect the flanks.

    (6) Marking enemy positions, boundaries or axes.

    (7) Move with reserve to provide quick support as required.

    (8) Part of deception plan.

    (9) Part of battlegroup/coy fire support base.

    (10) For night attacks targets must be recorded by day. Additional TI or II may be necessary for adjustment (MFC/MILAN).

c. *Exploitation and Pursuit.*

    (1) Engage enemy withdrawal routes.

    (2) Flank protection.

d. An additional role or technique during the advance or attack is to hold a group of guns behind the sub-unit ready to take over the battle once an enemy position has been encountered. This will then release additional troops for other tasks whilst SF, with its high rate of fire and range, can *fix*. This is in addition to provision of a fire base which may or may not be from the same position on the ground.

16. ***Defensive Operations***. In defensive operations the single, greatest advantage the SFMG has over all other weapons systems is the "belt" (or "wall of fire") it is capable of producing, through which an attacking enemy would have to pass. It is normal for guns to be laid on the FPF when not engaging other DFs or targets. The tasks will be dependent on the nature of the enemy threat. They are not listed in any order of priority:

a. Cover the FPF.

b. Cover obstacles and gaps.

c. Cover likely enemy:

    (1) FUPs.

(2)   OP positions.

(3)   Debussing areas for armoured/mechanised Infantry, especially where Infantry will be forced to dismount in armoured killing areas.

(4)   HLSs.

(5)   Drop Zones.

(6)   Fire support group positions.

17.   ***Transitional Phases during Operations***.

a.   *Advance to Contact*. Many of the tasks in offensive operations are applicable to this phase. However, in the dismounted role, the rapid movement of the gun teams is a problem, due to the weight of the SF equipment and ammunition. It may be advisable to keep them mounted in their vehicles (or helicopters if available) for rapid deployment when required.

b.   *Withdrawal*. During this phase many of the SFMG tasks for defence will also apply. In addition guns can remain on the position as late as possible, although time must be allowed to extract both the kit and ammunition. The use of guns can be very effective as part of a battlegroup deception plan.

c.   *Relief in Place*. The SFMG is particularly useful in a relief operation. By exchanging some items of equipment in position, such as the tripods and aiming posts, the relief can be simplified and the incoming battlegroup can become effective quickly.

18.   ***Operations in Urban Areas (OBUA)***. In urban areas the general principles for the tactical employment of SFMG and the likely tasks will still apply, whether the operation is defensive or offensive in nature. The guns can be particularly effective in providing protective or supporting fire to the perimeter force. In order not to compromise the perimeter defensive positions, elevated gun positions set back from the edge of the built up area should be considered. Within the urban area, engagements are likely to be at shorter ranges. However, streets, roads and any other breaks such as town squares, should be exploited in order to increase range. Grouping gun sections with coy groups, or deploying each kit with a platoon, may be the best option for command and control. At close quarters, the guns may be more effective in the light role.

19.   ***Fighting in Woods and Forests***. The tactical use of the SFMG in woods and forests has limitations which are in some ways similar to fighting in urban areas, but it will also depend on the foliage, undergrowth and closeness of the trees. Fields of observation and fire may be restricted except along prominent forest rides and tracks. Therefore guns may be better employed sited on the edges for flank protection or as cut-offs.

Artillery

20. **_Role of Artillery_**. The primary role of artillery is to destroy, neutralise, suppress and demoralise the enemy using lethal and non lethal indirect or direct firepower as part of the combined arms battle. As a major component of the firepower function in combat, it is employed to shatter or undermine the enemy's cohesion and to facilitate manoeuvre.

21. **_Characteristics of the Artillery System_**. Artillery has a 24 hour all weather capability to acquire targets (situated over a wide area and in depth) and to engage them rapidly with concentrated fire from widely dispersed positions. The exception to this is Close AD, which still has limited 24 hour all weather capability, (limitations in CAD capability is presently being rectified). Artillery systems comprise the following five elements:

   a. A family of Surveillance and Target Acquisition (STA) systems.

   b. CIS.

   c. Weapon platforms (guns and rocket launchers).

   d. Ammunition - the weapon.

   e. An ammunition re-supply system.

22. **_Close Support Artillery_**. Close Support regiments provide the firepower both to enable our own forces to manoeuvre, and to prevent the enemy from manoeuvring by engaging him throughout the depth of his deployment. In order to ensure that it is used to greatest effect, command of artillery is exercised at the highest level while control is delegated to the lowest practicable level. Close support regiments deploy in two distinct groups, which allows the flexibility of artillery to be fully exploited, and firepower to be concentrated at the correct time and place.

   a. *The Artillery Tactical Group.* At battlegroup level an artillery tactical group consists of the affiliated BC, his Fire Planning Cell (FPC) and Forward Observation Officers (FOOs). In each case they provide guaranteed artillery communications (secure voice and data) and are responsible for the planning, co-ordination and integration of all forms of fire support assets allocated to the battlegroup, in accordance with the commander's requirements. This includes Close Air Support (CAS) and any direct fire weapons allocated a fire support role. The FOOs' STA assets include II, TI and radar (MSTAR).

   b. *The Artillery Gun Group.* The artillery gun group is a self contained unit which consists of a Fire Direction Centre (FDC), an unspecified number of artillery pieces, an echelon and an Ammunition Control Point (ACP). An artillery gun group may be kept under corps or divisional command, or allotted for a given period to an artillery tactical group. The command relationship between the tactical and gun groups will vary and depend upon the command status and tactical task of the artillery gun group.

23. **Tactical Tasks**. The control of artillery fire may be delegated to commanders and controllers by means of tactical tasks. These define the way in which fire support assets are related to the supported arm and the degree of guarantee attached to the provision of that support. The tactical tasks relevant at battlegroup level are:

a. *General Support and General Support Reinforcing*. General Support and General Support Reinforcing support the force as a whole and not any particular element of it. General Support often refers to artillery which is being used to influence the corps or divisional battle. General Support Reinforcing provides reinforcing fire for another artillery unit, provided that it has no higher priority task at the time.

b. *Reinforcing*. Reinforcing is a tactical task in which one artillery unit augments the fire of another artillery unit (including artillery tactical groups). This relationship is a guarantee of fire to the artillery unit so reinforced for a specified period of time. Thus an artillery tactical group which has been allocated one artillery gun group "reinforcing", is able to guarantee the fire of that gun group to the formation or unit to which it (the artillery tactical group) has been assigned through the appropriate command and control relationship; this will usually be OPCON. The allocation will be accompanied by caveats on time and/or ammunition expenditure.

c. *Direct Support.* When an artillery unit is placed in Direct Support of a formation or unit it brings with it the guaranteed fire of its assets and provides observers, communications, liaison and advice. This includes responsibility for fire planning and the co-ordination of all offensive support at every level of command from sub-unit upwards. In general war this task is likely to be used only rarely by UK formations.

24. **Purposes of Artillery Fire**. The purposes to which artillery fire may be put are summarised below:

a. *Destruction*. Destruction puts the target out of action permanently. This term may be applied to both point targets and larger targets. In both cases relatively large quantities of ammunition will be required unless precision or terminally guided munitions are available. No such munitions are currently in British artillery service.

b. *Attrition*. Artillery, particularly rocket launchers in deep operations, may be used to reduce enemy combat power permanently, by destroying a proportion of its key assets including his CIS. Attrition means the reduction of the effectiveness of a force caused by loss of personnel and materiel. It does not imply the use of an attritional style of warfare.

c. *Neutralisation*. Neutralisation fire is designed to hamper and interrupt enemy movement and/or the firing of weapons. It may be achieved by attacking of enemy positions with lethal natures, the screening of troop movement or the blinding of enemy observation. The effects of neutralisation thus cover a wide spectrum and depend considerably on timing. Those achieved with lethal natures may last for some time after fire has lifted, depending upon the ferocity and duration of the bombardment, the state of enemy morale and

training, the quality of his defences and the robustness of his command systems.

d.   *Harassing Fire.* Harassing fire is designed to disturb enemy troops, to curtail movement and, by the threat of losses, to lower morale. Guns firing lethal natures may be employed for this purpose. Although such fire is speculative, and can be relatively inefficient, its use should be considered, particularly when target acquisition is difficult. It may also be appropriate in Operations Other Than War and in the jungle.

e.   *Suppression.* Suppressive fire degrades the performance of the enemy below the level needed for him to achieve his mission and to prevent effective fire on friendly forces, for as long as the fire continues.

f.   *Miscellaneous.* Artillery can also be used to blind or screen with smoke and to help acquire the enemy with illumination or marker shells.   Carrier shells, if available, can be used to deliver remote sensors, EW equipment, propaganda etc.

25.   ***Fire Planning***.   In any battlegroup operation the battlegroup commander is responsible for every aspect of the tactical plan including the fire plan. The BC is responsible for the detailed planning and implementation of the fire plan. He interprets his battlegroup commander's OS requirements, influences the scheme of manoeuvre and then integrates all fire support assets into the plan. Similarly, at squadron/company level, the FOO is responsible for the co-ordination of the fire support effort once the commander has agreed upon the correct application of fire for a given situation or target. The FOO as an observer will of course have a key part to play in the battlegroup STAP. He must be deployed where he can provide continuous observation of a designated part of the battlefield and control the fire of artillery.   Thus he cannot always be collocated with the company/squadron commander. This requirement makes it essential that before deployment the FOO is absolutely clear as to the commander's intent.   Regardless of the level of planning, the principles of fire planning are:

a.   *Co-operation.* The success of the battlegroup commander's plan depends upon the co-operation of all arms and the co-ordination of all weapon systems. The BC must be totally familiar with the plan from its inception, and each weapon system must be employed to its best effect within the fire plan. This will require the deconfliction of weapon effects to prevent, for instance, indirect fire obscuring the line of sight of direct fire weapon systems.

b.   *Concentration of Fire.* It is unlikely that sufficient fire units will be available to engage all targets simultaneously and effectively;   therefore fire should be concentrated against the most important targets. Less important targets may have to be engaged on call, or the operation may have to be phased to enable sufficient firepower to be massed onto targets in succession.

c.   *Flexibility.* Most plans require some degree of modification in battle and the BC should anticipate that.   The BC should ensure that the fire of a superimposed unit or units is available to engage unforeseen targets.

d. *Simplicity*. Simple fire plans are generally quicker to arrange, easier to modify and less susceptible to error than more complex ones.

e. *Surprise*. To achieve maximum surprise, unnecessary adjustment must be avoided.

Close Air Defence

26. ***Role***. Close air defence assets, when allocated to a battlegroup, provide a limited, low level, close air defence capability to supplement any area air defence coverage which might exist and the battlegroup all arms air defence.

27. ***Capabilities and Limitations***. Both Javelin and High Velocity Missile Systems (HVM) can destroy low-flying fixed and rotary wing aircraft out to 5 kilometres in good visibility. Both Javelin and HVM have the following limitations:

a. Fixed wing aircraft can only be engaged if their projected flight path passes over or within 500 m for Javelin and 1000 m for HVM of the launcher and then only, realistically, when head-on. Helicopters can be engaged at all angles of approach and departure out to the maximum weapon range.

b. No poor visibility/24 hour operation or multiple target capability.

c. Dependence on battlegroup administration.

28. ***Tactical Employment***. The minimum tactical grouping is a Fire Group of 6 fire units, which may be employed on divisional/brigade air defence tasks or the close air defence of the battlegroup. The Fire Group is best employed on the point defence of defiles, headquarters or concentrated sub-unit locations such as FUPs or hides. To be effective the complete Fire Group must be deployed to cover a single task; this enables multiple targets to be engaged most effectively. In mobile operations, when no single point merits priority, the Fire Group may move with the battlegroup headquarters or a sub-unit, deploying to cover defiles or any concentrations of vehicles caused by halts, or to give flank protection against stand off helicopter attacks. This task can be conducted by both Javelin and SP HVM, although Javelin has a much reduced capability due to the time taken to come into action. The Fire Group has only limited communications and is vulnerable to enemy ground action. The battlegroup must keep it informed of the enemy threat and provide it with protection when necessary.

Engineers

29. ***General***. The role of engineers is to provide close support to the battlegroup. This will include the provision of timely and effective mobility, counter mobility, survivability support and, where necessary, the provision of general engineer support. The engineer organisation will be task organised to meet the specific requirements of the battlegroup and may include armoured engineers, field engineers and engineer recce.

a.   *Armoured engineers*.   Armoured engineers are equipped with engineer tanks and provide support in the direct fire zone with AVLBs and AVREs, supported by CET, light armoured and B vehicles.

b.   *Field engineers*. Field engineers will normally be mounted in APCs and will carry out most engineer tasks dismounted. They will be supported by plant and other equipment.

c.   *Engineer recce*.   Engineer recce may be task organised to support the battlegroup close recce and should be mounted in similar vehicles.

30.   **Tasks**. The most likely tasks for engineers within a manoeuvre operation are:

a.   Minefield breaching.

b.   Breaching minefields and other obstacles using AVREs and CETs.

c.   Assistance with river and obstacle crossing.

d.   Gap crossing using AVLBs.

e.   Route improvement.

f.   Construction and improvement of obstacles, including tactical minefield and anti tank ditches.

g.   Demolitions and route denial.

h.   Route maintenance.

i.   Assisting the construction of field defences.

j.   Provision of engineer firing parties for reserve demolitions.

31.   **Principles of Employment**. To deploy close support engineer assets to the right place on the battlefield, at the exact time it is required, needs much careful planning. The following principles apply in this process:

a.   *Foresight*. Commanders must anticipate obstacle crossing problems when making their estimate and get the right support by co-ordination with the Engineer Squadron Commander or Battlegroup Engineer (BGE).

b.   *Reconnaissance.*   Effective use of engineers depends on good reconnaissance. This may appear to slow operations down, but it is always best for engineer recce to check a crossing or breaching site before committing specialist equipment. Engineer recce must move well forward in an advance with the Recce Group, usually a tactical bound behind the lead vehicles to enhance survivability. Technical engineer recce should then move forward with the direct fire over watch from other battlegroup recce vehicles.

c. *Co-ordination*. Engineer support to the battlegroup is best co-ordinated at no lower level than battlegroup HQ by the Engineer Squadron Commander or BGE.

d. *Priorities*. Engineers must be given an order of priority for their tasks.

e. *Protection*. If engineers have to provide their own local protection, their work rates will be drastically cut. Where possible, other troops should protect engineers whilst they are working.

f. *Economy of Use*. It is usually more efficient to enhance existing man-made or natural obstacles than to construct new ones. For example a cut in the side of a hill *may be* as effective an anti-tank obstacle as a ditch, for half the effort. Similarly, a marsh or a river line with nuisance anti-tank mines may have the same effect as a tactical minefield in open terrain.

g. *Concentration*. Engineers work best when their effort is concentrated, and should seldom be split below troop level.

h. *Infantry Role*. Although a field troop's secondary role is to fight as infantry it is wasteful to task them in this way except as a last resort.

i. *Time to Prepare*. Some engineer equipment takes time to prepare for use. Early warning orders, and the selection of suitable hides near the site are essential.

j. *Concealment*. All armoured engineer equipment, because of its specialised nature, can give away plans if it is seen. Choosing hides which are properly concealed but far enough forward for quick reaction is a constant dilemma for equipment

32. ***Command and Control***.

a. *Battlegroup Engineer (BGE).*

(1) The amount of engineer support allocated to a battlegroup depends on the type and extent of engineer tasks. However, an experienced Royal Engineers captain, will be permanently under OPCOM of battlegroup headquarters as the BGE. He is both the engineer adviser to the battlegroup commander and the liaison officer for the CO of the brigade close support engineer regiment.

(2) The BGE's command chain is direct to the battlegroup commander, whilst his technical control is directly to the CO of the close support engineer regiment. The BGE is not the commander of the engineer assets operating in support of the battlegroup, but he may relay orders to them, and co-ordinate their activities. He can also act as a liaison officer for any engineer squadron commanders exercising technical control over their own troops placed in support of the battlegroup.

(3)   As the engineer CO's liaison officer, he will keep the brigade engineer operations cell informed about current engineer operations, anticipate engineer requirements, bid for engineer resources, co-ordinate the regrouping of assets to and from the battlegroup, and relay information from the engineer recce troop elements operating in support of the battlegroup close recce troop/platoon. He will also assist the battlegroup commander to plan operations, advise him on engineer priorities, and carry out terrain analysis for the IPB.

(4)   The BGE's vehicle normally forms part of Main HQ. If the battlegroup commander deploys with Tac HQ, then the BGE should be prepared to accompany him; but this may be at the expense of his planning and co-ordination functions.

b.   *Role of the Engineer Squadron Commander*. The need for engineer groupings to be tailored to meet different options, means that it will not always be possible to maintain the accepted engineer chain of command.

(1)   When a single troop is placed under TACOM of a battlegroup, it is commanded by the battlegroup commander, with technical control being exercised by its parent squadron commander and the BGE acting as the link.

(2)   When more than one troop is placed under TACOM of a battlegroup, it may be necessary, to appoint a squadron commander as the battlegroup engineer commander, particularly if the battlegroup is on the brigade main effort or has some other key function requiring increased engineer effort. If a squadron commander is attached to a battlegroup, he would accompany the battlegroup commander, normally leaving the BGE at battlegroup Main.

c.   *Communications.* The BGE will need to speak on the engineer regimental secure command and the engineer squadron nets. The battlegroup command net will be monitored through a speaker; when there is a need to change to it for a specific operation, communications will be maintained with the engineer regimental headquarters via the BGE's own SCRA. He will be assisted by his own vehicle crew and by a SNCO or experienced JNCO to guarantee 24 hour manning.

33.   **CSS**. Engineers within the battlegroup should, whenever practicable, be supported by the battlegroup CSS structure; particularly for maintenance support and combat supplies. For maintenance and support of engineer equipment, however, and for engineer task stores (including mines and explosives), it may be necessary for battlegroup engineers to be supported by their parent unit. Such support should be controlled through the BGE and the engineer squadrons concerned, co-ordinated with the battlegroup.

NBC Defence

34.   Within the battlegroup the commander will be advised by his operations and intelligence officers, with specialist tasks handled by the NBC training officer and cell

controller. When operating in an NBC environment the battlegroup commander may also have NBC reconnaissance and de-contamination assets from the Joint NBC Regiment operating within his AO. Exceptionallly these may be under command but are most likely to be controlled at least at brigade level. All arms reconnaissance assets will conduct N & C reconnaissance in order to confirm or deny contaminated areas within a battlegroup's AO. NBC specialist troops will be tasked when a survey is required. There will be a requirement to make plans for decontamination prior to operations and these should be co-ordinated with the brigade NBC Adviser so that battlegroup high priority assets can be de-contaminated as quickly as possible.

THE ROLE AND FUNCTION OF COMBAT SERVICE SUPPORT (CSS)

General

1.   CSS can be broken down into the four disciplines of Logistic Support, Medical Support, Equipment Support and Administrative Support. The key factor in maximising the CSS available to an operation is to ensure that CSS is not considered in isolation but is integrated with the tactical planning.

2.   It should be remembered that the practices and division of assets shown here are a guide. Two of the five principles of CSS are simplicity and flexibility. There will be many occasions when the simplicity that comes from acting in accordance with SOPs may well be out-weighed by flexing the framework in order to maximise the delivery of CSS.

Battlegroup Logistics Officer (BGLogO)

3.   The role of the BGLogO is to act as the single point of contact for the battlegroup commander regarding all CSS matters within the battlegroup HQ, working alongside the battlegroup 2I/C.   The appointment is normally filled by the OC of the HQ company/squadron working in battlegroup Main HQ.   The responsibilities of the BGLogO are:

   a.   Conducting the CSS estimate and quantifying the battlegroup requirements.

   b.   Co-ordination of the CSS input into the estimate process, under the heading of Friendly Forces.

   c.   Devising the CSS Plan in conjunction with the Tactical Plan and confirming it conforms to the higher formation CSS plan.

   d.   Delivery of the CSS content of orders including the CSS Scheme of Manoeuvre and CSS Main Effort in support of the Commander's Plan.

   e.   Passing current information and warning of future plans to the RAP and A1, A2 and B echelons.

   f.   Providing regular CSS feedback and backbriefs to higher formation.

   g.   Monitoring changes to the CSS Plan.

   h.   Informing the battlegroup commander of significant CSS issues, which may affect his plan.

   i.   Forward planning including anticipation of future requirements for assets and stores.

j.   Co-ordination of CSS led activities such as rehabilitation and requests for assistance from higher formation.

The Echelon System

4.   On operations battlegroups are organised into the following groupings:

a.   *F Echelon*.   F Echelon consists of all the fighting forces of the battlegroup together with their weapons and vehicles; battlegroup and sub-unit headquarters; and integral sub-unit support including fitter sections and ambulances.

b.   *Battle Echelon.*   The Battle Echelon consists of a vehicle(s) with immediate supplies on board. It is used to meet urgent sub-unit requirements for basic commodities such as MILAN Missiles and small arms ammunition.   It is normally commanded by the RSM. It is likely to be held forward in a harbour location.

c.   *Regimental Aid Post (RAP)*. The RAP, consisting of a doctor, medics and ambulances will position itself away from the other sub-units between the F and A1 Echelons. It may be augmented by a Medical Section (see paragraph 12c) which is TACON/TACOM/OPCON the battlegroup.

d.   *A1 Echelon*. A1 Echelon consists of those elements of the battlegroup's CSS resources required for immediate support and replenishment of the F Echelon during the battle. A1 Echelon is normally controlled by battlegroup HQ and sited directly behind the F Echelon but outside the direct fire capability of the enemy.   It is normally commanded by the MTO and consists of vehicles carrying combat supplies.

e.   *A2 Echelon*. A2 Echelon contains the remaining battlegroup CSS troops and vehicles that are still required to be close at hand in the battle area. It is normally commanded by the QM (T) and consists of the parent unit's technical stores; the unit's REME support including specialist tradesmen and the HQ of the Light Aid Detachment (LAD); and a Logistic Support Detachment (LSD) from the Brigade Support Squadron RLC. Whilst a battlegroup commander may wish to move some resources from the A2 to the A1 Echelon for a specific operation, it is unlikely that he would wish to be encumbered with his A2 Echelon in his immediate area. Accordingly A2 Echelons will normally be brigaded in a forward area of the Brigade Support Group (BSG) and will come under command of HQ BSG for the co-ordination of real estate allocation, movement and local defence.

f.   *B Echelon*.   B Echelon consists of non-urgent battlegroup administrative resources. It may be commanded by the QM or RAO and contains the Field Records staff and stores that are unlikely to be required in the contact battle. The B Echelons are normally grouped in the Divisional Support Group (DSG), close to the Divisional RV.

Logistic Support

5.   ***General***. Logistic support to the battlegroup is provided through the LSD, usually collocated with the A2 Echelon. The LSD holds no stocks, and is a logistic C3 cell commanded by an officer or SNCO from the Brigade Support Squadron RLC. Its task is to act as an interface between the battlegroup and the Brigade Support Squadron and is under OPCON/TACOM/TACON of the unit that it is supporting. The LSD co-ordinates the supply of Combat supplies (C sups) from the Brigade Support Squadron and provides the link for materiel support to the battlegroup.

6.   ***Combat Supplies***. The quantity of C sups to be held by units is determined by the staff. Planning is calculated by the staff, based on the Day of Supply (DOS) required for the operation. DOS is the amount of supplies required by a unit on operations in its primary role for one day at normal rates. Units hold as their first line stocks a number of days DOS. The stocks that a unit can carry on its fighting vehicles in the F Echelon and its B vehicles in the A1/A2 Echelons are known as the Unit Mobile Stocks (UMS). Where the first line scales exceed the UMS the difference must be ground dumped. The actual number of DOS to be held at first line will be decided by the staff based on an estimate of likely consumption and availability of re-supply.

7.   ***Materiel***. Re-supply is demand led.

   a.   *General Stores*. Sub-units carry a scale of general stores on their vehicles. Battlegroup reserves of these stores, which are of a non-urgent nature, are held by the parent unit in the B Echelon. To replace lost or damaged equipment, the sub-unit SQMS/CQMS demands replacements via the A2 Echelon from the B Echelon. Delivery is usually on an opportunity basis on any available transport going forward. A maintenance scale of clothing is held in B Echelon. SQMS/CQMSs will normally hold a small range of important items such as helmets and boots to ensure immediate replacement if required.

   b.   *MT and Technical Stores*. A spares pack consisting of a small range of fast moving MT and technical stores is held by the squadron/company fitter sections who, if they require additional items, demand on the unit technical stores held in A2 Echelon by the QM (T). This holding is known as the Unit Repair Scale (URS) and equates to 30 days stock of frequently demanded items. The URS is usually collocated with the LAD. Replenishment of these stores and demands for items not held are made to the Brigade Support Squadron via the LSD.

8.   ***Replenishment***.

   a.   Routine replenishment of the battlegroup is carried out by the A1 echelon. The quantities delivered normally equate to the DOS figure and are referred to as a Default List. Demands are submitted by exception. In this way A2 Echelon, through the LSD, must submit changes in quantities required for specific items, otherwise it will receive the Default List. Replenishment of the battlegroup by the RLC vehicles of the Brigade Support Squadron is normally carried out in one of two ways:

        (1)   The RLC vehicles may unload at the A2 Echelon, where the C Sups are split into sub-unit loads and picked up by each SQMS/CQMS.

        (2)   The Brigade Support Squadron establishes a Distribution Point (DP) from which units in the brigade collect they're C Sups. Where only one commodity is supplied, ie fuel, the DP is called a Commodity Point (CP).

    b.   Other systems of replenishing a battlegroup could include the through running of RLC vehicles to the A1 Echelon where stores are cross-loaded or vehicles are simply exchanged. Alternatively RLC vehicles could through run direct to the sub-units. This flexibility is a strength of the replenishment system.

    c.   Replenishment of the sub-units by their SQMS/CQMS is carried out whenever possible. In mechanised and armoured units, even out of contact, the regular re-supply of fuel will be an important consideration.   In battle replenishment, the emergency re-supply of fuel and ammunition, might be required at any time. The A1 Echelon vehicles are held well forward for this contingency. For more details see Chapter 12.

Equipment Support (ES)

9.   At battlegroup level, first line ES is provided by a Light Aid Detachment (LAD) which is organised as follows:

    a.   Each squadron/company has a fitter section attached to it. The fitter section is commanded by a SSgt Artificer and comprises a variety of trades, dependant on the equipment being supported. Fitter sections are placed under command of the squadrons/companies they support on deployment but the battlegroup EME retains technical control and the ability to move resources in accordance with the battlegroup commander's plan. Fitter Sections operate from AFVs that are afforded similar levels of mobility and protection to the AFVs of the sub-unit they are supporting.

    b.   At A1 Echelon there may be a number of tracked and wheeled recovery/repair assets. In addition to providing support to battlegroup HQ they also act as an LAD reserve.

    c.   The remainder of the LAD including its HQ is located in the A2 Echelon. It is here that B vehicle repair and much of the ancillary work is carried out. If necessary, tradesmen and equipment can be sent forward to reinforce a squadron/company fitter section, although their mobility and protection is not on a par with F Echelon.

    d.   The role of the EME includes commanding the LAD, monitoring the battlegroup's equipment state, liaison with second line, and contributing to the battlegroup planning and orders process. The EME should be primarily based at battlegroup headquarters, particularly during the planning phase of an operation. When the battle allows, however, the EME will work throughout the battlegroup area.

e.   The role of the LAD is to provide first line recovery support, carry out level 2 repairs to the battlegroup's equipment and provide the chain of command with advice and information. Equipment which is beyond LAD repair, but considered by the G3 staff to be operationally vital is subject to forward repair. This repair, when deemed feasible, is conducted by a Forward Repair Team (FRT) from the Forward Platoon of the CS Company REME.

f.   The CS Company REME located in the BSG, or close behind the brigade rear boundary, is able to carry out limited level 3 repairs. These are restricted to:

(1)   Repairs by replacement to high priority A and B vehicles that are not subject to forward repair.

(2)   Battle damage repair of A vehicles.

(3)   Armament, small arms and machine gun repair.

(4)   Telecommunications repair.

(5)   Limited optronics repair.

g.   The GS Company REME is likely to be located in the DSG. The majority of level 3 repairs will require the equipment to be back-loaded to the GS company of the divisional battalion REME via an ECCP. The extended time required to repair a vehicle or equipment in GS Company REME will normally result in the vehicle and crew being returned to the Armoured Delivery Regiment rather than back to the battlegroup. GS Company capabilities include:

(a)   Powerpack regeneration.

(b)   Optronics repair.

(c)   Telecommunications repair.

(d)   In depth vehicle and general repair

Medical Support

10.   ***General***.   For the best chance of survival and recovery, casualties should be treated within the medical 1-2-4 hour principle. That is the need to get a casualty to an RMO within 1 hour of wounding; the need to get those casualties who require resuscitative surgery (approximately 15%) to a forward surgical facility within the next hour (2 hours from wounding); and all casualties to primary surgery (role 3 hospital) within the next 2 hours (4 hours from wounding). Faith in the system for dealing with casualties is essential to high morale. A soldier must know that if he is wounded or injured, he will be treated promptly and properly and evacuated quickly to hospital. Within the battlegroup this means good first aid training and a simple, well-resourced and reliable system of evacuation to the battlegroup RAP.

11. **Treatment and Evacuation within the Battlegroup**.

    a.   *Sub-Unit Aid Posts*. Each sub-unit has a Regimental Medical Assistant (RMA) NCO and/or a combat medical technician, who sets up and commands a sub-unit aid post. This is normally sited close to the squadron/company HQ. Troops/platoons bring their wounded to the aid post; alternatively, the squadron/company armoured ambulance might be sent forward to collect casualties. At the aid post, first aid is checked and triage[1] is conducted. Casualties are then evacuated by ambulance or stretcher to the RAP.

    b.   *RAP*. At the RAP the MO and the medical staff:

        (1)   Assess, prioritise and treat the casualties, returning any that are fit for duty.

        (2)   Prepare casualties for evacuation.

        (3)   Complete or initiate any necessary medical documentation.

        (4)   Arrange casualty evacuation through the Forward Squadron of the affiliated field ambulance.

        (5)   Remove all unit equipment less the casualty's personal weapon.

        (6)   Establish a compound for the dead and dependant on the situation; arrange for emergency burial.

        (7)   Act as Medical advisor to the battlegroup commander.

    c.   *Medical Section*. The RAP is often reinforced by a medical section from the affiliated squadron of the Medical Regiment. The medical section consists of an MO and 8 medical technicians, and normally comes with ambulances, effectively doubling the treatment capacity of the RAP. This also enhances the flexibility of a battlegroup's medical arrangements, because either the RAP or medical section is able to set up ready to receive casualties while the other moves. The medical section is also able to replace the RAP in the event that it is destroyed, and it is also able to provide medical support to sub-units that may be operating away from the main body. It is particularly useful when operating in an NBC environment as it allows the separation of clean and dirty casualties.

12. **Evacuation from the RAP**. From the RAP the casualty will be evacuated by elements of the Evacuation Squadron from the Medical Regiment, possibly via an ambulance exchange point. The ambulance exchange point is normally sited approximately 1/3rd of the way to the Dressing Station and its purpose is to speed up the evacuation by transferring the casualty into a quicker and more comfortable wheeled ambulance. Helicopters will be used for evacuation whenever they are available and the tactical situation permits. Casualties will normally be evacuated to

the Dressing Station set up by the affiliated squadron of the Medical Regiment, but they could be evacuated direct to a field hospital.

13. ***Padre***. It would be normal for the padre to be located at the RAP during the battle, where he is able to assist the MO and medics, whilst also administering pastoral care to the wounded.

14. ***Prisoner of War (PW) Casualties***. Battlegroups must be prepared to accept PW casualties into their medical treatment and evacuation chain, and should plan accordingly. The Intelligence Officer should provide the RMO with a PW estimate.

PART B

TACTICS AT THE BATTLEGROUP LEVEL

CHAPTER 5 - RECONNAISSANCE AND SECURITY OPERATIONS

SECTION 1 - RECONNAISSANCE

1.   *General*. Reconnaissance and security are common to all operations of war and are inextricably linked. To complete his mission whilst at the same time maintaining the security of his entire force, the battlegroup commander has to acquire information about the enemy and the ground. Reconnaissance is the directed collection of information in the Area of Operations (AO). It confirms the presence or absence of enemy forces in a specified area, collecting information relating to their activities and resources. Additionally, information can be collected on the meteorological, hydrographic and geographic characteristics of the AO. Reconnaissance resources will always be limited and must therefore be focused on the battlegroup Commander's Critical Information Requirements (CCIR). Timely and accurate information, gathered by reconnaissance assets, allows the commander to draw conclusions, make or adapt his plan and to manoeuvre his forces. The principle of 'recce pull' whereby reconnaissance identifies the enemy gaps and weaknesses for the forces to follow through, should normally be adopted. However, the "command push" direction of ISTAR assets will greatly enhance their effectiveness.

Close Reconnaissance

2.   *Principles of Close Reconnaissance Operations*.

   a.   *Stealth*. Throughout the planning of close reconnaissance operations, it should be borne in mind that the underlying principle is of reconnaissance by stealth. If the battlegroup close reconnaissance troop/platoon has to obtain information by overt or aggressive means, or conduct offensive operations, then it must have suitable additional assets included within its TASKORG. It is the responsibility of the tasking commander (normally the battlegroup commander) to ensure that the close reconnaissance troop/platoon is suitably organised for the tasks to be undertaken.

   b.   *Establish the Aim of the Operation.* Reconnaissance commanders must be totally clear on their mission and its relationship to the battlegroup commander's concept of operations and the CCIR; long "laundry lists" of tasks must be avoided. Reconnaissance will often be tasked before completion of the battlegroup plan; ideally, therefore, the battlegroup commander should personally give orders to the reconnaissance commander prior to his deployment. Armed with this information, as a minimum, he can then react purposefully when the enemy is located.

   c.   *Find and Fix*. Surveillance of the enemy should only be broken on orders from the battlegroup commander. Given the increasing manoeuvrability of potential enemies, the maintenance of surveillance is critical if reconnaissance is to provide the battlegroup commander with timely and accurate information.

   d.   *Freedom of Action*. When assigning tasks to the recce troops the battlegroup commander should avoid being too prescriptive or dogmatic. The principles

of mission command should be adopted to allow the recce commander to use his initiative to cater for the unexpected, yet operate within the commanders intent.

e. *Maintain Communication*. Information gathered needs to be communicated in a timely manner. Both the tasking commander and the reconnaissance commander must ensure that communications are adequate for the operation envisaged. This may require the allocation of additional communications assets to support the recce troop. Whilst reconnaissance have a limited ability to effect rebro within the troop/platoon, it is the responsibility of the tasking organisation to ensure communications are maintained down to a subunit. Communications should be on the all informed battlegroup command net.

f. *EMCON*. Where EMCON measures are imposed they must be permissive enough to allow the recce troops to complete their mission.

g. *Co-operation with Other Arms*. The reconnaissance troop/platoon may be integrated with other arms, especially FOOs and engineer recce, for specific operations. A sound knowledge of the features and capabilities of the combat and combat support arms should be fostered amongst all those assigned to the close reconnaissance troop/platoon.

h. *Accuracy*. Reconnaissance reports will have a significant bearing on the actions of the battlegroup and must therefore be both accurate and comprehensive it initiative is to be maintained. This can be achieved by rigorous training and the careful selection of reconnaissance personnel. Potential reconnaissance personnel should be physically and mentally above average. Officers and NCOs should have previous command experience within their regiment/battalion and the battlegroup commander should take a personal interest in their selection.

3. **Role**. The role of close reconnaissance is to provide timely and accurate information for the battlegroup by day and night, in all weathers and in all operations of war. It conducts operations within range of CS artillery and frequently within the protection afforded by the parent battlegroup. Whilst the role and principles of all close reconnaissance operations are the same, there will be differences in the detailed tactical employment of armoured (armoured, armoured infantry and mechanised infantry) and light-roled (air-mobile and all non-armoured close reconnaissance pls, including TA) reconnaissance in certain operations of war. Where appropriate, these differences are identified in this Chapter.

4. **Organisation**. Close reconnaissance traditionally comprises a small surveillance troop/platoon integral to the battlegroup. Its detailed organisation will depend on the role of the battlegroup and task organisation.

5. **Tasking**. It is important that the battlegroup commander personally gives the initial reconnaissance troop/platoon mission statement early in the battle procedure even if, subsequently, the battlegroup plan alters as a result of information or intelligence provided from recce. Commanders must remember that the close reconnaissance

troop/platoon's ability to provide accurate information and intelligence will be enhanced by allocating a realistic amount of time for their tasks. Time will always be at a premium but this can be off-set by anticipating reconnaissance tasks. The principle of reconnaissance by stealth does not preclude the use of close reconnaissance in aggressive operations provided that the troop/platoon is suitably task organised. Although it is designed to operate as a whole, splitting the close reconnaissance troop/platoon for specific tasks may be the only way to achieve the battlegroup commander's purpose. However the dangers of routine fragmentation should be considered carefully.

6. ***Characteristics***.

    a. *Armoured*.

        (1) *Mobility*. Close reconnaissance is equipped with Scimitar or Sabre (CVR(T)). Whilst relatively agile, CVR(T) will not keep up with Challenger or Warrior across country.

        (2) *Surveillance*. In addition to the optical sights fitted for the commander and gunner, CVR(T) also has an under-armour Image Intensifier (II) sight which can provide night observation to 1500 metres. The II sight can only be viewed from the gunner's station. The sight is easily degraded by adverse weather. The thermal sights OTIS and Spyglass are also carried (normally issued 2 per troop/platoon) but are both designed for dismounted operation. The 3 man crew can operate dismounted for short periods.

        (3) *Communications*. Each CVR(T) is fitted with a VRC 353 radio and a 352 "clip-in" VHF set that can be removed from the vehicle for dismounted operation. It is usual for the troop/platoon to carry 2xPRC 320 HF radios in order to allow them to operate on the battlegroup HF guard net should VHF communications fail. There is no provision for an HF set within the vehicle harness.

        (4) *Firepower*. CVR(T) has a 30mm cannon capable of single shot or automatic fire mounted together with a coax GPMG (Scimitar) or a HCG (Sabre). Operational types of 30mm ammunition available are: HE, APDS and APSE. (A new Armour Piercing Enhanced Performance (APEP) round will gradually replace APDS and APSE. The new round will maintain the CVR(T) ability to kill lightly armoured targets at ranges out to 1500 metres. Approximately 160x30mm rounds are carried in the CVR. Smoke grenade dischargers provide local smoke protection. The crew carry SA80.

    b. *Light Roled.*

        (1) *Mobility*. The close reconnaissance platoon is currently equipped with 110 Long Wheel Base FFR Land Rovers. In order to allow all round observation and free weapon movement, vehicles should be stripped of their windscreen, canopy and frame and fitted with a roll-over bar.

(2)   *Surveillance.*   All optical sights within the platoon are personal issue. There are no sights fitted to the vehicle. Sights can include a mix of TI and II on a scale decided within the battlegroup. Optical sights normally issued include Spyglass (TI), CWS and GPPNVG (II). Additionally, and depending on battlegroup priorities, the close reconnaissance platoon can be issued Classic. This RGS system gives the platoon a degree of self protection and also allows it to monitor movement over ground it cannot physically observe.

(3)   *Communications.*   The close reconnaissance platoon has a mix of vehicle mounted and man pack sets. Each command callsign has at least 2 VRC 353 radios as well as a PRC 352 with GSA and a PRC 320. Alpha callsigns have a VRC 353 and a PRC 352 with GSA. The alpha callsigns will not normally have an HF capability unless battlegroup priorities dictate otherwise. The platoon is able to work 2 VHF nets when mounted and one when dismounted. Three patrols can work on HF. There is no harness fit for the PRC 320.

(4)   *Firepower.*   Each vehicle has 2 pintle mounted GPMGs. The patrols carry a mix of SA 80 and LSW. The GPMGs can be removed from the vehicles when the patrol is dismounted. In addition, and dependant on battlegroup priorities, the platoon could be issued two or more 94mm LAW per vehicle. The platoon can be allocated other weaponry, such as grenades, for specific operations.

7.   ***Tactical Handling.***

a.   *Command and Control.*   It is fundamentally important that close reconnaissance commanders fully understand the battlegroup commander's intent if they are to use their initiative to the full and exploit opportunities presented by the enemy. This assists in the promotion of tempo and fosters the concept of reconnaissance pull. Whilst the close reconnaissance troop/platoon is designed to be used complete, operational situations may occasionally dictate that it operates as ½ troop/platoon or even by sections. It is unusual for armoured reconnaissance to be split below section level, unless employed on subsidiary tasks such as traffic control or manning contact points. Before splitting the close reconnaissance the battlegroup commander will wish to consider the adverse implications on command and control, restrictions on tasks, and the penalties for logistic support. The battlegroup commander may also consider, if intending to split armoured close reconnaissance below section level, whether the task/s that he has in mind could be completed equally effectively by a subunit other than the close reconnaissance for whom there may be more important collective tasks.

b.   *CSS.*   Given the widely differing possibilities for employment of close reconnaissance in operations, the method of support and resupply must be considered prior to deployment. Operating in vehicles, the CVR(T) may require a dedicated fuel element to be attached to the close reconnaissance troop/platoon for a particular operation. The requirement to maintain the security of both the close reconnaissance troop/platoons during replenishment

and the associated replenishment assets themselves will need careful planning, particularly in operations where close reconnaissance operates in front of the battlegroup. The frequency of resupply will not only depend on the type of operation undertaken, but will often be constrained by the load carrying ability of reconnaissance troops. Prolonged dismounted reconnaissance operations will require a sophisticated resupply plan in order to minimise the risk of compromise. Other troops from the battlegroup may be required to support the resupply in order that close reconnaissance can devote all its resources to the operational task. Careful consideration should be given to the associated requirements for:

      (1)   Vehicle Recovery.

      (2)   CASEVAC Plans.

      (3)   The requirement to hold casualties in situ if CASEVAC is tactically impracticable.

      (4)   Medical 1 - 2 - 4 hour rules.

Aviation Reconnaissance

8.   ***General***. The term "aviation reconnaissance" is the use of helicopters to gain information about the activities and resources of an enemy or potential enemy, or to secure data concerning the meteorological or geographic characteristics of a particular area. The use of aviation for reconnaissance offers the commander flexibility, reach and speed, but it can be vulnerable and is always in short supply. Aviation is also weather dependent, but can be used in limited visibility and at night. Aviation is discussed here in isolation, although it is fully recognised that the reconnaissance plan should be co-ordinated and integrated by formation headquarters, where the use of Close Reconnaissance, Engineer Reconnaissance and other ISTAR assets will be tasked as part of the intelligence gathering plan.

9.   ***Types of Aviation Reconnaissance***.

      a.   *Observation.* Observation sorties are almost invariably concerned with information on enemy activity, such as watching an exposed flank or covering a gap in ground surveillance. Some degree of continuity of observation is usually implicit and observation is often required over an AO. Direction of fire using AOP will frequently be combined with an observation sortie.

      b.   *Recce*. Reconnaissance missions involve the seeking out of particular information, frequently not necessarily concerned with enemy activity, and invariably at a specific location. The results of reconnaissance sorties should always produce specific answers. Typical examples are enemy strengths and locations, routes or bridges.

      c.   *Surveillance*. Surveillance is the continual collection of information, usually across a wide spectrum. Aviation conducts this as a routine part of its work.

10. ***Equipment and Organisation***.

    a.   *Aviation Reconnaissance Patrols*. Both the Lynx/TOW and Gazelle helicopters can be used to carry out recce missions. They will usually be grouped to optimise their different capabilities into Aviation Reconnaissance Patrols (ARP). The composition of an ARP is described at Annex A to Chapter 4.

    b.   *Vision Enhancements*. Both helicopter types are fitted with optical sights operated by the commander (not the pilot). Because the Lynx and Gazelle sight is mounted on the cockpit roof, the aircraft fuselage (though not the rotors) can be easily hidden behind buildings and/or vegetation whilst in an observation position.

        (1)   *Gazelle Observation Aid (GOA)*. The Gazelle Observation Aid (GOA) can be augmented with a Laser Target Designator and Range Finder (LTDRF). The GOA is a fully stabilised daylight optical device with the following characteristics:

            *(*a)   Magnification   -   x 2.5 and x 10

            (b)   Ranges: Dependent on ambient conditions:

                    Detection   -   5km
                    Recognition -   4km
                    Identification -   3km

            (c)   Night capability   -   virtually nil

        (2)   *Lynx TOW Sight*. Unlike the Gazelle, the Lynx sight for the TOW missile system is equipped with TI, thereby offering the capability for surveillance and target engagement in poor visibility and at night. All anti-armour Lynx crews are trained to fly and fight at night. The characteristics of the Lynx/TOW sight are as follows:

            (a)   *Optical mode:*   Similar performance to GOA.

            (b)   *TI mode:*

                (i)   Magnification   -   x 4 and x 13

                (ii)   Ranges: Dependent on TI conditions - but nominally:

                        Detection   -   6.5km
                        Recognition -   3km
                        Identification -   up to 3km

    c.   *Radar Warning Receivers (RWR)*. Gazelle and Lynx/TOW are fitted with RWR, which can be a useful aid to reconnaissance and surveillance. As well as identifying specific radar threats, RWR can identify areas of high EW

activity and can, therefore, alert a commander to possible enemy HQs and concentrations. Some RWRs (for instance Sky Guardian) can record threat signatures for examination and interpretation by EW specialists.

11. **Sustainability and Endurance**. For planning yardsticks on sustainability and endurance, see Annex A to Chapter 4.

12. **Frontages**. Frontages will be heavily dependent on terrain, vegetation and visibility. For typical frontages see Annex A to Chapter 4.

13. **Night Operations.** Night Operations are flown on NVGs. The normal, acceptable, operational minimum light level is 2 millilux.

14. **Speed and Endurance**.

   a. The commander will always require timely and accurate intelligence reports, and aviation can provide both, but its speed of movement is often misunderstood by the staff. Moving from the FOB to a FRV, the ARP would normally cover about 3 kms per minute (100 knots), once the ARP starts patrolling, speed is greatly reduced, moving by bounds, depending on the terrain and threat.

   b. Mission endurance includes transit time to and from the FOB or FARP and not from the time the aircraft arrives on task in its tactical operating area. A deployment of FARP is to reduce transit times considerably. A FARP is considerably smaller and arguably less vulnerable than a FOB and each sqn has the capability to deploy a FARP.

15. **Tasking**. Tasking of aviation is co-ordinated through formation HQs, with the relevant airspace control measures implemented, as required. Although aviation is normally allocated on an Op O, it can be requested at any time through formation command nets using the standard HELQUEST proforma (see TAMs). When allocated, whether by Op O or as a result of a HELQUEST, aviation expects to be given *orders* in the same manner as all other units.

16. **Conduct and Tasks**.

   a. Aviation tactics, like armoured tactics, are essentially offensive. Patrol drills are the basis of aviation tactics. These drills apply at every level and in each operation of war. ARPs are capable of directing indirect fire and executing fire plans using mortars, artillery, CAS and Naval gun fire.

   b. ARPs are well suited to gathering specific information on demand. They can quickly confirm IPB by terrain reconnaissance and surveillance of NAIs. ARPs can conduct both in and out of contact recce missions.

17. **Limitations**. The limitations for aviation are at Annex A to Chapter 4.

18. **Employment**. The operational risks have to be carefully weighed against possible gains. Only exceptionally will aviation assets operate forward of the recce screen.

MANPAD and individual recce systems operating in relative isolation will probably remain the most potent threats to helicopters. ARPs may be employed to cover gaps in the screen, and to re-locate the enemy if contact is lost. If the aircrew have flown from another AO they will need a detailed face to face briefing on the situation, tasking, communications and reporting procedures. This may delay their deployment.

19. *Aircraft Signatures*. Helicopters distinctive noise, visual and radar signatures have to be taken into account when planning ops, particularly for recce/surveillance. Terrain and meteorological conditions are used to minimise the risk of detection.

Reconnaissance Group

20. *General*. Battlegroup close recce assets can become casualties at an early stage and often before they have been able to pass information to the battlegroup. This early loss of a vital asset also has a serious effect on the battlegroup's subsequent information gathering activities. The grouping of armour, MILAN and possibly aviation with close recce increases the flexibility and survivability of battlegroup close reconnaissance; it is normally termed a *Reconnaissance Group*. However it is a concept that applies more readily to an armoured, armoured infantry or mechanised infantry battlegroup than to light role infantry. Commanders must also balance the increased combat power of their close recce against the reduced combat power of the armoured squadron and anti-tank platoons and the requirement to fight the battlegroup as a whole at a later stage. All close reconnaissance forces should be able to confidently control indirect fire assets. To that end they should always work within range of battlegroup CS indirect fire assets and be allocated an appropriate priority to call for fire. Reconnaissance Groups should also be aware of any indirect fire restrictions in force throughout operations and during subsequent phases of war. Once tasked, when under appropriate command status, fire units will attempt to respond quickly to fire missions from close reconnaissance in order to assist the commander to fix the enemy and retain/regain the initiative. A FOO will generally be available to carry out artillery adjustments quickly and accurately, but close reconnaissance troops/platoons should be given priority training in Artillery Target Indication (ATI).

21. *Task Organisation and Equipment Mix*. The reconnaissance group should be task organised to provide it with the ability to find the enemy, to protect itself, and to begin the fixing process:

    a. *Finding*. The recce group's finding capability can be a combination of, the reconnaissance troop/platoon, a FOO (or 2) ideally equipped with MSTAR, an MFC, engineer reconnaissance and an ARP. Tanks can increase the manoeuvre and momentum of the group, helping to clear away early disruptive elements.

    b. *Protection*. The flanks of the reconnaissance group and the critical reconnaissance gap need to be protected. This could be provided by MILAN, tanks or ARPs.

c.	*Fixing*. The recce group must be provided with sufficient combat power to allow it to survive the initial stages of a meeting engagement and to allow it to begin the fixing process pending the arrival of the main body.

22.	***Command, Control and Communications***.

a.	The task of controlling the Reconnaissance Group is more suited to the Support Company Commander or an Armoured Squadron Leader than to the Reconnaissance Platoon Commander who will be limited both in experience and the necessary command and control facilities.

b.	The reconnaissance group operates to best effect when all key callsigns work on the battlegroup command net as their primary means, with their second set tuned to their "special to task" frequency. This arrangement allows the battlegroup commander to exercise command of his reconnaissance assets and ensures a continuous flow of information across the battlegroup. The reconnaissance group commander, meanwhile, exercises a control function only. Figure 5-1 illustrates a suggested command and control structure for the reconnaissance group.
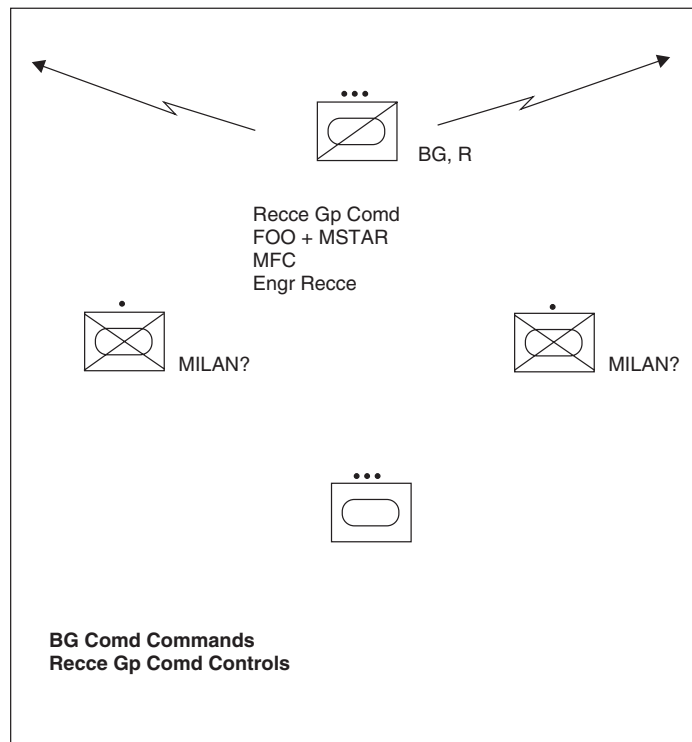

Figure 5-1 Command and Control Structure

Engineer Reconnaissance

23.	***General***. Engineer reconnaissance describes the manned engineer reconnaissance forces that operate from light armoured vehicles. It is an integral part of all arms reconnaissance. The importance of fully integrated training with Close Reconnaissance cannot be overstated.

24. ***Organisation***.   Each Close Support Engineer Regiment has one reconnaissance troop, commanded by a captain and equipped with 8 CVR(T) Spartan (4 in peace) each commanded by a SNCO, less the troop commander's vehicle. When engineer reconnaissance is allocated to a battlegroup its vehicle should become an integral part of the recce group unless the tactical situation dictates that engineer recce should be otherwise tasked.

25. ***Roles***.

    a.   The primary role of engineer reconnaissance is to obtain timely, accurate and relevant information about enemy engineering activities and terrain. This must be in all types of operation, by day and night, and the resulting information must be quickly passed back to the battlegroup and appropriate engineer commanders, in order that they can effectively plan and fight the tactical battle. Their role will, therefore, be crucial in maintaining the momentum of combined arms operations. Engineer reconnaissance will also be able to carry out many of the same functions as their Close Reconnaissance counterparts. However, it should always be understood that removal of engineer reconnaissance from its primary role ultimately degrades the ability of the engineer and combined arms commanders to plan and mount operations.

    b.   The tasks that engineer reconnaissance forces are likely to carry out in all types of operation are as follows:

        (1)   Route recce, either to confirm terrain intelligence or to gather fresh information. Engineer recce, will be used to ascertain the condition and capacity of routes and, importantly, to assess what remedial action may be required. Thereafter, they will monitor the state of the routes to permit the deployment of repair assets in a timely manner.

        (2)   Obtaining cross-country movement, trafficability and going information.

        (3)   Recce of natural, enemy and friendly obstacles as a prelude to mounting, crossing or breaching operations.

        (4)   River recce.

        (5)   Recce as a prelude to constructing or enhancing existing man-made or natural obstacles.

        (6)   Recce of helicopter landing sites and aircraft take-off strips.

        (7)   Ascertaining the availability of local materials and resources.

        (8)   Obtaining battle damage information.

        (9)   Liaison and escorting duties.

26.   ***Command***.

    a.   *Grouping*. Engineer reconnaissance must be flexible enough to regroup at short notice to support a changing situation. Therefore, as a general principle, although engineer reconnaissance could be placed under OPCON of its supporting unit, it is more likely to be placed under TACOM.

    b.   *Communications and Reporting Procedures*. Engineer reconnaissance vehicles are provisionally scaled for VHF(Secure) and VHF(Insecure) and have, therefore, the ability to report direct to their supporting unit.

NBC Reconnaissance and Survey

27.   ***General***. Gaining information about the possible use of NBC weapons and resulting hazards is done by two separate but complementary techniques:

    a.   *NBC Reconnaissance*. This is a mission undertaken to confirm or deny the presence of NBC hazards or attacks by visual observation or other methods. It may include gathering information on the enemy's use of NBC weapons, associated hazards, or meteorological data for NBC hazard prediction.

    b.   *NBC Survey*. This is the directed effort to determine the nature and degree of NBC hazards in an area of confirmed or suspected contamination and to delineate the boundaries of the hazard area. This may include monitoring the degree of radiation or the presence of a biological or chemical hazard and the sampling of items suspected of NBC contamination.

28.   ***Detection of Hazards***. Current technologies for the detection of biological hazards involve the use of specialised crew-served platforms. These are exclusively fielded by the Joint NBC Regt and their employment, when assigned to the support of Land Component Formations, is described in details with in AFM Vol 1 Part 5 *Operations in NBC Conditions*. Accordingly, the reminder of the section addresses only nuclear (ie radioactive) and Chemical Hazards.

29.   ***Capabilities***. Nuclear and Chemical Reconnaissance and Survey can be conducted by the battlegroup or assigned elements of the JTNBC Regt, using a range of equipment from simple chemical detector papers, through hand held detectors to specialised, formation level, protected FUCHS vehicle. The choice will be based upon the urgency of the task, the availability of external support and the relative ease of accomplishing a simple reconnaissance task, versus the time consuming and debilitating nature of a survey mission. In general initial NBC reconnaissance will fall to the battlegroup whilst survey will demand specialist support.

30.   ***Operational Implications***. The purpose of this type of reconnaissance is to confirm or deny the presence of radioactive or chemical hazards within an Area of Operations (AO). The survey process supplements this by more precisely defining the hazard including its likely duration, whilst also marking its extent. This will the commander to to: assess the risk and operational impacts; gauge the enemy's purpose, implement contamination control measures; determine the level of

protective measures needed; estimate the consequent impact on operational efficiency; and determine the possible need to relocate his forces whilst implementing decontamination procedures when moving into a clean area.

31.   ***Conduct of Nuclear and Chemical Reconnaissance and Survey***. Battlegroup level reconnaissance and survey can be conducted by armoured or landrover mounted elements. However, no currently fielded platform is provided with integral detectors. Furthermore, the collective protection system installed in CVR(T) should not be relied upon unless specifically revalidated before use. These limitations, together with the likelihood that the platforms themselves will become contaminated and cause false readings, will oblige crews to dismount periodically and use hand held detection equipment. The use of vehicles will, however, offer advantages in terms of speed of progress and where AFVs are employed in the presence of radioactive hazards in affording a measure of shielding. In all cases there will be a requirement for vehicle crews scrupulously to avoid the importation of persistent hazards into their vehicles. Arrangements must also be made for the decontamination of vehicles at the conclusion of each mission. Where this can only be accomplished to the operational ('hatches, latches and catches') level then the vehicles must be appropriately marked and segregated until such time as natural decay or weathering have taken full effect. Current limitations on aircrew respiratory protection and the difficulties involved in aircraft decontamination argue against the use of helicopters for these types of recce and survey except in the most extreme operational emergencies.

32.   ***Planning Considerations***. When considering the need to mount recce or survey missions, commanders should consider the following factors:

   a.   The urgency of the task.

   b.   The precise nature of the requirement – whether recce or survey.

   c.   The availability of specialist supporting assets.

   d.   The risk (especially of unavoidable radiation exposure) to the personnel involved.

   e.   The post-mission decontamination requirement.

   Further guidance on the conduct of nuclear and chemical recce and survey missions are contained in AFM Vol 1 Part 5 *Operations in NBC Conditions*.

Reconnaissance and the Operations of War

33.   ***Offence****.*

   a.   *Surveillance Tasks*. Surveillance tasks can include the observation of enemy positions and predicted enemy positions (eg. NAIs, TAIs and decision points) including withdrawal and reinforcement routes. They may also include surveillance of proposed battlegroup manoeuvre space or control points such as proposed FUPs, LDs, FSGs and assembly areas. Surveillance tasks may

be related to the security of the battlegroup by observation of flanks. In all these tasks once 'eyes on' the enemy has been established, it should be maintained.

b. *Close Target Reconnaissance (CTR)*. This is the provision of detailed information on a specific enemy target. Information gained must include size, including depth, breadth and flank security composition. It also includes information such as defences, strongpoints, gaps and observation. A CTR relies upon stealth and should avoid being compromised. A CTR may gain information from a reconnaissance close to the target, well sited stand off operations or a combination of both. A CTR must support the battlegroup plan. Once the CTR has been conducted, the target must remain under surveillance to report any change of circumstance.

c. *Locating the Enemy*. Locating the enemy can be effected as a result of specific information/intelligence or as part of a planned operation. Once the enemy has been located, surveillance must be maintained or handed over to another force or unit.

d. *Target Acquisition*. Close reconnaissance should be well sited to acquire targets either as a result of the IPB or as opportunity targets. Once targets are acquired they can either be engaged or, more likely, details passed to other assets within the battlegroup for engagement. Tasking must be related to the battlegroup STAP.

e. *Reconnaissance of Manoeuvre Space*. There will always be a need to reconnoitre proposed manoeuvre space for a battlegroup. This could include information on size/space (with a resultant effect upon formation), going, observation, security and cover. In certain circumstances such reconnaissance may result in routes, breach sites, defiles etc being physically marked. It may be appropriate to group specialist personnel (e.g assault troops/pioneers/engineer reconnaissance) with the troop/platoon for this task.

f. *Recce of Control Measures*. Related to reconnaissance of manoeuvre space but requiring more specific reconnaissance, is the reconnaissance of control measures. These could include FUPs, LDs, assembly areas and FSG locations as well as route reconnaissance. Reconnaissance of control measures must always be conducted in relation to a battlegroup plan. Details of which sub units will be using each control measure, when they will be using it and in what configuration must be determined prior to the reconnaissance even if, as a result of the reconnaissance, such details are altered subsequently. There may also be a requirement to mark routes to the extent of and the direction of the enemy.

g. *Establish Depth Operations*. Close reconnaissance forces can play a valuable part in battlegroup offensive operations by the provision of deep operations. These can report on and/or engage enemy reinforcements or the enemy in the withdrawal. They should be sited to observe likely reinforcement/withdrawal routes. It follows that close reconnaissance forces should not be tied to non-specialist tasks such as marking or securing

battlegroup FUPs if they can be of more use deployed in depth surveillance and on target acquisition tasks.

h. *Flank Screen*. Battlegroup flanks can be protected either by a screen or guard force. Close reconnaissance can provide the security element to observe, identify and report information on the flanks of the battlegroup. With a change of grouping the screen force can be turned into a guard force with the ability to provide aggressive protective fire while at the same time observing and reporting information. The provision of CS indirect fire assets must be considered.

i. *Liaison*. With their mobility, range of communications and knowledge of the battlegroup concept of operations, close reconnaissance troop/platoons are suitable for this task.

34. ***Defence.***

a. *Surveillance Tasks*. Surveillance tasks can include the observation of enemy positions and predicted enemy positions and routes (eg. NAIs, TAIs and decision points). The aim of these tasks could include the identification of the enemy's rate of advance, axes and main forces as part of the battlegroup STAP. Surveillance tasks may be related to the security of the battlegroup by observation of flanks, gaps and depth areas.

b. *Guard Force Action*. With a change to their task organisation, the close reconnaissance troop/platoon can mount an effective guard force action. As such they can be used to: cause early attrition to the enemy; to force the enemy into early deployment; protect the main force by gaining time; and protect the main force from enemy ground force observation, direct fire and surprise attack. Such an action is likely to require the close reconnaissance troop/platoon to be mobile and, especially in a delaying action, provided with a mission related to time. During a guard force action the close reconnaissance troop/platoon should, unless specifically tasked otherwise, continue with its primary role, that of observation and reporting. The task organisation for the guard force role will be dependent upon the specific threat faced by the battlegroup. The guard force must have a designated commander.

c. *Target Acquisition*. Close reconnaissance should be well sited to acquire targets resulting from the IPB and opportunity targets. Once targets are acquired they can be engaged or, more likely, reported to other assets within the battlegroup for them to engage. In defence operations, the deployment of the close reconnaissance troop/platoon must be linked to the battlegroup STAP.

d. *Rear Area Security*. With their inherent mobility and communications, the close reconnaissance troop/platoon can be used to provide rear area security. This task could involve the surveillance of likely enemy HLSs or approach routes into battlegroup rear areas to counter heliborne, air-landed or SF operations. In these operations it is usual for reconnaissance (acting as a

QRF) to fix the enemy, possibly with the aid of CS assets, until other forces can be released to deal with the enemy. In extremis, close reconnaissance might also be employed in the clearance of bypassed enemy positions or enemy stay behind operations.

e.   *Liaison.*   Close reconnaissance troop/platoons can provide liaison with flanking and rear units. Their mobility, communications and knowledge of the battlegroup concept of operations makes them particularly suitable for this task.

f.   *Deception.* Battlegroup commanders may wish to create deception to conceal real intentions. Reconnaissance forces can be used to enhance the deception plan, possibly operating in an area where the enemy may expect to encounter reconnaissance troop operations but which the battlegroup commander is not going to use.

i.   *Quick Reaction Force (QRF).* Provided that the reconnaissance troop/platoon is correctly grouped and kept at an appropriate NTM it may be used in part or as a whole to provide a QRF. The QRF should be allowed to conduct a reconnaissance of the various options for its deployment and be aware of the implications of a day/night deployment. Consideration must be given to its group which should be related to the threat for each deployment option.

35.   ***Transitional Phases.***

a.   *Advance to Contact.*

(1)   *Screen Force.*   The close reconnaissance troop/platoon can be deployed forward of the battlegroup to provide information on the enemy deployment. Tasks include reporting on the suitability of routes for the advance as well as the identification of observations/gaps. Once contact with the enemy has been made it must be maintained until handed over to another force. The primary role of a screen force is to observe and report.

(2)   *Guard Force.*   With a change to their task organisation, the close reconnaissance troop/platoon can mount an effective guard force action. The requirement for stealth or speed as well as relative strengths will influence this decision. They can be used to cause early attrition to the enemy thus imposing delay. Such an action is likely to require the close reconnaissance troop/platoon to be mobile and have a clearly designated command structure in relation to the other assets grouped with reconnaissance. During a guard force action the close reconnaissance troop/platoon must be prepared to continue with its primary role, that of observation and reporting. The task organisation for this operation must be considered against the threat.

(3)   *Screen Flanks.* Battlegroup flanks can be covered either by a screen or guard force. Close reconnaissance can provide the security element to observe, identify and report information on the flanks of the

battlegroup. With a change of group, the screen force can be turned into a guard force with the ability to provide aggressive protective fire whilst at the same time observe and reporting information. The allocation of CS indirect fire assets should be considered.

(4) *Route Recce*. Close reconnaissance troops can be used to reconnaissance routes for the advance. This could include obtaining information on size/space (with a resultant effect upon possible own-force formation), going, observation, security and cover. Once identified, routes, breach sites, defiles, etc, may require marking which can be completed by the close reconnaissance troop/platoon although it may be appropriate to group specialist personnel (eg assault troops/pioneers/engineer recce) with the reconnaissance for this task.

b. *Meeting Engagement*.

(1) *Early Identification, Location and Reporting of the Enemy*. The key to success in a meeting engagement is the early identification and location of the enemy in order to gain the initiative for manoeuvre and subsequent action. This will require observation of the enemy's main body, flanks and any depth forces. The close reconnaissance troop/platoon must find the enemy early, assess his intentions and provide continuous, detailed and accurate reports on his deployment. Once contact has been made by the reconnaissance troop/platoon, it must be maintained. Close reconnaissance reports of the enemy's locations and deployment should be used to fix the enemy.

(2) *Identify/Cover Gaps*. Close reconnaissance, possibly working in ½ troop/platoon or sections can quickly identify or cover gaps as these appear during manoeuvre. To do more than observe the gap (ie to effect the destruction of enemy armour) commanders must consider the allocation of additional assets to the task. Local command and/or control of these assets could be delegated to the close reconnaissance commander.

(3) *Target Acquisition*. Close reconnaissance should be well sited to acquire targets. Once targets are acquired they can either be engaged by reconnaissance forces or, more likely, reported to other assets within the battlegroup for them to engage. The target acquisition process must be rapid as it will assist with fixing the enemy. Battlegroup assets responding to this target acquisition must do so as a priority.

c. *Link Up Operations*.

(1) *Reconnaissance and Manning of Forward RVs*. Reconnaissance forces committed to this task must be clear on the RV procedure. They must pay particular attention to observation and recognition skills. They must have details of the communications plan.

(2)   *Manning of Coordination Points*.   With their mobility, effective communications and knowledge of the battlegroup concept of operations, close reconnaissance troop/platoons are well suited for deployment to man coordination points.

(3)   *Flank Protection*.   Battlegroup flanks can be protected either by a screen or guard force. Close reconnaissance can provide the security element to observe, identify and report information on the flanks of the Battlegroup. With a change of group the screen force can be turned into a guard force with the ability to provide aggressive protective fire whilst at the same time continuing to observe and report information. The provision of CS indirect fire assets should be considered.

d.   *Withdrawal*.

(1)   *Screen Operations*.   The close reconnaissance troop/platoon can be deployed forward of the battlegroup as a screen force to provide information on the enemy's deployment. The primary role of a screen force is to observe and report.

(2)   *Guard Operations*.   With a change to their task organisation, the close reconnaissance troop/platoon can mount an effective guard force action. They can cause attrition to the enemy and protect the main force by gaining time as well as screening the main force from enemy ground force observation, direct fire and surprise attack. Such an action is likely to require the close reconnaissance troop/platoon to be mobile, have a clearly designated command structure and a mission related to time. Tasks could include the ambushing of withdrawal routes to prevent or slow enemy progress; and control of direct and indirect fire assets.   During a guard force action the close reconnaissance troop/platoon must continue with its primary role, that of observation and reporting. It is important that the reconnaissance troop/platoon remains in contact until either it is ordered to break clean or it has successfully handed over the battle. The task organisation for this operation must be considered against the threat.

(3)   *Rear Recce*. Close Reconnaissance troop/platoons can be used for reconnaissance and to assess the suitability of battlegroup routes, check points, RVs, embussing points, replenishment locs and HLSs. Such reconnaissance may result in some or all of these being physically marked.

(4)   *Reconnaissance of New Battlegroup Positions*.   Reconnaissance forces can be used to reconnoitre and assess suitability/security of new battlegroup positions. These could include main positions, HQ sites, harbour areas, debussing points and HLSs.

(5)   *Route Reconnaissance, Marking and Control.*

(a)   Reconnaissance forces can be used to assess the suitability of routes. This could include information on size/space (with a resultant effect upon possible own-force formations), going, obstacles, radioactive, chemical and biological hazards, security and cover. It may be appropriate to group specialist personnel (eg assault troops/pioneers/engineer reconnaissance) with the reconnaissance troop/platoon for this task.

(b)   The close reconnaissance troop/platoon can be used to mark a route physically and, using their good communications, be part of a traffic control organisation. It may however, be preferable to employ other troops on this task so freeing the close reconnaissance troop/platoon for more specialised tasks.

(6)   *Liaison*. As well as the manning of traffic control points, check points, RVs and coordination points, the close reconnaissance troop/platoon is able to liaise with flanking/rear units.

(7)   *Guide Tasks*. The close reconnaissance troop/platoon can provide a number of patrols to conduct guidance for battlegroup sub unit rear reconnaissance parties or sub units themselves. Guide tasks could include rearward movement, especially in the area of Check Points, RVs and/or observations and defiles, or re-location at the new battlegroup positions.

(8)   *Provision of Communications*. The close reconnaissance troop/platoon is able to provide forward and rear communications as well as man rebro stations.

e.   *Relief of Troops in Combat.*

(1)   *Relief in Place.*

(a)   *Route Recce, Marking, Guiding and Control.*

(i)   Reconnaissance forces can be used to assess the suitability of routes. This could include information on size/space (with a resultant effect upon possible own-force formations), going, obstacles, radioactive, chemical and biological hazards, security and cover. In certain circumstances such reconnaissance may result in routes, breach sites, defiles etc being physically marked.

(ii)   The close reconnaissance troop/platoon can provide a number of patrols to conduct guidance for battlegroup sub units. Guide tasks could include movement in the area of Check Points, RVs and/or obstacles and defiles.

(iii)   It may be appropriate to group specialist personnel (eg assault troops/pioneers/engineer reconnaissance) with the troop/platoon for this task.

(iv)   The close reconnaissance troop/platoon can be used to mark a route physically and, using their good communications, be part of a traffic control organisation. It may however, be preferable to employ other troops on this task so freeing the close reconnaissance troop/platoon for more specialised tasks.

(b)   *Flank Protection*. Battlegroup flanks can be protected either by a screen or guard force. Close reconnaissance can provide the security element to observe, identify and report information on the flanks of the battlegroup. With a change of group, the screen force can be turned into a guard force with the ability to provide aggressive protective fire while at the same time observing and reporting information. The provision of CS indirect fire assets must be considered.

(c)   *Forward Patrolling*. The close reconnaissance troop/platoon can be used to provide patrol activity forward of the main positions. This could have the effect of distracting the enemy while the relief takes place as well as providing some deception by presenting what could appear to be normal patrol activity. This should be supported (dependant on the threat) by available indirect fire support and/or a QRF force to aid extraction.

(2)   *Forward and Rearward Passage of Lines*.

(a)   *Route Reconnaissance, Marking, Guiding and Control*.

(i)   Recce forces can be used to assess the suitability of routes. This could include information on size/space (with a resultant effect upon possible own-force formations), going, obstacles, NBC hazards, security and cover. In certain circumstances such reconnaissance may result in routes, breach sites, defiles etc being physically marked.

(ii)   The Close reconnaissance troop/platoon can provide a number of patrols to conduct guidance for battlegroup sub units. Guide tasks could include movement in the area of Check Points, RVs and/or obstacles and defiles.

(iii)   It may be appropriate to group specialist personnel (eg assault troops/pioneers/engineer reconnaissance) with the troop/platoon for this task.

(iv)   The close reconnaissance troop/platoon can be used to mark a route physically and, using their good

communications, be part of a traffic control organisation. It may however, be preferable to employ other troops on this task so freeing the close reconnaissance troop/platoon for more specialised tasks.

(b) *Harbour and Hide Recce*. Reconnaissance forces can be used to assess the suitability of harbours and hides. This could include obtaining information on size/space (with a resultant effect upon formations adopted and/or the allocation to sub units), routes, security and cover.

(c) *Liaison.* Close reconnaissance assets can be used for immediate liaison on the ground.

(d) *Manning of Coordination Points*. With their mobility, range of communications and knowledge of the battlegroup concept of operations, close reconnaissance troop/platoons can be deployed to man coordination points effectively.

SECTION 2 - SECURITY OPERATIONS

General

36. The battlegroup commander has to maintain the security of his force. The means of achieving this are counter-reconnaissance, the covering force, OPSEC and deception. The covering force will provide information and physical protection, whilst OPSEC and deception will minimise the chances of discovery by the enemy. These functions should be carried out in all operations of war and come under a generic title of Security Operations.

Counter Reconnaissance

37. Counter-reconnaissance is an essential task accomplished as part of the different forms of security operations. It includes all active measures taken throughout the entire area of operations. Its goal is to detect, engage, deny, defeat, or destroy enemy reconnaissance and surveillance assets to prevent them from observing friendly activities, defining positions, or taking direct action against the protected force. All enemy reconnaissance encountered should be destroyed unless ordered otherwise.

38. A force has the advantage when it surprises the enemy. To accomplish this, the force must practice sound security techniques to protect its operations and activities. Countering enemy reconnaissance is just one way the commander can protect his force. Skilful reconnaissance and counter-reconnaissance efforts, along with OPSEC measures, deny the enemy information about friendly unit activities, plans, and operations. They all contribute to force protection. The result is the security of the force - one of the enduring principles of war.

Covering Force

39.   The battlegroup commander will design his security operations to provide reaction time, manoeuvre space, and protection for the entire force. Active reconnaissance characterises all covering force operations. A covering force reduces unknowns, gains and maintains contact with the enemy, and provides early and accurate warning to the main body. A covering force focuses on protecting the main body rather than on terrain or an enemy objective.

40.   The covering force operates at varying distances from the main body. The battlegroup commander places his covering force where he needs it, at the flank, front, or rear. The force uses the minimum combat power necessary to cover extended frontages to provide the commander with early warning. This allows the battlegroup commander to retain the bulk of his combat power for commitment at the decisive place and time.

41.   The covering force and the main body force interact by exchanging information. The covering force reports enemy activities to the battlegroup commander and to other affected friendly forces. The battlegroup commander ensures that the covering force commander has access to all relevant intelligence and combat information obtained by the main body. By continuously exchanging information, both the covering force commander and the battlegroup commander will have time to choose the best course of action.

42.   Technical assets can conduct rapid and continuous surveillance of very large areas, however it should be remembered that such active detection systems can themselves be subject to detection and counter by the enemy. Remote sensors and battlefield surveillance radars and systems can expand the area effectively covered by a covering force.   These technical systems can detect significant enemy movement. This permits the battlegroup commander to concentrate his covering force on likely enemy avenues of approach, named areas of interest (NAIs), target areas of interest (TAIs), and restrictive terrain that degrades sensor performance. By relying on technical surveillance assets to inform him of major enemy movements, the battlegroup commander can gain time to reposition his covering force and mass his other forces to meet the needs of the situation. If the battlegroup commander cannot rely on advance warning from his technical assets, he must increase the size of his covering force to reduce his risk to an acceptable level.

43.   Successful covering force operations depend on the proper application of the following four fundamentals:

    a.   *Provide early warning and reaction time*. First and foremost, the covering force provides early warning by detecting the enemy force quickly and alerting the battlegroup commander. To delay the enemy's advance, it provides reaction time by taking actions within its capability and mission constraints. The covering force must deploy early during an operation to allow it to have sufficient time to detect and delay enemy forces.

    b.   *Focus on the force or facility to be secured*. The covering force focuses all its actions on protecting and providing early warning to the force or facility it is to

secure. It aggressively seeks out the enemy. It occupies terrain only to enhance its ability to protect the main body or facility to be secured.

c.   *Perform continuous reconnaissance*. The covering force aggressively and continuously seeks out the enemy and reconnoitres key terrain, which includes terrain that has physical features whose retention could benefit either side. The covering force continuously uses a combination of observation posts (OPs), reconnaissance aviation, mounted and dismounted patrols, technical assets, and battle positions to perform reconnaissance.

d.   *Maintain enemy contact*. The covering force commander arranges his available assets to ensure continuous contact with the enemy. At the same time, the covering force must not become decisively engaged and fixed in place. It must retain its flexibility to stay in front of the enemy and continue to report. The covering force maintains both physical contact with the enemy and contact through the use of technical assets.

44.   The covering force is divided into *screen* and *guard*. Each provides an increased measure of security and reaction time to the force. A screen allocates minimal combat power and only provides early warning to the protected force. A guard contains sufficient combat power to defeat or contain lead elements of an enemy force. However, the more combat power given to the security force, the less combat power is available for the main effort. Area security preserves the battlegroup commander's freedom to move his reserves, position fire support means, command and control operations, and provide for CSS operations. These elements can be found for the whole battlegroup in one or more sub units. The same principle applies at platoon level.

45.   **Screen**.

a.   *General*.

(1)   A screen is a security element whose primary task is to observe, identify and report information. This is normally a close reconnaissance mission. Generally, it fights only in self-defence, but may engage enemy reconnaissance elements within its capabilities. The battlegroup commander will normally establish a screen on an extended flank, to the rear, or to the front of a mobile or stationary force. A screen essentially consists of OPs that may reposition laterally along a screen line. The covering force often conducts a screen with patrols operating between OPs.

(2)   A close recce screen may be conducted forward of a moving force but its ability to develop the situation other than with indirect fire is limited.

(3)   Screens on the flanks of a moving force must remain physically tied into the main body through the use of a series of contact or coordination points. The battlegroup commander can delineate a rear boundary for the screening force. If he does, he should ensure that it is coordinated as a phase line outside the main body's boundaries.

(4)   The Close Recce commander conducts a detailed analysis of the terrain along the line of the desired screen using the IPB graphics. He establishes his initial line of OPs on or very near this screen line. More importantly, he ensures that OPs are established on terrain that allows good observation. The initial screen line must be within supporting range of the main body, yet far enough away to provide sufficient early warning. Normally, there is little or no depth along the screen line except along high-speed avenues of approach. This depth allows the close recce commander to maintain continuous contact while OPs along the initial screen line withdraw.

(5)   The commander of a mobile screen force controls movement in the sector by designating subsequent screen lines as report lines. Movement to a subsequent screen line is event-driven. Typically the battlegroup commander will not place a time requirement on the duration of the screen. This could force the screening force into decisive engagement with the enemy when it is not task-organized to do so. A screen provides security for a stationary battlegroup or it secures the flank or rear of the force whilst it is moving.

b.   *Stationary Screen*.

(1)   A covering force provides a screen to the front, flank, and rear of a stationary battlegroup in a similar manner (Figure 5-2). The tasks associated with a stationary screen normally consist of movement to the initial screen line, establishment of the screen, and movement to subsequent screen lines. Additionally, the close recce commander coordinates battle handover and passage of lines with the battlegroup main body.
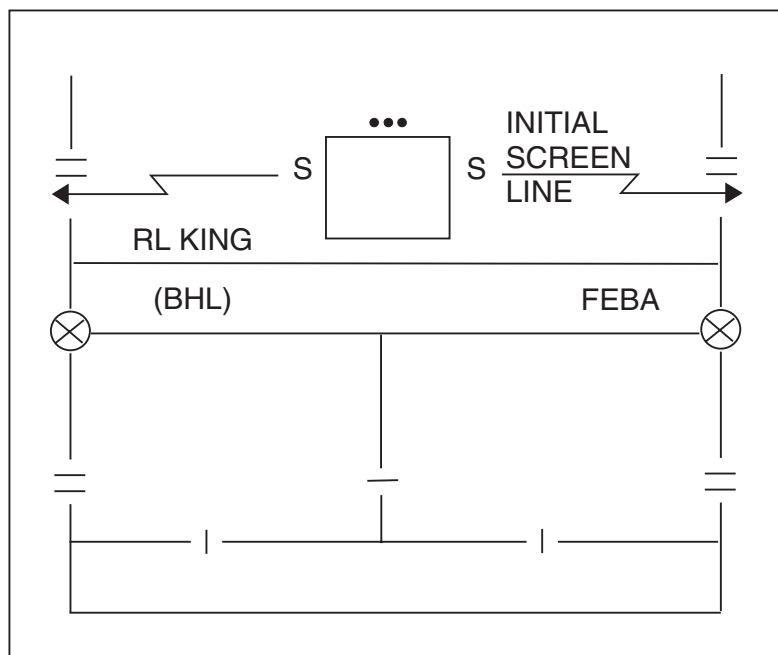

Figure 5-2 Stationary Screen

(2)   Typically, in moving to the initial screen line, the close recce commander reconnoitres between his current location and the initial screen line. While this technique provides information of tactical value on the enemy and terrain in the sector, it may also be very time-consuming. Using air reconnaissance forward of the ground units increases the speed and security of the movement. If time is critical, the close recce may conduct a tactical road march or approach march to its initial screen line. While this technique is faster, it does not assess the enemy or terrain situation between the screening force and the main body.

(3)   In setting up his screen, the close recce commander establishes his OPs with overlapping fields of observation. Normally, covering forces establish OPs in depth on high-speed avenues of approach. The commander plans routes between the initial and subsequent screen lines to facilitate their rapid occupation.

(4)   As previously discussed, movement to subsequent screen lines is event-driven. The forward edge of the battle area (FEBA) is the rear boundary for a forward screen. The commander designates a phase line as the battle handover line (BHL) for a stationary force's forward screen. A report line is also designated as the rearward boundary for a flank or rear screen.

c.   *Moving Screen*.

(1)   A moving screen can be maintained along the flanks and rear of the battlegroup main body (Figure 5-3). Responsibilities for a moving flank screen begin at the front of the main body's lead combat element and end at the rear of the protected force. The movement of the screen is keyed to the movement of the main body.
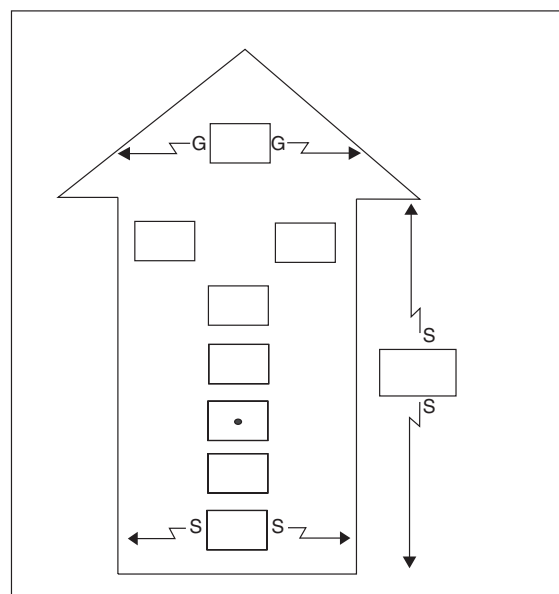
Figure 5-3 Moving Flank Screen

(2)   Three techniques are associated with a moving screen.

(a)   The screening force may cross the line of departure (LD) separate from the main body. It may conduct a tactical road march, an approach march, or tactical movement parallel to the main body, and drop off elements along the screen line. This technique is appropriate when the main body is moving quickly, the LD is uncontested, and the IPB process indicates that enemy contact is not likely in the area through which the screening force is moving. It is the fastest but least secure technique.

(b)   The screening force may cross the LD separate from the main body, but with lead elements conducting reconnaissance. Follow on elements occupy screen line positions.   This technique is appropriate when the main body is moving slowly, the LD is uncontested and the IPB process indicates possible enemy intent.   It is slower than the previous technique, but provides more security.

(c)   The screening force may cross the LD with the main body and reconnoitre to the screen line. This technique is appropriate when the main body is moving slowly, the LD is also the line of contact, and the enemy situation is vague. This technique provides increased security for both the screening force and the main body, but is the most time-consuming.

(3)   Movement along the screen line is determined by the speed of the main body, the distance to the objective, and the enemy situation. The four basic methods of controlling movement along the screen line are shown in Figures 5-4 to 5-7.
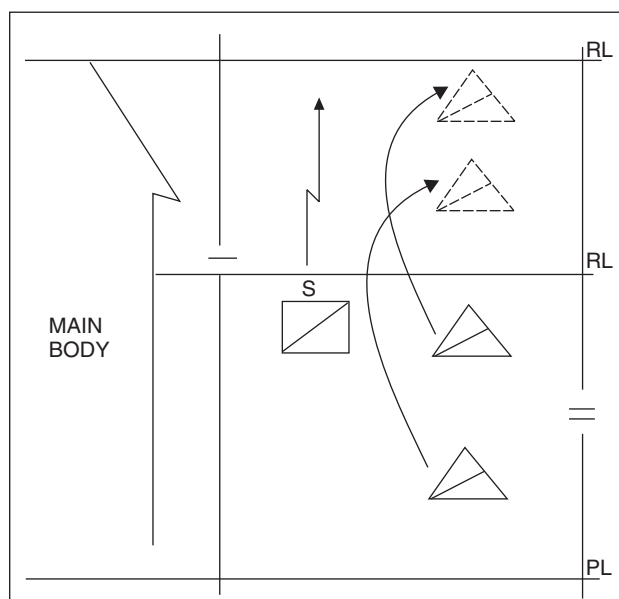
Figure 5-4 Alternate Bound by Individual OPs from the Rear to the Front
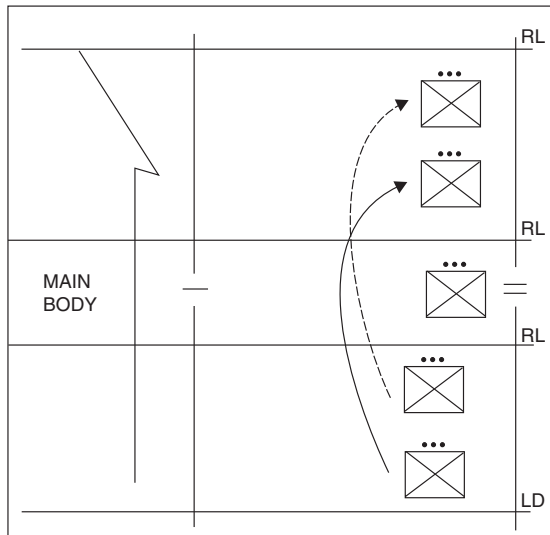
Figure 5-5 Alternate Bound by Platoon/Troops of one Sub Unit Group
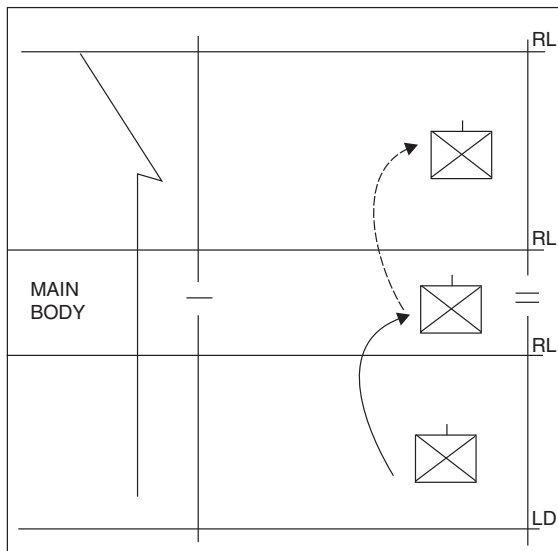
Figure 5-6 Successive Bound by a Sub Unit along the Screen Line
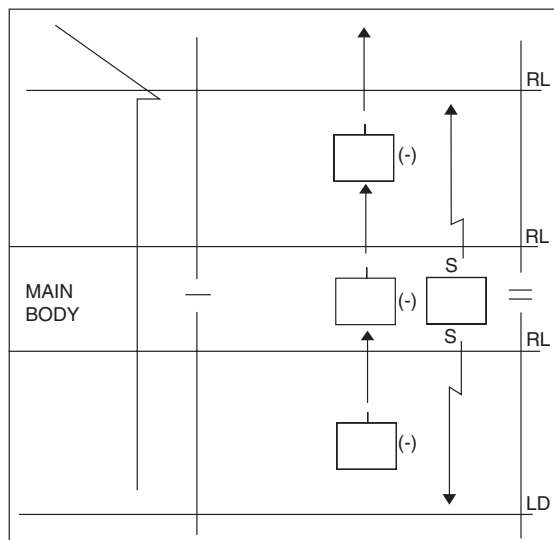
Figure 5-7 Continuous March along the Route of Advance

d. *Reinforced Screen*

(1) Reinforced screens provide a technique for achieving greater security. Essentially, they are reinforced OPs that are capable of conducting limited combat operations (Figure 5-8). The commander uses a reinforced screen when he wants to extend the depth of his security zone; when he wants his forward OPs to remain in place until they come in contact with the enemy's main body forces; or when he anticipates that his forward OPs will be encircled by enemy forces. Reinforced screen is also used when the security forces are operating in restricted terrain, which precludes mounted security forces from covering the sector.
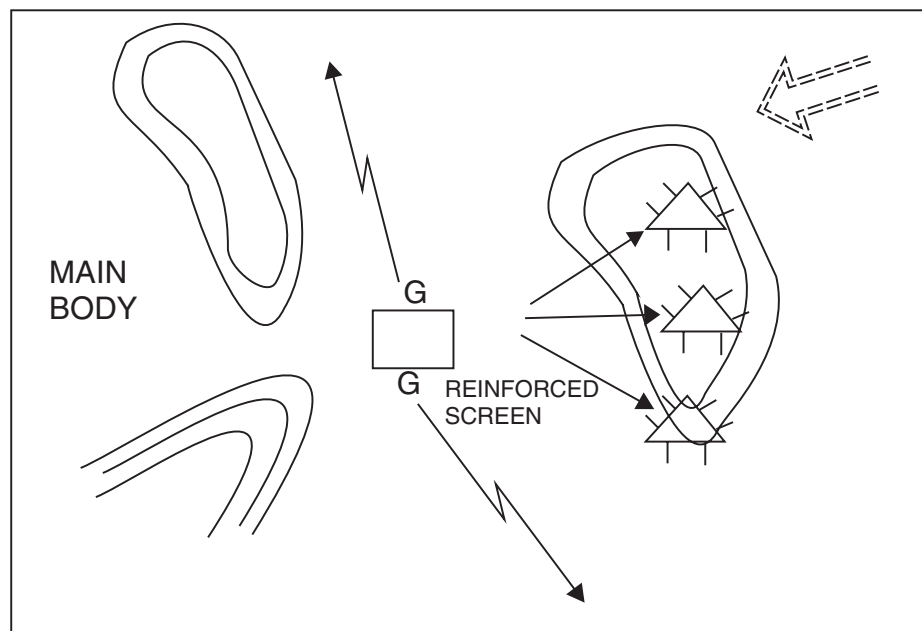
Figure 5-8 Reinforced Screen

(2) Enemy, ground and own forces will determine the size and number of reinforced screen OPs. A reinforced screen must have sufficient resources to accomplish its designated mission, but not so much as to seriously deplete the strength of the main body force. The reinforced screen is organized and fortified to provide an all-around defence to withstand a superior enemy force. The commander should plan to extract his forces from the screen before the enemy has the opportunity to overrun it. Otherwise, they must have the resources to sustain themselves for the duration of the battle.

(3) Forces manning a reinforced screen may conduct aggressive patrolling, engage and destroy enemy reconnaissance elements, and engage enemy main body forces prior to their extraction back to the main body. When the enemy has a significant armoured capability, a reinforced screen may be given more than a standard allocation of anti-tank weapons. The reinforced screen is most effective in restricted

terrain where small OPs are in danger of being overrun by enemy forces infiltrating the security area.

46. ***Guard***.

    a.   *General*.

        (1)   A guard is a security element with the primary task of protecting the main force by observing, reporting and *fighting to gain time*. A guard differs from a screen because of its greater combat capabilities: a guard is employed for both protection (within its capability) and early warning, whilst a screen only provides early warning. If, however, a sizeable enemy force approaches, a screening mission could develop into a guard mission.

        (2)   A battlegroup guard force buys time for the battlegroup commander to counter enemy actions. It does this by reconnoitring, reporting, attacking, defending and delaying the enemy. The battlegroup commander assigns a guard mission to a manoeuvre sub unit when there are few or no other friendly forces between the main body and the enemy: it operates within supporting range of the main body.

        (3)   The battlegroup commander may use a guard force to the front of his main forces *(Advance Guard)* or to the rear *(Rear Guard)*, especially during withdrawal operations. He may also use a guard force to the flank *(Flank Guard)* when there is a threat of significant enemy contact.

    b.   *Advance Guard*. The advance guard is the leading element of an advancing force. The primary mission is to ensure the uninterrupted advance of the main body. It has the following functions.

        (1)   To find and exploit gaps in the enemy's defensive system.

        (2)   To prevent the main body of the advancing force running blindly into enemy opposition.

        (3)   To clear away minor opposition or, if major opposition is met, to fix the enemy until the main body deploys.

    c.   *Flank Guard*.

        (1)   When there is a threat of significant enemy contact a guard force may operate on the flank of a moving or stationary battlegroup to protect it from enemy ground observation, direct fire and surprise attack.

        (2)   As in the screen, the battlegroup commander designates the general location of the flank guard's positions. To determine his initial dispositions, the flank guard commander must consider the axis taken by the main body, the enemy's capabilities, and all available avenues of approach. Sectors should be sufficiently deep to provide early

warning and reaction time. Yet they must remain within supporting range of the main body.

(3)   The flank guard is responsible for clearing the area between the main body and the flank guard's positions. Typically, the flank guard will operate on a smaller frontage than a screen. The area of responsibility for a flank guard extends from the rear of the lead sub unit to the rearmost moving element (Figure 5-9).
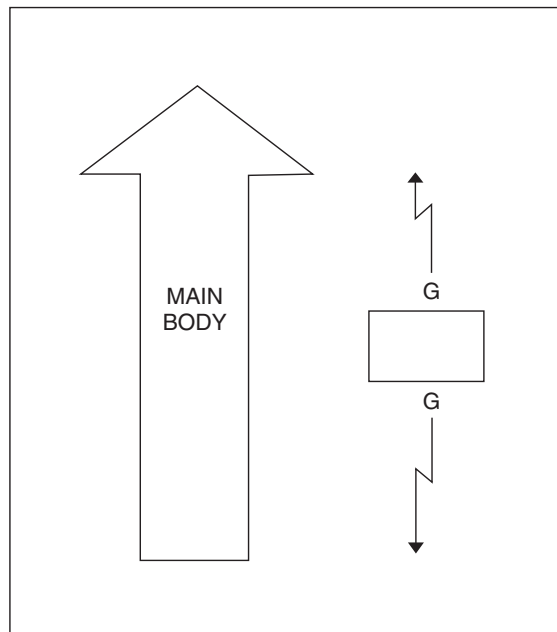
Figure 5-9 Flank Guard for a Moving Force

(4)   If an enemy attack appears imminent from the flank, the flank guard will normally occupy hasty defensive positions. This will be a function of well rehearsed drills. If the enemy proves too strong for the flank guard, it will delay within the sector. Flank guard operations can occur whether the main body is stationary or moving. An example drill is shown at Annex A to Chapter 5.

(5)   A flank guard for a stationary battlegroup reconnoitres from its current positions to its initial security positions (Figure 5-10). This allows the flank guard to clear the area and become familiar with terrain that it may need to defend later. Upon reaching its initial positions, the flank guard establishes a defence. The commander plans the defence or delay in depth from those initial positions. The flank guard employs battle positions and sectors to control friendly manoeuvre.
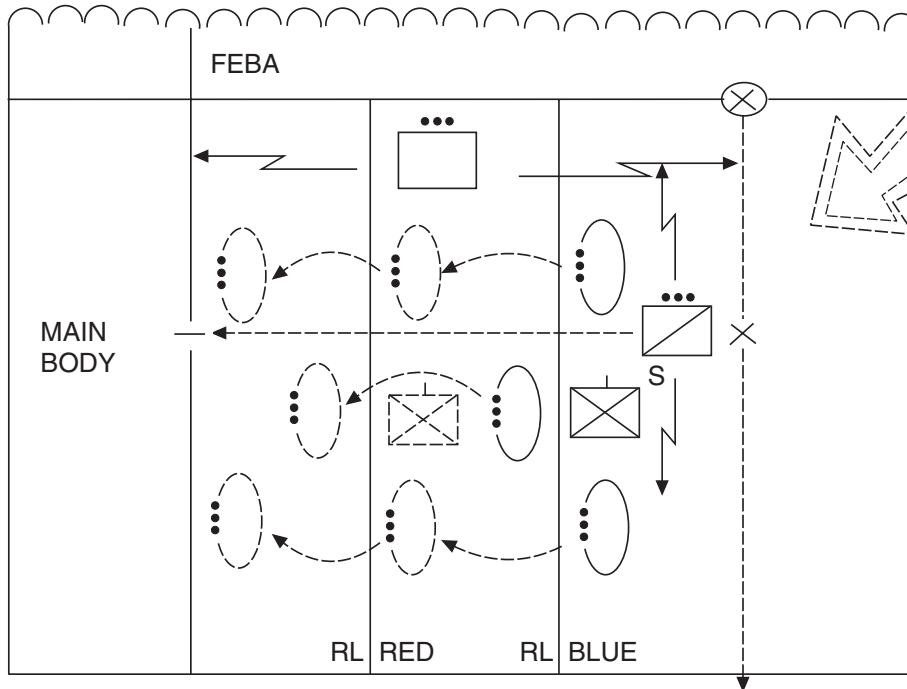
Figure 5-10 Sub Unit Flank Guard for a Stationary Main Body

(6)   There are several critical tasks that must be undertaken during this mission. The guard force must maintain continuous surveillance of enemy avenues of approach. It also provides early warning of an enemy attack.

(7)   The techniques for establishing and moving the flank guard force are similar to techniques used during flank screening operations (See Figure 5-11). The flank guard force adopts one of or a combination of three movement techniques: *continuous movement; successive bounds;* or *alternate bounds*.   As in any guard mission, the greater the level of security desired, the slower the flank guard's movement. The guard commander determines the movement technique chosen based on the speed of the main body, the likelihood of the enemy attack, and the distance to the objective. The flank guard uses *continuous movement* when enemy activity on the flank is unlikely and the main body is moving with all possible speed. Travelling in column with an on-order defensive mission is the quickest but least secure technique. The commander uses *successive bounds* when he anticipates only minimal enemy action against his flanks, and he expects frequent short halts in the main body's movement. He uses *alternate bounds* when he expects strong enemy action against the main body's guarded flank. This technique requires slow movement by the main body. Alternate bounds are the most secure but the slowest technique. Regardless of the technique used, the flank guard must remain in contact with the leading elements of the main body.
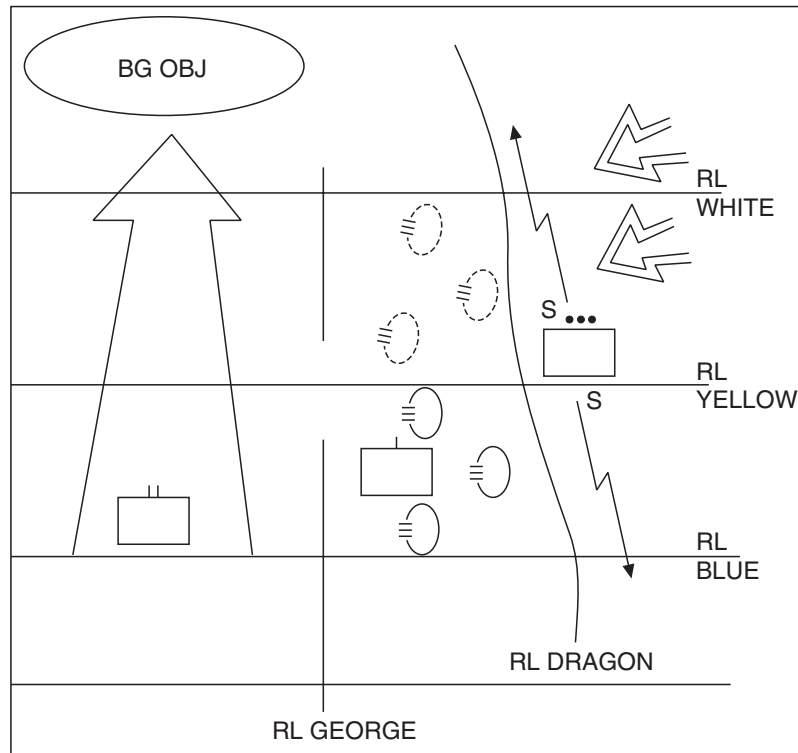
Figure 5-11 Moving Flank Guard

    d.   *Rear Guard*.

        (1)   The rear guard protects the exposed rear of the main body during offensive or delaying operations. Normally, the battlegroup commander establishes rear guards during a withdrawal. He may also use them while conducting manoeuvre forward of the main defensive area (MDA) when there is significant enemy threat to the rear of the main body.

        (2)   The battlegroup commander has two options in establishing a rear guard during a delaying operation. The rear guard may relieve other units in place along the FLOT (forward line of own troops) as they move to the rear. Alternatively, the rear guard may establish a position in depth behind the main body and have the main body conduct a passage of lines through the rear guard.

        (3)   The rear guard uses both sector and battle positions to accomplish its mission. The battlegroup commander prescribes the distance that the rear guard must maintain between itself and the main body. The rear guard for a moving force displaces to successive battle positions in depth as the main body moves. The nature of enemy contact determines the method of displacement.

Covering Force Activity in Limited Visibility

47. Limited visibility often affects the screening force's observation capabilities. The screening force uses all available night and thermal observation devices and will depend more on electronic surveillance devices. Although the screening force can use technical intelligence assets to offset limited visibility, it should also adjust its techniques and procedures to the current conditions. This may include:

   a. The need to adjust the number and location of OPs.

   b. Take advantage of the extended distance that sound travels at night.

   c. Plans for indirect illumination when necessary.

   d. Closely coordinate patrols to prevent misidentification and engagement by friendly elements.

   e. Rigorous sound and light discipline prevents the compromise and potential bypass of OPs by enemy reconnaissance forces.

   f. Near OPs and along dismounted avenues of approach, use trip flares, minefields, and mechanical devices, such as noise makers integrated into low level obstacles, to detect the enemy and warn of his approach.

   g. The screen's depth will enable the discovery of those enemy forces that may have eluded forward elements.

Operations Security (OPSEC)

48. *Introduction*. Every operational plan needs OPSEC. Its purpose is to provide military operations with appropriate security using passive or active means to deny the enemy knowledge of friendly dispositions, capabilities, intentions and vulnerabilities.

49. *Principles*. OPSEC assessments must be made from an enemy viewpoint, concentrating on those aspects of a plan critical to him if he is to disrupt friendly operations. Areas of security weakness must be identified and appropriate countermeasures considered. It is important that all aspects of operations, including administration, logistics, communications and movement are considered in this assessment. This will enable an effective combination of appropriate OPSEC measures to be applied, both in the initial plan and in the event of compromise.

50. *General Measures*. At the very least, the battlegroup should apply OPSEC and conceal its intentions by:

   a. Careful camouflage, concealment and the use of ground.

   b. Effective radio security.

   c. Avoiding indicators such as overt reconnaissance and artillery adjustment.

51.   **Specific Measures**. An assessment of the threat may lead to the application of additional measures which could include:

a.   *C2W Measures*.

   (1)   Direct attack on enemy's processing/assessment assets.

   (2)   ECM.

   (3)   Implement deception measures.

b.   *Other Active OPSEC Measures*.

   (1)   Increased patrol activity.

   (2)   Increased AD effort, using ground or air AD assets.

   (3)   Use of tactical smoke.

c.   *Defensive Measures to Counter Enemy ISTAR Assets*.

   (1)   Out-of-bounds areas and guards.

   (2)   Increased physical security measures.

   (3)   Camouflage and concealment.

   (4)   Noise and light discipline.

   (5)   Track/movement discipline.

   (6)   EPM - COMSEC, ELSEC and EMCON discipline.

   (7)   Defensive minefields.

   (8)   *Movement*. Where the enemy's ISTAR assets are limited in number or scope, or lack responsiveness, movement of friendly units and headquarters can overload their capabilities.

   (9)   *Dispersion*. Disperse forces if the enemy's ISTAR capability is limited in size or mobility.

   (10)   *Use of Terrain*. Terrain features can defeat line-of-sight assets and reduce the vulnerability to air threat.

   (11)   *Weather*. Fog/mist can frequently be predicted and degrades most ISTAR assets; low cloud reduces the aerial threat.

    d.   *Change Plan.*

        (1)   Postpone, stop or move the operation.

        (2)   Change, alter or modify the plan.

        (3)   Change, alter or modify operational procedures.

52.   **Surprise**. Every endeavour must be made to achieve surprise for which boldness, simplicity and speed of execution are essential ingredients. Conversely, the enemy must not be expected to pursue only the most obvious course if one is to avoid being surprised oneself. Surprise can be achieved by:

    a.   Rapid reaction.

    b.   The selection of an unexpected course of action.

    c.   Deception.

Deception

53.   Deception can make a major contribution to the achievement of surprise and indirectly to security and economy of effort, all of which are principles of war. It is therefore a factor to be considered in all estimates. Historically however, better deception has been achieved at the tactical level by effective concealment of one's own forces rather than by attempts to deceive the enemy as to their true size. More details on the aspect of security can be found in AFM Vol I Part 4 *Counter-Surveillance, OPSEC and Deception*.

54.   If a deception plan is to be adopted, it must be consistent with formation plans and will require time to work; it must therefore be incorporated into the battlegroup plan from the outset. If deception is implemented without consultation and is too successful, the enemy's attention might inadvertently be directed towards another, unsuspecting unit or formation. Most deception at battlegroup levels, however, is based on camouflage and concealment and even a few simple measures can achieve great success. However, it must be remembered that the purpose of a deception plan is to induce an enemy to act in a manner prejudicial to his interests. Therefore the battlegroup commander should ask the question.

"What do I want the enemy to do*?"*

A deduction can then be made as to what he should be made to think in order to induce him to adopt the required line of action.

55.   **Resources**. In addition to deception measures involving tactical action or movement, the proliferation of sensors working across the electromagnetic spectrum provides increasing scope for deception but also for corroboration. The importance of practising effective counter-surveillance, information security and avoiding capture should not be underestimated. There are a number of simple measures well within

the scope of the battlegroup and its resources though their usefulness is generally limited to short term, short range, defensive deception. They may include:

a.   Use of local resources and civilian or salvaged vehicles.

b.   Decoy mirrors, optics, heat sources and corner reflectors.

c.   Dummy trenches in obvious, likely but unheld positions.

d.   Phoney minefields and tilt rods.

e.   Plastic piping simulating a gun barrel.

f.   Ambushing compromised friendly position.

g.   Spring or pulley-operated distractions.

h.   Use of empty ammunition boxes.

i.   Dust raisers (branches towed behind vehicles)

j.   Noise.

k.   Pyrotechnics to simulate AD to distract enemy pilots.

l.   Replacing a compromised position with a dummy one (and vice versa).

56.   **Dummy Positions**. The measures required to create a dummy position are comprehensive; a minimum requirement to simulate a company group is tabulated below:

57.   **Deception Plan**. A deception plan in support of a deliberate infantry brigade attack can be implemented with an infantry battalion group with engineer support. The aim of the deception is to divert enemy attention and forces away from the brigade's area of attack thus contributing to OPSEC by gaining surprise and freedom of action. A possible schedule of activity is as follows:

CHAPTER 6 - OFFENSIVE OPERATIONS

SECTION 1 - THE FUNDAMENTALS

The Purpose of the Offensive

1.   Offence is the decisive operation of war, key to which is the application of the manoeuverist approach in which commanders use their guile and experience to out think enemy commanders. Within battlegroup operations the purpose of offensive operations is to defeat, destroy or neutralise an enemy force by imposing a commander's will by the application of focused aggression throughout the Area of Operations.

Principles

2.   Offensive operations are characterised by the aggressive initiative of subordinate commanders, rapid shifts in the main effort to take advantage of opportunities, momentum, and by applying the most rapid effect on the enemy possible. Offensive operations should resemble an expanding torrent. They should move fast, be guided by reconnaissance units or successful probes through gaps in enemy defences, and move their strength quickly to widen penetrations and reinforce their successes, thereby carrying the battle deep into the enemy's rear. The principles of the offence are to always:

   a.   Seek surprise

   b.   Maintain security

   c.   Seize key terrain

   d.   Achieve fire superiority

   e.   Exploit manoeuvre

   f.   Concentrate the effects of combat power

   g.   Plan to exploit success

   h.   Keep it simple.

3.   In addition to providing for the capture or destruction of critical objectives, every offensive plan must detail how to exploit any advantages that arise during the operation and after the intermediate and final objectives have been achieved. The battlegroup commander exploits success by aggressively executing the plan, by using his subordinate commanders' initiative and by utilising sub units that can rapidly execute their battle drills. It requires minimal use of limits of exploitation. To exploit opportunities the battlegroup commander maintains a properly positioned and appropriately resourced echelon for commitment at the decisive moment. He can use this echelon to weight the main attack but should more often maintain it to exploit an advantage. He must avoid the piecemeal commitment of his second

echelon or his reserve. A reserve must always be allocated and maintained. It provides the flexibility to react to unforeseen circumstances and when committed another must be created at the earliest opportunity.

A Framework for Offensive Operations

4.   *General*.   The successful conclusion of an offensive operation is aided by the battlegroup commander's visualisation of the battlefield.   For this, he needs a framework within which to work.   He should view the battlefield under the following headings:

      a.   *Area of Operation*.

      b.   *Area of Interest*.

      c.   *Battlefield Organisation of Deep, Close and Rear Operations*.   British military doctrine emphasises the need to conduct deep, close and rear operations when appropriate.   The boundaries between such operations at battlegroup level are not well defined, but will be limited by time, grouping, space and weapon ranges. As an example, in a battlegroup attack the main attack is the close operation, whilst infiltration forces such as snipers on harassing missions in the enemy's logistic or C2 areas is the deep operation.   It is vital that both actions are synchronised so that they appear as one continuous activity to the enemy.   Commanders must, therefore, consider the following complementary elements when planning and conducting offensive operations:

           (1)   Deep operations.

           (2)   Harassing fires.

           (3)   Any effects which disrupt the enemy's ability to sustain his combat forces.

5.   *Principle of Four*. In offensive operations battlegroups will consist of at least four force elements and the battlegroup commander should apply this principle in task organising his command. As a guide the following structures are appropriate:

      a.   A reconnaissance / fixing force.

      b.   A striking/manoeuvre force.

      c.   A second echelon available to exploit success, and capable of becoming the battlegroup commander's main effort.

      d.   A reserve to deal with the unexpected.

6.   *Deep Operations*.   Deep battles may be conducted to establish or improve conditions for the close battle.   Fixing the enemy will be a most important task. *Alternatively they may target specific goals to destroy enemy cohesion.* Indirect fire

is the battlegroup's primary means of conducting deep operations, although manoeuvre can be used to increase the effect. Deep targets could include:

a. Units arrayed in depth behind the enemy's main close combat forces, particularly air defence or artillery units.

b. Lines of communication, mobile reserves or logistic supplies that could reinforce enemy units.

c. Enemy command and control facilities.

7. **Close Operations**.

a. *Find/Fixing Function*. The purpose of this function is to prevent the enemy from surprising the main body and engaging them on unfavourable terms. Tactical considerations will dictate whether the battlegroup commander assigns a reconnaissance or fixing mission to the forward element.

   (1) When enemy forces are fixed in a defensive area and the battlegroup commander believes that his main body is not at significant risk from mobile forces he may opt to send a reconnaissance force forward of the main body. Its mission would be to find the enemy's main defensive positions, report the situation, and assist the main body forces deploying into the fight.

   (2) When the battlegroup commander orders an attack on a mobile enemy force in a dynamic environment, he normally orders a security force (Advance Guard) to cover the main body's advance. A reconnaissance (Screen) element operates forward of the security (Guard) force.

   (3) To assist tempo, responsibility for flank and rear security is usually tasked to sub unit elements. If, however, there is a particularly vulnerable flank, then the battlegroup commander must task elements of his force with a flank security mission.

b. *The Strike/Manoeuvre Force*. The *Strike/Manoeuvre force* concentrates combat power at a point where the battlegroup commander plans to achieve his greatest success. It is likely to encompass multiple sub unit groups of combined arms and will generally consist of two elements.

   (1) *The Main Attack Force*. The main attack starts at the Line of Departure and continues to the final objective. The commander only switches his strike or main attack if it fails to achieve success, or if unexpected success is gained in another area. Forces involved in the main attack will usually be the battlegroup's Main Effort, vital to the accomplishment of the higher commander's concept of operations. The Main Effort is likely to switch, however to the subsequent commitment of the second echelon if success is to be fully exploited.

        (2)   *The Fire Support Group.* The Fire Support Group is task organised with sufficient firepower to accomplish its mission. It provides maximum assistance to the main attack by fixing the enemy, deceiving him regarding the location of the main attack, forcing him to commit his reserves prematurely, and preventing him from reinforcing units in front of the main attack.

    c.   *The Second Echelon.* The second echelon provides an additional source of combat power to permit relief during continuous operations and to reinforce units at the decisive moment. Its primary purpose is to enter combat decisively in order to ensure victory by exploiting success. The battlegroup commander will shape the course of the battle by deciding when, where or whether to commit his second echelon force.

    d.   *The Reserve.* A distinct reserve force must be nominated within the battlegroup. The reserve should be an uncommitted force established and held to react to unforeseen circumstances. It provides a hedge against uncertainty. Piecemeal commitment of the reserve should therefore be avoided. Once committed, another reserve should be constituted at the earliest opportunity.

8.   ***Rear Operations.*** To maintain tempo, an attacking unit must be able to: assemble, move and sustain its forces without hindrance; protect the sustainment effort; and maintain command and control. These are Rear Operations. The forward provision of logistical support to manoeuvre units is critical to the momentum of the attack, but the fluidity and tempo of offensive operations will pose challenges to rear operational planning. The enemy will look for opportunities to disrupt friendly LOCs and he will counter-attack by striking into the attacking force's rear. The detection and defeat of enemy efforts to interrupt rear operations requires the employment of Combat Power.

9.   The battlegroup commander must consider the types of offence collectively and not as a list of individual procedures. In offensive operations, attack, exploitation and pursuit are used in various combinations, all of which require the maintenance of a reserve.

The Attack

10.   All offensive operations are based on the attack (or the ability to carry out an attack) to defeat, destroy or neutralise an enemy. An attack is an offensive operation characterised by movement supported by fire. An attack strikes targets throughout the entire depth of the enemy to keep him off balance and limit his freedom of action. The attacking battlegroup commander applies the maximum necessary combat power at the point of main effort to destroy the enemy's cohesion and will to fight. The battlegroup commander's intent determines the type of attack used. These include:

    a.   Reconnaissance in Force.

    b.   Raid.

c. Feint and Demonstration.

d. Counter Attack.

e. Spoiling Attack.

f. Hasty Attack.

g. Deliberate Attack.

11. Once the attack is launched, flexibility and speed are paramount. The attack has to be executed vigorously to exploit favourable developments, reallocating resources to areas where there appear to be opportunities for success. Momentum and tempo must be maintained to keep the enemy off balance. The attack should not be delayed to align sub-units or to adhere rigidly to a plan. Few attacks will develop as planned and commanders must be alert to turn unexpected successes to their advantage and to cope instantly with reverses. To do this they have to be well informed. The requirement for flexibility demands simple plans, adjustable fire support, a reserve (uncommitted and close at hand), engineers well positioned and a CSS plan flexible enough to be adjusted to support the offensive operation.

Exploitation

12. Commanders have be prepared to exploit success well before they have achieved it. Exploitation is characterised by a rapid advance against lessening resistance. The aim is to retain the initiative by preventing the enemy from re-organising his defence or from conducting an orderly withdrawal. The psychological effect of an exploitation creates confusion and apprehension throughout the enemy command, reducing his capability to react and lowering his morale; this may in itself be decisive. Speed and enemy dis-organisation will enhance security but the key to success is speed. Any delay will allow the enemy to regroup, mount counter-attacks or to establish delaying positions in depth.

13. Local exploitations may appear insignificant, but the cumulative effect can be decisive and commanders have to be bold if they are to capitalise on them. The commander should be careful not to dissipate combat power in achieving minor tactical successes or in reducing small enemy forces. The exploiting force should therefore retain terrain only as necessary to accomplish its mission; maintaining momentum at the risk to security from by-passed enemy forces. Commanders at all levels must be clear whether their priority is bypassing or mopping-up enemy positions.

14. Exploitation should be decentralised, although the battlegroup commander must maintain sufficient control to alter the direction or to prevent over-extension. Mission Command plus a clear understanding of the commander's intent and Main Effort allows subordinates to take rapid, independent action to exploit the situation. However, a self-initiated exploitation, *greater in scope* than that envisioned in the battlegroup commander's concept, requires his approval to prevent any disruption to his concept of operations.

15.   The exploiting elements should conduct aggressive reconnaissance to both the front and flanks in order to maintain contact, avoid ambush and to assist in locating enemy strong-points. The battlegroup commander uses both aviation and ground reconnaissance assets to advise him of enemy activities and to search for under-defended or weakly defended enemy positions. It is important to remember however that all manoeuvre needs to be contained within areas allocated to forces as boundaries. Uncoordinated manoeuvre is likely to bring about friendly fire casualties.

16.   The exploiting elements should not be expected to continue to an extended depth. These elements usually incur significant loss of combat power and should be replaced as soon as possible by a second echelon specially organised for the purpose of full exploitation. When fatigue, attrition or disorganisation has weakened the force, or when it has to hold ground or organise re-supply, the commander should exploit with a fresh force, which is echeloned to the rear of exploiting elements.

17.   Over-extension is a risk inherent in exploitation. While the battlegroup commander should be concerned with over-extension, he must also guard against being overcautious. The use of a "limit of exploitation" in the orders process needs to be carefully considered by the battlegroup commander. It may do exactly what it says, when this is not what is required.

Pursuit

18.   A pursuit is an offensive operation designed to catch, cut-off, or destroy an enemy force attempting to retreat or escape. Unlike exploitation, the battlegroup commander can rarely anticipate pursuit, but he can apply his second echelon to the task of accomplishing this mission. He must be flexible enough to react when the situation presents itself. Pursuit aims to take advantage of the shattering of an enemy's cohesion. It may develop from a successful exploitation as the enemy attempts to disengage. Although a terrain objective may be given, the primary objective of the pursuing force is the destruction of the enemy, caught between a fixing force and enveloping forces severing the enemy's lines of escape.

19.   Like other operations, pursuit can give way to other forms of the offence, or as the force approaches its culminating point, pursuit can move to the defence. Failure to recognise the end of pursuit operations could result in high friendly losses.

SECTION 2 - CHOICES OF MANOEUVRE

General

20.   From the estimate the commander determines the manoeuvre needed to position his forces at the appropriate point and then conduct the attack. The attack may be directed against the *front, flank* or *rear* of the enemy. The higher commander will seldom dictate the form of manoeuvre to be used.

The Frontal Attack

21. The frontal attack, as shown in Figure 6-1, is an offensive manoeuvre in which the main action is directed against the front of the enemy forces. It is employed to overrun or destroy an enemy or to fix him in position, often in conjunction with other forms of manoeuvre. It can be the precursor to penetration or envelopment. Unless frontal attacks are conducted in overwhelming strength, over a great enough area to rout the enemy, they are seldom decisive. Adopting them as the main attack in place of more decisive and less costly choices of manoeuvre is rarely justified; consequently they are usually confined to supporting attacks. When considering frontal attacks for this role other means for holding the enemy in position, such as feints and demonstrations, should also be considered.
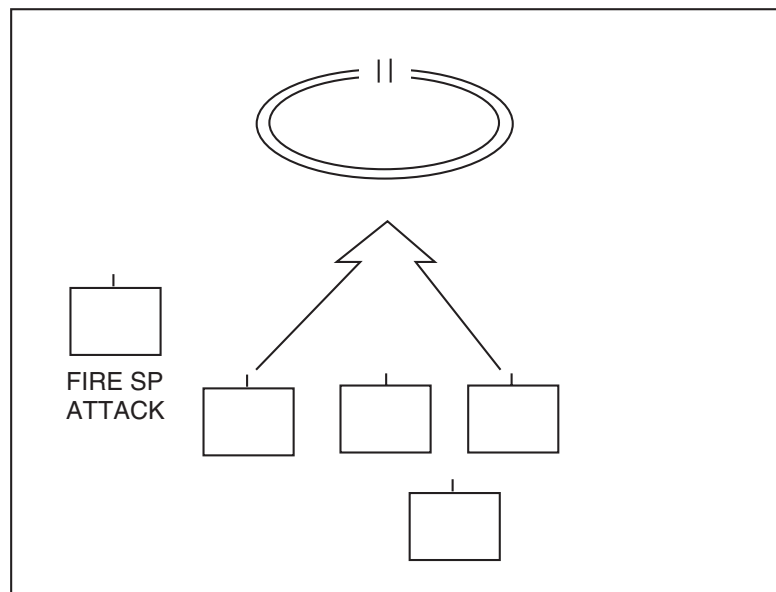
Figure 6-1 Frontal Attack

The Envelopment

22. Envelopment, as shown in Figure 6-2, is an offensive manoeuvre around or over a main defence to secure objectives on the enemy's flank or rear. It is preferable to a frontal attack because it avoids the enemy's prepared positions and engagement areas in favour of an attack from an unexpected direction where the defender is weaker and less able to concentrate fire.

23. The aim of envelopment is to cut the enemy's escape routes and destroy him in his position or make the position untenable. The main attack avoids the enemy's main strength en route to the objective and then strikes an assailable flank. The supporting attack pins down the enemy to prevent his escape and reduces his ability to react to the main attack. A successful envelopment depends largely on the existence of an assailable flank, the degree of surprise attained, and the ability of the supporting attack to contain the bulk of the enemy's forces. The surprise is secured by making unexpected manoeuvres, rapidly changing tempo, avoiding observation, and other deceptive measures. Superior mobility (and air superiority) increases the prospect of success.
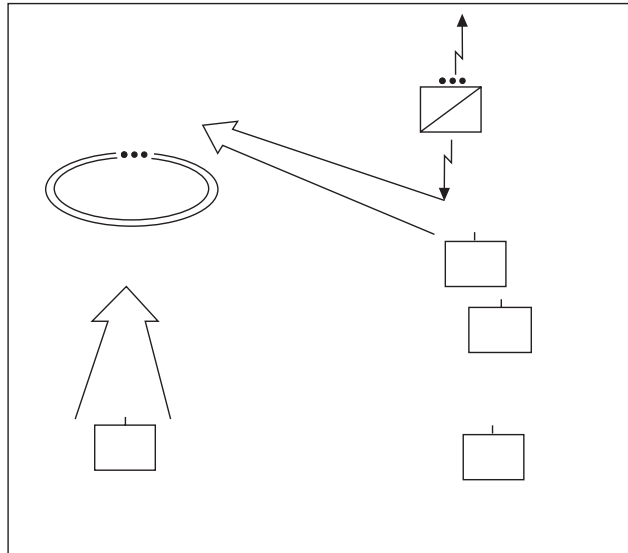
Figure 6-2 Envelopment Attack

24.   The enemy's initial dispositions to meet an envelopment of his flank ordinarily cannot be as strong as the defence of his front. The enemy will strengthen an unsupported flank by preparing positions in depth and by holding mobile forces in reserve. Rapid movement around the enemy's flanks is thus essential to prevent him from occupying previously prepared positions. Vigorous supporting attacks will prevent him from reconstituting reserves from other portions of the front, whilst deep operations will prevent him from introducing reserves from elsewhere. Deliberate action must be taken to ensure the sustainment of the enveloping forces, and the security of their own flanks to avoid envelopment themselves.

25.   Alternatively, or in addition, the enemy may attempt a frontal (spoiling) attack. In this case the supporting attack force defends itself or engages in a delaying action while the main attack force continues the envelopment or moves inward for a counter-attack.

26.   After an initial envelopment of one flank, which places the enemy at a disadvantage, the battlegroup commander has many options. Among these is exploiting success with his second echelon. Another is the establishment of favourable conditions for passing to a double envelopment by using reserves.

27.   The tactic of a double envelopment involves three principal tactical groups; two enveloping attack forces and a supporting (fixing) attack force. Although a simultaneous envelopment of both flanks is a decisive manoeuvre, it generally requires a great preponderance of force and is frequently difficult to control. In view of this it is normally executed only by formations.

Turning Movement

28.   In a turning movement, an attacking force seeks to pass around and avoid the enemy's main force, to secure an objective in the enemy's rear area. This is in contrast to a penetration, which breaks through enemy defences. The purpose of this manoeuvre is to force the enemy to abandon his position or divert major forces

to meet the threat. The attacker can then destroy the enemy on the ground it chooses. The turning movement is particularly suited to highly mobile forces. It is used in situations in which an opportunity exists to seize vital areas in the hostile rear before the main enemy force can withdraw, be supported, or be reinforced. The successful execution of a turning movement relies on deception, security, and mobility.
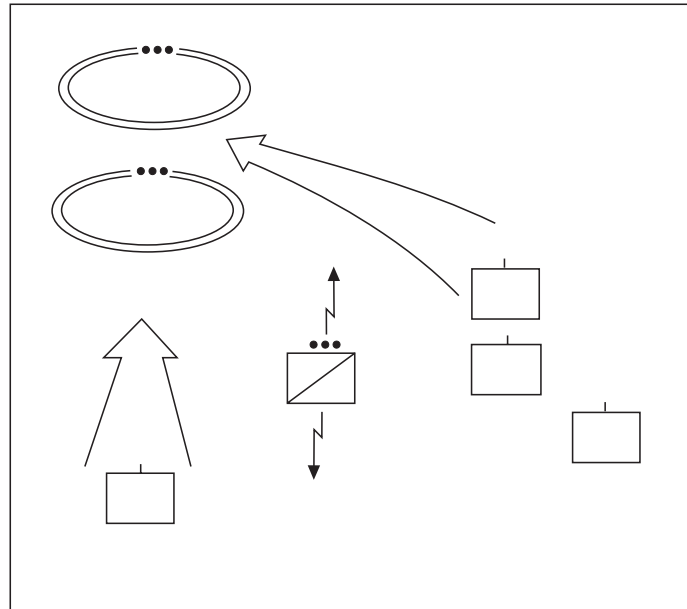
Figure 6-3 Turning Movement

29.   As shown in Figure 6-3, the attacking force may employ a turning movement when it lacks sufficient combat power to conduct an envelopment and exploit its success. Instead, the attacking force passes around the enemy flank and seizes decisive terrain in the enemy rear. This might force a defending enemy to come out of its positions and attack the friendly force in prepared positions. The aim of a turning movement is generally to isolate (dislocate) an enemy force. Subsequently, this form of operation changes from the attack into an exploitation or pursuit. Although the turning force is frequently the main attack, it may not always be. For example, an airborne battlegroup seizing key or decisive terrain at the enemy's rear to isolate him before a main attack is a turning force.

30.   The turning force frequently operates beyond mutual support of other attacking ground forces. Thus each grouping must be strong and mobile enough to avoid defeat. When conditions favour such action, all major elements of the battlegroup may be employed in the turning force, leaving only screening forces to confront the hostile dispositions.

Penetration

31.   When the situation does not favour an envelopment, the main attack may be directed to penetrate the enemy's front, Figure 6-4. This may be necessary when enemy flanks are unassailable, when time does not permit envelopment, when the enemy is overextended or when weak spots are detected in the enemy position.
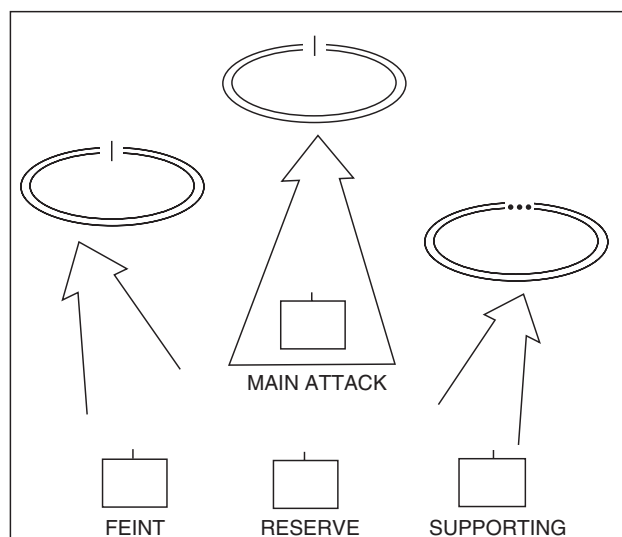
Figure 6-4 Penetration Attack

32.   Ideally the battlegroup commander will attempt to penetrate enemy positions along the unit boundaries where enemy defences tend to be weakest. Penetration of a well-organised position requires overwhelming combat power in the area of penetration and the combat superiority to continue the momentum of the attack. If the enemy can slow down or stop the attack, he is given time to react. The battlegroup commander must rapidly reinforce success to ensure completion of the penetration through the enemy's defensive positions.

33.   Plans for penetrating a defensive position include isolating and destroying by fire any enemy forces in the area selected for the penetration. Penetration of an enemy position requires the accomplishment of three principal phases:

    a.   Breaking the enemy's main line of resistance

    b.   Widening this gap to secure the flanks of the penetration

    c.   Seizing objectives with subsequent exploitation.

It there are weaknesses in the enemy's position, it may be possible to seize the penetration's final objective simultaneously with widening the initial gap. In other situations, seizing the final objective must be deferred until the gap is wide enough for reserves or other forces to be committed for the final task.

34.   It will be necessary to "mop up" enemy forces, by clearing ground and taking prisoners. This will often be a task for mechanised infantry. Even if all has gone well however, care should be taken to approach from the enemy's weakest point.

Breaking the Main Resistance

35.   The main attack is launched on a relatively narrow front. Assaulting troops are given close-in objectives. Local reserves are held in readiness to pass through or bypass attacks that have slowed or stopped. The supporting attack on the remainder of the

hostile front contains the enemy and prevents him from disengaging. The depth of the enemy position determines the width of the penetration and the relative strength of the attacking echelons. The availability of artillery, air support and other combat multipliers for the attacking force is especially important. The wider the front of penetration, the more difficult it is for the enemy to close the gap. However, a penetration on a wide front requires much greater resources. The deeper the penetration, the better the attacking force can roll back the enemy flanks created by the breakthrough and the less likely the enemy is in a position to restore his front by falling back.

Enlarging Gaps and Securing Flanks

36.   Once the attacking force has penetrated the main line of resistance, it begins to roll back the shoulders of the defensive positions to widen the gap. The task of widening the initial gap of the penetration may be assigned to the main attack, the supporting attack, or reserve forces. The battlegroup commander makes plans to meet enemy counter-attacks by shifting fire or committing reserve forces. Battlegroups can use obstacles on the flanks of the penetration as a combat multiplier to assist in defeating any local enemy counterattack and to provide additional security for the force as a whole.

Seizing the Objective and Exploitation

37.   Normally, the main attack is assigned the mission of seizing the objective, which is considered the enemy position centre of gravity. Frequently the enemy position will be so deep that it prevents the initial main attack from seizing the final objective. Then the battlegroup commander makes plans to pass an echelon force through the initial attack force early, leaving exploitation beyond the final objective to higher echelons. This exploitation may include enveloping and destroying the enemy force or seizing key objectives deep in the enemy rear.

Infiltration

38.   Infiltration is the covert movement of small groups or individuals (at extended or irregular intervals) through enemy lines to an objective in their rear; as shown in Figure 6-5.

39.   Infiltration is used in conjunction with and in support of other forms of manoeuvre and is often the basis of the battlegroup deep battle. It requires stealth to move and assemble forces behind enemy positions. Based upon enemy dispositions, battlegroup elements infiltrate to varying depths to assist the main attack. A battlegroup normally infiltrates the enemy security zone or his main defensive positions to reconnoitre known or templated enemy positions, destroy key enemy resources and facilitate the passage of the main attack. The battlegroup may infiltrate to the immediate rear areas of the enemy defences to disrupt or destroy enemy reserves, artillery units, C2 or other key facilities.

40.   Battlegroups may be tasked to infiltrate deep into the enemy's rear areas to conduct surveillance of NAIs and TAIs or to destroy key enemy units and infrastructure.
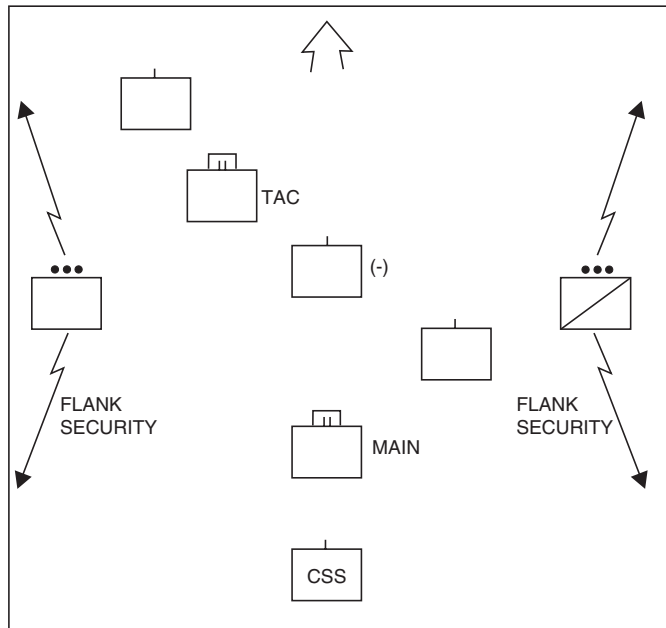
Fig 6-5 Infiltration Attack

41. Success requires that the infiltration force avoid detection at least until it reaches its objective. However, because of technological developments, increased situational awareness should improve our ability to avoid enemy contact during infiltration. Dismounted battlegroups are best-suited for this, although in some circumstances, armoured forces operating in small units can be infiltrated, in co-ordination with precision fire, as a prelude to a flank or rear attack. Battlegroups can use a variety of navigation aids, such as Global Positioning System, to reduce the chances of detection by remaining within the planned infiltration lane.

42. Deviation from plans is difficult to co-ordinate once infiltration has begun. Supporting control measures may include a direction of attack (infiltration route), checkpoints (way points) and report lines as a means of reporting progress or of co-ordinating fire with the movement of the infiltrating force. Link-up plans or plans to extricate the force must also be prepared.

SECTION 3 - ORGANISATION OF THE ATTACK

43. Elements of the battlegroup in the attack should be organised so that they have clearly defined tasks and do not impede each other in the area of operations. The battlegroup commander must lay down the responsibilities for reconnaissance, forward movement and security, by establishing areas of responsibility and control measures to the extent necessary. These measures will apply not only to the combat troops but also to the combat support and combat service support elements which support the attacking force.

Control Measures

44. The battlegroup organisation for combat should provide for coverage of the area of the attack from well behind the line of departure to the objective and beyond and should include the designation of a number of measures to control the attack. These will depend on how the attack is to be mounted, and on how the battlegroup commander wishes to control his forces, and include the use of:

a. Assembly areas.

b. Approach routes.

c. Forming Up Places (FUP)

d. Lines of departure (LD).

e. Boundaries and fire lines.

f. Axis of advance/route.

g. Objectives/intermediate objectives.

h. FSCM.

Planning the Attack

45. ***General***. The planning sequences for the deliberate and hasty attack are similar, with two exceptions. The hasty attack achieves surprise by trading preparation time for speed, while the key principle of a deliberate attack is the need to maintain surprise throughout the longer planning process. The planning and execution sections of this chapter are applicable to any form of attack but are based on the hasty attack.

46. ***Surprise***. Surprise is a major factor and both passive and active measures must be taken to secure it. These could include:

a. *Passive Measures*.

(1) The meticulous concealment of reconnaissance activity.

(2) Concealing the deployment of the main body to its forward assembly areas, for example by moving only in darkness or poor visibility, or by filtering forward in small packets.

(3) The imposition of radio silence, or the continuation of existing routine radio traffic while avoiding all reference to the projected operation. The latter requires a very high level of training.

(4) Disguising or curtailing artillery adjustment and fire prior to H Hour.

b. *Active Measures*.

(1) The deployment of formation air defence resources to deny the enemy air reconnaissance of the attack preparation.

(2) Formation controlled radio electronic deception measures.

        (3)   Feint attacks with limited objectives, or simulated attack preparation, in other areas.

        (4)   The use of artillery fire, smoke and vehicle movement to draw the enemy's attention away from the area of the attack.

        (5)   The use of smoke to conceal final deployment or the assault itself.

47.   ***Limited Time***. Preparation for a hasty attack must be confined to essentials based on well rehearsed drills and ultimately the initiative of all commanders. There will be no time for detailed planning, regrouping or lengthy explanatory orders. The momentum of the operation overall will need to be maintained through quick reaction, and timely, firm, clear orders, usually given by radio. A plan, which is simple, flexible and well co-ordinated, must be executed by well drilled teams, commanded with drive, confidence and mental flexibility.

Warning Order

48.   The battlegroup commander needs to be close behind his leading elements so that he can move rapidly to a position from where he can both observe and direct the battle. Having conducted his estimate, the battlegroup commander should immediately issue a warning order for the attack, containing as much detail as possible. This will ensure concurrent activity throughout the battlegroup, while he completes his plan. In particular, it will trigger:

    a.   A rapid response from close reconnaissance. Their most important tasks will be:

        (1)   Constant briefing/update on enemy situation/positions, including those positions in mutual support – taking into account emission control restrictions in order to maintain security.

        (2)   Recce/Secure FUP and LD.

        (3)   Flank observation.

        (4)   Advice on likely fire support group positions.

        (5)   Confirmation/identification of any depth.

    b.   Movement to FUPs/Fire Support positions/Assembly Areas (Assembly Area) only when necessary due to lack of information on enemy or FUP).

    c.   Early preparation of indirect fire support, to avoid subsequent delays while fire is adjusted (if permitted and in accordance with higher commanders intent), and to ensure that the maximum number of guns are made available. FOOs and MFCs should deploy as quickly as possible without further orders to be in position to start adjusting fire. The fire plan will be derived from the predictive elements of the IPB and FOO reports.

d.   Warning orders and preparatory moves at sub unit level.

Confirmatory Orders

49.   Subsequent confirmatory orders should be brief, with as much of the co-ordination as possible covered by clearly understood drills. The leading forces in contact should expect to fix the enemy both before and during the attack, unless ordered otherwise. The BC should inform the battlegroup commander what fire can be placed at priority call, for how long and the earliest H Hour he could meet. Artillery will leapfrog to remain in range and mortars should automatically deploy into action and adjust the targets as soon as the first contact reports are received. The BC will subsequently co-ordinate the positions of all indirect fire observers for optimum coverage.

50.   Following the warning order, the battlegroup commander will only need to confirm:

a.   Further information about the enemy.

b.   The mission.

c.   Main Effort.

d.   Sub unit Tasks/Missions.

(1)   In a well worked up battlegroup, the only tasks, which will need to be specified, are those varying from the normal drill. For example, variations to normal grouping of armour or of infantry on the objective.

(2)   Company BRAVO Warriors will normally be working within each company mission. No orders need be given to them unless this is not so, or unless there are variations to normal drills.

e.   *Direction of Attack and FUP/LD*. An attack off the line of march is the quickest option and very often the most effective.

f.   *Essential Co-ordinating Instructions.* For example:

(1)   H Hour will normally be given as a 'not before' time in the warning order and will only be confirmed when the details of the fire plan are confirmed.

2)   Anticipated dismounting area (note that company commanders may well delay the decision to dismount until enemy action demands it).

(3)   Reorganisation.

(4)   Limit of exploitation.

(5)   Fireplan.

Reconnaissance

51.   The battlegroup will be dependent both before and during a hasty attack on the information supplied by close reconnaissance. Reconnaissance commanders must use their initiative and realise how much they can do beyond what has been ordered. In particular they should always be looking to:

   a.   Update the battlegroup on enemy dispositions, obstacles and movements and any positions in mutual support.

   b.   Assist in clearing routes, assembly areas, and FUPs, including advice on any urgent adjustments needed.

   c.   Act as guides.

   d.   Provide flank observation.

   e.   Seek weaknesses and gaps in the enemy for possible exploitation.

Armour

52.   During the hasty attack, armour will fulfil three roles:

   a.   *Shock Action*. Shock action is the combined effect of surprise, mobility and firepower, concentrated in time and place. By attacking in strength and at an expected moment an armoured force can destroy, defeat and dislocate disproportionate numbers of enemy. Shock action can also paralyse the enemy allowing the battlegroup commander to seize the initiative.

   b.   *Aggressive Mobile Action*. Tanks provide the mobile elements of the anti-armour plan by their firepower agility and ability to fire accurately whilst on the move. This gives them a lead role in the destruction of enemy tanks and AFVs.

   c.   *Close Combat*. The presence of tanks with an infantry assault group adds momentum and greatly enhances organic firepower, it is also an important factor in sustaining morale amongst assaulting infantry. Close combat tanks are divided into 2 groups.

      (1)   *Assault Tanks*. Assault tanks provide shock action on the objective during both the assault and the fight through, destroying enemy tanks and AFVs throughout. As the assault begins they move round one or both flanks of the objective in order to isolate it from possible counter attacks and to prepare for the next phase of the operation.

      (2)   *Intimate Support Tanks*. These tanks come under command of the assaulting infantry. Intimate support tanks work in close co-operation with the infantry leading the assault onto the objective, observing and reporting and through the provision of aggressive direct fire support, either from a position short of the objective or by moving onto the position itself. The decision as to

which will depend on the tactical situation and in particular the threat form hand held anti-tank weapons.

Engineers

53.   By its very nature, a hasty attack implies an area free of major obstacles. Nevertheless, close support engineers may still become critical to success. The resources available to the battlegroup commander, including a suitable Engineer officer to advise on these resources must be well forward, ready to be quickly committed so that the mobility of the battlegroup can be maintained.

Indirect Fire

54.   Indirect fire will be used in the battlegroup Close and Deep battles, however it should be remembered that guaranteed indirect fire support is rarely available. Mortar fire should consequently be superimposed on all artillery targets to guarantee some degree of indirect fire at critical occasions:

   a.   An attack is very unlikely to succeed unless manoeuvre is closely integrated with accurate, concentrated, indirect fire. However, sustained indirect fire can also be used to fix or neutralise the enemy. It is timing, as well as concentration, which is critical. Most casualties occur in the first 10 seconds of an engagement and the shock effect of artillery will largely and quickly dissipate unless manoeuvre forces can get amongst the enemy at once. This requires a fire plan, which is sufficiently flexible to support the initial plan, and then cater for changing circumstances as the action develops. This fire plan is part of the commander's plan; his Gunner is responsible for its implementation.

   b.   The commander must balance how long it will take to maximise the concentration of fire units against the need for prompt, bold action. The tendency in peace is to underestimate the crucial contribution of indirect fire to success.

   c.   It will always be necessary for forces to manoeuvre as close as possible to their supporting fire, which demands that commanders have a thorough understanding of 'last safe moment' restrictions and of safe splinter distances on different terrain.

   d.   As a general rule in artillery adjustment do not LIFT, ADD.

   e.   Mortars, with their smaller danger templates, should be superimposed in order to maintain fire support for longer, as the assaulting troops near the objective, when the guns may be switched to depth targets.

Reserves

55.   To cater for the unexpected, commanders must nominate a reserve from the outset and be prepared to re-create it as events dictate. The reserve should consist of mobile troops not committed to the immediate battle. It may be necessary to use the

reserve to reinforce the on going tactical operation in order to ensure its success. If this occurs a new reserve should be allocated immediately.

Flank Protection

56. Flank protection will normally consist of reconnaissance sections, ATGW and/or armour, with an FOO if possible. The proportion of armour and ATGW, however, should again be kept to a minimum to avoid fragmenting the battlegroup's strength. Close air defence weapons may also be grouped with this element to provide cover, for example, for the assembly area or FUP.

SECTION 4 - CONDUCT OF THE ATTACK

General

57. The conduct of a battlegroup attack can be divided into a number of distinct, but closely related stages, which will tend to merge into each other. These are:

    a.   Preparatory.

    b.   Approach.

    c.   The Attack.

    d.   Exploitation.

Preparatory

58. While the battlegroup commander and staff are planning an operation the elements of the battlegroup will be preparing for the attack. The extent of the preparations is dependent on the time available. All commanders must attempt to adhere to the ONE THIRD/TWO THIRD rule to ensure that their subordinates have sufficient time to carry out their preparations. This stage may last for weeks or a matter of minutes and will often take place with some element of the battlegroup in contact with the enemy. If a commander is free to chose the time he must consider:

    a.   The time required for reconnaissance of terrain and to gather the essential information about the enemy.

    b.   The time required by sub units to prepare (1/3-2/3). Sub unit commanders must be told as soon as possible, normally in a warning order, how much time they have to make their preparations.

59. ***Command***.

    a.   *General*. The battlegroup commander must be in a position to see, or be kept informed of the progress of the attack, enemy reactions, and the situation confronting subordinate units. During the attack, he may increasingly decentralise control to subordinate commanders to permit them to react more rapidly to changes in the situation.

b.　*Positioning of Headquarters*.　The moves of battlegroup Headquarters must be arranged to meet the requirements of the battlegroup commander, planned in advance if possible.　As the attack progresses, the command elements also move forward to enable the battlegroup commander to exercise control.

c.　*Location of Commander*.　The battlegroup commander will decide for himself where he is best located at any time.　He will normally be found with his Tactical HQ, in order to observe the conduct of battle and spot the opportunity that will allow him to exploit the situation faster than the enemy commander.

60.　**Control**.

a.　*Orders*.　Warning orders should be issued to ensure maximum use of the time available for preparation.　Written operation orders may cover in detail only the initial phase of a deliberate attack. For subsequent stages, the battlegroup commander may be able to provide only broad instructions.　In doing so, he will make his concept of operations clear, but leave the execution to subordinate commanders.　As the situation develops, he will supplement and amend his original order.　The success of the operation will depend increasingly on the initiative of subordinate commanders, especially in the exploitation and pursuit.

b.　*Control Measures*.　These are listed in paragraph 44.

61.　**Communications**.　Communications security is of the greatest importance prior to the attack.　Radio communications will be essential for effective command and control during the attack and the implication of any restrictions on their use should be considered in advance.　Thorough communication reconnaissance should be carried out if possible in advance of deployments to ensure communication is viable from selected HQ locations.　Provision for alternative communications should be made in case they break down for any reason.

62.　**Preliminary Actions**.　During the preparation stage the battlegroup commander will attempt to shape the battlefield, mainly with the use of indirect fire, but also with OPs and guard elements.　The battlegroup commander will seek to deceive, dominate, blind and gather the necessary information about the enemy.

a.　*Preliminary Movement*.　Preliminary movement is a controlled move which positions the battlegroup on or near the assembly area.

b.　*Preliminary Deployment*.　During preliminary deployment the elements of the battlegroup come together in the assembly area and move into the task organisation for battle.　At this point they also receive logistic replenishment so that they are fully combat ready.　Any CSS elements, which are to move with the attacking battlegroup, join up at this stage.

Approach

63.　**Deployment**.　During the approach from assembly areas to FUP it is important to maintain security for as long as possible by making use of all available routes to

achieve maximum speed and dispersion. Speed, in particular, is essential to achieve surprise and consequently there should be no lingering in the FUP. Other factors to consider include:

a. *Passage of Lines.* It may be necessary to attack through friendly elements already in contact with the enemy. They will remain in position until their fire has been masked or they are no longer required.

b. *Securing the Line of Departure (LD) or FUP.* If a preliminary operation is necessary to secure the FUP and LD, the task should be carried out by troops not involved in the attack. Surprise must be retained either by active deception or by launching the main attack before the enemy can react to the initial operations.

c. *Crossing the LD.* All timings are based on the time troops cross the LD. It will normally be crossed in a deployed formation. In cases where a passage of lines is involved the LD may be the forward line of own troops.

d. *Marking the FUP/LD.* At night or in poor visibility the FUP may need to be marked to ensure that the attacking sub units move into their assault formations easily. Figure 6-6 shows a basic marking which is probably only applicable to dismounted infantry at night.
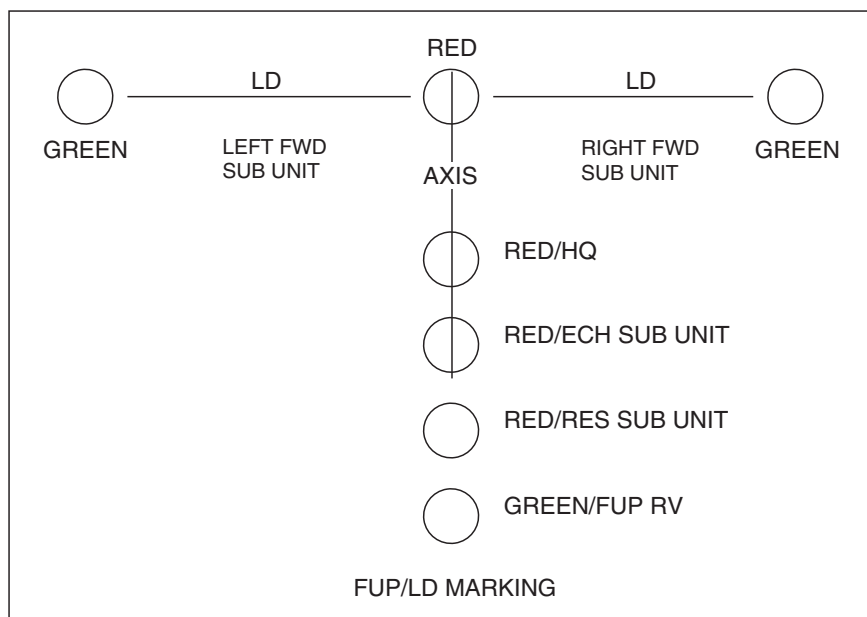
Figure 6-6 Marking

e. *LD Orientation.* It is essential that the LD is oriented at 90° to an objective and that all elements understand the direction to be taken and the probable distance to the objective. It may be necessary to assist the assaulting elements in direction keeping. Examples are:

(1) Armoured vehicle barrel orientation.

(2)   Artillery smokes or illuminants.

(3)   GPS.

(4)   It is essential that someone is in position to talk the assaulting troops onto the objective. This could be the FOO or perhaps a tank commander.

64.   ***Armour and Infantry on Separate Axes***. Armour and infantry may assault on separate axes. If dismounted, this permits the infantry to use a covered approach, while the armour assaults at best tank speed on a faster, more open approach. Such an attack may have the added advantage of subjecting the enemy to converging fire from two directions while dividing his own fire. Very careful co-ordination and timing are required to prevent the fragmentation of the assault and to ensure the simultaneous arrival of both assault elements on the objective.

Fire Support Attacks

65.   The fire support attack is the fixing force which, through surveillance and the combined use of direct and indirect fire over the whole battlegroup objective, prevents the enemy hindering the assault forces throughout the attack. The minimum requirement for a fire support attack is to fix the enemy.

66.   It may be necessary to disperse the Fire Support Group (FSG) to ensure maximum effect on the enemy; this means decentralised control. The major problem for the FSG commander is ensuring that all elements know the locations of the assault force, thus enabling the closest possible fire support without fratricide. The FSG must also be aware of the problems of obscuration for the assaulting force. Fire must be lifted/adjusted in sufficient time to allow observation by the assaulting force.

67.   At some point in the approach or assault the FSG will be masked by the assault force. Unless given a separate mission they should continue to support the assault by providing observation and fire on enemy depth positions, or move in order to do so.

The Attack

68.   ***General***. After crossing the LD, the attack can be divided into 5 stages:

a.   Final approach.

b.   Break in.

c.   Fight through.

d.   Re-organisation and consolidation.

e.   Exploitation.

69.   ***Final Approach***. The Final Approach (run-in) is when the attacking force is able to use direct fire weapons on the objective but is also vulnerable to enemy direct fire. The balance of tanks and infantry (AI and dismounted) will depend on the ground, situation and the composition of the battlegroup. In open country the attack should be led by armour supplemented by indirect fire. In close or difficult country consideration should be given to enemy capability and disposition. Dismounted infantry or other battlegroup assets might lead the attack. Armour should move quickly and where appropriate, with infantry in intimate support. The most vulnerable point of the attack is when the AI de-bus and the FSG switches both direct and indirect fire. To overcome this the attacking force must place as much direct fire as possible on the enemy's position as the infantry start the break-in. Figure 6-7 shows the use of different engagement ranges to provide simultaneous effects upon the enemy to ensure that the objective is covered in fire.
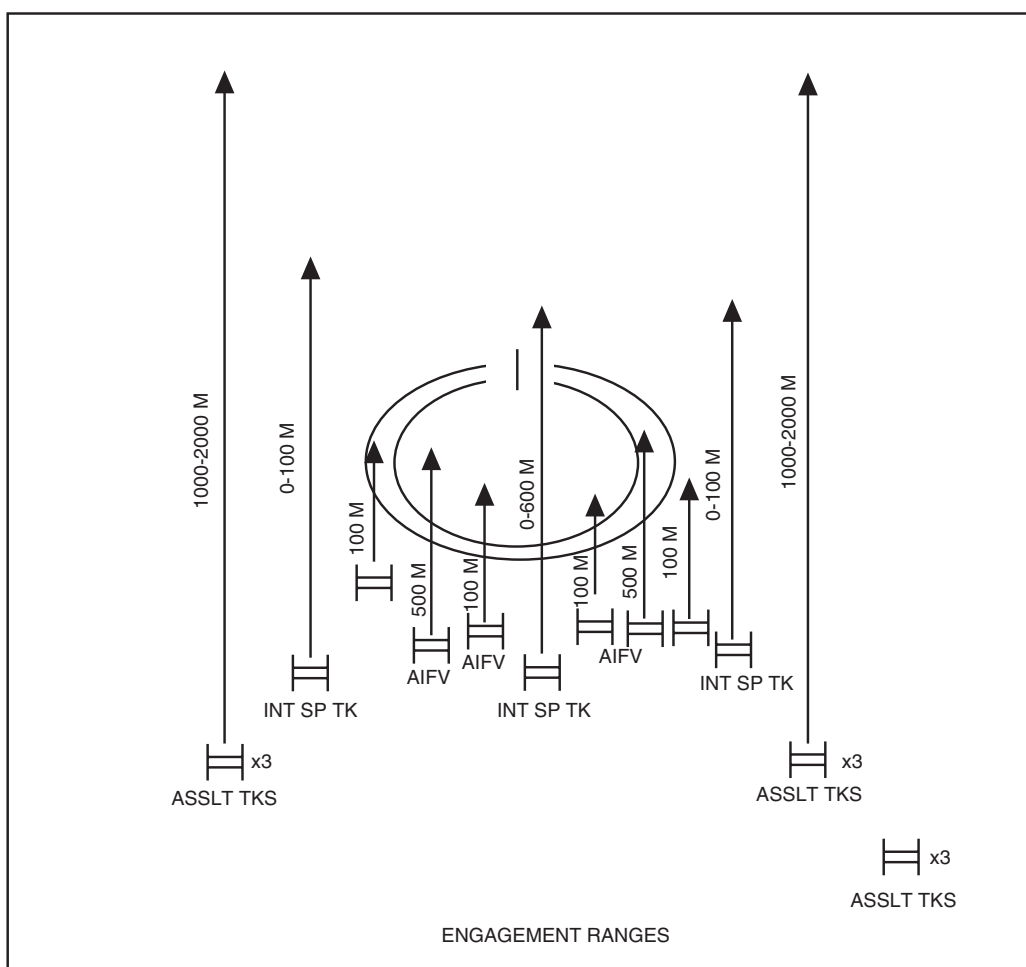
Figure 6-7 Company Group Attack

70.   ***Break-In***. The break-in battle is designed to rupture the outer defences of the enemy position and allow the attack to move into his depth positions. This should be done on a small frontage with maximum combat power available. Having achieved the break-in the key is holding the shoulders of the gap so that the enemy can not counterattack. (Figure 6-8).
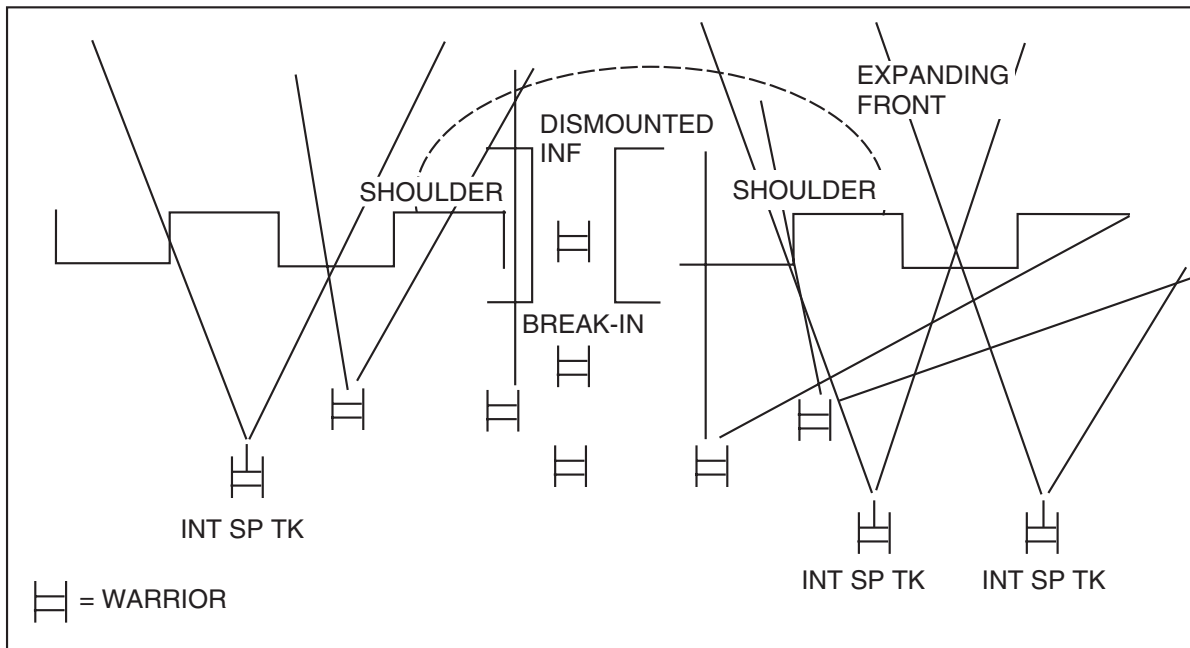
Figure 6-8 Holding the Shoulder

a.   *Assaulting Tanks*.

   (1)   *Break In*.   If enemy anti-tank fire has been suppressed and the objective is clear of anti-tank obstacles, assault tanks may be able to break into the position. This tactic is high risk, but may work against a poorly prepared enemy, especially one which has not had time to co-ordinate its defence. The purpose of the break-in is to seize objectives in depth thus destroying the continuity of the enemy's defences.

   (2)   *Envelopment*.   If the objective presents an obstacle to movement, or contains unsuppressed anti-tank weapons, armour should envelop it. Enveloping tanks may move on either, or both, flanks of the objective, depending on the enemy and the ground. The purpose of envelopment is:

      (a)   To get armour beyond the objective so that the assaulting forces are secure against counter-attacks.

      (b)   To cut off enemy withdrawal.

      (c)   To provide direct fire onto possible depth positions.

      (d)   To secure the position.

   (3)   *Flank Support*.   If the objective is not fully suppressed, armour can swing out to fire positions on the flanks of the objective, with the aim of supporting the assaulting force as they fight through. Some tanks must look outwards, to guard against counter-attack.

b. *Intimate Support Tanks*. Intimate support tanks come under command of the assaulting infantry during the attack. They provide close direct fire support and protection through the use of their weapon systems, armour and smoke generators. They can also provide observation, orientation, and additional communications to the Infantry they are supporting.

c. *Assault Pioneers*. Assault pioneers can play a key role in a battlegroup working without engineer support.

d. *Infantry*. The primary task of AI in the break in battle is to restore momentum by the destruction of enemy infantry and lightly armoured vehicles on the forward edge of the position. The decision to bypass may be retained by the battlegroup commander if he can observe the complete frontage. More likely he will delegate that decision to sub unit commanders. In either case the infantry should be dismounted as close to the objective as possible. The purpose of a dismounted infantry break in is to enable the fight to be taken to the enemy's depth and to provide dismounted support to intimate support tanks. Although the fight will be carried out by subordinate commanders it is necessary for the battlegroup commander to retain control of the developing attack and to make maximum use of supporting attacks and reserves in order to concentrate combat power to maintain momentum. To achieve this it may be necessary for the commander to dictate single break in points for each sub unit. In reality this means that the break in at sub unit level will be carried out by one platoon, supported by the remainder of the group.

e. *Infantry Commander*. Due to the greater flexibility and command and control that the AIFV gives the infantry sub unit commander, he will probably stay mounted initially. However, he must always be where his presence will be most decisive to the commander's intent and the maintenance of his force's tempo.

f. *BRAVO Warriors*. The fundamental purpose of the Warrior AIFV is to deliver and support its infantry section in the attack. The sub unit commander may need to employ the Warrior weapon systems elsewhere within his mission. However, he must make the following risk assessment.

(1) Denying the platoon or section its Warriors in intimate support and therefore potentially extending the dismounted battle.

(2) The delay caused by re-uniting the vehicle and section after an attack, especially at night.

(3) Denying the dismounted infantry access to additional combat supplies.

71. **Fight Through**. The fight through will be a confused and exhausting series of minor actions. These will take considerable time, especially if the objective has depth. Each trench or weapon position in turn must be destroyed or neutralised. Visibility will be hampered by smoke, and a tactical bound for infantry fire teams will often be only a few metres.

a. Once the break-in is made, it is vital to maintain the pressure of the attack, not only when assaulting the enemy position to seize initial objectives but also when thrusting to take objectives in depth. When enemy resistance is encountered, the leading elements, supported by fire, attempt to overrun and destroy the enemy as rapidly as possible. Leading elements should lose no opportunity to reinforce and exploit success, thus preventing the enemy from regaining his balance. Reserves should be available, positioned so that they may be committed if required.

b. As the attack progresses the enemy is likely to react violently with fire support and local counter attacks. As the axis of the attack becomes clear to him he will seek to commit echelons or reserves held in depth or, alternatively, he will endeavour to break contact and withdraw. Whatever his actions, the value of organising the attack in depth is that forces not in close contact are available to defeat the enemy's counter attacks or exploit his decision to withdraw.

c. Throughout the course of the battle the battlegroup commander must be waiting for the point at which his ability to sustain the momentum is less than the defender's ability to resist. It is then that he is most vulnerable to counter attack and will require reinforcement or even a change of mission. Again, an attack organised in depth and executed at high tempo reduces this vulnerability.

d. The battlegroup commander must be prepared to shift his Main Effort in order to capitalise on success or to commit echelons or reserves earlier than anticipated. In either case he must continue to support his higher commander's intent.

e. Intimate Support Tanks. Intimate support tanks and AIFVs make a significant contribution to the momentum of the fight through but they will rely heavily on dismounted infantry for close protection against short range anti-tank weapons.

f. *Infantry.*

    (1) Once the break-in has been achieved, the infantry must co-ordinate fire and movement between individual sections, their AIFVs and supporting armour to fight through the objective. AIFVs, like tanks, can greatly assist with observation, and MG/Main armament fire support.

    (2) Success will depend largely on drills, minor tactics, initiative and leadership by example. Company/squadron commanders and the battlegroup commander must seek to maintain momentum by the use, and when possible, the reconstitution of reserves.

    (3) The time required by the infantry to secure and clear the position should not be underestimated. Each trench and bunker will need to be cleared and searched prisoners assembled and disarmed, and casualties treated and evacuated. The dismounted sections will then have to be married up with their AIFVs and, depending on the extent of

casualties, a redistribution made of commanders, weapons, ammunition and individual soldiers. MRATGW must be brought forward at the earliest opportunity to reinforce the secured position. It will often be desirable to pass through fresh infantry, if available.

g.   *Bypassed Enemy*.   When leading elements bypass resistance in order to maintain momentum and attempt to secure objectives in depth, follow-up forces will take on enemy positions which have been bypassed, if necessary keeping them contained or under surveillance, pending subsequent elimination.

72.   ***Reorganisation and Consolidation***.   Once the objective has been achieved, the consolidation must begin immediately and be completed as quickly as possible, with troops reorganising into a hasty defence to meet any enemy counter-attacks from both the ground and air.   The battlegroup commander should not, however, lose contact with the enemy and, when possible, the sub unit group leading the attack continues directly into exploitation.   If that is not feasible, the battlegroup commander passes fresh sub unit groups into the lead.   A new fire support plan should be developed and a new reserve formed if required.   The following points are of particular importance at this stage:

a.   Towards the end of their attack, commanders must have a reserve which can be used to exploit the situation.

b.   The adjustment of armour deployed forward, and to the flanks, to ensure a framework of anti-tank defence and to give depth to the position.

c.   Placing those troops who must remain on the objective under cover and dispersing the remainder as quickly as possible, to minimise the effect of enemy artillery.

d.   If the objective is to be held, the co-ordination and occupation of hasty defensive positions by the assaulting infantry, either by digging fresh defences or by improving those left by the enemy.

e.   The confirmation and possible adjustment of previously planned DFs and FPFs (if allotted).

f.   Bringing forward support weapons, particularly anti-tank and air defence weapons not involved in the assault.

g.   Engineer reconnaissance and resources must be brought well forward to prevent any exploitation stalling at an obstacle.

h.   Immediate replenishment of combat supplies, particularly ammunition, POL and water.

i.   Reorganisation to take account of wounded and/or killed commanders.

73.   *Exploitation*.

    a.   Exploitation retains the initiative by preventing the enemy from reorganising his defence or from conducting an orderly withdrawal. The key to success is speed to prevent the enemy regrouping, mounting counter-attacks or establishing delaying positions in depth. Once the exploitation by a second echelon force has begun, momentum must be maintained.

    b.   If time permits, exploitation should be planned as illustrated in Figure 6-9. This cannot be achieved by deciding which sub unit should achieve what objective, but by laying down control measures which will give structure to the battlespace. The value of commanders stating their intent and Main Effort allows subordinates to take rapid action to exploit the situation. Opportunities for exploitation are indicated when the following occur:
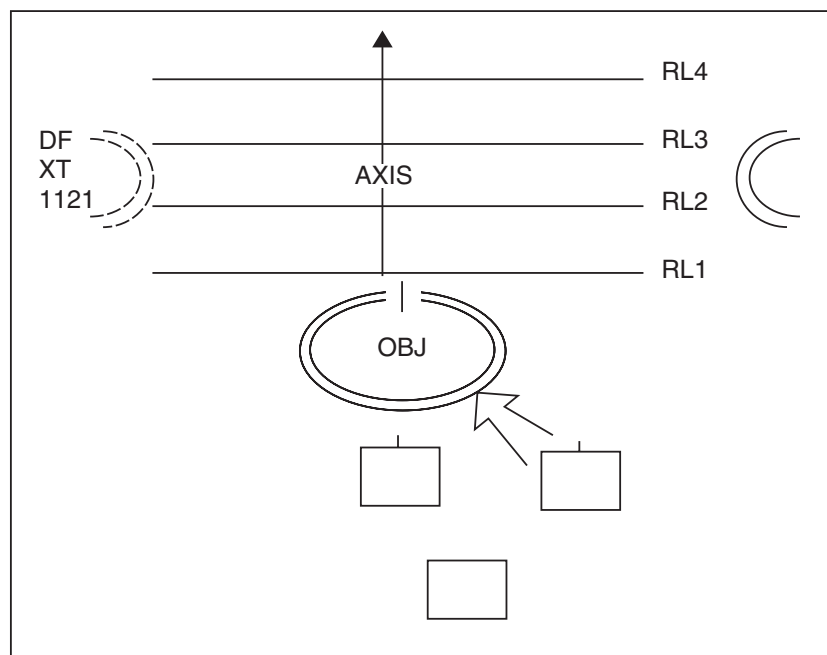
Figure 6-9 Planning for Exploitation

    (1)   The enemy is having difficulty maintaining his position.

    (2)   The number of prisoners captured increases significantly.

    (3)   Enemy units disintegrate after initial contact.

    (4)   The enemy lacks an organised defence.

    (5)   Reports confirm the capture of or absence of enemy leaders.

    (6)   The amount of abandoned material increases.

    (7)   Various units inter-mix their vehicles and personnel in combat formations or march columns.

(8)   Enemy fire decreases in intensity and effectiveness.

(9)   Enemy artillery, C2 facilities, and supply dumps are overrun by friendly forces.

c.   During exploitation the battlegroup commander must state which sub unit is his Main Effort. This will ensure that all other elements of the battlegroup understand to whom they are to give support.

d.   Exploitation can develop into a pursuit and encirclement. As soon as the battlegroup commander realises that the operation is turning into a pursuit he should nominate the 'direct pressure' and envelopment sub units.

74.   ***Pursuit***. Pursuit is designed to catch, cut-off or destroy an enemy force attempting to retreat or escape. It aims to take advantage of the shattering of an enemy's cohesion and it may develop from a successful exploitation as the enemy attempts to disengage.

75.   ***Envelopment***. The aim of envelopment is to cut off an enemy force in a particular area, thus allowing the pursuing force to destroy the enemy between fixing and envelopment components. Caught between the two forces, unprepared and unable to defend itself, the enemy must surrender or be destroyed. The envelopment force should have a mobility advantage over the withdrawing enemy. The battlegroup commander can obtain this advantage by maximising his force's mobility in conjunction with conducting counter-mobility operations such as blocking choke points or destroying bridges, which could benefit the fleeing enemy. Both the fixing and envelopment forces require engineer support to clear obstacles to enable them to move rapidly and continuously. Engineers must be placed well forward in their movement formations to quickly reduce those obstacles that cannot be bypassed.

SECTION 5 - ATTACK BY NIGHT OR IN POOR VISIBILITY

76.   ***General***. The conduct of the night attack may differ little from that by day, especially on a light night or when the attackers are well equipped with viewing aids (II and TI devices). In general, however, engagements will take place at shorter range and greater initiative will be required of junior commanders. The battlegroup will have an EMCON policy. Despite increasingly sophisticated and numerous night vision devices and weapon sights, defending and attacking troops are still hampered at night and in poor visibility by reduced target acquisition and engagement ranges and by difficulties in movement. Consequently:

a.   The defender will find it more difficult to cover his frontage, will have shorter warning of an impending attack and must allow more time for the deployment of his reserves.

b.   The attacker's direct fire support will be less effective, he may have difficulty in identifying friend from foe, navigation will be more difficult and movement slower.

The Tactical Implications of Night Attack

77.   *General*.   For the attacker, however, these difficulties tend to be offset by the opportunity to close with the enemy undetected.   Night and poor visibility often therefore provide favourable conditions for a carefully planned attack, provided that the enemy is not equipped with reasonable II or TI sights.   The need for thorough preparation will normally preclude a quick attack, except in the extreme case of the immediate local counter-attack during defensive operations.   In general, therefore, an attack mounted by night is likely to be deliberate.   The principles and procedures for an attack by night or in poor visibility are broadly the same as those applicable by day, but with even greater emphasis on control, simplicity and surprise.

78.   *Noisy or Silent Attack*.   Apart from allowing for the physical effects of reduced visibility, the principal difference in the battlegroup commander's appreciation and outline plan will be the requirement to decide whether the attack is to be noisy or silent.

     a.   *The Noisy Attack*.   The noisy attack is fully supported by planned artificial illumination and all available fire support from the outset.   Surprise should not be discarded, but lies mainly in timing, in the speed with which the attack develops and the suddenness of the direction from which it is mounted.   A noisy attack aims to make maximum use of firepower and shock effect.

     b.   *The Silent Attack*.   The silent attack is conducted without artificial illumination or fire support until detected by the enemy.   It relies primarily on stealth to achieve surprise.   Co-ordinated illumination and fire plans must, however, be instantly on call for the moment when surprise is lost.

79.   *The Surveillance and Illumination Plan*.   Whether the attack is to be noisy or silent, the surveillance and illumination plans will contain both passive and active phases.   All elements of the battlegroup may not adopt the active phase simultaneously, for example the assault may remain passive while fire support weapons are actively illuminating and engaging the objective.   The active phase, however, will normally be authorised at H Hour for a noisy assault, but not until surprise is lost during a silent assault.

     a.   *The Use of Passive Devices*.   Passive surveillance devices and weapon sights should be re-allocated if necessary so that the assault force, fire support and flank protection detachments all have an adequate passive target acquisition and engagement capability.   When few passive devices are available it may be necessary to adopt a noisy attack plan or, alternatively, to give priority to the assault force.

     b.   *Active Illumination*.   Illumination targets should include objectives, other identified enemy positions, possible counter penetration positions, and likely axes for the deployment of enemy reserves and counter-attacks.   Additional tasks may include deception, blinding enemy surveillance devices or help in navigation.

80.   *Weather*. Visibility may change very quickly as fog lifts or bright moonlight is obscured by clouds. The plan must allow for such changes and in particular for the situation where the attacking force is suddenly exposed to view.

The Assault Group

81.   *The Mounted Assault*. In a noisy attack armour will lead whenever the ground permits and the roles and tactics of both armour and infantry will be the same as for the daylight assault. The final clearance of the objective is likely to break down into a number of individual section/tank actions. Armour exploiting beyond an objective must have infantry support.

82.   *The Dismounted Assault*. This will be the normal technique for a silent attack. Infantry will advance at best dismounted speed from the FUP to the objective. Once the attack goes "noisy", armour provide fire support from the flank, and move on a separate axis to join the infantry on the objective. Very careful liaison will be needed to effect this link up and it will normally be preferable for armour to remain on the flank until the infantry objective is secure.

Fire Support

83.   Armour providing fire support does not have the means to provide direct illumination. With TI, however, tanks have the ability to engage at long ranges, thus their role and tactics are broadly the same as by day.

Identification friend/Foe

84.   *General*. Careful co-ordination will be necessary to avoid clashes between friendly forces during the night assault. Each element of the battlegroup must be briefed in advance, and throughout the battle, on the movement of all other elements. Clear boundaries must be established. Fire support elements must keep constant track of the progress of the assault force using report lines and, when possible, visible indication on the ground. Plans for the use of the reserve must be kept simple and very carefully co-ordinated.

85.   *Passing Through*. The risk of confusion and clashes is greatest when passing one sub-unit through another. To minimise the risk, the sub unit currently leading must:

    a.   Halt on a clearly identified report line or objective.

    b.   Quickly reorganise and consolidate its positions, ensuring that it can account for and locate all its subordinate elements.

    c.   Send guides to a clearly identifiable RV to meet and lead forward the sub-unit to pass through.

Reorganisation/Consolidation

86.   Quick, well co-ordinated reorganisation is vital, and more difficult than by day. The forward movement of additional armour and support weapons onto the objective must be very carefully co-ordinated to avoid clashes. Arcs of responsibility and flanking positions must be precisely identified, which may even require the use of indirect white light for confirmation. Defences should be kept compact to assist in co-ordination, but troops may find themselves bunched or exposed at first light. Commanders at all levels must be alert to this risk and must always review, and when necessary adjust, their defences as visibility improves.

Annexes:

A.   Offensive Ops Deliberate Attack Aide Memoire
B.   Quick Attack Aide Memoire

OFFENSIVE OPERATIONS – DELIBERATE ATTACK AIDE MEMOIRE

DEFINITION

Deliberate Attack: Offensive action characterised by preplanned and coordinated employment of firepower and manoeuvre to close with and destroy or capture the enemy.

EMPLOYMENT CONSIDERATIONS

Principles - Surprise   Concept -   To defeat well org en Will involve Deep, Close, Rear Ops
            Concentration of Combat Power -   To attack MDA after Deep: Fix tgts, distract en main forces.
          - Sy   -   To C attack after successful battle Primarily at div level.
          - Manoeuvre   Close: Defeat the en by hitting unexpectedly and in superior force
          - Key Terrain
          - Fire Superiority   At the point selected

            Rear: Maint or restore freedom of action in rear areas for future ops.

FORCES AND TASKS

Components -Recce / Fixing Force
              - 'recce pull'
              - Ident routes, strengths, gaps, report back to battlegroup comd.
          .   Fix enemy

            Strike / Manoeuvre Group
            - Fire Sp
              Armr, ATGW, GPMG(SF) may provide Fire Sp Gp to provide dir fire sp, ideally 90 degrees to axis of attack
            - Arty and mors provide indir fire sp. Timed fire plan with max con of fire. May incl smk, HE and illum
            - CAS if aval coord with indir fire sp
            - Consider NGS and Avn

            - Assault Group
            - Armr provide asslt and intimate sp tks
            - Inf secure and hold objs
            - Engrs breach obs and provide aid to mob
            - Avn can be used if aval for surprise

            Echelon
            - Possible role as Flank Protection
              Prepare to deploy aggressively to follow up success
            - ATGW and/or tks
            - Hels for obs
            - FOO if available
            - AD if aval

            Reserve
            - For use in the unexpected. Always reconstitute after committal.

PLANNING AND PREP

Int   - Detailed STAP plan incl ptls, OPs, air photos   Plan -   Recce
Msn   - To destroy/capture   -   Cfm approach, FUP, axes and bdrys
Factors - En strs, res and locs   -Prelim op to secure LD if nec
        - Ground   -   Armr lead if poss
          - Approaches and obs   or strong en anti-armr sp
          - FUPS   -   Timings, H Hr
          - Fire sp posns   -   Deception plan, incl feint attacks
        - Friendly Forces: Air, flanks, relative str, NBC, CSS.   indir fire sp
        - Surprise (incl deception plan)   -   Fire sp, indir fire plan
        - Time (length of darkness)   -   Exploitation incl fwd passage of
                                                                    lines if nec
                                                                -   Res
                                                                -   CSS (Log/Med/ES)

CONDUCT   Poor Vis/Ni   -   Gen

Stages of Attack -   Prep   -   Conditions often favour attacker despite TI and ni
                  -    WngO   viewing aids
                  -    Recce down to tp/pl level if poss   Simplicity and surprise key to success
                  -    OGp   Noisy or Silent
                  -    Reorg   Noisy attack makes max use of firepower and shock eff
                       Prep for battle   Silent attack relies on surprise, fire sp only when detected
                  -    Approach   Manoeuvre Plan
                  -    Fire plan cfm   Approach
                  -    Fire Sp Gp move to posn   -   Tfc con poss recce task
                  -    Asslt tps move to FUP   -   Guides in FUP
                                                     -    Layout in FUP
                  -    Attack (to incl break in and fight through) - Asslt
                  -    Frontal, flanking or infiltration -   Clear objs
                  -    Cross LD and attack objs (Break in/ - Use of fixed line SFMG
                       Fight Through)   -   Indir fire
                  -    Engr sp well fwd   STAP
                  -    Second Echelon well fwd
                       Reserve   -   Use of passive devices
                  -    Asslt pioneers   -   Use of active devices must be coord
                  -    Forces to deal with bypassed pockets   Blue Recce Tasking
                  -    Consolidation   All other RISTA assets
                  -    Asslt tps, adopt hasty def
                  -    Prep for en C attack
                  -    Anti-armr wpns deploy to cover en approaches
                  -    Admin, ammo, fuel

                  -    Exploitation
                  -    Maint initiative and momentum
                  -    Use of strong mob res
                  -    Prevent en conducting org wdr pursue or encircle if applicable

COMD AND CON

Con Measures   -   Routes/axis, planning lines, RFL and NFL, FUP, LD, objs, LOE, bdrys
Order   -   If poss delivered personally by BG Comd to ensure clear understanding of op and detailed coord
Loc of Comd   -   BG Comd with Tac HQ move behind fwd asslt tps
Comms   -   Radio silence till H Hr
Asslt Area   -   C Sups and maint essential for op
Asslt   -   Ammo resup, CASEVAC
Reorg   -   C Sups essentials only, CASEVAC, rec of vehs

OFFENSIVE OPERATIONS – QUICK ATTACK AIDE MEMOIRE

EMPLOYMENT CONSIDERATIONS
Concept   Attack with readily aval tps with min prep time to maint momentum to exploit en lack of readiness

Essentials for success - Boldness, surprise, speed
                        - Int
                        - Simplicity   Shock Effect
                        - Drills and Procedures   -   Rapid manoeuvre

Armr   - Fire sp gp
                        - Asst gp
                        - Intimate sp

PLANNING AND PREP
Gen   Prep confined to essentials   Ground Approaches
             Plan to be simple and flexible based on drills   Posns for Flank protection
             En-Str, posn, likely action   Posns for Fire sp
             Obs
             Time and Space   Poss FUPs, dismounting areas
             Init deployment, mov to LD+ obj
             H hr
Warning order   SOCs
             To trigger recce, init movs, Arty and H hr not before time
Orders   SOCs to Cfm   Coord Instrs
             Info on en   H hr
             Msn+ sub unit msns   Adjustments to SOPs
                - FUP   Reorg and Limit of exploitation
                                                      Fireplan

CONDUCT OF THE HASTY ATTACK

One possible solution:

Deployment – Quick mov to FUP or assy area if nec   Fight Through – Tks
Minimum time in assy or FUP to avoid conc   Pri to destroy en tks but HESH and
Direct fire sp intensified at h hr+coord with   MG against inf
indir fire   Close cooperation with dismounted inf
                                                         (tk per pl) to provide fire sp+info on en
Asslt/break in-Conc tks inf in asslt force   Inf
Asslt tks   Coord fire+mov of sects, IFVs+tks to
Lead but stay out of hand held atk range   clear en posns
Either breakthrough posn, envelop   Use of res to maint momentum
         provide flank sp   Reorg   Adjust atk def
         Sp tks   Dig in or disperse on obj
         Generally lead IFVs   Marry up with IFVs
         Provide max suppressive fire   Resup of ammo and PW evac
Inf   Casevac
         Dismount on BG/Coy Comd's orders short,   Adjustment of fire plan
         fwd edge or far side of obj   Exploitation –
                                                         Depends on higher formation plan
                                                         Close recce pushed on to maint
                                                         contact
                                                         Tks prep to continue adv

FUP

ECH/RES

RECCE

LIMIT OF EXPLOITATION

LD

ASSLT TP

ASSLT TPS

INT SP TKS

ASSLT PL

INTIMATE SP TP ASSLT PLS

OBJ

ASSY AREA

ASSLT TP

ASSLT TPS

FIRE SP

COMD AND CON

Comd   Tac well fwd in tk/AIFV
             BG/Coy Comd mainly mounted. Pl comds dismount

Con   Decentralize con to enable quick reaction to changing sits
             Max use of radio (SOCs)
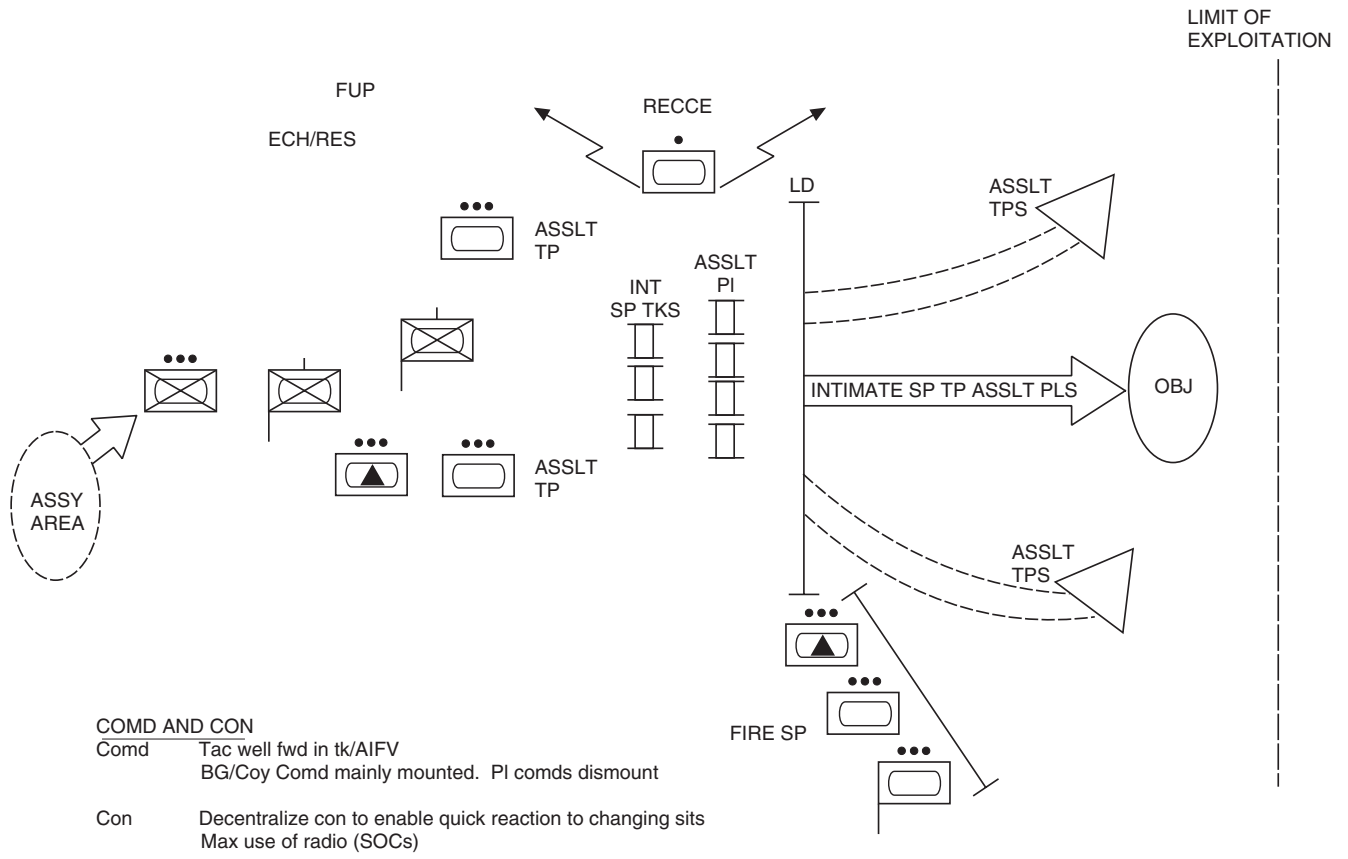
CHAPTER 7 - DEFENSIVE OPERATIONS

SECTION 1 - THE FUNDAMENTALS

Purpose of Defence

1. ***General***. The purpose of defence is to defeat or deter a threat. This creates the circumstances in which the initiative can be regained by offensive action. Although battle group defensive operations can been viewed as attritional the commander must plan, once successful, how the situation can be exploited in order to fulfill the higher commander's intent. To achieve the right conditions for a transition to offensive action, the objectives of a defensive operation should be to:

    a.   Gain time.

    b.   Increase the enemy's vulnerability by forcing him to concentrate his forces.

    c.   Wear down his offensive capability.

    d.   Fix the enemy as a prelude to offensive operations elsewhere.

    e.   Retain key or vital ground.

Principles of Defence

2. ***Offensive Action***. Defence must not drift into a passive acceptance that the enemy holds the initiative. Within boundaries the battlegroup commander picks the place where the fight will occur and prepares the area over which the battle will be fought. Every opportunity must be taken to grasp the initiative and force the attacker to comply with the defensive plan.

3. ***All Round Defence***. An attack from any direction must be anticipated. This requires comprehensive reconnaissance and the preparation of alternative positions.

4. ***Depth***. Major enemy thrusts will inevitably lead to penetrations which could lead to a breakthrough. These must be blocked by positions or striking forces in depth. The wider the front the greater is the need for depth. Positions in depth will surprise and unbalance the attacker, thus providing conditions for mounting offensive counteraction.

5. ***Mutual Support***. Mutual support, where the gaps between positions are covered by fire, increases the strength of any defensive position. There will often be a conflict between the need for depth and the demands of mutual support across the front. Depth is the more important, but gaps between sub-units must be covered at least by surveillance and indirect fire. If gaps are unavoidable, they should be between squadrons and companies: troops or platoons must be mutually supporting.

6. ***Concealment***. The enemy must be denied intelligence about the defensive plan. This offsets the attacker's inherent initiative by forcing him to attack blind into prepared defences. The battlegroup must implement operations security (OPSEC)

measures and conduct aggressive security operations against enemy reconnaissance, throughout the whole area of operations (AO).

7. ***Deception****.* The attacker must be delayed and confused by the defensive layout. The early destruction of his reconnaissance, the use of false fronts, concealment and dummy positions will combine to deceive and surprise.

8. ***Striking forces****.* A striking force must be available to operate offensively against enemy penetration and to exploit opportunities. The size of the force will depend on the concept of operations, but without one the battlegroup commander has no flexibility or means of influencing the battle.

Framework for Defence

9. ***General****.* A battlefield framework helps the battlegroup commander to visualize how he will employ forces in relation to the enemy. The defensive framework consists of two inter-related components:

    a.   *The Area of Interest* - see Glossary for definition.

    b.   *The Area of Operations*.

10. ***Area of Operations (AO)****.*   When deploying his forces within his AO, the commander's aim should be to create as much depth as possible. He should therefore plan to deploy his forces into a *Covering Force Area*, a *Main Defensive Area* and a *Rear Area*. His planning of the battlegroup's Deep, Close and Rear Operations may not coincide exactly with the organization of the AO, but there is a strong conceptual and practical link between them. In defence the three operations may occur simultaneously.

11. ***Covering Force Area (CFA).***

    a.   The CFA extends forward from the Forward Edge of the Battle Area (FEBA). Its lateral boundaries are normally an extension of the Main Defensive Area (MDA).

    b.   *Covering Forces*. Covering forces will be deployed in the CFA and may be given a screen or a guard mission. A screen force's task is to observe, identify and report information on the enemy during his advance to the FEBA. A guard force's primary mission will be to protect the main force to gain time. They do this by delaying, defending and counter-attacking within their capabilities. *If the enemy is close and time is needed to prepare the MDA, then the covering force must be strong enough to impose the necessary delay.* Aggressive reconnaissance is a characteristic of these operations which must maintain contact with the enemy, to provide early, continuous and accurate information to the main defence force. Covering forces may include manoeuvre units such as recce and aviation. Units may use patrol bases as a security technique when restrictive terrain does not allow mobile covering forces to cover the defensive area adequately. This stage of the battle is dependent upon the successful implementation of the STAP and may require the use of formation ISTAR and indirect fire assets.

12.   ***Main Defensive Area (MDA).***

   a.   The MDA extends rearwards from the FEBA and is where the decisive close battle is fought. It is delineated by the FEBA and the boundaries of the AO.

   b.   The battlegroup commander normally deploys the bulk of his combat power (the *Main Defensive Force*) in the MDA. In both *mobile* and *area* defence the majority of the troops initially deployed in the MDA will be static while mobile elements of the force (the striking force and reserves) may be held in the Rear Area ready to deploy into the MDA when required.

13.   ***Rear Area***. The rear areas extend from the rear boundaries of MDA sub-units to the battlegroup's rear boundaries. Echelon and reserve forces are often held in the rear area ready to deploy into the MDA; together with indirect fire support, combat support, and CSS units. Rear operations include security, sustainment, terrain management and the movement and protection of reserves. Rear operations may have little immediate impact on defensive close operations, but they are critical to the battlegroup commander's ability to exploit any situation without delay, thus dictating the tempo of operations.

Types of Defensive Action

14.   ***General***.   There are two types of defensive action, mobile defence and area defence. In both forms of defence the overall plan should make the greatest possible use of manoeuvre and offensive tactics, and every opportunity must be taken to carry out local counter-attacks.   The key difference between the two forms of defence is their purpose. *Mobile defence* focuses on *defeating* the enemy. *Area defence* concentrates on *denying ground* to the enemy. From the estimate process, commanders may decide to use a combination of both in order to defeat the enemy. The other major difference is in the use of reserves. Mobile defence usually retains a small reserve, under the control of the battlegroup commander, to provide flexibility. Area defence generally employs reserves controlled by lower echelons of command. Generally, mobile defence entails a greater degree of risk than an area defence. This is because of the need to resource a *striking force* to the detriment of the *fixing force;* the fluidity of operations; and the likelihood of sub units operating in non-contiguous AO.   However, the payoff from a successful mobile defence is probably higher than that of a successful area defence.

15.   ***Principle of Four***. To apply a manoeuvrist approach to defensive operations the battlegroup commander must apply the Principle of Four when tasking his command. He will require to task troops as follows:

   a.   Fix the enemy.

   b.   Main defensive force.

   c.   Third force to exploit success, becoming the battlegroup commander's main effort.

   d.   Reserve to deal with the unexpected.

Mobile Defence

16.   ***Purpose***. A mobile defence is used to cover broad frontages and/or to manoeuvre against an enemy with greater combat power but less mobility. It may also be used when a unit is defending a large AO without well-defined avenues of approach, such as flat, open terrain. Mobile defence defeats the attacking force by permitting it to advance to a position which exposes it to counter-attack and/or envelopment by a mobile striking force.

17.   ***Conduct***. The minimum force possible is allocated to a *fixing force* to shape the enemy's penetration. The maximum combat power is allocated to the mobile *striking force* which is usually retained under the control of the battlegroup commander. This strikes at the decisive point, simultaneously throughout the depth of the enemy's forces, as the enemy attempts to overcome the fixing force (see Figure 7-1). The striking force therefore requires equivalent or greater mobility than that of the enemy. In addition, the battlegroup commander should retain a small reserve to cope with the unexpected and to provide flexibility.
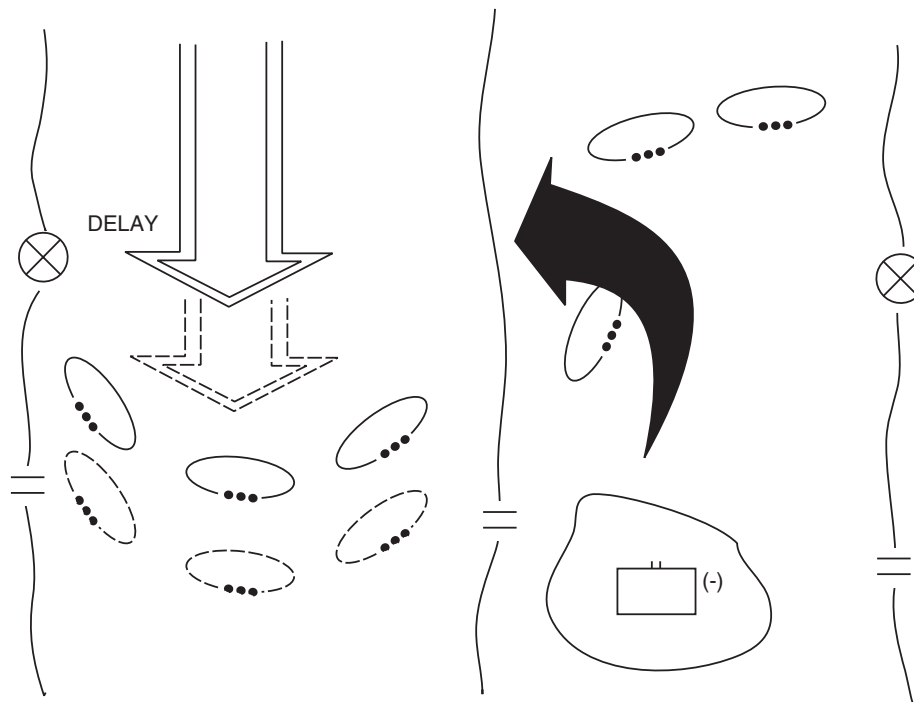
Figure 7-1 Mobile Defence

18.   ***Considerations***. A mobile defence requires considerable depth. Terrain will be traded to divert attention from the friendly main force and to over-extend the enemy, thus diminishing his ability to react to the striking force. A mobile defence offers the defender the opportunity to gain the initiative and exploit an over extended enemy force.

Area Defence

19.   ***Purpose***. Area defence focuses on the denial of terrain to the enemy for a specified time. It does this by absorbing the enemy into a framework of mainly static, mutually

supporting positions, from which he can be destroyed by fire. This is supplemented by an ability to conduct local counter-attacks. Unlike mobile defence, area defence will not necessarily defeat an enemy outright; it requires some other simultaneous or subsequent mission to achieve that end. An area defence can, however, in some circumstances be part of a larger mobile defence.

20. **Conduct**. In area defence, most of the defending force is deployed to retain ground, using a combination of defensive positions, striking force and small reserves. Occasionally the battlegroup commander may direct the construction of a strong-point. The battlegroup commander positions his forces on suitable terrain with a specific orientation and direction of fire. The defence is organized around the static framework provided by the defensive positions, seeking to destroy enemy forces by interlocking fire or by local counter-attack of enemy units penetrating between defensive positions (see Figure 7-2). A third force of up to 1/3rd of the total force may be employed and controlled at lower echelons for counter-attacks, though such manoeuvre within area defence should not be confused with a mobile defence.
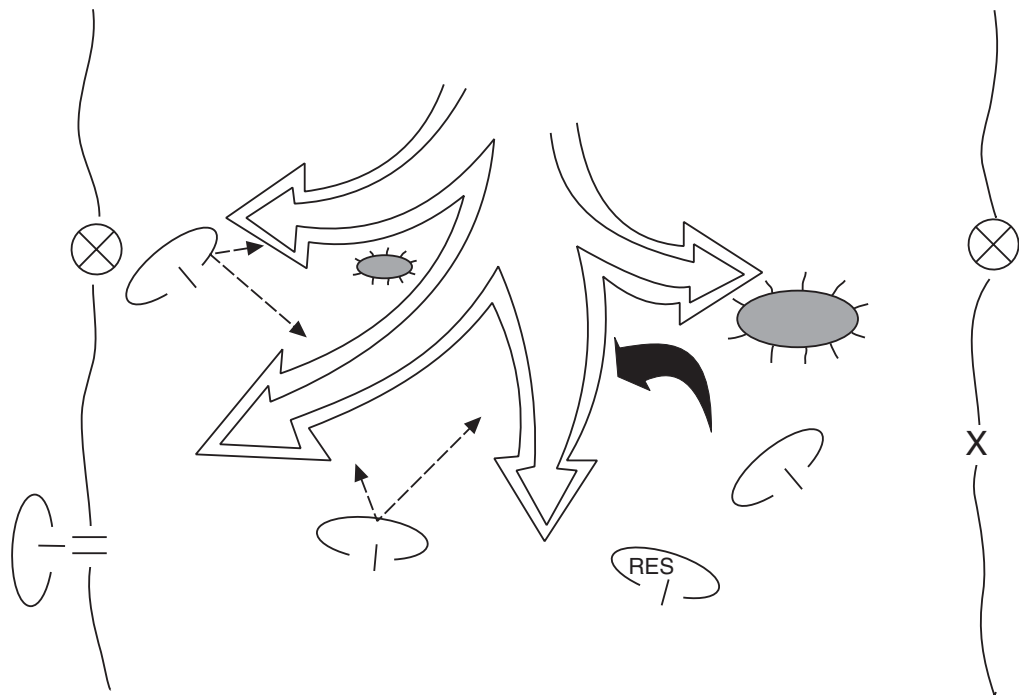
Figure 7-2 Area Defence

21. **Considerations**. A predominantly static defence is normally employed by forces less mobile than the enemy; where the frontages are relatively narrow; when the depth of the AO is limited; and/or when the mission requires retention of terrain. It may also be used when the terrain restricts the enemy's room for manoeuvre and affords natural lines of resistance, or when terrain and relative air superiority limit the freedom of a striking force to a few areas of probable employment. Adequate time is required to organize an area defence. The depth and siting of area defence will depend on the mission, the forces available and the nature of the terrain. For example, where ground cannot be easily surrendered or where enemy forces are weak and disorganized, the battlegroup commander may use a *forward defence* ie

an area defence with little depth. In other circumstances he may use *defence in depth.*

Siting the Defence

22. Although the higher commander in his mission is likely to specify an area or a mobile defence, the battlegroup's specific mission (and its implied tasks) may impose limitations that give the battlegroup commander little choice for siting his forces; eg time, security, or the retention of certain areas. Freedom to site the defence may also be limited by the characteristics of the AO; eg natural obstacles, vegetation, terrain, and the situation of opposing forces. The two broad choices for siting the defence are *forward* and *in depth*.

Forward Defence

23. A battlegroup conducts a forward defence when the ground forward in the AO, including natural obstacles, favours the defending force or when directed by a higher commander to retain forward terrain. The intent of forward defence is to prevent significant enemy penetration into the defensive sector. If the enemy penetrates the main defensive positions then the defender's lack of depth may allow the enemy to rapidly exploit success.

24. A forward defence requires the early commitment of the main defensive effort. This may be through an initial forward deployment of forces, or by spoiling attacks on or in front of the MDA. The majority of the battlegroup combat power deploys into forward defensive positions near the FEBA, which the battlegroup commander fights to retain, violently counter-attacking any enemy penetration (see Figure 7-3).
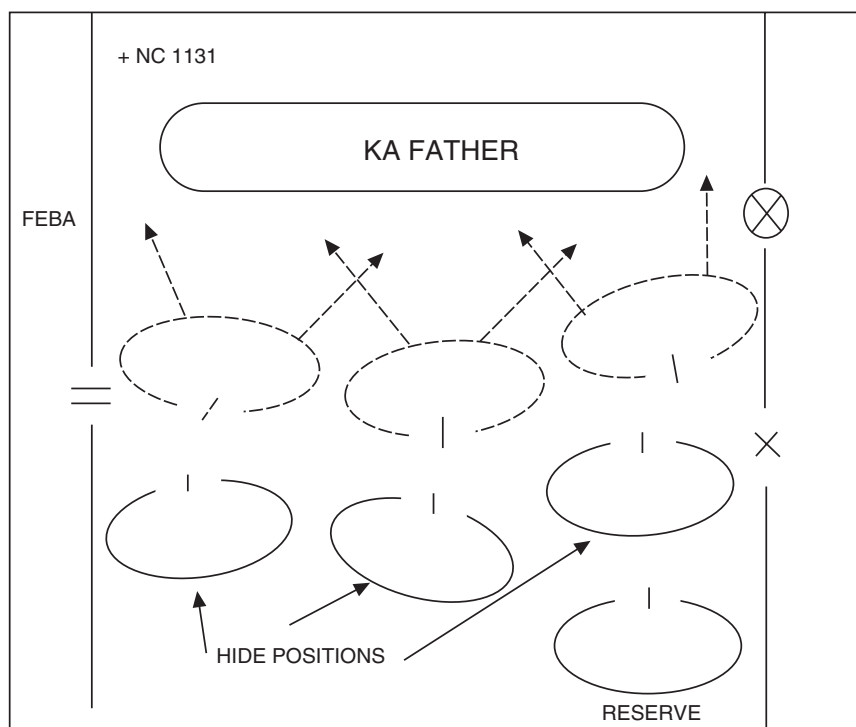

Figure 7-3 Forward Defence

Defence in Depth

25.   Defence in depth may be selected when missions are less restrictive; defensive areas are deep; where the key terrain is deep inside the MDA; or against a strong enemy. Defence in depth reduces the risk of the enemy quickly penetrating the main line of defence and limits his ability to exploit any penetration. Defence in depth is also used to deny lucrative targets to the enemy when he has the ability to employ large quantities of indirect fire.

26.   The battlegroup commander arrays his positions in depth along likely enemy avenues of approach (see Figure 7-4). The degree of dispersal adopted is a function firstly of the enemy's capabilities and secondly of the friendly forces' capability to concentrate combat power rapidly at the decisive point.   Forces defending in depth are better able to absorb the momentum of the enemy's attack by forcing him to attack through mutually supporting positions in depth and repeatedly concentrating the effects of overwhelming combat power against him.   This also provides the battlegroup commander with more reaction time to counter the attack and allows him to gather information about the enemy's intentions, before decisively committing himself to a course of action.
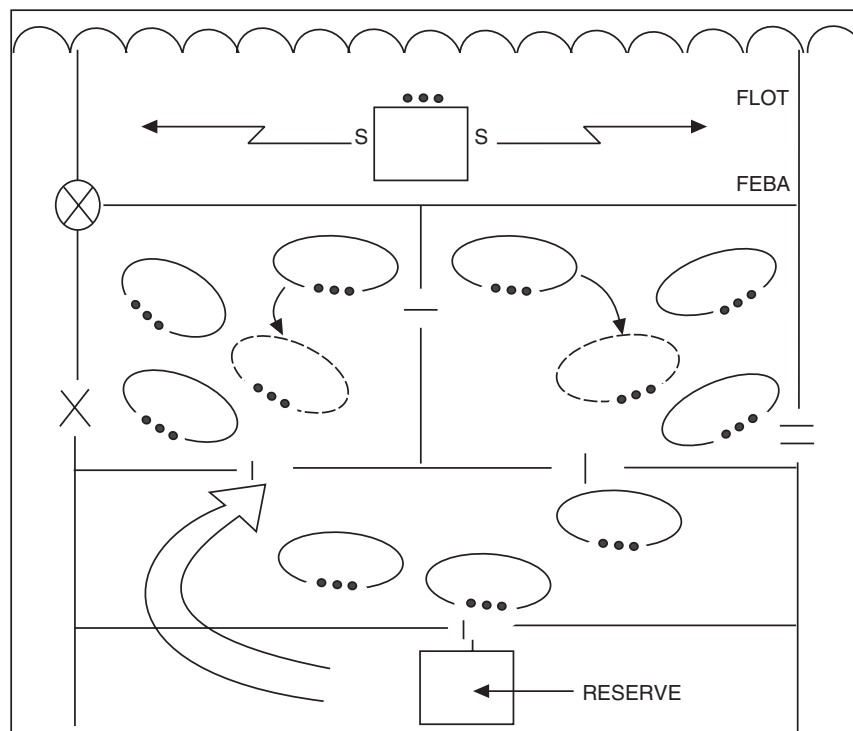

Figure 7-4 Defence in Depth

SECTION 2 - OFFENSIVE ACTION IN DEFENCE

27.   ***General***. The battlegroup commander must be prepared to launch a third force to exploit opportunities by a *spoiling attack* or a *counter-attack* against the enemy. The principles are the same as those described in Chapter 6 except that *time becomes the essence*.

28.   ***Spoiling Attack***. A *spoiling attack* is a tactical manoeuvred employed to seriously impair a hostile attack while the enemy is in the process of forming up. When resources permit, the battlegroup commander may pre-empt an enemy attack through a spoiling attack. Figure 7-5 illustrates a spoiling attack from a defensive position, conducted in a manner similar to a deliberate attack. A spoiling attack is synchronised with other operations and may involve both ground and air manoeuvre elements. *The battlegroup commander should not order a spoiling attack if the loss or degradation of the element conducting it would compromise the subsequent conduct of the defence*.
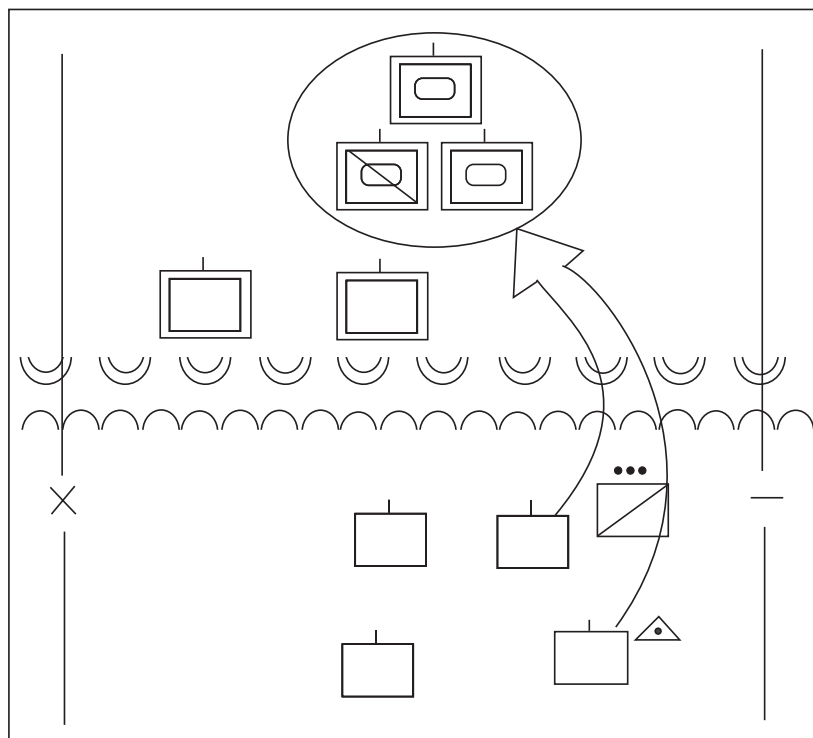
Figure 7-5 Spoiling Attack

29.   ***Counter Attack***. Commanders plan and conduct counter-attacks when the enemy is most vulnerable ie while he is attempting to overcome friendly defensive positions. Counter-attacks seize the initiative by blocking an enemy penetration; restoring the original position; and/or attacking by fire into a killing area to defeat or destroy an enemy force. *Upon commitment the counter-attack becomes the Main Effort.* Normally the battlegroup commander retains this force for a decisive counter-attack once the enemy's main force is committed to the attack. He assigns objectives to counter-attacking forces and, once they have been committed, another force must be constituted. *A battlegroup or sub-unit should not execute a counter-attack unless it has a reasonable chance of success*. In all counter attacks speed is vital.

a.   *Local Counter-attacks.* In the face of strong enemy penetrations, local forces typically hold the shoulders and block further penetration while the battlegroup counter-attacks. This prevents the sacrifice of depth in the position and piecemeal attacks by local forces. When it fits within the battlegroup commander's intent, the sub unit commander may attempt local counter-attacks with the forces on hand. They may or may not be planned and will require sufficient fire support to suppress the enemy. In either case the conduct is swift and violent, exploiting the enemy's temporary confusion and disorganization, which are inherent after seizing a position.

b.   *Major Counter-attacks.* Major counter-attacks are normally planned and controlled by the battlegroup commander to defeat the enemy's attack and regain the initiative. They are conducted as deliberate attacks and may be decisive when they strike the enemy from an unexpected direction. The counter-attacking force therefore, should be involved in the development of plans to exploit potential successes. Defending forces not currently engaged by the enemy may also be employed in a major counter-attack. As depicted in Figure 7-6, the force should be given counter-attack missions to plan and rehearse. If, however, the commander's defensive scheme hinges on the counter-attack, then the counter-attack force is committed from the start of the operation and another force must be provided to exploit success.
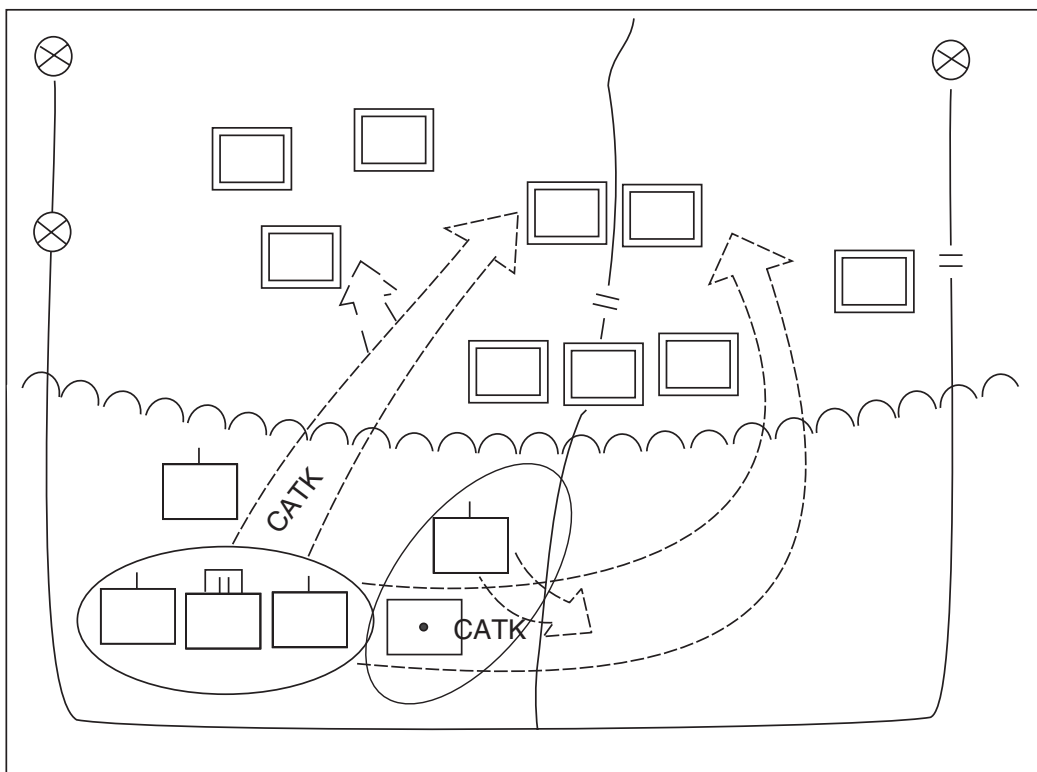

Figure 7-6 Major Counter Attacks

SECTION 3 - PLANNING THE DEFENCE

Transition into the Defence

30.	A battlegroup will normally make the transition to defence from an assembly area or upon completion of offensive operations. In an assembly area the battlegroup commander issues a warning order that states the mission and identifies any special considerations. The staff conduct detailed planning while the rest of the battlegroup completes all sustainment operations. When feasible, the staff co-ordinates the pre-positioning of ammunition and barrier material in a secure area near the defensive positions.

31.	When an attacking battlegroup ceases its attack and has to defend, it has two basic options.

    a.	To commit forces forward to claim enough ground for a Covering Force Area (CFA), which is deeper than the range of most direct fire systems. However, this will often lack depth and, additionally, the enemy force will probably accurately template the friendly FEBA and engage with artillery and other fire support systems. This often results in the loss of friendly personnel and equipment.

    b.	To fall back to defensible terrain to establish a CFA.

    In both options, the FLOT is the forward edge of the CFA. The FEBA is the forward edge of the Main Defensive Area.

Planning Process

32.	Using static (fixing) and dynamic (striking) elements working together, the defending force plans to lure the advancing enemy into KAs where it can be destroyed selectively. The IPB and Estimate Process play key roles in the decision making process, in particular:

    a.	*Enemy.*

        (1)	Because of the reactive nature of defence, timely intelligence is particularly important to determine the enemy's probable strength, composition, direction, and time of attack. With a geographically distant enemy, the battlegroup relies primarily on technical means and formation assets. As the enemy force approaches, aggressive reconnaissance by both ground and air is essential.

        (2)	Enemy doctrine, equipment, and capability must be known. Only then can the commander anticipate the enemy's probable courses of action. A defending commander must look at his AO through the enemy commander's eyes. He must look for vulnerabilities that the enemy may exploit and act to counter them. He should also identify probable enemy objectives and approaches to them. Against an echeloned enemy, he must know how soon follow-on forces can join the attack, because if these can be delayed, the attack may be defeated in detail.

If the defender can force the enemy to commit his follow-on forces sooner than planned, the attacker's timetable can be upset, creating exploitable gaps between the committed and uncommitted forces. The commander will issue his critical information requirement directing the focus of staffwork on the enemy.

(3)   The enemy will view reconnaissance as critical. Mounted and dismounted reconnaissance elements will attempt to infiltrate the defender's AO to locate defensive positions, obstacles, reserves forces, and high pay-off targets.

(4)   The potential enemy use of mass destruction weapons should be considered. The need to retain mass should be set against dispersing adequately avoid the creation of lucrative targets.

b.   *Ground*. Any aspect of the terrain that impairs enemy momentum or makes it difficult for him to mass or manoeuvre must be exploited. The battlegroup will engage the attacker at points where the terrain puts the attacker at the greatest disadvantage. Controlling key terrain is vital to a successful defence, and some may be so significant that its loss would prove decisive. Weather and visibility also affect the way a defender organises the ground. All of this must be analysed in order to slow or canalize enemy movement, and protect friendly positions and manoeuvre.

33.   Time will normally be limited, therefore good battle procedures, based on well practised SOPs are necessary. Preliminary orders should be kept to a minimum to allow preparation to begin as soon as possible. An early warning order, and anticipation by commanders at all levels, will allow for concurrent reconnaissance, orders and movement. Once these have started, co-ordination must take place with final details being given in confirmatory orders.

Command and Control

34.   ***General***. Battlegroup headquarters should be sited in a secure position offering good communications. It will thus be able to concentrate, with the least chance of interruption, on the detailed staff work and co-ordination needed to fight the battle. The battlegroup commander should, as usual, use his tactical headquarters to maintain radio communications, while moving about his area, visiting sub-units, assessing events for himself and directing critical actions. It will be unusual for the commander to conduct operations from Main.

35.   ***Synchronisation***. The battlegroup commander has a varied selection of weapons to combat the enemy threat. To use them to the best advantage they must be correctly sited and co-ordinated (see also Combined Arms Obstacle Integration at Annex A). The Synchronisation matrix discussed in AFM Vol1 Part 8 comes into its own within the planned defensive battle.

a.   *In Range*. Targets can either be engaged by the longest range weapon as far out as possible and then by the shorter range weapons as targets close, or by all the long range weapon systems opening fire simultaneously; the course adopted depends on conditions and circumstances.

b. *In Areas of Responsibility.* This is best achieved by using range cards and by dividing the area of responsibility between weapons with clearly defined boundaries or arcs, which must overlap.

c. *By Fire Orders.* Every weapon crew must know when to open fire. This can be done by controlling fire at least at troop and platoon level, but a fallback system will be essential in case radio contact is lost.

The Manoeuvre Plan

36. When the MDA is too large to permit the maximum application of all defensive fundamentals, the battlegroup commander must determine which fundamentals can be sacrificed with the least detriment to the mission. For example, if conditions dictate that a strong reserve must be retained to achieve flexibility, the distance between tactical positions might need to be increased or the combat power of each position might need to be reduced. Conversely, increasing the degree of mutual support between defensive positions may be done either at the expense of the reserve force's combat power or the ground covered.

37. The inability to carry out simultaneously all desirable direct fire and ground tasks will create a number of requirements for mobile striking forces and reserves. These may include:

    a. Mobile Striking Forces.

        (1) Counter-attack tasks.

        (2) Spoiling attack.

    b. Reserves.

        (1) The occupation of alternative fire positions.

        (2) The occupation of blocking positions in depth.

38. Routes must be selected and a time and space assessment made for each possible task. This must take account not only of the time required for reaction, movement and executing the task, but also of the time when the information leading to the order to deploy is likely to be available. If the latter is too late, surveillance resources may have to be re-deployed to give earlier warning or reserves brought to shorter notice or moved closer. Battlegroup headquarters must note the response time by day and night for each task to ensure that, when battle is joined, notices to move are reduced and deployment orders given in good time.

39. The plan must also provide for any route improvement or maintenance, and for the covering fire and air defence needed to ensure that deployment is not impeded. Finally, reconnaissance of both routes and tasks, by day and night, must be conducted down to tank/section commander level.

Siting the Defence

40.   Defended positions should be regarded as firm bases from which the local area is dominated by aggressive direct fire. Such positions provide pivots for mobile forces operating between them. They should be sited on reverse slopes or places offering cover from direct enemy observation and fire, and should, whenever possible, be mutually supporting. Positions which are obvious features, easily identifiable and easy to engage, should be avoided eg forward edges of woods and isolated villages.

41.   ***Areas of Operations (AO).***

   a.   Normally, the battlegroup commander allocates AOs to specify tactical responsibility to his subordinate commanders; this is the least restrictive type of defence. It allows the commander complete freedom to manoeuvre within his boundaries while preventing enemy penetration of the rear boundary. Battlegroups normally employ this method when there are no well-defined avenues of approach into the AO.

   b.   Allocating AOs allows the battlegroup commander to distribute forces to suit the area and plan an engagement that integrates direct and indirect fires. When assigning them, the commander must ensure that subordinate unit defensive plans are compatible and that control measures, such as co-ordination points and report lines, are sufficient for flank co-ordination.
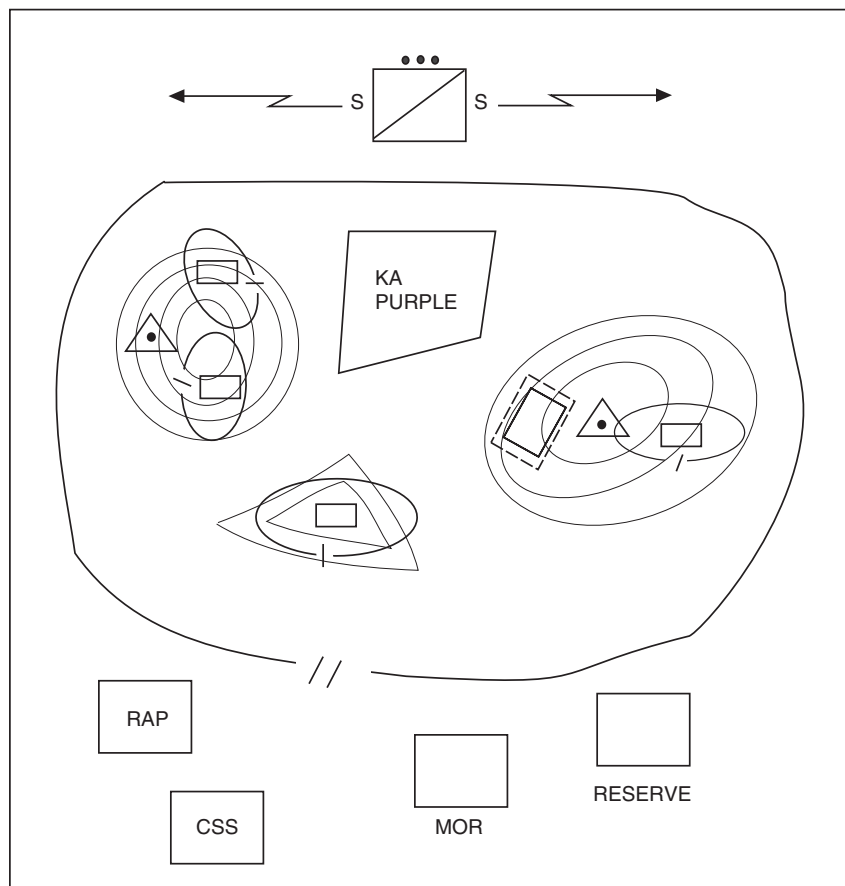

Figure 7-7 Primary Positions

42.   ***Primary Positions***. A primary position is a defensive location oriented on likely enemy avenues of approach. Commanders normally employ this method when there are well-defined avenues of approach; they may be used by elements as small as sections. An element assigned a battle position locates the bulk of its combat power within the general outline of the position. Security, CS, and CSS forces may operate outside the battle position (see Figure 7-7).

43.   ***Alternate Positions***. Alternate positions provide additional lines of sight into the same killing area similar to that of the primary position. They increase the survivability of a weapons system by enabling it to engage the enemy in one engagement area from multiple positions. A weapons system may fire one or two rounds from each position before moving to the next position to complicate enemy target acquisition. Alternate and secondary positions should be designated and prepared as time permits.

44.   ***Secondary Positions***. Secondary positions provide the means to accomplish a task that cannot be accomplished from the primary or alternate positions. They allow a unit or weapons system to engage enemy forces approaching from another direction, such as the rear or the flank.
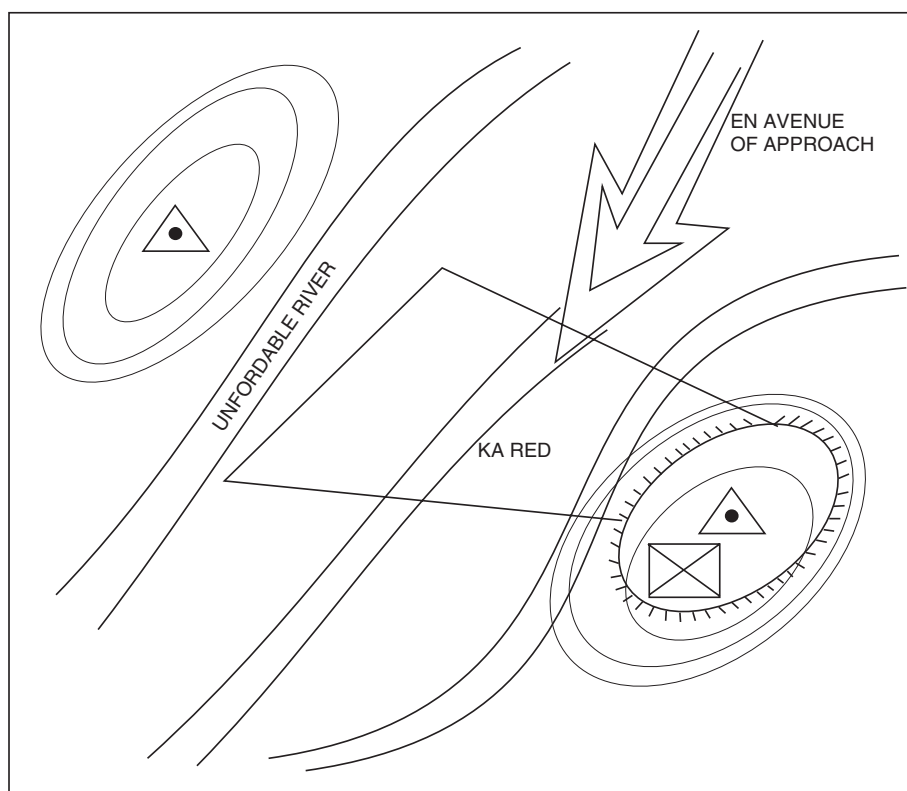
Figure 7-8 Strongpoint

45.   ***Strong-point***. As shown in Figure 7-8, a strong-point is a heavily fortified battle position, tied to a natural or reinforcing obstacle, to create an anchor for the defence or to block a key piece of restricted terrain. A typical strong-point will be located on terrain critical to the defence or on a feature that must be denied to the enemy and can be used to fix the attacker. The battlegroup commander will also establish a strong-point when he anticipates that enemy actions will isolate a defending force retaining terrain critical to the defence. Before assigning a strong-point mission, the

battlegroup commander must ensure that the strong-point force has sufficient time and resources to construct the position. Construction of a strong-point requires significant engineer support. A minimally effective strong-point typically requires one day's effort from an engineer unit of comparable size to the strong-point unit. Positions are prepared for all weapons systems, vehicles, soldiers, and supplies. Positions are also prepared for all-round defence when the commander can anticipate the strong-point being surrounded. Strong-points are often used in specific environments such as Urban Operations.

Employment of Echelon Forces and Reserves

46.   ***Tasks***. The battlegroup commander must earmark striking forces to preserve his flexibility. Their primary purpose is to give the commander an offensive capability to seize the initiative from the enemy at a decisive moment, and to reinforce success. They are likely to be employed in one or more of the following tasks:

      a.   Echelon Forces.

            (1)   Counter-attack.

            (2)   Spoiling attack.

      b.   Reserves.

            (1)   Reinforcement.

            (2)   Blocking.

47.   ***Commitment***. The echelon force should be committed in mass for decisive action; not used in piecemeal manner. Once committed, a new force should be formed. The decision on how and when a force is to be committed is one of the most important a commander must make. Notice to move times are the key to the successful use of echelon force which should be located where they are best able to react quickly when they are required. Routes will need to be planned and prepared to cover likely deployment options. The battlegroup commander will use pre-planned decision points to help trigger timely decisions on the commitment of his reserves. These will need to be updated on the IPB as the battle progresses and the enemy's intentions become more apparent. When it is committed, the striking forces action will become the battlegroup's main effort. If, in the course of the battle, cohesion of the defence cannot be maintained, the next higher commander may assign additional reinforcing, blocking or counter-attack forces from his own resources.

48.   ***Protection***. *Echelon forces and* reserves will be a priority target for the enemy and their protection will be vital to a successful committal. Where the threat from the air is particularly high, there will be a requirement for air defence assets to be assigned for their security.

The Screen/Guard

49.   The co-ordination of a battlegroup screen/guard, is important and the following must be planned in detail:

a.   Liaison with forces withdrawing through the screen/guard; this may be by provision of an LO from the withdrawing force at the screen/guard headquarters.

b.   Routes back for the covering force and the brigade and battlegroup screen/guards.

50.   Arrangements have be made for the withdrawal of the battlegroup screen/guard as follows:

a.   Co-ordination with the screen/guards of flanking units.

b.   Keeping open routes back, minefield gaps and reserved demolitions and their subsequent closure.

c.   The location of a hand-over line from which the screen/guard withdraws at best speed to avoid a running fight. Ideally the handover line should be within sight of the main defensive position so that supporting fire can be directed accurately.

Surprise and Deception Plan

51.   Passive measures to achieve surprise in defence are essential, if only to avoid the full effect of enemy artillery and air power. Such passive measures should include:

a.   Minimum use of radio (preferably the imposition of radio silence and other emission control measures) and maximum use of line.

b.   Close control of reconnaissance, movement and defensive work.

c.   Avoiding the obvious, particularly the front edges of villages and woods.

d.   Seeking reverse slope and defiladed positions.

e.   Careful camouflage and concealment of all vehicles, troops, positions and stores, particularly against TI.

52.   A deception plan should always be considered; its success will demand:

a.   The central co-ordination of deception measures by formation and battlegroup headquarters to ensure that they complement rather than contradict each other and the real plan. A badly concealed sub-unit position can negate the effect of an adjacent dummy position.

b.   A clear decision on the effects required, which may include:

(1)   Drawing enemy fire onto unoccupied areas or dummy positions.

(2)   Reinforcing the effect of real defences and obstacles in canalizing enemy movement.

(3)   Encouraging the enemy to waste time and ammunition and to expose himself needlessly by attacking dummy positions.

(4)   The simulation of a credible alternative to part or all of the real defensive plan, for example by creating a false front, which will encourage the enemy to react as required.

Control Measures

53.   The defensive plan will include initial and on call control measures. These measures provide the flexibility needed to respond to changes in the situation and allow the battlegroup commander to concentrate combat power rapidly at the decisive point. These means include:

a.   Report Lines (RL).

b.   Hand-over Lines.

c.   Killing Areas (KAs).

d.   Boundaries.

e.   FEBA.

f.   Co-ordinating Points.

g.   Contact Points.

h.   FLOT.

i.   Minimum Safety Distances.

j.   Airspace Control.

k.   Decision Lines.

l.   Assembly Areas.

m.   Obstacle Control Measures (Zones, Belts Groups)

n.   Target Reference Points (TRPs).

o.   Decision Points.

p.   Controlled Routes/Reserve Demolitions

q.   Disengagement Lines.

r.   FSCM

The Obstacle Plan

54. Details of Combined Arms Obstacle Integration (CAOI) can be found in Annex A. Both mobile and area defence relies on the skilful integration of natural and artificial obstacles into the design for battle, along side direct and indirect fires and manoeuvre to ensure the desired effect on the enemy. The principles to be observed are:

   a. The use of obstacles must be fully integrated into the overall battlegroup design for battle.

   b. All obstacles must be covered by observation and indirect fire. If possible they should also be covered by direct fire.

   c. Artificial obstacles should be sited to complement and take advantage of natural obstacles where ever possible.

   d. Artificial obstacles must not unduly hinder the mobility of the defence's own forces.

55. The principal forms of artificial obstacle are:

   a. Constructed obstacles such as ditches and wire.

   b. Minefields, (tactical, protective, nuisance and phoney). As a result of international convention the use of mines is restricted. Individual soldiers and commanders at all levels may be found criminally guilty if they wilfully ignore these rules. The use of landmines following the UK Landmine Act 1998 is described in Annex B.

   c. Demolitions, and route and area denial measures. These may include the destruction of bridges and buildings, tree felling, cratering and flooding. The system for the control of demolitions is described in Annex C.

The Surveillance and Target Acquisition Plan (STAP)

56. A comprehensive surveillance network is required across the full breadth and depth of the battlegroup AO. It must be effective in all light and weather conditions, backed up by reliable communications. This guards the battlegroup against surprise and allows economy of effort in low risk areas, by providing information for the timely deployment of reserves.

57. The formal surveillance elements available to the battlegroup will never be sufficient for the task and the STAP must be augmented by:

   a. Giving specific secondary surveillance tasks to all elements of the battlegroup, including echelons and headquarters.

   b. Whenever possible, using troops not under command but operating within the battlegroup area, eg field artillery and Rapier (but special communications arrangements may be necessary).

c.   Preparing a programme of reconnaissance and standing patrols to cover any remaining gaps, and to give early warning of enemy manoeuvre.

d.   Making full use of formation and neighbouring units' surveillance resources both forward and to the flank; but surveillance across boundaries must be co-ordinated.

Maximum use should be made of surveillance equipment - optical, TI, II and radar. It should be remembered, that TI is a good target acquisition system but has limited surveillance capability. Commanders should avoid using TI simply as an OP system. Better target acquisition and surveillance capability is afforded by the Man-portable Surveillance and Target Acquisition Radar (MSTAR). MSTAR is generally allocated at 1 per FOO party and provides all weather, day and night surveillance/target acquisition out to 30 km, over 6400 mils and with a scanning arc of 2000 mils. The system differentiates between tracked and wheeled vehicles and foot borne targets, although confirmed identification of targets is generally recommended by assets such as reconnaissance or STA patrols before engagements occur.   In effect MSTAR is an excellent although active cueing devise.

58.   Surveillance tasks should allow for the provision of adequate relief rosta and for a reconnaissance reserve which can both react to the unexpected and operate in conjunction with the main battlegroup reserve.

59.   Command and Control may be exercised:

a.   The FPC has the C2 expertise (BC and FPC SSgt) to co-ordinate the STAP. In infantry units this can be jointly done with the OC manouevre support company.

b.   With individual elements operating under direct battlegroup command. This gives the battlegroup commander the quickest access to information but may overload battlegroup communications and hinder co-operation between surveillance posts and the sub-units in whose areas they are operating.

c.   By establishing a special recce group, normally based on the reconnaissance platoon. This will reduce the load on communications but may impede the passage of information to battlegroup and sub-unit commanders.   It is, nevertheless, appropriate for a screen or guard.

d.   Placing surveillance resources under sub-unit command.   This eases communication and co-ordination between sub-units and adjacent surveillance posts, but may delay the passage of information to the battlegroup commander unless, for example, he monitors the appropriate forward net.

The preferred solution will depend on which commander is able to react most effectively to the information received.

The Anti-Armour Plan

60.   *General*. If the main threat to the battlegroup is from numerically superior enemy armoured forces, then the success of the defence will depend fundamentally on the deployment, co-ordination and control of the battlegroup's anti-armour weapon systems. The anti-armour plan must be sited by the anti-tank platoon commander and confirmed by him on the ground with sub unit commanders.

61.   *Siting of Anti-Armour Weapons*. Enhancements to the protection of enemy armour, particularly tanks, are concentrated on the front of the vehicles. Commanders must therefore ensure that anti-armour weapons are sited in defilade whenever possible, and that arcs of fire and weapon control orders are clearly defined. The careful positioning of minefields and other obstacles also increase the chances of successful defilade fire.

62.   *Allocation of Tasks*.

    a.   Tank guns are the most effective anti-armour weapon, and are also the key element in counter-attacks. They have a faster rate of fire and shorter engagement time than missiles. Tanks should be used primarily as the basis of the reserve or counter-attack force but whenever necessary, some should be deployed to cover the most likely approaches for enemy armour. *Such deployments should not be planned in less than troop strength*. Where possible, tank fire positions should be sighted to cover natural or artificial obstacles.

    b.   ATGW are generally limited by a slow rate of fire, time of flight, and the arming and minimum engagement distances. Firing posts are normally sighted in defilade positions, firing into relatively open areas or across minefields, to take maximum advantage of the missiles range and to allow tracking. They may also be used to snipe at enemy reconnaissance or advance guard elements from guard, false front or alternative positions. Positions may also be sighted within tactical minefields so that attrition of enemy armour can begin early. Firing posts should be deployed in at least detachment, and preferably section, strength in order to maximise their effectiveness.

    c.   AIFV are deployed to engage with 30 mm cannon and chain gun fire, but the need to keep them accessible to their dismounted sections must be considered. Both vehicles and their dismounted elements will usually be given a common sub-unit mission. AIFV should be deployed to destroy light enemy AFVs, both from defensive positions and by counter-attack. The plan should take full account of the greater range, manoeuvrability and night fighting advantage of Warrior over enemy systems.

    d.   LAW can be sighted to cover gaps in restricted terrain to increase the total anti-armour firepower available. Equally it can be used both offensively and defensively by any soldier to destroy enemy armoured vehicles or tanks. Some LAW must be sited to protect ATGW and cover their minimum range.

e.   Obstacles help to channel the enemy and reduce the momentum of his attack. In addition they frequently cause his infantry to dismount and become separated from his armour. Minefields are a key element of the anti-armour plan and will kill enemy tanks.

f.   Armed/attack helicopters and CAS are invaluable for mobile anti-tank and counter penetration tasks against massed armour, but will normally be retained under formation command. They cannot provide instant response, therefore it is essential that timely requests are made, based on the predicted progress of the enemy. Suitable engagement/KA (based on TAIs) should be found forward in the Covering Force Area, in the Main Defence Area (MDA) and in depth. If approved by formation headquarters, these will be given target numbers.

63.   ***Fire Control and Discipline***. The cardinal rule is that orders on where and when to open fire and what to engage must be simple, or confusion will ensue:

a.   *Where to Fire*. There is no substitute for the range card or template. This must be carefully made out with arcs and areas of responsibility conforming to the battlegroup and sub-unit plans. Each weapon system must know precisely within which area it can fire. These areas should overlap, particularly where the ground is broken or visibility is difficult, to avoid any area being left uncovered. Range cards, showing prominent land marks with ranges, must be related to ground and not to the map. Arcs and areas of responsibility should be confirmed, on the ground, between neighbouring troops and sub-units.

b.   *When to Fire*. The control of fire is vital, both to avoid jeopardizing security and to cause the maximum impact on the enemy. As a general rule the higher the control, the greater will be the potential for co-ordinated shock effect; particularly in the case of anti-armour weapons opening fire together. The ground, however, may prevent centralized control, and delegation will always be necessary as the battle develops*. Responsibility for the order to open fire must be clearly defined and should focus on the effect.* Ranges at which fire can be opened must be marked on range cards so that junior commanders can then act independently.

c.   *What to Fire*. Battlegroups must develop and issue plans which integrate artillery, direct fire weapons and mines. This includes decisions on obscuration, overlapping arcs, numbers of enemy to be engaged, the degree of penetration to be accepted and the priority of target engagement. The ability to fire these integrated resources must be supported, where possible, by a fallback system should radio communications fail eg a pre-planned and timed programme for opening fire.

d.   *What to Engage*. Once the order to fire has been given, weapon systems should engage all enemy within their arc of responsibility according to the priorities laid down by commanders. As an example, ATGW could be ordered to engage command vehicles, anti-aircraft vehicles, plough tanks and those battle tanks moving with them. Tanks could concentrate on the main tank force, but APCs may become priority targets if the enemy is attempting to

deploy his infantry rather than his tanks for a particular operation. Such selection orders, however, can only apply in the early stages of the battle. Later, the intensity of operations, target obscuration and the immediate presence of the enemy will preclude all but opportunity engagements.

The Indirect Fire Plan

64. *General*. A considerable weight of indirect fire will normally be available, usually including, when a worthwhile target is presented, all artillery in range. The indirect fire plan should set the conditions for the close battle and complement direct anti-armour fire by forcing the enemy to close down, thus slowing and confusing his manoeuvre. Artillery and mortars should strike him where his vehicles are concentrated in bottlenecks, defiles or FUPs; where his infantry is likely to be dismounted. The obstacle, direct fire and ground holding plans should deliberately create suitable targets for artillery and mortars.

65. *Framework*. The main framework of the fire plan stems directly from the IPB and the battlegroup commander's estimate. Additional targets will be identified by sub-unit commanders during their planning. The resultant list of targets consolidated by the BC, and guided by the battlegroup commander, should:

    a.   Co-ordinate sub-unit requests to avoid duplication and gaps.

    b.   Ensure that the indirect and direct fire plans do not conflict, for example by obscuring direct fire targets or diverting enemy movement from intended KA. It is the BCs responsibility in conjunction with the Commanding Officer's intent to ensure synchronisation of all weapon types is achieved. This is usually done by way of a matrix and by giving fire control orders to observers.

    c.   Allocate artillery and mortar targets which suit their respective characteristics.

        (1)   *Artillery.* 8 -12 Defensive Fire targets (DFs) should be chosen with an FPF normally sighted to cover the final approaches which present the greatest threat to the brigade plan. The battlegroup may also be allocated a Priority DF. This will normally be sighted by the battlegroup commander, from the IPB and DSO, at the point where he first wants to engage the enemy. It must be observed.

        (2)   *Mortars.* 10–20 DFs should be chosen. The battlegroup commander will decide where the FPF is to be positioned. Mortars should cover DFs at a safe splinter distance forward of own troops.

    d.   Circulate pre-planned target lists throughout the battlegroup. To ensure quick response from both artillery and mortars, it is essential that all commanders down to troop/platoon level are informed of all pre-planned targets within the battlegroup area. They should identify on the ground, and mark on range cards, all pre-planned targets within the fields of view of their primary and alternative positions.

    e.   Submit DF or target lists which have been established as a direct result of the IPB and DSO for approval by brigade and divisional headquarters. This may

result in a slight adjustment of some DFs in order that more guns may engage them.

Care should be taken to co-ordinate the fire plan with adjacent battlegroups and not to ignore potential targets in the area of battlegroup boundaries.

SECTION 4 - CONDUCT OF THE DEFENCE

Preparatory Work

66.   *General*. The defence can be divided into a number of stages which in practice may not be clearly defined. These stages are:

a.   Preparatory.

b.   Covering Force Action.

c.   Battle Handover.

d.   Main Defensive Battle.

67.   *Concurrent Preparation*. During this stage the battlegroup commander begins the process of conditioning the attacker whilst using all the time available to prepare the defence. Preparations should take place concurrently at all levels and include:

a.   Reconnaissance and counter-reconnaissance within the battlegroup's AO.

b.   Production of intelligence to identify the time that the enemy will attack and the location of his main effort.

c.   Planning and shaping the battlefield through use of the terrain and man-made obstacles.

d.   Planning the co-ordination of direct and indirect fire support.

e.   Deciding the employment of air defence; attrition or defence.

f.   Establishing liaison between flanking units.

g.   Continuous refinement of the defensive plan by war-gaming, if time permits.

h.   Rehearsals of all activities such as battle hand-over and striking force counter-attacks, if time permits.

68.   *Counter-reconnaissance*.   Plans should be made for the early destruction or neutralization of enemy ground reconnaissance in all sectors of the battlefield, without prematurely disclosing key elements of the defensive plan. This is common to all phases of the defence. It maintains the security of reserves, achieves surprise in offensive action, and protects depth attack weapons and command and logistic infrastructures. Measures that can be taken to seek out and neutralize or destroy enemy reconnaissance include:

a. Using the covering force as early as possible so that the MDA positions are not disclosed. This requires the co-ordination of Surveillance and Target Acquisition systems with anti-armour weapons.

b. Indirect fire can be effective but is more likely to be committed to larger and higher priority targets.

c. Aviation might be considered, although targets are likely to be dispersed and exposed only for short periods.

d. Good camouflage and an effective deception plan (such as false fronts, dummy positions etc) are important once enemy reconnaissance has penetrated the guard. The enemy should be engaged within a framework of patrols and ambushes, forward of and between MDA positions.

e. Special care should be taken to protect reserves. Camouflage and deception measures should be employed routinely, but critical reserves may also need forces assigned to them specifically for protection against enemy reconnaissance.

f. In the rear areas an aggressive patrol programme should be employed.

69. *Defence against Armour*. The main enemy ground threat is normally from armour, therefore, planning the anti-armour defence will be the first consideration when preparing a defensive plan. Early destruction of enemy tanks is the key to success. All anti-armour weapons must be co-ordinated by the battlegroup commander, to destroy enemy armour by day and by night. The following points apply when siting anti-armour defences:

a. They should be concentrated on likely approaches, although no area should be disregarded.

b. Early detection of the enemy is essential to allow for timely employment.

c. Effective siting of barriers will hinder movement and canalize enemy armour into the co-ordinated fire of anti-tank weapons, mines, tanks, artillery, aviation and air assets.

d. The ability to separate the tanks from the accompanying enemy infantry is a prime consideration eg by ordering ATGW to engage enemy IFV at maximum range, forcing the infantry to debus. ATGW may fire head-on if necessary from temporary fire positions.

e. Armoured forces will be given the primary task of blocking or counter-attacking enemy penetrations.

f. Anti-armour weapons must be located in depth as well as forward, to counter any penetration of the forward positions.

g. Attack or armed helicopters are often the most quickly deployed means of countering tank attacks.

70. ***Operations in Depth***.

    a.   If the enemy can freely deploy his supporting echelons, he may mass sufficient combat power to achieve overwhelming superiority at the point of contact and thus overcome the most determined defence. Enemy echelons not yet in contact, and uncommitted forces, should be monitored throughout the battlegroup's Area of Interest, and engaged throughout the depth of his Area of Influence. *This may require the use of formation ISTAR and deep fire assets.*

    b.   Deep operations may be initiated during the preparation of MDA positions. They should be conducted simultaneously with close and rear operations to generate a high tempo, to prevent or delay enemy deployment, and to create the conditions in which to fight the close battle. In *area defence*, deep operations typically attempt to disrupt the enemy's movement and ability to mass for the attack, and to channel him into chosen KAs. *There may well be overlap with covering force operations, therefore the commander should give clear direction about priorities; particularly for combat support and combat service support.*

71. ***Preparation for Area Defence***.

    a.   *Organization.* An Area Defence Aide Memoire is at Annex D.

    b.   *Occupation.* The battlegroup occupies its defensive positions as soon as practical after receiving the mission. It conducts reconnaissance of the defensive area and establishes a forward security area before the occupation of the main defensive position. The battlegroup may pre-position supplies such as ammunition and obstacle material once it establishes security. Many defensive tasks can be accomplished simultaneously; however, priorities are usually:

        (1)   Establish local security and deploy a screen/guard.

        (2)   Designate and clear fields of fire.

        (3)   Co-ordinate fire control measures such as Final Protective Fire (FPFs), Target Reference Points (TRPs), and KAs.

        (4)   Identify planned KAs, TRPs, trigger lines, and planning lines on the ground.

        (5)   Prepare primary fighting positions for the anticipated fighting conditions eg day, night and poor visibility. Concurrently, units conceal and camouflage positions as they are constructed.

        (6)   Prepare alternate fighting positions.

        (7)   Designate secondary positions.

        (8)   Designate hide positions.

(9)   Construct obstacles.

(10)   Establish co-ordinating and/or contact points with any adjacent units.

(11)   Position wire for communications between sub-elements.

(12)   Pre-stock ammunition in revetments or bunkers where it can survive the enemy's preparatory fire.

(13)   Rehearse movements.

(14)   Continue to improve the defence.

(15)   Improve routes of communication between the defensive positions to ease movement of supplies and forces, particularly the reserve.

Covering Force Action

72.   *General*.   A covering force fights a delaying battle of movement and there will seldom be time to prepare elaborate defensive positions. (The planning and conduct of delaying operations is considered in more detail in Chapter 8.) The covering force tries to force the enemy into concentrating its combat power to break through the Covering Force Area (CFA). Maximum disruption should be inflicted on the enemy so that he arrives at the MDA dislocated and with his cohesion undermined. By doing this, the commander hopes that the enemy will reveal his main effort and the direction of his attack. The CFA should be of sufficient depth to ensure that the covering force can adequately achieve its task independent of the main body.

73.   *Planning Considerations*.   A battlegroup may conduct a covering force action as part of its own defensive plan. Alternatively, it may be the covering force for a higher formation's defensive plan. In both cases the covering force should understand how its mission relates to the main defensive battle and how both of these may shape the close operations of a higher formation. Initial planning should include contingencies to account for unexpected results of the covering force action.

74.   *Tasks*.

a.   Unless the mission requires it, the covering force avoids decisive engagement with the enemy's main body. The battlegroup commander will normally establish a strong covering force to form the first echelon of a defence in depth. Depending on its size and mission, the covering force can accomplish all or some of the following tasks in accordance with the battlegroup commander's guidance:

(1)   Providing early warning and information about the enemy's size and the location, direction and weight of his attack (his main effort).

(2)   Making early enemy contact and, within the limits of its capabilities, destroying his ground reconnaissance elements.

(3)   Using limited offensive action to delay the enemy, gaining time for the main force to react.

(4)   Decisively engaging or disrupting the enemy's *lead* elements, causing him to deploy prematurely in order to fight through the screen/guard.

(5)   Deceiving the enemy about the location of the main battle area and forcing him to deploy before he wants to.

(6)   Disrupting and canalizing the enemy's advance.

b.   A smaller covering force may be employed to provide security and to delay without fighting a major engagement. This may be necessary where the main defence is conducted in great depth or when the sector is exceptionally narrow. Such covering forces are used to:

(1)   Deny enemy recce units access to the MDA.

(2)   Prevent surprise.

(3)   Establish or maintain contact with the enemy.

(4)   Delay the enemy's attack.

75.   ***Size and Composition***.   The size and composition of the covering force will depend on the mission, enemy, terrain and available forces. Wherever possible, the forces used to fight the delaying operation should not be required immediately afterwards for the main defensive battle. They should be self-contained and, if possible, armoured. These factors take on added significance and complexity depending on the course of action chosen by the enemy, the depth and width of the area available for covering force operations and the time required to prepare the positions in the MDA.

76.   ***The Fire Plan***.   The battlegroup will always plan indirect fire to attack the enemy before he reaches the MDA. This fire is designed to disrupt or neutralise the enemy. Fire support considerations for attacking the enemy in the CFA are as follows:

a.   Plan deep fire to slow and canalize the enemy as he approaches the CFA.

b.   Thoroughly integrate fire into the obstacle plan.

c.   Find and engage enemy reconnaissance and intelligence-gathering elements to lessen his ability to gain information on the status and disposition of friendly forces.

d.   Find and engage enemy combat units to force the enemy to deploy and inflict casualties.

e.   Isolate the attacking force by engaging enemy follow-on forces.

f.   Plan counter-fire such as counter-preparation and counter-battery fire.

g.   Deceive the enemy regarding the location of the MDA and force him to deploy early and reveal his main attack.

h.   Mass fire at critical points such as NAIs and TAIs to slow and canalize the enemy to provide better targets for direct fire systems.

i.   Support the withdrawal of the covering force, by suppressing enemy direct and indirect fire weapons; assisting manoeuvre forces in moving and disengaging; and planning smoke, final protective fire, priority targets, and suppressive fire.

Battle Handover

77.   The senior commander must state the acceptable risk to the security force before battle hand-over. The battlegroup commander should state the disengagement criteria in clear terms for the covering force.

78.   As the covering force approaches the FEBA, it may become necessary to increase the intensity of the fire support from the MDA to allow the covering force to break contact. The withdrawal of the covering force through the forward positions in the defence area must be carefully planned and co-ordinated. Both direct and indirect fire assets from the main defence force will provide support to cover the withdrawal of the covering force and to close safe lanes.

79.   Combat support and CSS elements of the covering force should move to the rear as early as possible to enable free movement of the combat forces. Details for the rearward passage of lines and the change of responsibility for the conduct of operations in the covering force area are covered in Chapter 8 - Transitional Phases During Operations.

80.   As the covering force withdraws, the battlegroup commander makes preparations to pass it through the MDA as quickly as possible to minimize their vulnerability to enemy fire.   Multiple passage points, gaps, or lanes along the FEBA are used, usually in one sector at a time until the security force has been completely withdrawn (see Figure 7-9).   However, the security force may pass in sequence based on enemy pressure.

81.   Transfer of responsibility occurs forward of the FEBA at the Battle Handover Line (BHL). The screen force co-ordinates rapid passage through the main defence force by co-ordinating its passage at the co-ord points and establishing liaison.   The screen elements of the front-line MDA units man these co-ord points along the BHL. Gaps in barriers that have been left for the withdrawal of the covering force must be guarded and arrangements made for closing them.

82.   Command posts should collocate during this period.   This minimizes the risks associated with a rearward passage of lines and co-ordinates specific passage points, lanes and other details, such as guides and other assistance, provided to the passing force. Transfer of responsibility occurs at a specific event or time during the passage*. This will be designated by the battlegroup commander.*

83.   Once the covering force has completed its handover of the battle to the main defence force, the battlegroup commander must consider its subsequent employment. He may decide to employ it immediately to reinforce his reserve, but it may be some time before the covering force is ready to be re-committed. The

covering force normally moves to a designated area to prepare for subsequent missions. That area must be sufficiently to the rear to ensure that it is free from enemy interference and clear of MDA elements, main supply routes, and reserve movements.
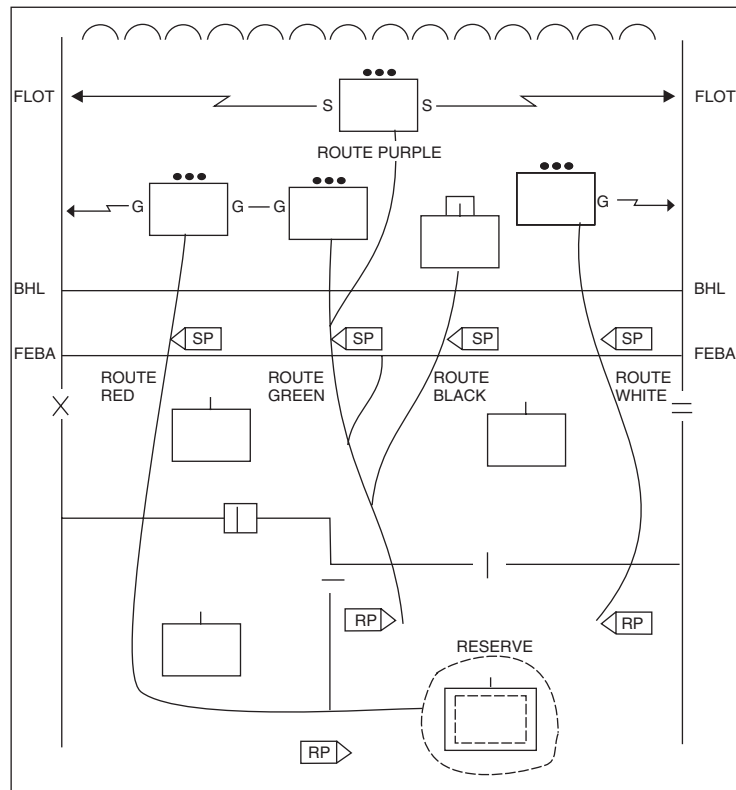
Fig 7-9 Covering Force Withdrawal

Main Defensive Battle

84. ***Conduct of the Battle***. The battlegroup commander selects the MDA based on the IPB and his own estimate of where to fight the decisive engagement. This begins as soon as the enemy approaches the FEBA. The battle will be fought by battlegroup sub-units using direct and indirect fire and manoeuvre against the assaulting enemy forces. The battlegroup will direct operations and support its sub-units by providing the necessary CS and CSS. It will control the commitment of reserves. It will also direct the engineer obstacle and sustainment effort. Tactics will vary with the circumstances and much will depend on whether the commander has planned for a mobile or an area defence.

85. ***Initial Action***. After the enemy has reached the MDA he will try to find weak points and attempt to force a passage through, possibly by a series of probing attacks. As the battle progresses, the enemy advance may be slowed due to canalizing and bunching, thus presenting good targets for defensive fire and CAS. The maximum weight of fire must be brought to bear at this stage of the battle.

86. ***Penetration***. Gaps may be accepted between positions, but they must not be left where the main enemy thrust is expected. They must be kept under surveillance, covered by fire or, where possible, blocked by barriers. Responsibility for this must be clearly defined. If the enemy succeeds in penetrating the MDA action may be

extended in depth in order to counter enemy penetrations which cannot be stopped further forward. In a mobile defence the commander may allow penetration in a particular area in order that he can then launch his striking force at the appropriate time and place.

87.   ***Area Defence.***

    a.   The IPB process indicates how the enemy may use the available avenues of approach. The battlegroup commander then designates KA astride these approaches. Once the KAs have been selected, he arrays his forces in positions to concentrate effects into these areas.

    b.   Whether a battlegroup employs a defence in sector or a defence by battle positions within the MDA, the ideal form of area defence is compact, with effective mutual support existing throughout the width and depth of the position. The defence builds around a series of organized and occupied tactical positions. The battlegroup commander selects these positions based on their natural defensive strength so that their retention will ensure the integrity of his defence.

    c.   Boundaries between defending forces should be located along identifiable terrain features and extend out to the FEBA. They should not split avenues of approach. The FEBA is indicated by co-ordinating points located at the most forward point along unit boundaries. This area shows the senior commander's planned limits for the effects of direct fire by defending forces. Defending units must address this area in their scheme of manoeuvre and exchange information regarding tactical plans at the co-ordinating points.

    d.   The battlegroup commander controls the defence by using battle positions, sectors, strong-points, report lines, and contact points. Defensive positions may occupy the topographical crest, a forward slope, a reverse slope, or a combination of these areas. Selection is based on terrain, enemy capabilities, and friendly capabilities; but the accepted norm is the reverse slope position.

    e.   Smoke should be planned to allow friendly target acquisition while degrading enemy over-watching elements and creating confusion in his assault formations. It may also be used to enhance the effects of deception operations.

    f.   Deceptive measures may cause the enemy to waste combat resources, increase the survivability of the defending battlegroup, and increase the chances that the enemy will manoeuvre into the KA. The commander must ensure that he does not commit so much effort toward the deception effort that he jeopardizes his mission.

    g.   The battlegroup commander may choose to shape the battlefield by defending in one sector to deny terrain to the enemy while delaying in another area to create the illusion of success in the opposing commander's mind. Using obstacles to disrupt, turn, fix, or block the enemy attack can separate the enemy's leading elements and establish conditions to counter-attack and

destroy isolated enemy elements. To maintain continuity in the defence or to retain a suitable reserve, it may be desirable to withdraw on part of the front.

h. The battlegroup plans and rehearses how it would occupy alternate and secondary positions if the enemy were to progress into the MDA's defensive positions. Unless it fits within the defending force's concept, the defending commander never allows an attacking enemy to consolidate. Even if the enemy makes temporary gains, the defending force immediately counter-attacks with all available local resources to prevent the enemy from consolidating his gains. The lowest possible echelon controls this local counter-attack. All counter-attacks are co-ordinated with fire.

i. A battlegroup does not abandon a position unless it fits within its higher commander's intent or he grants permission to do so. If the defending force is unable to repulse the enemy, it contains the enemy penetration in line with the commander's intent.

j. Each echelon relies in part on the fire support assets of higher echelons. Fire support planning is inherent in battle planning. The goal is to effectively integrate fire support into the defensive plan thus maximizing combat power. Fire support anticipates the massing of fire support assets, changes in mission, realistic movement times, re-supply, target acquisition, technical support (including survey), and meteorological requirements. Additional fire support considerations consist of the following:

(1) Provide deep fire. Deep operations may augment the defending unit's counterfire effort by attacking enemy artillery groupings and his fire control assets.

(2) Employ air support on known, suspected, and likely enemy locations.

(3) Conduct harassing fire on choke points and likely enemy assembly areas.

(4) Use precision munitions to strip away enemy reconnaissance and other high payoff targets.

(5) Suppress and canalize advancing enemy columns.

(6) Mass firetoneutralize, suppress, and destroy the enemy throughout the sector at obstacles and in engagement areas.

(7) Employ counter-preparation fire to engage and destroy enemy artillery and mortar systems attempting to deliver suppressive fire.

(8) Use fire to isolate and delay follow-on forces from leading echelons.

(9) Reallocate fire support assets upon identification of the main attack to reinforce fire in the most vulnerable area. The commander must designate the priorities of fire.

(10) Use smoke to isolate portions of the attacking enemy force and neutralize his over-watch elements.

(11) Plan final protective fire.

(12) Employ fire as an integral component of manoeuvre by supporting tactical movement.

(13) Employ massed fire to support the counter-attack.

k. The battlegroup commander uses fire support in the MDA to delay, disrupt, or destroy attacking forces and to enhance the effect of massed direct fire. The commander should plan to synchronize fire from mutually supporting positions onto the decisive point, thus defeating the enemy attack before it can assault friendly defensive positions.

l. The commander plans his fire to synchronize the effects of overwhelming fighting power from mutually supporting positions at the decisive point. The commander tries to engage the enemy at extended ranges and wages attrition as the attack advances. Ideally, fire and counter-attacks defeat the enemy attack before he can assault friendly defensive positions.

m. Synchronizing direct and indirect fire is critical to ensuring effective fire planning. The fire support plan is integrated with the obstacle plan, defensive positions, the counter-attack plan, and the conduct of the defence. Co-ordination anticipates and facilitates target acquisition before lucrative targets can disperse.

n. To control fire within defensive sectors, the battlegroup commander uses fire support co-ordinating measures (FSCM). These measures facilitate the rapid engagement of targets and provide safeguards for friendly troops, aircraft, and installations. The most commonly used measures are boundaries, Fire Support Co-ordination Lines (FSCLs), and Co-ordinated Fire Lines (CFLs). A brigade or division usually establishes CFLs, but they may be established by a battlegroup. The commander establishes or moves a CFL according to the situation, and all organizations involved receive the location of the new or modified CFL. There are 2 types of FSCMs, *Permissive* and *Restrictive*.

(1) *Permissive*. Fire Support Co-ordination Measures (PFSCMs)

(a) Fire Support Co-ordination Line (FSCL) - Established by appropriate ground commander to co-ordinate fires not under his control, but which might affect his operation.

(b) No Fire Lines (NFL) – There should be no fire SHORT of this line, unless requested by a supported commander, but beyond which weapon systems are free to fire.

(2) *Restrictive*. Fire Support Co-ordination Measures (RFSCMs).

(a) Restrictive Fire Lines (RFL) - A line between 2 converging forces over which there is to be no uncoordinated fire.

(b) No Fire Areas (NFA) - Specific, designated area into which there is to be no fires, or fire effects unless a major threat to security is apparent.

(c) Airspace Co-ordination Area (ACA) - Formal or informal 3D block of airspace to allow simultaneous attack of targets in close proximity to each other by multiple fire support means, usually including air.

o. As shown in Figure 7-10, direct fire control measures that can be used include Trigger Lines, KAs and Target Reference Points (TRPs). The battlegroup commander can designate one trigger line for all weapons systems or multiple trigger lines for each weapon or type of weapons system. When used with engagement criteria, a certain number or types of vehicles must cross the trigger line before engagement.
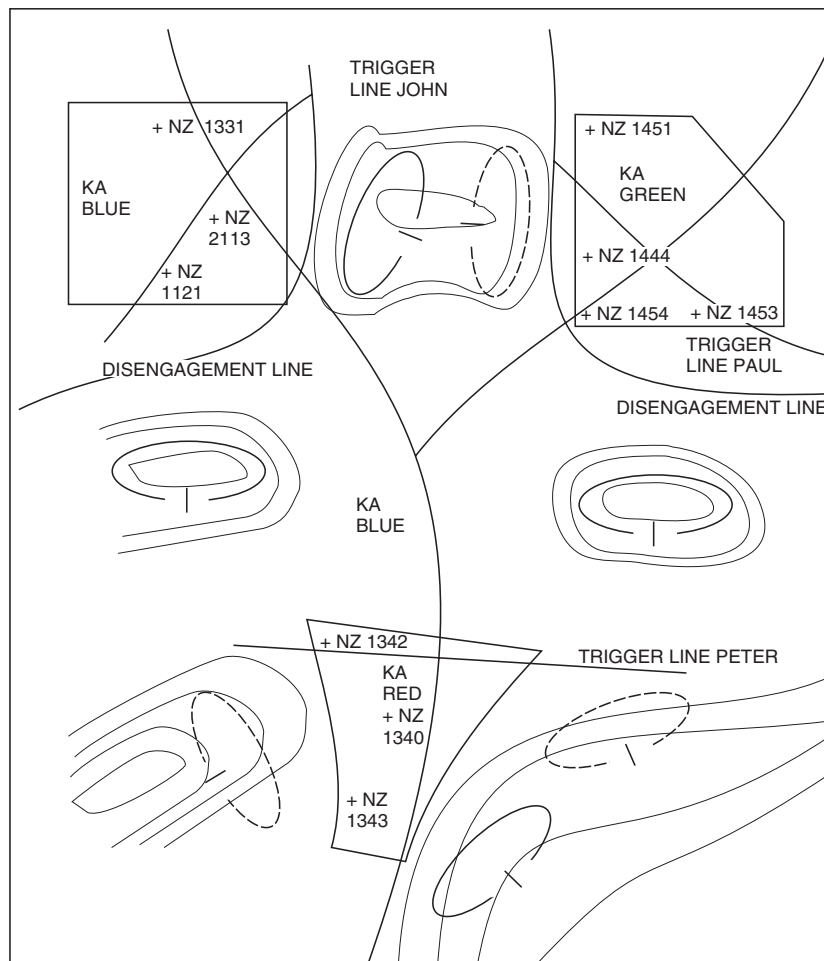
Figure 7-10 Direct Fire Control Measures

p. The battlegroup commander plans a combination of direct fire from concealed and improvised positions to defeat or destroy the enemy. They include frontal fire, flanking fire, reverse-slope ambushes, and the employment of reserves against the enemy flanks and rear. As the enemy launches his assault, the commander plans to bring all available defensive fire to bear against the assaulting enemy forces. When the enemy initiates his assault of defensive

positions, the defending battlegroup initiates its Final Protective Fire (FPFs) to kill enemy dismounted soldiers and suppress his armoured vehicles. Selected crew-served weapons fire along pre-designated Final Protective Lines (FPLs) to break up dismounted assaults.

q. The battlegroup commander uses KAs in conjunction with TRPs and sectors of fire to initiate, distribute, and control his unit's fire. A TRP is an easily recognizable natural or man-made point on the ground such as a building or road junction. A TRP can also designate the centre of an area where the commander plans to distribute or converge the fire of all his weapons rapidly. The battlegroup commander designates TRPs for his sub-units. Sub-unit commanders designate them for their platoons, sectors and, in some cases, individual weapons. Once designated, TRPs also constitute indirect fire targets. Standard target symbols and target numbers are used to designate these points. Subordinate commanders may impose additional complementary fire control measures to simplify direct fire control. The sector of fire is such a complementary fire control measure. It is an area required to be covered by the fire of a weapon or by a battlegroup.

r. *Striking Force.* The battlegroup commander retains a large strike force for commitment at the decisive moment to defeat the enemy.

    (1) *Location.* The strike force is generally located where it can best execute the counter-attack plan. This is usually to the rear of the main defensive force. It may, however, initially locate forward to confuse enemy reconnaissance and obscure unit boundaries; especially those of dissimilar units such as armour and light infantry.

    (2) *Tasks.* The commander may use the strike force against the follow-on forces needed by the enemy to exploit success. In certain situations, it may become necessary to commit the reserve to block an enemy penetration or to reinforce fire into a KA.

88. **Mobile Defence**. During the initial stages of a mobile defence, the commander conducts deep operations to disrupt the enemy's forces, thus assisting the *fixing force* to shape the enemy penetration. This may also help to establish the pre-conditions for the commitment of the *striking force.* Upon commitment of the striking force, the intensity of deep operations will increase in order to generate a tempo that temporarily paralyzes enemy C2.

a. *Fixing Force.*

    (1) Typically, the battlegroup commander allows the enemy force to penetrate the defensive sector before the striking force attacks (Figure 7-11). The fixing force employs a combination of area defence, delay, and strong-point techniques to shape the enemy penetration. Extensive use of reinforcing obstacles to support existing obstacles must be thoroughly planned and executed. The fixing force contains the minimum essential combat power to accomplish its mission. It employs a significant counter-mobility effort to assist in shaping the

penetration and to gain an overall mobility advantage over the enemy, thus facilitating a decisive attack by the striking force.

(2) Defensive positions within the fixing force may be non-contiguous; arranged only in sufficient density to shape the enemy's penetration. The commander should ensure that the tasks of subordinate units are consistent with his concept for shaping the penetration.

(3) An essential component of the fixing force is its covering force. It is normally resourced for an aggressive operation and is critical in determining the enemy's main effort. Early detection of the enemy's main effort will provide sufficient reaction time for the fixing force to adjust its positions and shape the enemy penetration.

(4) Because minimal combat power is allocated to the fixing force, subordinate commanders maintain few, if any, reserves. The battlegroup commander should therefore maintain a reserve that can reinforce the fixing force and help to shape the enemy penetration. It is positioned where it can best react to its most likely contingency or the enemy's most dangerous course of action. Without this reserve, the commander assumes significant risk in shaping the penetration.
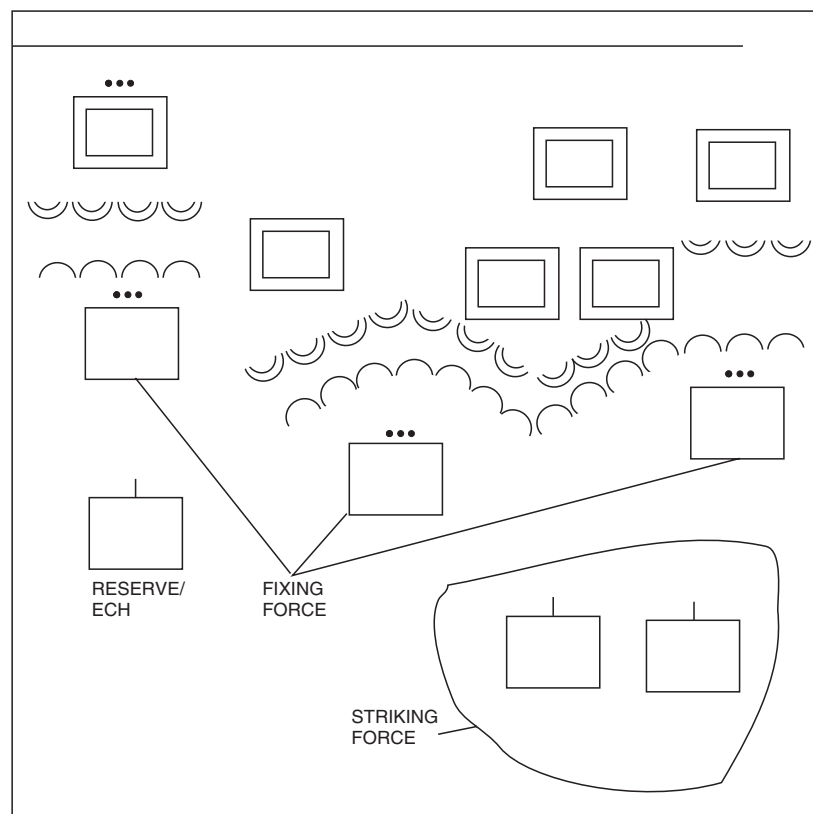
Figure 7-11 A Mobile Defence before the Commitment of the Striking Force

b.   *Striking Force.*

(1)   The striking force is retained to conduct the decisive attack and all of its contingencies relate to this. The battlegroup commander's concept is critical in establishing the conditions that initiate the striking force's movement and the general area that serves as a focus for its attack. The STAP is focused entirely on tracing the enemy advance. Continuous updates of intelligence and combat information are provided to the battlegroup commander to ensure that he adjusts his attack sufficiently to maintain contact between the striking force and the enemy force. Artillery weights the main effort.

(2)   As depicted in Figure 7-12, the striking force comprises the maximum combat power available to the battlegroup commander at the time of the attack. It should comprise a combined arms force with greater combat power than the force it seeks to defeat or destroy. In determining relative combat power, the battlegroup commander should consider the effects of surprise. When launching the striking force forward of static forces, battlegroup commanders must assess the risk based on his estimate.
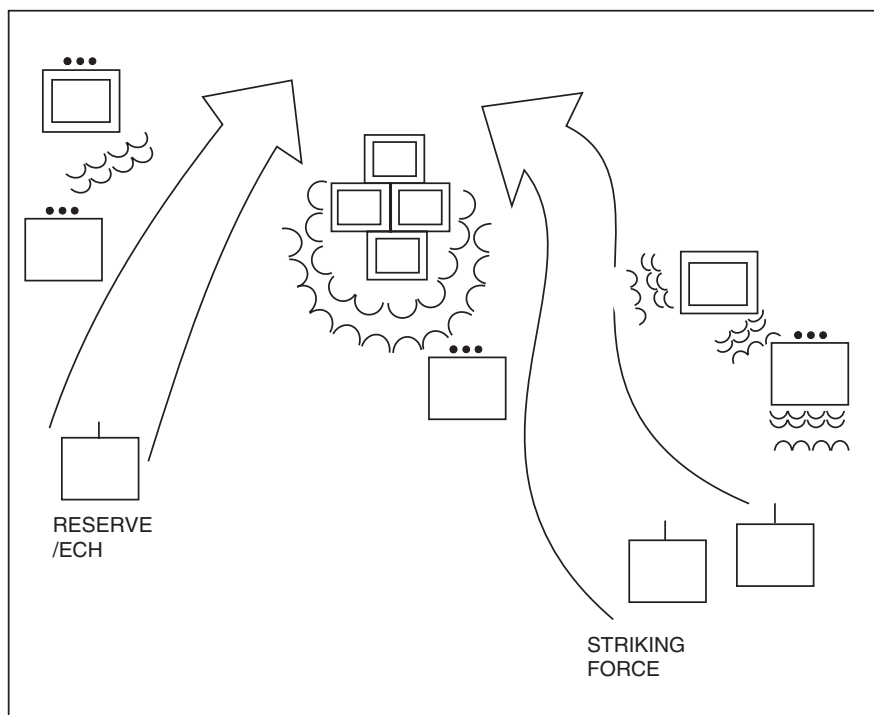
Figure 7-12 A Mobile Defence on Commitment of the Striking Force

(3)   Upon commitment, the striking force becomes the main attack and Main Effort. It is assigned one or more axes or directions of attack as a control measure. Because the striking force typically attacks a moving enemy force, it initially moves as in a movement to contact. The commander normally organizes the striking force into an advance guard or covering force and a main body. The commander designates flank responsibility and may allocate a designated force against a

particularly vulnerable flank. The striking force assembles in one or more areas depending on the width of the sector, the terrain, enemy capabilities, and the planned manner of employment. It may initially occupy forward defensive positions to confuse the enemy regarding dispositions and boundaries.

(4) *Engineers.* Engineers should be task-organized with the lead elements of the striking force. Mobile engineers should be well forward to enhance the mobility of the force. These lead engineers search for existing obstacles and clear the route as much as possible within their capabilities.

89. ***Reserves***. The battlegroup reserve generally operates in support of the fixing force or main defence force. However, if the reserve is available to the striking force, it is used to exploit the success of the striking force's main effort.

Rear Operations

90. A successful defence against a major threat is based on a thorough IPB focused on the rear area, a co-ordinated security plan including counter-reconnaissance tasks, base defensive plans, and the availability of the response force. It requires effective liaison with joint, host nation, and multinational rear area security forces.

91. Successful defensive operations may hinge on protecting the rear area from enemy deep operations activities that range in size from single saboteurs to large forces such as airborne or air assault insertions. These enemy deep operations will target key units, facilities and capabilities. These enemy activities, especially at smaller unit levels, may precede the commencement of hostilities.

92. As in the offence, the rear area commander conducts an area security mission to nullify or reduce the effectiveness of enemy attacks. The commander uses all assets located within his area to create the rear local defensive measures, such as a perimeter defence and local security patrols. These assets include the crews, weapons systems, and radios of combat vehicles temporarily located in the rear area for maintenance reasons.

Withdrawal

93. Any decision to withdraw must take into account the situation prevailing in adjacent defence areas. *A new FEBA may only be determined by the commander who has ordered the defence.*

Annexes:

A.   Combined Arms Obstacle Integration.
B.   Landmine Policy
C.   Control of Demolitions.
D.   Area Defence - Aide Memoire.
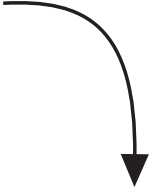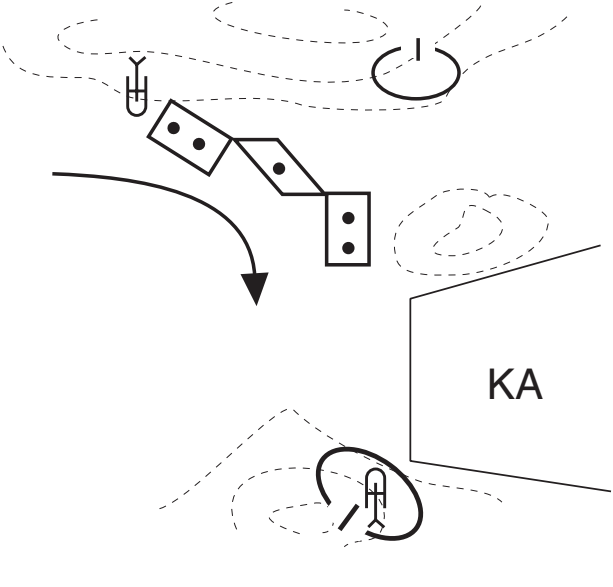
COMBINED ARMS OBSTACLE INTEGRATION

Introduction

1.   Combined Arms Obstacle Integration is An All Arms approach to obstacle planning that ensures the proper integration of direct and indirect firepower and manoeuvre with obstacles to achieve the Commander's desired "effect" on the enemy.

2.   2.   The Manoeuverist approach to operations demands economy of effort in defensive operations in order that concentration of force can be utilised to achieve decisive impact. The use of obstacles is an essential tool which can aid in achieving this, however, obstacles only have a military purpose when they are fully integrated into the commander's plan, sited and controlled to limit the enemy's scope for manoeuvre without unduly inhibiting the manoeuvre of friendly forces. To achieve this the obstacle plan must be fully integrated into the commanders defensive plan. The obstacle plan identifies the reinforcing obstacles necessary to achieve the effect required to support the commander's concept of operations.

3.   Obstacles are classified as either *existing* or *reinforcing*.

   a.   *Existing Obstacles*. Existing obstacles can be subdivided into natural or manmade.

   b.   *Reinforcing Obstacles*. Reinforcing obstacles are classified as *tactical* or *protective* in nature.

      (1)   *Tactical Obstacles.* Tactical obstacles contribute to the commander's plan by reducing the enemy's ability to manoeuvre.

      (2)   *Protective Obstacles.* Protective obstacles are designed primarily to improve survivability through close force protection.

Obstacle Planning
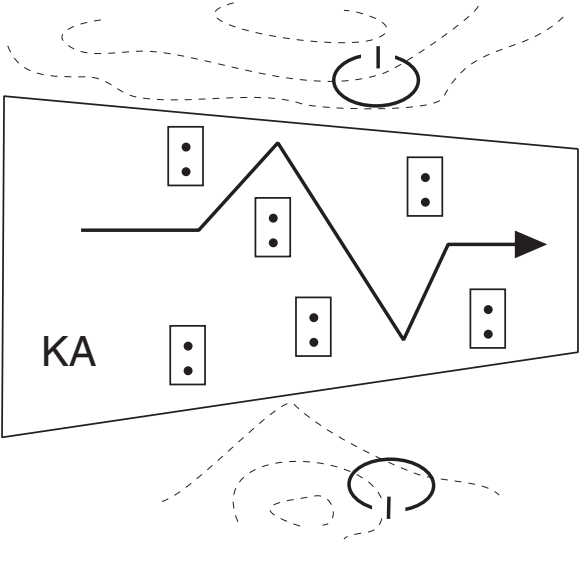
4.   *Intent*. The key to effective obstacle planning is for the commander to specify how he intends to use obstacles and what effect he aims to achieve on the enemy, to support his concept of operations in a specific area. An obstacle intent defines the end result that a combination of fire, manoeuvre and obstacle effects must achieve. When forming his obstacle intent, the commander should consider the *target,* the *obstacle locations* and the *obstacle effects*.

   a.   *Target*. Commanders and their staffs must understand which element of the enemy force is being targeted so that obstacles can be designed and sited to meet it.

   b.   *Location.* Obstacle location is a vital component of obstacle intent because it ties the obstacle effect and the target into the scheme of manoeuvre.

Commanders and their staffs must understand the relative location of obstacles to ensure that the desired effect occurs at the right place.

c. *Obstacle Effect*. An obstacle effect is the effect that a specific obstacle group is required to have on the enemy, in order to support the commander's tactical intent.

5. **Obstacle Effects**. An obstacle effect may be to *disrupt, turn, fix* or *block* the enemy. A combination of disrupting, turning, fixing, and blocking may be used to develop the overall intent of an obstacle belt.

a. *Disrupt*. Disruption is designed to break up the enemy formation, thus reducing his tempo, slowing his rate of advance and encouraging the premature commitment of his breaching assets. It should also create an element of surprise and uncertainty, by deceiving the enemy as to the exact location of the Main Defensive Area. The effect of disruption is illustrated in Figure 7-A-1.

Obstacle Effect Graphic	Application	Example Conveying Intent
Disrupt	Short arrow indicates where enemy is attacked by obstacles. Long Arrows indicate where bypass is allowed and subsequently attacked by fire	

Figure 7-A-1 The Disrupt Effect

b. *Turn*. Turning aims to divert an enemy towards ground of our own choosing eg into a killing area or towards an alternative Avenue of Approach (AA). This effect is developed by placing a series of obstacles, combined with direct and indirect fires, that encourage bypassing in the direction desired. At the start of the turn, obstacles should tie into restrictive terrain and should appear more complex than those in the direction of the turn. The enemy force should bounce off successive obstacles in the desired direction. Commanders may use the turn effect on the flanks of killing areas. The turn effect is shown in Figure 7-A-2.

Obstacle Effect Graphic	Application	Example Conveying Intent
Turn	Heel of arrow is the anchor point. Direction of arrow indicates desired direction of turn.	KA

Enemy Direction

Figure 7-A-2 The Turn Effect

c.   *Fix.*   The intention of fixing is to slow an attacker within a specified area; normally a killing area. It is used to give formations time to detect, acquire, target, and destroy enemy forces throughout the depth of the killing area using air, aviation, and direct and indirect fire.   The fix effect is shown in Figure 7-A-3.

Obstacle Effect Graphic	Application	Example Conveying Intent
Fix	Irregular part of arrow indicates where enemy advance is slowed by obstacles.	KA

Enemy Direction

Figure 7-A-3 The Fix Effect

d.   *Block*. A blocking effect requires complex obstacles to stop an attacker along a specific AA, thus assisting in his complete destruction in a killing area. Commanders may use the blocking effect to close an AA which leads out of a killing area, in order to ensure the maximum destruction of the enemy force in the killing area. The block effect is shown in Figure 7-A-4.
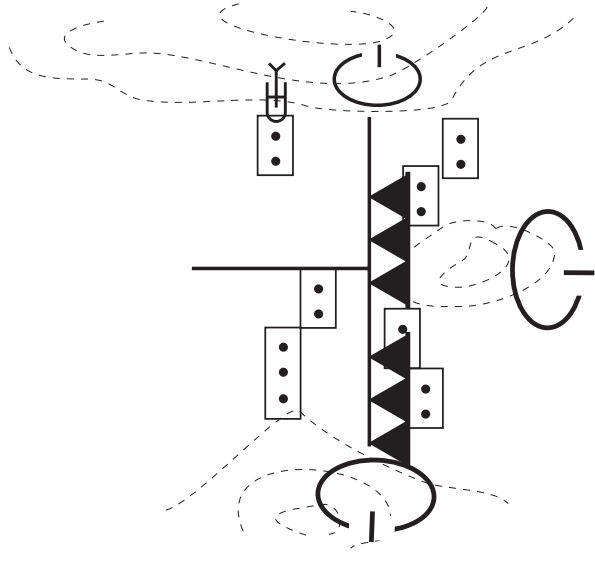
Obstacle Effect Graphic	Application	Example Conveying Intent
Block	The ends of the vertical line indicate the limit of enemy advance. The ends of the vertical line also indicate where obstacles tie in to NO-GO terrain.	 Enemy Direction

Figure 7-A-4 The Block Effect

6.   ***Obstacle Resources***. The timely availability of resources is a critical aspect of the planning process. Early planning increases the chance of stores being available when the engineers move into the area. An accurate assessment of resource requirements is made through Battlefield Area Evaluation within the IPB process. This is based on linking the obstacle effects required by the commander to the width of the AAs. A resources matrix may be constructed by engineer staff to provide an estimate of the resource requirement, and, if necessary, to assist in determining priorities.

Obstacle Control Measures

7.   Commanders use obstacle control measures to delegate authoritry and to express their intent to subordinate commanders. These control measures are areas designated as *zones*, *belts* and *groups*.

8.   Commanders may decide to delegate authority to subordinate commanders for emplacing obstacles within designated areas. Alternatively, they may impose restrictions to ensure freedom for manoeuvre in specific areas. This gives subordinate commanders at all levels the flexibility to develop an obstacle plan that meets their needs, whilst achieving the higher commander's intent within the restrictions established for the zone, belt or group.

9.   Restrictions could include limiting the types of obstacles used (eg no buried mines), controlling timings (eg the life of scatterable mines, not before or not after times), or restricting the employment of certain types of obstacles. *Subordinate commanders may impose additional restrictions but cannot relax a higher commander's restrictions.*

10.   Obstacle zones are controlled at force or divisional level. They may be identified by alpha-numeric letter designations. They do not normally include an obstacle effect graphic.

11.   ***Obstacle Belts***.

   a.   Zones may be sub-divided into obstacle belts, where the employment of obstacles will normally be controlled at divisional or brigade level. Obstacle belts within each zone are numbered and are normally given an obstacle effect graphic but this is not mandatory. Obstacle belts should not cross unit boundaries but more than one may be assigned to a unit.

   b.   Battlegroup commanders must only place obstacles within obstacle belts designated by their controlling formation headquarters. Although obstacle belts limit the area authorised for obstacles, they still allow battlegroup commanders the latitude to develop detailed obstacle plans based on reconnaissance and detailed battlegroup planning.

12.   ***Obstacle Groups***.

   a.   Obstacle Groups are one or more individual obstacles grouped together to provide a specific obstacle effect. The battlegroup commander designates obstacle groups to ensure that sub units place individual obstacles in accordance with his intent.

   b.   Unlike obstacle zones or belts, groups are not areas; they are specific locations for actual groups of obstacles. Commanders show obstacle groups using obstacle effect graphics which establish the relative locations of individual obstacles on the ground. The graphic indicates the anchor points to existing terrain and the general line of the obstacle placement.

   c.   Obstacle groups are planned within the limits of the battlegroup's obstacle-emplacement authority (zone or belt). Obstacle groups may, however, be used by higher formations to define specified aspects of the commander's intent eg designating a bridge as a reserve demolition.

   Obstacle Design and Numbering

13.   Once an obstacle effect for a selected group has been specified, staff and subordinate commanders can begin planning the detailed design of obstacle groups and the detailed siting of individual obstacles in each group. When the obstacle plan has been agreed responsibility for the emplacement of each obstacle will be delegated, normally to engineers. Each planned obstacle must be assigned an

unique obstacle number for command and control reporting. Allocation of obstacle numbering is normally controlled by formation engineer staff who will also maintain a record of the status of all obstacles. Figure 7-A-5 is a summary of obstacle control measures and numbering .
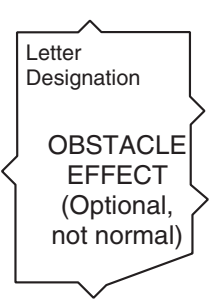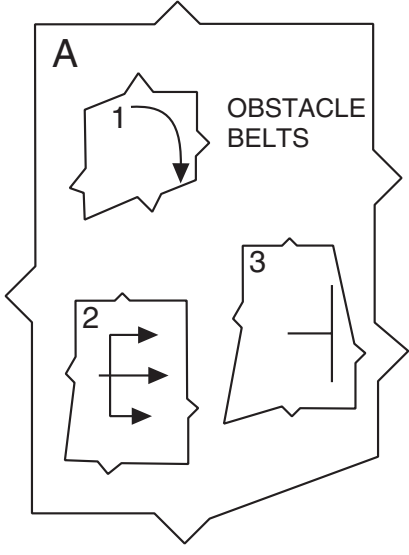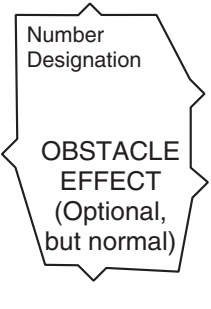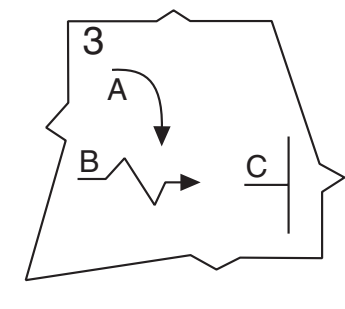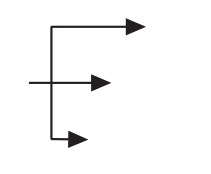
Obstacle Control Measure	Emplacement Authority		Obstacle Graphic	Examples
	From	To		
Zone	Force Corps Div	Div Bde	Letter Designation OBSTACLE EFFECT (Optional, not normal)	OBSTACLE ZONE A 1 OBSTACLE BELTS
Belt	Corps Div Bde	Bde BG	Number Designation OBSTACLE EFFECT (Optional, but normal)	3 2
Group	Div Bde BG	Bde BG Coy/ Sqn	Letter Designation	OBSTACLE GROUPS in an obstacle belt 3 A B C
Restrictions	Incorporated into the emplacement authority		Examples: No buried mines; obstacle free; No SCATMINE; SCATMINE short delay only; reserve obstacle; etc	

Figure 7-A-5 Obstacle Design and Numbering

LANDMINE POLICY

THE USE OF LANDMINES FOLLOWING THE UNWC AMENDED PROTOCOL II AND THE OTTAWA CONVENTION

Introduction

1.   The long term legacy of landmines and the heightened public and political awareness, has led to internationally agreed restrictions on the control, recording and use of mines. Two key agreements have been reached:

      a.   The UK has ratified the UN Weaponry Convention (UNWC) Amended Protocol II[1] which establishes certain conditions on the use of all types of mine and is enforceable by international law. The amended Protocol II applies not only to international but also internal armed conflicts, not necessarily fought between conventional armed forces.

      b.   The UK has ratified the Ottawa Convention[2] which deals solely with APM. This has led to the Landmine Act 1998[3] which makes legal provision to enforce the international provisions of the Ottawa Convention making it a criminal offence for the UK's Armed Forces (and civilians) to use, produce, stockpile or transfer APM or assist, induce or encourage others, *in any way*, to do the same.

Scope

2.   This Annex does not focus on guidance for the tactical employment of mines. Instead, it concentrates on the impact of legislation and subsequent restrictions and responsibilities in the use of mines in national and multinational operations and training. It covers general doctrine and provisions of the UNWC Amended Protocol II, applicable to landmines generally.

3.   Despite the provisions of the Convention and Landmine Act, there are still areas that are open to interpretation where military judgement is required to enable realistic training to counter the mine threat and to cover our participation in coalition operations, which may include non-States Parties[4]. The need for this clarity is underlined by the following:

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1.   The UK has ratified the amended 1980 UN Weaponry Convention Protocol II - dated 1 May 96 which defines prohibitions and restrictions on the use of all mines under international law. Applies to international and internal conflict or civil war.
2.   The Ottawa Convention was agreed by over 120 nations in Dec 1997. The spirit and intention of the Ottawa Convention was to remove the legacy of APM and the resultant non-combatant casualties by reaching an international agreement to ban their use. Sufficient "signatory states" (40) ratified by Aug 1998 allowing provisions of the agreement to be implemented (1 Mar 99). There remain a number of "non-signatory states" which, for specific defence and equipment reasons, currently includes the USA.
3.   Landmine Act 1998 passed in Aug 1998 and which entered into force on 1 Mar '99.
4.   States not being bound by the provisions of the Ottawa Convention.

   a. Many nations have yet to sign and ratify the Ottawa Convention and therefore coalition training and operations with non-States Parties give rise to potential conflict, bearing in mind that some States are subject to a legal ban on the use of APM, and some are not.

   b. Most potential enemies are unlikely to be signatories to any such Convention obligations while mines in general, and APM in particular, remain a cheap and effective weapon, which is easily available and widely used. It therefore remains essential that we train to deal with the APM threat in order to be operationally effective and minimise our own casualties

Definitions

4. Important definitions from the UNWC Amended Protocol II can be found at Appendix 1 and these take precedence over any other definitions such as may be in NATO or national use.

Doctrine

5. ***Minefield Obstacles***. The principle of using mines to create obstacles, shape the battlefield, restrict enemy manoeuvre and destroy the enemy remains a fundamental capability, which the British Army will retain. Moreover, the development and introduction of controllable and rapidly deployable Anti Tank Mines (AT mines or ATM), adopting sensors and remote control, will enhance this capability and offer greater flexibility and options for their use in the future. Mines remain a complementary weapon system to other direct and indirect fire weapons and this synergy helps create the conditions to maximise effective fighting power. Depending on threat, available time and the desired obstacle effect, a combination of AT mines and other natural or man-made obstacles can produce a complex barrier creating delay, destruction, surprise and the need for specialist breaching equipment to defeat.

6. ***Other Options***. There are a number of potential obstacles, not dependent on the use of mines, that will restrict vehicle and personnel movement, the so called "non-lethal" obstacles with a particular application in OOTW. Their effectiveness will largely depend on the sophistication, or otherwise, of the enemy's mobility support capability. The removal of APM has generated a focus for looking at other doctrinal and technological solutions to replace the anti-personnel capability, both lethal and non-lethal. These range from the use of additional direct and indirect fire assets, cued by appropriate surveillance devices or manned OPs, to physical defences such as barbed wire or low-wire entanglements. It may in the future include 'non-lethal' options such as sonics, foams or glues currently under research in several countries.

The Effects of the UNWC Amended Protocol II

7. **Use Against Civilians**. It is prohibited in all circumstances to direct mines, against the civilian population or civilian objects. All feasible precautions must be taken to protect civilians from the effects of such weapons with due consideration of the humanitarian and military situation. These include, but are not limited to:

a.   The short and long-term effect of mines upon the local civilian population for the duration of the minefield;

b.   Possible means to protect civilians (for example warning, fencing, signs, and monitoring);

c.   The short and long-term military requirements for a minefield or the availability and feasibility of using an alternative.

8.   *Warning*. Effective advance warning shall be given of any emplacement of mines, booby-traps or other devices which may affect the civilian population, unless circumstances do not permit.

9.   *Indiscriminate Use*. The indiscriminate use of any mine is prohibited and is defined as:

a.   "any use not on, or directed against, a military objective (see definition at Appendix 2). In case of doubt as to whether an object which is normally dedicated to civilian purposes, such as a place of worship, a house, other dwelling or a school, is being so used to make an effective contribution to military action, it shall presumed not to be so used, or

b.   any use which employs a method or means of delivery which cannot be directed at a specific military objective, or

c.   any use which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete or direct military advantage anticipated."

Responsibility for Mines, Minefields and Mined Areas

10.   Responsibility for all mines laid remains permanently with the forces (and nation) which lays the mines, unless they are formally handed over to another force or temporarily overrun by the enemy, or until they are cleared. The party that lays any mine (or assumes control of a mined area in which other forces may have emplaced mines) is required, by the Amended Protocol II, to undertake to clear, remove, destroy or maintain the minefield.

a.   Under article 3(2), the UK will be responsible for all mines, booby traps, and other devices employed by it and the UK must therefore undertake to clear, remove, destroy or maintain them.

b.   Under article 10(2), an armed force is responsible for minefields, mined areas, mines, booby traps and other devices in areas which it controls.

c.   Under article 10(3), if an armed force no longer controls the area of land, such an armed force must provide to the party in control of the area, assistance necessary to fulfil such responsibilities.

d. The fact that an armed force assumes control over an area of land which includes previously emplaced APMs (laid by others), gives rise to an obligation upon the armed forces assuming such control to monitor, maintain and mark such areas, but it does not give rise to an obligation to clear.

e. If enemy forces are no longer in a position to return to an area, then such an area will not be deemed to be in control of those enemy forces.

11. **Hand-over/Take-over**. The minefield must not be abandoned. It must be either cleared or formally handed over to other forces who accept responsibility for it. If handed over, a hand-over/take-over certificate must be signed by both parties to record that all necessary minefield records have been handed over to the new unit; a standard certificate has yet to be approved. If the minefield is not handed over, it must be maintained, or cleared. Exceptions include forcible withdrawal in which case the occupying force inherits the responsibility.

12. **Recording of Minefields (including Remotely Delivered Mines (RDM) and Scatterable Mines (SCATMIN))**. The recording requirements at Appendix 2 must be complied with for all mines, booby traps and other devices. Once completed, copies of records must be passed up from the laying unit through the chain of command for retention at a level of command sufficient to guarantee, as far as possible, their survival.

13. **Post Conflict**. Minefield records must be maintained and all necessary measures taken to protect civilians from the effects of mines. Minefield records for areas no longer under UK control should be formally handed over to those forces that now control those areas, with copies to the Secretary General of the UN. All minefields[5] should be physically cleared or destroyed, or at least marked, monitored and maintained, unless handed over. If the minefield remains after the conflict then records must be kept to aid subsequent clearance.

14. **Marking, Maintaining, Monitoring and Clearing (MMMC)**. If UK forces find themselves occupying an area that contains APM, either enemy or allied laid, it must be marked, maintained and monitored. Such areas must be subsequently cleared when it is reasonably practicable to do so or otherwise they must be maintained. The exact requirements for MMMC are not defined within the Amended Protocol II[6]. The marking, signing requirements and additional guidance for maintenance and monitoring obligations are contained at Appendix 3 with more detail in STANAG 2036.

15. **Exceptions for Booby Traps and 'Other Devices'**. All of the above restrictions apply to booby traps and "other devices"[7] with the exception that although their location must be recorded with reference to two landmarks; their operating mechanism is recorded and they are later cleared, they do not have to be:

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5. Including mined areas, mines, booby traps and 'other devices'.
6. Such monitoring does not necessitate the need for a 24 hr "guarding" of the minefield but could be facilitated by periodic attendance or utilising other surveillance devices or a combination of both. The degree of physical monitoring will therefore be dependent on the situation and will require military judgement.
7. Article 7 of the UNWC lists various prohibitions on the use of booby-traps but these are already in force in the Geneva Convention and incorporated in UK tactical doctrine and training.

a.   marked or monitored,

   b.   detectable and

   c.   are not required to have any form of self-destruct or self-deactivation capability.

However, it is prohibited to use booby-traps in any city, town, village or other area containing a similar concentration of civilians in which combat between ground forces is not taking place or does not appear to be imminent, unless either

   d.   they are placed on or in the close vicinity of a military objective; or

   e.   measures are taken to protect civilians from their effects, for example, the posting of warning sentries, the issuing of warnings or the provision of fences.

16.   **Nuisance Mining**. Any AT mines laid as a nuisance minefield must be recorded, but do not have to be marked, fenced or monitored.

17.   **Enforcement**. States parties are now legally obliged to comply with the duties and responsibilities of the provisions of Amended Protocol II.

   a.   The Armed Forces of states parties are obliged to issue relevant military instructions and operating procedures,

   b.   The Armed Forces must ensure they provide appropriate training commensurate with the duties and responsibilities of service personnel,

   c.   The Armed Forces of states parties must also now take appropriate steps (including criminal and military discipline prosecutions) against those who breach Amended Protocol II provisions.

   d.   States parties must also ensure that penal sanctions are imposed against persons who, in relation to armed conflict, and contrary to the provisions of the protocol, wilfully kill or cause serious injury to civilians.

   Summary

18.   The spirit of the UNWC Amended Protocol II and the Ottawa Convention is to prevent unwarranted civilian casualties, particularly after a conflict has ended. This should always be borne in mind when deciding on a course of action. Ratification of the Convention and subsequent Landmine Act has now made the provisions in the Convention enforceable by law.

19.   The use of inert, simulations or live APM by UK forces is now prohibited and enforceable by law. *However, there are important training exceptions* that apply in order that the UK forces are properly trained to counter all forms of mine threat and minimise our own casualties. (Appendix 1).

20.   It is illegal to use mines indiscriminately or to target non-combatants with mines directly. All feasible precautions should be taken to avoid civilian casualties in any event.

21.   Any minefield no longer required must be cleared, or maintained and monitored until cleared. However, the minefield can be handed over to another nation who formally accepts responsibility for it. If they do not accept the minefield, responsibility remains with those who originally laid the mines.

22.   Booby traps may be used unmarked and unmonitored, but only where there are military targets and not where there is a reasonable likelihood of civilian casualties. Individual booby traps must be recorded in terms of both location and operating mechanism. AT mines can be used unmarked as a nuisance minefield but must be subsequently cleared.

23.   Minefield records must be accurately prepared and retained in a safe place and, where appropriate, copies subsequently given to the nation responsible for the minefield. Once a minefield has been cleared the minefield records should be retained in archives for historical reference.

Appendices:

1.   Definitions from UNWC – Amended Protocol II
2.   Minefield Recording, Marking and Signs

DEFINITIONS FROM UNWC - AMENDED PROTOCOL II

1.   **Mine**.   The definition of a mine within Protocol II is narrower than that used by NATO[1] in that the Protocol defines it as being exploded by the presence, proximity or contact of a person or vehicle. In short, it must be initiated by the intended target. Note that AT mines are not specifically defined; within Protocol II the phrase used is 'mines other than anti-personnel mines'.

2.   **Anti-Personnel Mine (APM)**.   An AP mine, or APM, is defined as a mine primarily designed to be initiated by the presence, proximity or contact of a person. Thus CLAYMORE with a trip-wire is an APM, but when used in the command detonated mode it is an 'other device' (see below).   The word 'primarily' is included so that an AT mine with an anti-handling device is not counted as an APM.

3.   **Booby-trap**. A booby-trap is defined as a device which functions unexpectedly when a person disturbs or approaches something harmless. It is characterised by containing an element of improvisation.

4.   **Other Devices**. 'Other devices' are manually emplaced munitions that can be activated by remote control or automatically after a lapse of time. The term includes Improvised Explosive Devices (IEDs).

5.   **Remotely delivered Mine (RDM)**[2].   A RDM is: 'a mine not directly emplaced but delivered by artillery, missile, rocket, mortar, or similar means, or dropped from an aircraft'.   A ground-launched mine with a range of less than 500m is **not** considered to be a RDM. Thus, by the UNWC, SHIELDER is not classified as a RDM, by virtue of its range. However, its delivery and random pattern means that when launched into an initially unmarked area it is treated as a RDM but when launched into a marked *and* fenced area it should be treated as for all other emplaced mines. Under the UNWC any launch of RDMs must be preceded by appropriate civilian warning of their use, where permitting.

6.   **Minefield.**   This is a defined area in which mines have been placed. A "mined area" is an area which is dangerous due to the presence of mines.   A "phoney minefield" means an area free of mines that simulates a minefield.   The term minefield includes phoney minefields.

7.   **Military Objective**.   A Military Objective is 'so far as objects are concerned, any object which by nature, location, purpose or use makes an effective contribution to military action and whose total or partial destruction, capture or neutralisation, in the circumstances ruling at the time, offers a definite military advantage'.

8.   **Civilian Objects**.   Civilian Objects are 'all objects which are not military objectives as defined above'.

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1.   The NATO definition of a mine is: "an explosive or material, normally encased, designed to destroy or damage ground vehicles, boats or aircraft, or designed to wound, kill or otherwise incapacitate personnel. It may be detonated by the action of its victim, by the passage of time, or by other means".
2.   RDM is very similar to the NATO term "scatterable mine" (SCATMIN) which is commonly used and has no reference to range but not defined in the UNWC.

**MINEFIELD RECORDING, MARKING AND SIGNS**

Ref: STANAG 2036 Land Mine Laying, Marking, Recording and Reporting Procedures.

1.   ***Minefield Recording***.   The detailed recording and associated procedures for all minelaying are contained in the Reference. However, the recent mines legislation and Amended Protocol II of the UNWC mean that there maybe some misleading references to both the use of APMs or the responsibilities of military commanders. If in doubt, advice should be sought from the military chain of command.

2.   ***Recording of Non-Remotely Delivered Mines***.   The following recording aspects apply to all non-remotely delivered mines (including SHIELDER when launched into a marked and fenced area):

   a.   The perimeter and estimated dimensions of any area where mines are laid must be recorded and related to the co-ordinates of at least 2 identifiable landmarks or reference points. Note that GPS alone is not satisfactory for this purpose due to possible degradation of this system in war.

   b.   The minefield records must contain complete information of the type, number, emplacing method, type of fuze, anti-handling device (if any), date and time of laying and any other relevant information including the precise location and operating mechanism of each booby-trap. The record is made using Army Form W4017 which conforms with the recording requirements of the UNWC.

   c.   The exact location of every AT mine laid should be recorded wherever feasible. However, if the mines are laid to a pattern in a row, the recording of the pattern and the location of every row is acceptable, such as for the Barmine AT mine when laid in rows.

   d.   CLAYMORE and PJRAD (used only in the command detonated mode and therefore not classified as an APM) must be recorded as above.

3.   ***Recording of Remotely Delivered Mines***. The estimated location and area of remotely delivered mines shall be specified by co-ordinates of reference points (normally corner points) and shall be ascertained and where feasible marked on the ground at the earliest opportunity (Para 1b of technical annex to UNWC). The total number and type of mines laid, the date and time of laying and the Self Destruct (SD) time periods shall also be recorded. Minefield records must be produced and distributed as for any other type of minefield. SHIELDER scatterable mines, although not defined as a RDM due to range, will nevertheless be used in a similar way to RDMs with all the recording requirements and fenced at the earliest opportunity. Note that effective advance warning of any RDMs is required to be given to the local civilian population, if at all possible, to avoid unwarranted casualties.

4.   ***Marking***. The minefield perimeter should be marked (and fenced). Signs similar to the example below shall be utilised in the marking of minefields and mined areas to ensure their visibility and recognition by the civilian population**.**

5.   ***Monitoring and Maintaining***. The minefield must be monitored so that the minefield marking and fencing is maintained and in order to prevent unauthorised or inadvertent access by civilians. All feasible precautions should also be taken to prevent the unauthorised removal, defacement, destruction or concealment of any device, system or materiel used to establish the perimeter fencing and marking. The extent of the tasks of 'monitoring' and 'maintenance' are not defined in the UNWC[1].

6.   ***Protection***.   All military forces must adequately provide protection to non-combatants from the effects of mines in any areas under their control. This applies equally to mines laid by UK forces and to the mines of other forces that may be 'inherited' on the ground. Specific protection can be requested by UN forces or humanitarian missions. All parties to a conflict, on receiving such a request for protection, are obligated to provide as many measures as possible to protect the requesting force or mission from the effect of mines.

Minefield Signs

7.   Signs should be similar to the one illustrated below.
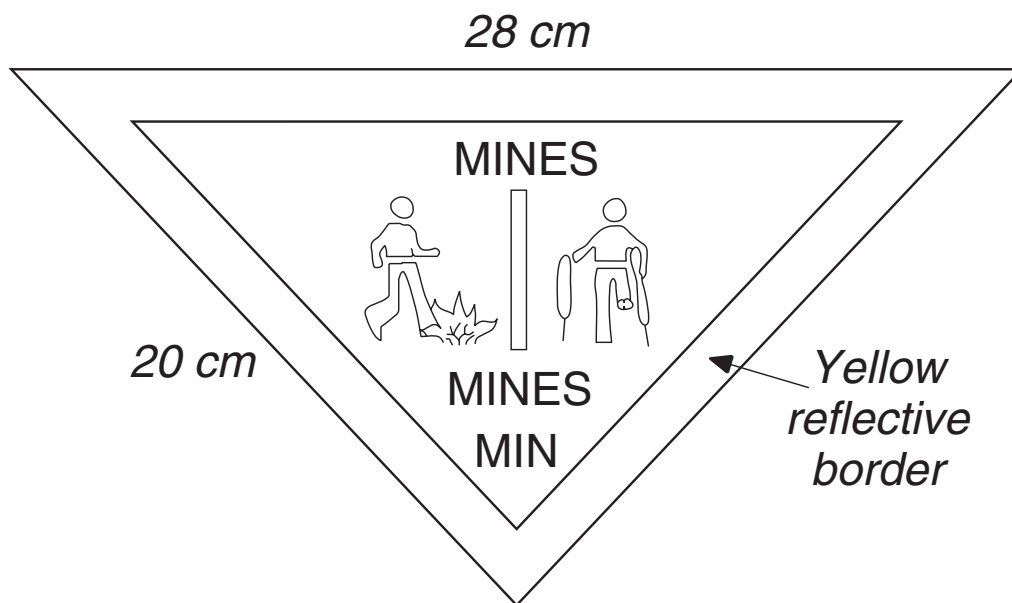
8.   ***Sign Detail***. The following features are essential:

    a.   *Size and Shape*. A triangle or square no smaller than 28 cm (11 inches) by 20 cm (7.9 inches) for a triangle and 15 cm (6 inches) per side for a square.

    b.   *Colour*. The sign should be red or orange with a yellow reflecting border.

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1.   Such monitoring does not necessitate the need for a 24 hr "guarding" of the minefield but could be facilitated by periodic attendance or utilising other surveillance devices. The degree of physical monitoring will therefore be dependent on the situation and will require military judgement.

c.   *Symbol*. The symbol illustrated as above, or an alternative readily recognisable in the area in which the sign is to be displayed as identifying a dangerous area.

d.   *Language*. The sign should contain the word "mines" in one of the six official languages of the UNWC (Arabic, Chinese, French, Russian, Spanish and English) and the language or languages prevalent in the area.

e.   *Spacing*. The signs should be so placed around a mined area and at a distance sufficient to ensure their visibility at any point by a civilian approaching the area.

CONTROL OF DEMOLITIONS

INTRODUCTION

1.   In the commander's design for battle a number of key terrain features will be critical to the movement of his formation. These features may include bridges, routes or minefield lanes, that he has decided must be denied to the enemy until they are no longer of use to his own plans. Closure of such features will require a preliminary or reserved demolition. Because the implications of mistakes are self-evident the orders concerning all aspects of demolitions must be simple, clear and easily understood. Commanders and staffs must be fully conversant with all aspects of the operation. Detailed demolition procedures are contained in the Land Component Handbook and TAM.

TERMINOLOGY

3.   ***Authorized Commander.*** The Authorized Commander is the commander who has the authority to order the firing of a demolition. He may delegate this authority to a subordinate commander, in which case the subordinate becomes the Authorized Commander.

4.   ***Preliminary Demolition Target.*** A Preliminary Demolition Target is a target, other than a Reserved Demolition Target, (see Paragraph 5 below) which is earmarked for demolition and can be executed immediately after preparation, provided that prior authority has been granted.

5.   ***Reserved Demolition Target.***   A Reserved Demolition Target is a target for demolition, the destruction of which must be controlled at a specific level of command because it plays a vital part in the tactical or strategic plan, or because of the importance of the structure itself, or because the demolition may be executed in the face of the enemy.

6.   ***Demolition Guard.*** A demolition guard is a force positioned to ensure that a demolition is not captured or sabotaged by an enemy before it has been successfully fired.   The Demolition Guard Commander is responsible to the Authorized Commander for the operational command of all troops on the demolition site including the demolition firing party.

7.   ***Demolition Firing Party.*** A demolition firing party is technically responsible for a demolition. It is normally an engineer party and is required for preliminary as well as reserved demolitions.

8.   ***Documentation.*** Orders for the firing of all demolition targets are recorded on an AF W9811. These forms are prepared by the Authorized Commander's G3 staff and contain orders and coordinating instructions for the Demolition Guard Commander and the Firing Party Commander. They also contain procedures for the delegation of authorized powers.

PROCEDURES

9.   The authorized Commander, having made his plan, will select those demolition targets which he wishes to be reserved to himself and those which he considers to be preliminary.   The list of targets is then passed to subordinate formation commanders, who may select further demotitions to suit their own tactical situations. These extra targets are normally subject to the approval of the Authorized Commander.

10.   ***Preliminary Demolitions****.*   Three options are available to the Authorized Commander for firing preliminary demolitions:

     a.   Immediately after preparation, provided that political clearance has been given.

     b.   Upon receipt of a code from higher formation.

     c.   By delegating the order to fire to a subordinate commander. The Authorized Commander may also include in the AF W9811 the proviso that the demolition may be fired on the initiative of the Firing Party Commander if the enemy is in the act of capturing the demolition.

In order to fire Preliminary Demolitions there must be direct communications between the firing party and the engineer commander, who will pass down the Authorized Commander's order to fire.   It is the responsibility of the engineer commander to ensure that communications are provided and maintained.

11 .   ***Reserved Demolitions****.*   More detailed instructions are required in the case of reserved demolitions and will be issued on AF W9811. A number of points must be borne in mind when completing AF W9811:

     a.   *Demolition Guard.*   A demolition guard must be provided to ensure the security of a reserved demolition. The size and composition of the guard will be decided by the Authorized Commander, who will also issue orders to the Demolition Guard Commander on AF W9811.

     b.   *Firing the Demolition.*   Two options are available to the Authorised Commander for firing the demolition: the demolition may be fired upon receipt of a code, or by delegation of the order to fire to a subordinate commander. He may also add the proviso that the demolition may be fired without the receipt of a code if the enemy are in the act of capturing the demolition. Once the demolition is fired, the Demolition Guard Commander should sign the AFW 9811 and return it to the Authorised Commander. He and the firing party commander are also required to report the success or otherwise of the demolition.

     c.   *Communications.*   It is the responsibility of the Authorized Commander to provide and maintain communications between himself and the Demolition Guard Commander. In practice this is often best achieved by the use of a personal liaison officer with suitable communications.   Delegation of

authorized powers from one commander to another should not take place until the latter has established his own communications with the Demolition Guard Commander.

12.   ***Changes of State.***   Demolitions are normally prepared to State 1 (SAFE). Preliminary Demolitions are normally changed to State 2 (ARMED) immediately before firing. Reserve Demolitions are normally changed to State 2 (ARMED) some time before the anticipated time of firing in the interests of ensuring prompt reaction when firing is ordered. Changes of state must be ordered by the Authorizing Commander.

13.   ***Time to Fire.*** Changes of State take time to implement and there may also be a time delay between receipt of the order to fire and the actual firing of the demolition. Such timing delays must be passed to the Authorized Commander by the Demolition Guard Commander and the allowances must be made by Authorized Commanders to allow adequate time for orders to be put into effect.

CONCLUSION

14.   Procedures for the firing of demolitions must be clearly understood by commanders, staffs and parties at the demolition sites. They are quite straightforward provided that correct staff procedures are followed. NATO standardization agreements are to be enforced and will be particularly relevant when demolitions may involve forces of different nations. In all cases, the provision of suitable liaison and communications will be of vital importance.

Appendix:

1.   Control of Demolitions Aide Memoire.

CONTROL OF DEMOLITIONS

EMPLOYMENT CONSIDERATIONS

Concept
- Dmls relate to the op plan and close defiles/routes or restrict mov. With dmls obs remain open until charge is fired. En will try to seize or initiate premature dml. Timing of dml is critical.
- Con is essential. The comd and staff decide what is to be destroyed and when. Orders for con and guarding a dml are on AFW 9811 (STANAG 2017).

ROLES AND TASKS

Terminology
- Prelim Dml Tgt. Can be fired immediately after prep. Sometimes Prelim Dml can be delayed if BG comd wants to con dml of tgts in his area. No addl resources are aval for destruction of prelim dmls and it remains BG comd's responsibility to close it. He becomes the authorized comd.
- Res Dml Tgt. Con of destruction at a specific level, normally fmn. Res dmls are important in the tac or strategic plan and selected because structure of tgt is best suited to a res dml.

Planning
- Planning of dmls and classification is comd's decision, on advice from engr adviser. Tac factors and tech difficulties of prep and completion of dml dictate selection.
- Op and dmls may be constrained by host nation con measures on firing of dmls.

CONDUCT

Types
- Prelim Dmls. Seldom a guard, auth to fire normally delegated to engr responsible for prep of dml. These dmls should be completed as soon as sit permits. AFW 9811 not always produced.
- Res Dmls. Res dmls must be guarded until dml is complete. Auth to fire is within fmn comd in early stages, but may be delegated later. Res dmls must be secured by a dml gd. Procedures for prep, protection and dml are in STANAG 2017. AFW 9811 always produced.

Timings
- Dml gd comd must be aware of timings to change states of readiness, move own forces, fire the dml and complete the dml. Details must be passed to auth comd.

Tasks
- Incl close def of dml, guarding approaches, def against air/hel/para attack, estb check pt (CP), tfc con, refugees, order firing of dml, report eff of dml.

Deployment
- All round protection
- All approaches to be covered.
- Occupy high ground.
- Anti-armr plan to destroy en fwd if poss.
- APCs/IFVs close to battle posns.
- Max usage of indir fire sp, esp against en hel attacks.
- Adjust posn in poor vis & ni.
- ARR/rec posn to clear blockages on dml.

POSSIBLE LAYOUT OF A RES DML
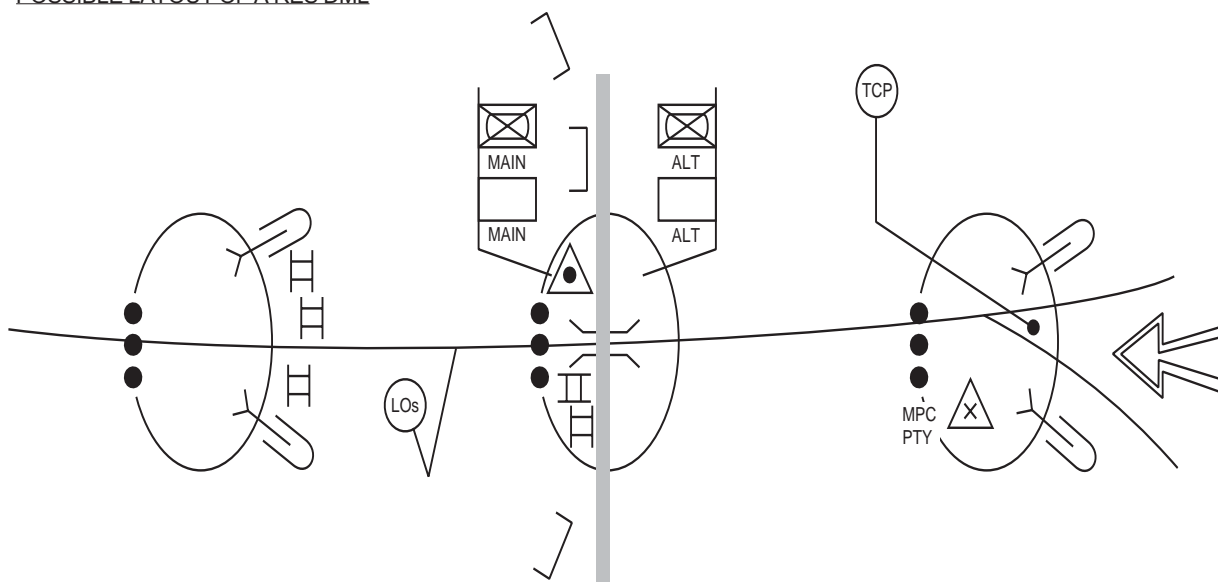
FORCE GROUPINGS

Composn
- Normally coy gp incl armr, FOO, AD, MFC, ATGW, engr firing party, poss engr res brs and rec veh.

Posn of HQ
- Main and Attn HQs on both sides of dml. Dml gd comd, firing party comd & LO must be coloc.

Res
- To be maint at all times. Likely tasks incl C attack, C helborne/para landings, rft of posns.

COMMAND AND CONTROL

Comd   -   <u>Auth Comd</u> is the offr empowered with the decision to destroy the res dml. Secure and reliable comms must be estb between auth comd and dml gd comd.

    -    <u>Dml Gd Comd</u>. Dml gd comd needs to be info by auth comd of action to be taken if en is likely to capture res dml tgt. Production of AFW 9811 is comd or staff's responsibility, not engrs.

    -    Dml Gd is a force positioned to prevent en capturing or sabotaging the res dml. Res dml gd comd is responsibile for def of the res dml and info the firing pty when to initiate charges. Task is not complete until dml is complete (incl addl obs/mines) and the eff of dml has been reported.

    -    <u>Dml Firing Pty Comd</u>. Technically responsible for the dml. Normally an engr sect comd. Dml firing ptys are needed for prelim dmls as well as res dmls.

Con   -   <u>States of Readiness</u>:-
State 1 (SAFE). Charges in place but not connected to firing circuit or detonators.
State 2 (ARMED). Charges in place and connected to firing circuits and ready to fire.
Estb CP at rear of dml for all wdr units expected to pass through dml. LOs cfm details as wdr progresses.
Rd block useful to prevent 'bounce' by en. Refugees may need civpol or Provo assistance.

Liaison   -   Each unit and fmn to pass through the gap/obs sends LOs in adv of tps. Duties of LOs incl:
Report details of type, str & eqpts.
Maint contact with parent org in order to provide timely and accurate info. Info must be passed to dml gd comd.
Help estb ident of approach tps & vehs.
Check tps/vehs through res dml and report to dml gd comd when complete.

AREA DEFENCE - AIDE MEMOIRE

FUNDAMENTALS

Purpose	To prevent en from seizing terrain or breaking through into a def area		
Objectives	To degrade en offensive and to cause his attack to fall To gain time To allow fr forces to conc elsewhere		

Principles & Factors	Fire power EW Intelligence Use of terrain Depth Offensive action Mutual sp Cohesion Mob res Concentration of combat power Deception
Types	Mob and Area
Stages	Preparatory, covering for, battle handover, main def area, res

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FORCES AND TASKS

Armr	Gd force, anti-armr plan, mob res, elms in screen force
Recce	Screen covering flanks and gaps in main def area, assist mov of mob res
Inf	Hold ground, anti armr plan (Milan, LAW 80)
Arty	Fireplan (incl mors) illum
AD	Protection of HQs, res
Engr	Terrain analysis, Obs plan, route maint
Hels	Coord with covering tps

PLANNING AND PREP

Msn Factors	To hold to deny or to destroy	Plan	Surprise and deception
	En		STAP
	Terrain		Fire plan (dir and indir)
	Time and space (hasty or deliberate)		Anti armr plan Obs plan
	Assessment of Tasks		Manoeuvre plan
			Adjustments for ni and poor visibility

CONDUCT

Sequence	WngO	Screen force, Gd force, bdrys, def stors, ammo, liaison, timings, limit of recce, pri for units, admin
	Recce	Gd force KAs, main def posn (inter coy bdrys), obs, anti armr KAs, routes, hides, en options, barrier restrictions, deception
	Orders	Concept of ops, pt of main effort, where to force the decision, coord of arty/mors, C^3, prep of posn, AD, fire plan, STAP, routes, recognition, deception
	Prep posn	Incl mining, writing, demls, OPs, deception
	Screen Force	Sighting reports, key eqpt, en str, axis, routes
	Gd Force Actions	Deception, destroy eqpt, be prep to re-estab posn
	Main def battle	Deny gd or destroy en
	C moves	Res options

CONCEPT (2.2 BG)

SCREEN FORCE	GD FORCE	MAIN DEF POSN	RES

Obsn to front and flanks
Liaison with fwd forces
Report en axis
Force en to close down
Wdr on selected routes
Anti heliborne in rear area
Flank protection
	OPS fwd
	Surface lay barmines
	Prep posns
	Destroy en recce and key eqpts
	Asst with fwd def
	Destroy/disrupt/delay using
	  ambushes
	Close routes
	Shape en
	Deception
		Ops fwd
		Prep posns
		Asst with fd def incl engrs
		Destroy en/hold ground
		Liaison coord pts
		Asst extraction of Gd force
		C Attack
			Prep for C moves
			- rehearsals
			- routes
			- timings
			Asst with prep of main
			  def posn
			Hide in depth
			Know fwd coy gps
			  plans and locs

COMD AND CON

Con Measures	Bdrys	FSCL
	FEBA	FLOT
	Coord Pts	Arcs
	Check Pts	Planning lines (incl handover lines)
	Routes	

COMBAT SVC SP

Gen	Consider requirement for mines and def store. Tp must make use of local resources
Sup	High expenditure of ammo will nec dumping well fwd
Med	Eff system to evac cas from gd force, screen and main def posn
Sy	Careful siting of ech to protect from air and gnd attack

CHAPTER 8 - DELAY OPERATIONS

SECTION 1 - THE FUNDAMENTALS

General

1.   Delay is an operation in which a force under pressure trades space for time by slowing down the enemy's momentum and inflicting maximum damage without, in principle, becoming decisively engaged.

2.   When considering a delaying operation the commander will be attempting to satisfy one or more of the following objectives:

   a.   To slow down the enemy's advance by disrupting his cohesion, thus reducing his offensive capability in order to gain time for subsequent operations.

   b.   To manoeuvre the enemy into areas where he is vulnerable to attacks or counter-attacks, thereby gaining the initiative.

   c.   To avoid combat under undesirable conditions thereby preserving forces.

   d.   To determine the enemy's main effort.

Principles of Delay

3.   ***Simplicity.***   Delay is arguably the most difficult operation to conduct.   It does not fit neatly into a series of stages.   Rather it comprises a series of co-ordinated subordinate actions of defence or offence, which are broken off when the enemy presses too close to the point where the delaying forces are at risk of being irretrievably embroiled.   Simplicity is thus a pre-requisite of planning for and executing a delay operation.

4.   ***Manoeuvre***. Movement and fire allow the delaying force to disengage and move to new positions when the enemy concentrates his forces and/or presses too hard. Manoeuvre can also wear the enemy down without close contact.

5.   ***Offensive Action***.   A delaying force might not have the initiative and may be operating in less than ideal conditions.   Nevertheless, the delay force must take every opportunity to initiate offensive action.   Attacks should be undertaken whenever losses or damage can be inflicted on the enemy and success exploited. A delaying force should not only make use of the depth of the assigned area, but should also make every effort to attack the enemy in his depth.

6.   ***Deception***. Deception is necessary to reduce the inherent vulnerability of any force during rearward movement and should be in concert with higher formation plans.

Delaying Tasks

7.   Delaying operations can be conducted independently or within other types of operation. This may be either as a prelude to a defensive operation (carried out by a covering force), or prior to offensive operations. It is possible that transitional phases

will be involved, the most likely being a rearward passage of lines. A battlegroup is likely to be tasked for a delaying operation as part of a higher formation's plan in one of the following circumstances:

a.   As a covering force for defending or withdrawing main bodies.

b.   As the advance guard or covering force when encountering superior forces.

c.   As a subsidiary operation conducted to fix or contain an enemy attack on a less critical avenue of approach.

d.   As a deception measure to set up a counter attack.

e.   As a fixing force in mobile defence.

SECTION 2 - PLANNING DELAY OPERATIONS

8.   A delay operation must have a simple and aggressive plan that particularly takes into account: the concept of operations; maintenance of control; and maintenance of morale.

9.   ***Concept of Operations***. To achieve his mission, the battlegroup commander must assess:

a.   *What effect he needs to have on the enemy*. This could be to force him to deploy for an attack once or twice in the area; to defeat/destroy his recce, CRP or vanguard company; or to begin to turn the enemy into an area for subsequent operations.

b.   *Where he wants to achieve the desired effect*. The IPB will be the tool to assist him in identifying options within the estimate.

c.   *What combat power he needs to achieve his intent*. Armour, aviation, artillery, CAS and AI are probably best suited due to their manoeuvrability and reach. Equally, non armoured forces, because of their lack of mobility, are better suited in broken terrain or urban operations in which case additional assets may be required to support their extraction. Engineers can be used to shape the enemy for an ambush or to encourage him to move into ground of our choosing.

d.   *Loss limits*. The brigade commander may impose limits on the loss of space or friendly forces in order to maintain combat power for subsequent operations.

e.   *Time.* There may be constraints on the time available for preparation and the length of the delaying mission.

10.   ***Intelligence***. A continuous flow of intelligence will be vital to success in delaying operations. During the estimate process the battlegroup commander has to decide which areas he will use, which parts he may abandon earlier than others and which

ones need only be monitored. The IPB will be an element for the battle group commanders ability to make timely decisions.

11. ***Organisation of the Area***. Organisation of the area (and for sub unit commanders, organization of the ground) is similar to that used for defensive operations. The delay normally starts on a line given in the mission, where the battle is taken over from a screen force. The delay operation is fought back to another line where responsibility for the enemy is handed over and/or where the type of operation changes (often to defence). Within the area given, the forces will usually be assigned lateral boundaries which normally give a frontage much larger than in defence. The area allocated must have sufficient depth to allow delaying operations to be conducted. If depth is reduced, the delay will be shortened unless there is a compensating increase in the strength of the delaying force or an acceptance of high losses that might lead to a decisive engagement of the whole force.

12. ***Task Organization***. Forces must be organised so that they can deal with the unexpected. This requires a judicious balance between the tasks of maintaining surveillance, delaying the enemy aggressively, withdrawing to the next delaying position and having a reserve. Gaps must be kept under surveillance and provision made for quick reaction should the enemy use them for his advance. A reserve is kept to contain enemy penetrations between delay positions; to reinforce fire into a killing area; or to help a unit disengaging from the enemy. The size of the reserve depends on the situation and forces available.

13. ***Report, Delay and Disengagement Lines***.

   a. *Report Lines.* Report lines are designated along identifiable terrain features to control the displacement of friendly forces.

   b. *Delay Lines.* Selected report lines may be designated as delay lines, which require the delaying force to prevent the enemy from crossing the line until a specified time or the occurrence of an event.

   c. *Disengagement Lines.* The battlegroup commander may designate other report lines as disengagement lines. When a large enemy force approaches to within a specified distance of a disengagement line, then sub units may move from their delay positions to subsequent positions.

14. ***Security and Protection***. Security and protection are essential to avoid delaying forces being surprised and forced into an unwanted decisive engagement. This involves the maximum use of concealment, deception, communications security, EW and counter-surveillance measures and also the protection of critical points required for movement. The acceptance of gaps is inherent in delaying operations, and often a delaying force will have to provide its own flank security.

15. ***Co-ordination with Adjacent Units***. Co-ordination is critical during a delay, therefore the battlegroup commander designates contact points at the boundaries along delay lines to ensure that units tie in at each series of delay positions.

16. ***The CSS Plan***. The CSS footprint should be minimised in the delay operations area and be able to move rearwards supporting the delaying force. The dumping of

logistic stocks should be kept to a minimum and the denial of dumps considered. Ambulances may need to be echeloned to enable the swift casevac of sub unit personnel in contact. Rear operations in a delay are similar to rear operations in a defence. For more CSS detail see Chapter 12. Extra consideration should be given to the subsequent delay force operations if it is to be an immediate defensive or offensive operation.

17. ***Maintaining Morale****.* A delaying operation may be conducted in an unfavourable air and ground situation. The threat to the morale of the battlegroup will be high and the commander should pay particular attention to the cohesion and discipline of his force. Failure to comprehend the commander's intent leads to rumour and alarm, therefore measures should be taken to explain to all ranks what is happening and why.

SECTION 3 - CONDUCT OF DELAY OPERATIONS

18. A delay operation has 3 inter-linked phases. These are the preparatory phase, the delaying action itself and breaking contact.

The Preparatory Phase

19***.*** ***Reconnaissance****.*   The battlegroup commander must ensure that he has well organized reconnaissance; with uninterrupted communications; and a flow of sound and timely intelligence including non-organic intelligence.

20***.*** ***Selecting Positions****.*   As in defensive operations, the battlegroup commander assigns his delaying force an Area of Operations (AO) with flank and rear boundaries. Using the IPB process, he selects delay positions on key ground astride likely enemy avenues of approach. If possible, ground should be selected which has good natural barriers, provides good observation and fields of fire, and allows easy disengagement of the delaying force. Delay positions are normally battle positions that the battlegroup commander plans throughout the depth of the delay AO. The battlegroup commander may position his delaying sub units in depth on alternate positions or, when the AO is wide and forces are insufficient to cover it, he may be forced to position most of his forces well forward and achieve some depth through manoeuvre alone. Time and resources will normally limit a battlegroup to preparing only the initial and a few subsequent positions.

21. ***Selecting and Preparing Obstacles****.* Measures must be taken to cover gaps and flanks with obstacles. Obstacle planning, including policy on mine warfare, is covered in Chapter 7.

22. ***Preliminary Movement****.* During this phase, the screen, delaying forces and the reserves are moved to their initial positions.

The Delaying Action

23. ***General****.* The delaying action will normally consist of three elements: the screen, the delaying force and reserves.

24. ***Screen***. The screen will normally consist of reconnaissance forces and, if available, AH, supported by artillery. Its primary task will be to provide early information on the location, strengths and movement of the enemy. Although it should avoid prejudicing its primary task, every opportunity should be exploited to cause delay and inflict casualties on the enemy.

25. ***Delaying Forces***. The delaying forces will usually consist of manoeuvre sub units supported by artillery. At the earliest opportunity they must engage the enemy by providing concentrated and co-ordinated direct and indirect fire, in combination with mobile actions. Every advantage offered by the terrain should be exploited. Gaps will be inevitable and should be covered by surveillance and indirect fire. In order to trade space for time, elements of the delay force will have to attack and defend, thereby forcing the enemy to concentrate repeatedly against successive battle positions. The delay force will fight their battle by delaying on alternate positions (leapfrogging); by delaying on successive positions (caterpillar); or by a combination of these two techniques. In executing these manoeuvres it is crucial that the delaying force maintains contact with the enemy between delay positions. The timing of various elements withdrawing from set positions is critical and requires sound command and control.

   a. *Alternate Positions*. A delay from alternate positions involves two or more sub units in a single AO occupying delaying positions in depth (Figure 8-1). As the first sub unit engages the enemy, the second occupies the next position in depth and prepares to assume responsibility for the operation. The first sub unit disengages and passes around the second. It then prepares to re-engage the enemy from a position in greater depth while the second force takes up the fight. A delay from alternate positions is useful on particularly dangerous avenues of approach. It offers greater security than a delay from successive positions. However, it requires more forces and continuous co-ordination. Additionally, there is the risk of losing contact with the enemy between delay positions.

   b. *Successive Positions*. A delay from successive positions occurs when the AO is so wide that available forces cannot occupy more than a single tier of positions. Manoeuvre units delay continuously on and between positions throughout their AO. (Figure 8-2). This technique is simpler to co-ordinate than the delay from alternate positions and, although it has vulnerabilities, it is useful in less dangerous AOs. It is easier to penetrate than a delay from alternate positions because the force has less depth and less time to occupy subsequent positions. In selecting positions, the battlegroup commander considers the location of natural and artificial obstacles. To ease the rapid occupation of positions, sub units normally recce subsequent positions before occupation and post guides on one or two subsequent positions. In restricted terrain, where dismounted infantry conducts the primary action, successive positions may be close together. In more open terrain, delay positions are often far apart.

26. ***Local Echelon Forces***. Local echelon forces must be held to support forward positions, assist the extraction of delaying forces and to destroy weak enemy forces that may have infiltrated between these positions.
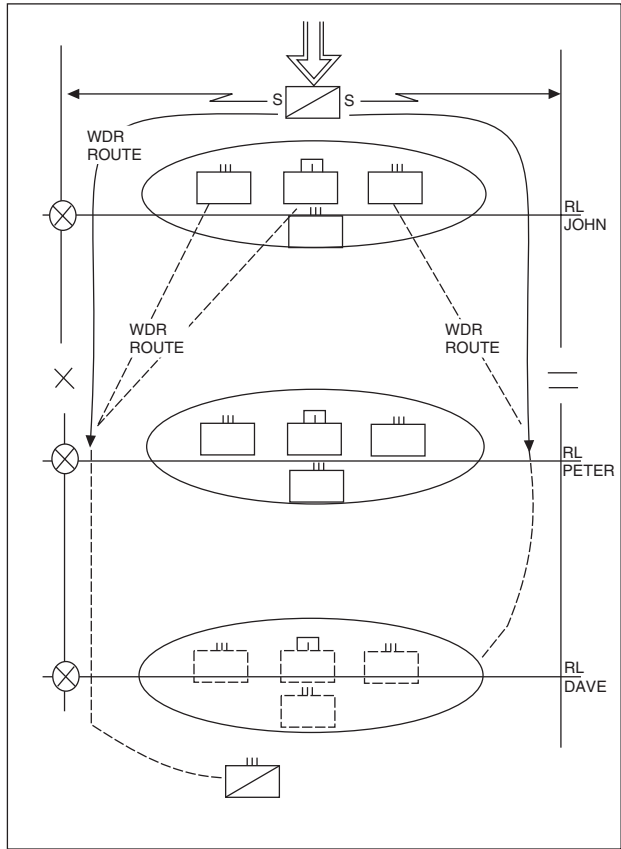
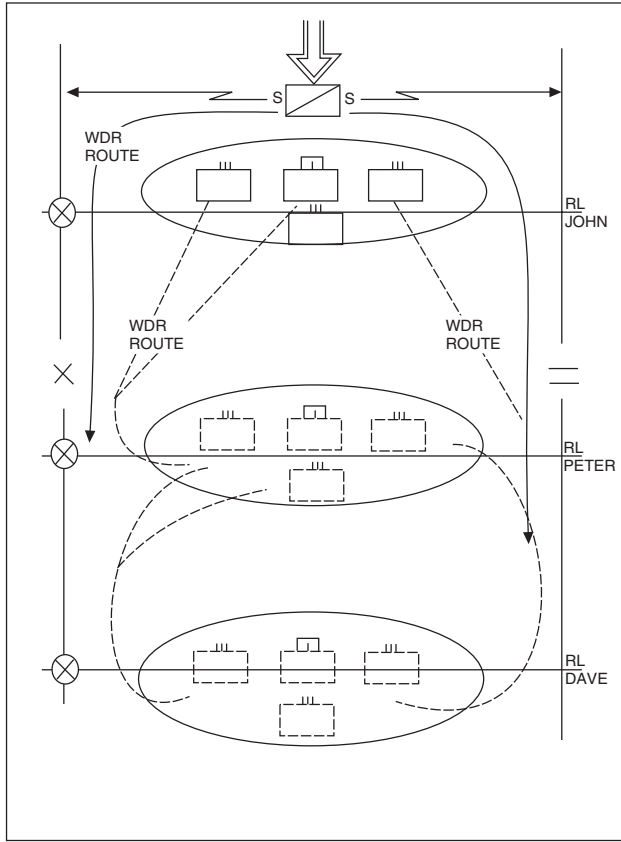**Figure 8-1 Delaying on Alternate Positions**

Figure 8-2 Delaying on Successive Positions

27.   ***Termination of the Delay Operation.*** A delay operation terminates when the delaying battlegroup passes through another force; the delaying force reaches defensible terrain and changes to the defence; or the advancing enemy force reaches a culminating point. If the enemy reaches a culminating point, the delaying force may maintain contact in current positions, withdraw, or move to the offence.

Breaking Contact

28.   Troops withdrawing from a position must attempt to break contact with the enemy concealing both the time and location of this action from them. This can be achieved by withdrawing through a position occupied by another unit or by suddenly disengaging when the enemy is unbalanced and unable to follow up immediately. The important decision is to judge the correct moment when to withdraw from each position: too early would result in failure to achieve maximum delay; too late would risk unnecessary casualties or being overrun. Counter-attacks may be necessary to achieve disengagement.

29.   The withdrawal of a delaying force into an area where an in-place force takes over the battle can be a critical operation, especially if the delay force has been unable to disengage. A handover line must be given; the elements of the in-place forces may have to deploy forward of this line to take over the battle and assist in the rearward passage of lines of the delay force. The enemy should be given as little indication as possible of the handover. The withdrawing force must attach liaison elements to the in-place force to provide timely information on its planned withdrawal and on the battle situation.

Command and Control

30.   ***General***. Wide frontages and multiple attacks make it impossible for the battlegroup commander to be present at every significant action. Combat intensity limits his mobility on the battlefield. Delay is a dynamic operation. The command and control of the delay resembles that of the defence. As shown in Figure 8-3, many of the same control measures apply. To ease operations, the battlegroup commander divides his own AO into sub unit AOs with boundaries extended to the rear through any rearward positions. The battlegroup commander graphically depicts delay positions as battle positions. The delay uses engagement areas, trigger lines, and target reference points just as they are used in the defence. Chapter 7 discusses these control measures. Contact points on boundary lines are used to help units tie in to each other. To control movement the battlegroup commander prescribes rearward movement events and designates report lines and successive positions. Commanders may designate some report lines as delay lines. The battlegroup commander may also establish a disengagement line to prevent selected units within delay (or defensive) positions from being overrun.

31.   ***Hand-over***. The most complicated aspect of the delay force battle is breaking contact with the enemy. The battlegroup commander will designate a hand-over line at which troops from the main defensive position assume responsibility for the battle, allowing the covering troops to break contact cleanly. The hand-over line will have some or all of the following characteristics:
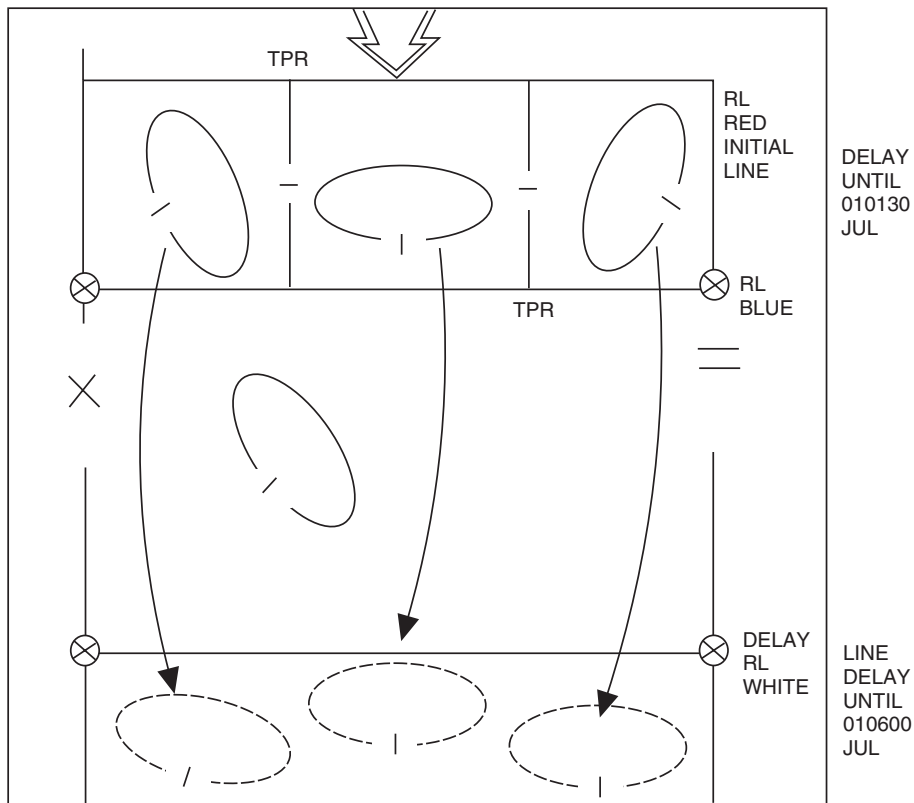
Figure 8-3 Control Measures

a. The line should be forward of the feature from which the enemy can first engage the next defensive position with observed fire and be situated so that crossings and defiles used by the force moving rearward can be protected.

b. The line should be in an area which can be defended, at least temporarily.

c. Good lateral routes should exist behind the hand-over line to allow the use of alternative entry points.

d. The line location should be easily identifiable on the ground.

32. ***Other Control Measures***. Essential control measures include:

a. Liaison.

b. Boundaries.

c. Routes/axes.

d. Report/control lines.

e. Co-ordinating points.

f. Check-points and traffic control.

g. Passwords and recognition signals.

h.   Arrangements for closing barriers and executing demolitions.

i.   FLOT.

j.   Airspace Control Measures.

k.   FSCM.

33.   Battlegroup Drills covering delay operations are at Annex A.

Annex:

A.   Battlegroup Drills - Delaying Operations

BATTLEGROUP DRILLS - DELAYING OPERATIONS

EMPLOYMENT CONSIDERATIONS

Principles	-	Simplicity	Objs	-	Slow down en adv
		Manoeuvre/Terrain give ground for time		-	Determine en's main effort
		Offensive Action		-	Channel en to potential KAs
		Deception		-	To avoid cbt under undesirable conditions
	-	Time/Space			
	-	Freedom of Action			
	-	Decentralised Execution			

FORCES AND TASKS

Arms	-	Best suited to delaying ops, max use of fire-power and mobility	Engr	-	Obs, route denial, maint of routes for own force
			AD	-	Cover critical pts
Inf	-	Blocking posns, by use of a series of def posns	Hels	-	Sp with ATGW, CPs, tac and log mov
Arty	-	Slow down en adv, interdict en fol on forces, sp disengagement of own forces	Air	-	Interdiction and CAS

PLANNING AND PREP

Msn	-	Delay en adv (for specified time)	Plan	-	Tasks
Factors	-	En strs, routes		-	Hand-over line
	-	Ground		-	Obs plan, incl dml con
		- Obs		-	Con of manoeuvre, maint of routes
		- Fire posns		-	Flank protection and depth
		- Routes		-	Coord and liaison incl prep for passage of lines
		- Hides		-	Denial plan
	-	Time		-	Fire sp
	-	Mob of own force		-	STAP
	-	Air sit		-	Combat svc sp
	-	NBC sit			
	-	Combat svc sp			
	-	Next msn			

CONDUCT (eg delay from successive positions)

Recce Elm	-	Ident en activity.	Disengagement	Breaking Point
	-	Deploy fwd.	- Wdr through another unit.	- Mov of delaying force to new area
Delaying Force			- Sudden break in engagement.	- New force maint contact with enemy
	-	Early engagement of en.	- Timely to achieve delay but avoid being overrun.	- At hand-over line.
	-	Mob actions.	Res Tasks	- Easily ident on ground.
	-	Use of ambush posns.	- Blocking en axes.	- Temporarily defendable.
	-	Use fire sp.	- C attacks to block gaps and asst disengagement.	- Good wdr routes.
	-	Preservation of combat power by timely disengagement	- Covering actions to sp wdr forces.	- Fwd posns where en can dir fire onto def posns.

COMD AND CON

Con measures	-	Liaison, bdrys, routes, axes, report lines, coord pts, check pts, FSCL, timings, hand-over line, denial measures, disengagement lines
Comd	-	Central HQ for planning and coord, decentralized con of execution.
Comms	-	Essential for comd and con.

COMBAT SVC SP

Sup	-	Max use of mob stocks, ech rearwards.
Maint	-	Min repair, max rec rearwards.
Med	-	Plan for rapid evac.

CHAPTER 9 - TRANSITIONAL PHASES DURING OPERATIONS

SECTION 1 – THE FUNDAMENTALS

1. ***General***. The preceding Chapters considered operations under the headings of offensive, defensive and delay. These operations are linked by one or more transitional phases which may take place within the operations themselves. A transitional phase is never carried out in its own right. However, its execution *must* lead to the active prosecution of one or more of the Operations of War. The principles and factors that generate the rapid and successful execution of these phases differ.

2. ***Tempo***. One of the main factors that will affect the tempo of operations is the speed of transition between activities. Therefore, it is self evident that the ability of the battlegroup to move about the battlefield in all transitional operations is critical. A detailed understanding of the tactics and well rehearsed drills are essential to enable this to be effective.

3. ***Principal of Four***. To apply a manoeuvrist approach to transitional operations the battlegroup commander should seek to apply the Principle of Four when tasking his command. He may task his troops as follows:

   a. Fix/Fire force.

   b. Strike/Manoeuvre force.

   c. Momentum/Second Echelon force to exploit success, supporting the main effort.

   d. Reserve to deal with the unexpected.

4. ***Transitional Phases***. Transitional operations are*:*

   a. Advance to Contact.

   b. Meeting Engagement.

   c. Link Up Operations.

   d. Delay Operations.

   e. Withdrawal.

   f. Relief Operations:

      (1) Relief in Place.

      (2) Forward Passage of Lines.

      (3) Rearward Passage of Lines.

SECTION 2 - ADVANCE TO CONTACT

Fundamentals

5.   ***Purpose of an Advance to Contact***. The purpose of the advance to contact is to enable a force to seize and maintain the initiative by seeking to gain or re-establish contact, under favourable conditions, with the enemy. By seeking contact it differs from the meeting engagement where contact is made unexpectedly.

6.   ***Tenets***. The dominating features of the advance are surprise and the maintenance of momentum.

   a.   *Surprise*. Swift reaction and manoeuvre, boldness and the concentration of a decisive weight of armour and fire at unexpected times and places achieve surprise.

   b.   *The Maintenance of Momentum*. Maintaining the momentum of the advance will keep the enemy off balance. This serves both to reduce the probability of enemy counter action and to take advantage of fleeting opportunities. It is to be achieved by:

      (1)   Clear orders and directives, which enable junior commanders to use their initiative in furthering the battlegroup commander's plan, based on the rapid and accurate dissemination of intelligence and information.

      (2)   Balanced grouping and deployment.

      (3)   Sensible anticipation by commanders at all levels, and timely preparation to counter likely obstacles and enemy resistance.

      (4)   Urgency and quick reaction throughout the battlegroup using common drills and procedures.

7.   ***Employment Considerations***. The employment considerations in respect of the Advance to Contact are that it:

   a.   Should to gain or re-establish contact with the enemy under favourable conditions for the main force.

   b.   Is conducted in preparation for a subsequent mission.

   c.   May involve destroying or forcing the withdrawal of minor enemy units.

   d.   May require the battlegroup commander to seize or wrest the initiative from the enemy by manoeuvre.

Organisation

8.   A force advancing to contact will normally be organised as shown in Figure 9-1.

a. *Covering Force.* The covering force that will contain ISTAR force elements and an advance guard should always lead the advance. The Covering Force mission and task organization must be clearly defined as it may influence the entire course of the battlegroup's mission and it should be prepared to adopt an aggressive approach throughout the advance. Possible tasks are to:

  (1) Locate and define enemy positions and strengths.

  (2) Find and exploit gaps.

  (3) Obtain information on routes, obstacles and terrain.

  (4) Conduct deep penetration to disrupt enemy communications and logistics.

  (5) Seize lightly held crossing sites, bridges or defiles.

  (6) Exploit alternative movement corridors.

  (7) Conduct missions against bypassed enemy.

  (8) Fix an enemy force.

b. *Flank and Rear Guards.* The deployment of flank and rear guards will depend on the assessment of the threat.

c. *Main Body.* The main body will react on contact using speed, manoeuvre and initiative to overcome the enemy, utilising:

  (1) Action by the covering force to eliminate or fix the enemy while he is bypassed.

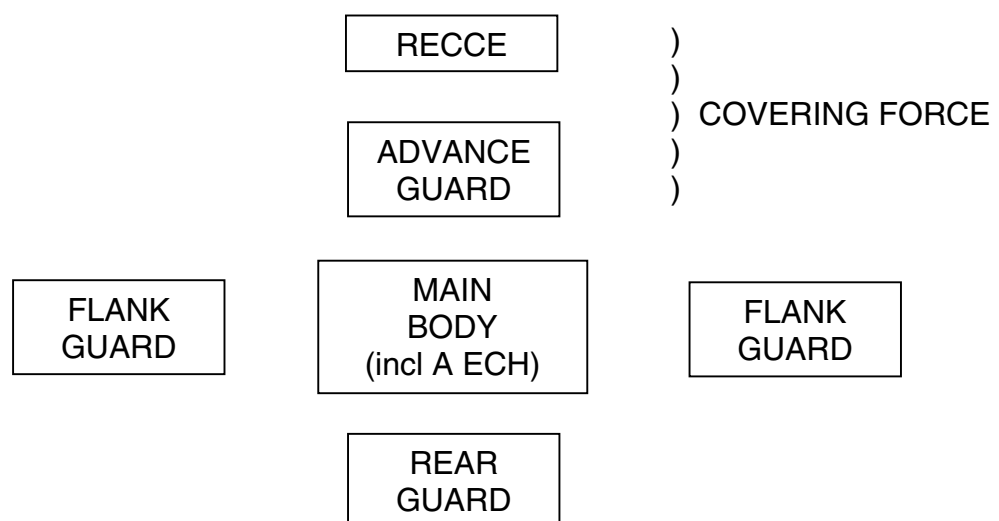 (2) Immediate and vigorous manoeuvre to test the enemy strength and find gaps or weaknesses.

Figure 9-1 Advance to Contact

Planning

9.   ***General***.   The primary consideration in planning for an advance to contact is anticipating actions that may occur during the mission and the requirements for manoeuvre and fire support when contact is made. Limitations imposed by the higher HQ will affect how the advance is conducted.   The principal factors to be considered by the battlegroup commander in planning the advance are the ground and the enemy.

10.   ***IPB***.   The BAE and threat integration of the IPB provided by the BGE and IO, is essential and will enable the battlegroup commander to decide:

     a.   *Ground.*

         (1)   The possible axis or axes for the advance.

         (2)   What features dominate those axes and may be used:

             (a)   By the enemy to impede the advance.

             (b)   By the battlegroup to cover the advance.

         (3)   Defiles which must be forced and/or secured.

         (4)   Obstacles which must be crossed or avoided.

         (5)   Covered approaches that may be used by the leading elements.

         (6)   Routes and hides for use by depth elements.

     b.   *Enemy.* Analysis of the enemy's strength, intentions, air capability, known and suspected positions and their state of preparedness, in conjunction with an analysis of the ground will enable the battlegroup commander to decide:

         (1)   The balance to be struck between speed and security.

         (2)   The size of the force required both to sustain the advance and to secure its flanks and rear.

         (3)   Whether the ground, and the force available to him, will permit an advance on more than one axis.

         (4)   Where the advance should be pressed hard and where caution will be necessary.

         (5)   The level of precaution necessary against enemy air attack.   In the extreme case, this could dictate that the advance be conducted only by night or in poor visibility.

         (6)   What contingency tasks which might be necessary to sustain the momentum of the advance. These might include:

(a)   Specific tasks for reconnaissance to find suitable routes, bridges or gaps.

(b)   Engineer bridging or obstacle crossing tasks.

(c)   Action to capture or mask known or suspected enemy defences.

11.   **STAP**.   Most of the information requirements will be drawn from the IPB.   The production of a STAP will ensure that over the full AO and the complete time-scale, all of the battlegroup commander's information requirements will be met.

Grouping and Tasks

12.   ***Covering Force***.

a.   *Grouping*.   The battlegroup covering force will normally consist of the reconnaissance elements and the advance guard

(1)   *Reconnaissance*.   The reconnaissance group may consist of close reconnaissance troop/platoon, an FOO and MFC, engineer reconnaissance and possibly ATGW if operating far ahead of leading sub units.   Reconnaissance helicopters may be allocated to support ground reconnaissance, particularly when frontages are wide or flanks open.

(2)   *Advance Guard*.   The advance guard will normally be based on a single sub unit.   Armour will lead in open country and infantry in close country.   It may have ATGW under command and should be supported by an FOO, MFC and engineer reconnaissance.

b.   *Command and Control*.   During the advance to contact, the covering force will normally be concentrated under battlegroup control but may be placed under command of the leading sub units when the battlegroup is advancing on 2 or more distinct axes.   In either case, regrouping may be necessary once contact is made.   The relevant analysis of the IPB should be passed directly to the recce commander by the IO as periodic sitreps.   The battlegroup commander may require to revise the tasking/close recce from this analysis.

c.   *Tasks and Method of Operation.*

(1)   Reconnaissance will be given the overall task of establishing whether axes or routes are clear for the remainder of the battlegroup, and of locating and identifying enemy positions covering the advance. It may also be tasked specifically to find routes through and around enemy defences or obstacles.   It should advance tactically, working in sections, supported by indirect fire and also whenever possible given overwatch by the fire of ATGW and/or armour.

(2)   The advance guard should be close enough behind the reconnaissance element to react quickly to support their advance when

necessary, but not so close as to jeopardize their freedom of manoeuvre when contact is made. The advance guard sub unit commander should have freedom of initiative within the battlegroup commander's plan.

13. ***Flanking Forces***.

    a. *Grouping*. Flanking forces may take the form of a screen and/or guard. This may be found from the close reconnaissance element (if available) but will more probably be found from a platoon/troop of an echelon sub unit. This should be task organised with a MFC or FOO, ATGW and/or armour. Flank surveillance is an appropriate task for reconnaissance helicopters.

    b. *Command and Control*. Depending on the degree of threat and the size of the flank guard, it will either operate directly under battlegroup command or initially to its own sub unit.

    c. *Tasks and Method of Operation*. Flanking forces will move tactically, parallel with the advance of the battlegroup, maintaining wide surveillance and being prepared to pre-empt or disrupt any enemy action. Its activities must be closely co-ordinated with the advance guard and the rear guard.

14. ***The Main Body***. The main body will consist of battlegroup headquarters, uncommitted squadrons, companies, support weapons and supporting arms, and A1 Echelon. Individual groups should move tactically dispersed as directed by battlegroup headquarters between hide areas selected from the IPB and cleared by reconnaissance or the leading sub units.

15. ***Rear Guard***. Any rear guard required will move by tactical bounds covering the battlegroup's rear, reporting directly to battlegroup HQ.

Fire Support

16. ***General***. Fire support resources must be carefully co-ordinated and controlled to ensure that they are able to respond rapidly and effectively when required. Supporting fire must be capable of fixing or neutralizing those elements of enemy resistance that the commander decides to by-pass as well as being able to provide direct support to combat forces.

17. ***Command and Control***. BC's tactical groups will be delegated responsibility to coordinate aspects of the brigade fireplan. FOOs and MFCs might be grouped with the reconnaissance force, advance guard and, if possible, any flank or rear guards. However, their positioning should cover those critical areas identified in STAP and avoid dead space. They should operate far enough forward to be able to see the ground and react immediately the enemy is located, but protected by the most forward troops. Collocation in the area of the reconnaissance and sub unit commanders is often a satisfactory compromise that also makes them immediately available for fire planning.

18. ***Movement***. Formation headquarters will normally move artillery. On those rare occasions when it is placed in Direct Support, the BC will use fire and movement to ensure that at least one element is always in action and in range. Mortars should operate under battlegroup command, even when the width of frontage dictates the establishment of individual section mortar lines.

19. ***Components of Fire Support***.

    a.   *Artillery*.

        (1)   Immediate and effective fire support will fix and neutralize the enemy, enabling the battlegroup to attack or bypass as necessary. If a heavy volume of fire is available it may reduce the need to deploy troops in contact with the enemy.

        (2)   As the nature of the advance is one of sustained movement, a high degree of fire support co-ordination is required. Standards of reporting must be established that facilitate clearance of fire (ie every 500m or 30 minutes). Establishing a series of report lines that can rapidly equate to NFLs is also an effective battle tracking technique. Finally, whatever system is adopted, a method must be in place to disseminate fire support co-ordination. When planning fire support, the battlegroup should consider the following targets:

            (a)   Depth Targets: choke points, re-supply routes, assembly areas and likely gun areas. These targets will provide security and enable planning for exploitation.

            (b)   Targets for intimate support: enemy positions off the line of march, OPs, the use of smoke.

            (c)   Targets for a hasty attack: enemy positions that cannot be by-passed.

            (d)   Targets on key and vital terrain features.

    b.   *Air*. Air support must be carefully co-ordinated with other fire support and closely controlled to avoid incidents of fratricide during the advance.   It may be required to:

        (1)   Provide close air support to supplement artillery, particularly when artillery fire cannot be concentrated.

        (2)   Interdict enemy units attempting to withdraw or reinforce.

20. ***Close Air Defence (CAD)***. Formation headquarters will lay down the overall framework of AD and the policy for engagement. Battlegroup resources are normally best concentrated to cover defiles, headquarters and echelons, with any spare capacity devoted to hide areas. The battlegroup's principal defence, however, will lie in concealment and dispersion.

Mobility and Countermobility

21. *Mobility.* The primary role of engineers in the advance to contact is mobility support to the battlegroup. This will involve the use of engineer reconnaissance along side battlegroup reconnaissance in the covering force and with the advance guard to identify, as early as possible obstacles, natural and enemy emplaced, and to confirm cross country going and routes forward for the battlegroup. Close support engineers will deploy well forward to ensure that they can conduct mobility tasks (ditch, stream, minor river crossings; obstacle breaches; route opening, improvement and maintenance) in a timely manner in order to maintain the momentum of advance.

22*.* *Counter Mobility.* Engineers will need to be prepared to create rapid flank protection obstacles. The use of Combined Arms Obstacle Integration (CAOI) obstacle belts and groups will allow the delegation of emplacement authority to the appropriate level, combined with the preplanning of possible obstacles along the flanks, to ensure a rapid response. Belts, groups and preplanned obstacles should be in areas identified by the IPB process, and confirmed or amended by the covering force, as possible enemy AAs into the flanks of the advance. The SHIELDER mine laying system is ideally suited to this task. Details of CAOI can be found at Annex A to Chapter 7.

Fire and Manoeuvre

23. In circumstances where the need for speed is paramount, or the likelihood of contact with the enemy is negligible, all direct fire and manoeuvre may be abandoned and the leading elements may execute a continuous but tactically dispersed advance. A very rapid advance can thus be achieved, but adequate dispersion and quick reaction, including immediate indirect fire support, are essential if excessive casualties are to be avoided on any unexpected contact.

24. At the other extreme, once contact has been made or is considered imminent, any manoeuvre must be covered by the maximum weight of direct and indirect fire.

25. Between these two extremes various compromises are possible. The use of the different combat formations and movement techniques will enable the battlegroup commander to develop these compromises. Therefore, it is essential that all members of the battlegroup understand these formations and techniques as drills.

Command and Control

26. Commanders at all levels should be well forward to enable them to personally:

   a.   Influence the battle quickly.

   b.   Make quick decisions on attack, bypass or the exploitation of fleeting opportunities.

   c.   Co-ordinate between close recce and leading sub units.

27.   The commander of the exploitation force may co-locate with Tac HQs. This will ensure that this commander is fully in the battlegroup commander's mind and has a common situational awareness.

28.   Battlegroup headquarters should leapfrog between hides, well enough forward to maintain reliable, direct radio communication throughout the battlegroup. Complicated step-up arrangements should be avoided, with the Tac HQ assuming control if necessary while battlegroup headquarters moves.

29.   Radio silence may be ordered until first contact. The battlegroup must also be prepared to continue the advance in the face of enemy jamming. Battlegroup orders must be both comprehensive and flexible to enable subordinate commanders to exercise their initiative when communication is lost. Nevertheless, operations should wherever possible, be controlled by radio. The gathering of O groups and formal verbal orders should be avoided, as it will lead to a loss of momentum, but the battlegroup commander may visit or send LOs to individual sub unit commanders to discuss developments and supplement his initial orders.

Bypassing

30.   In general the fewest possible restrictions should be placed on bypassing in order to maintain the momentum of the advance, but it will often be difficult in practice to determine the exact strength of any enemy position.

31.   When ordering a position to be bypassed, the battlegroup commander must initially fix or mask the enemy to prevent interference with the continued advance and in the longer term to destroy the forces bypassed. This will normally be achieved in one of two ways;

   a.   By using the leading sub unit or indirect fire to fix the enemy position while depth elements continue the advance. The fixing force may subsequently be required to attack the enemy position or may hand this task over to forces in reserve.

   b.   By immediately bypassing the position with the leading sub unit or complete battlegroup, leaving depth elements to contain and ultimately defeat the enemy.

Action on Contact

32.   The action to be taken on initial contact will depend on the mission, formation bypassing policy and the nature of the resistance. Covering force must, however, always be prepared immediately to exploit any opportunity to take the enemy unawares or to 'bounce' an obstacle crossing. On contact, speed of manoeuvre and initiative may overcome the enemy before he can react.

   a.   *Reconnaissance Force (FIND).* The importance of the role of this force cannot be over-stressed. Without a constant flow of current information on the enemy and especially his depth, the battlegroup commander will be

severely limited in his ability to maintain a high tempo and thus momentum. Immediately contact is made, the reconnaissance force should:

(1)   Determine and report the exact strength and disposition of the enemy and the location and nature of any obstacles.

(2)   Call for direct and indirect fire support.

(3)   Manoeuvre to locate the enemy's flanks and any gaps in his positions or obstacles to permit his positions to be bypassed or taken from the rear.

(4)   If permitted, outflank the enemy and continue to advance. Part of the force must continue to observe the enemy until relieved.

(5)   Continue to develop the axes as the battle unfolds so that success can be exploited. This will be a risky venture with elements moving well forward of the main body.

b.   *Advance Guard (FIX/STRIKE)*. The leading sub unit should assist in the reconnaissance of the enemy positions and obstacles, and then, depending on the enemy strength and the battlegroup commander's orders:

(1)   Defeat the enemy by fire and manoeuvre.

(2)   Mount a quick attack to destroy the enemy or seize his positions.

(3)   Bypass the enemy and continue the advance.

(4)   Suppress or neutralize the enemy either to permit another sub unit to bypass or in preparation for a battlegroup attack.

(5)   If the situation develops into a battlegroup attack then expect either to lead the attack or to provide the Fire Support element.

c.   *Main Body (STRIKE)*. The elements making up the main body should move into temporary hides and await orders from the battlegroup commander. The task organisation of the main body must be sufficiently flexible to allow elements to:

(1)   Assume the advance guard role.

(2)   Change direction or route of any element of the battlegroup either to bypass enemy positions or take advantage of better routes.

(3)   Either independently or as part of a battlegroup operation, deal with the enemy that has been bypassed or is holding up the battlegroup.

(4)   Exploit opportunities.

c. *Flank Guard*. This should continue to secure the flank of the main body. The flank guard should also:

    (1)   Provide fire support on lines parallel to the axes to protect movement of the advance guard or main body as the situation develops.

    (2)   Picket likely enemy approaches.

    (3)   Be prepared to co-ordinate and handover to a reserve sub unit. This may be a formation reserve, including AH.

d. *Rear Guard*. The rear guard may be found from within A1 echelon, a tasked sub unit or elements of an echelon sub unit that will continue to secure the rear and follow the main body.

e. *Momentum*. It is of the utmost importance that the momentum of the advance is maintained. Whenever possible enemy positions should be outflanked. The battlegroup commander must be manoeuvrist in his approach, maintaining the initiative and delivering the formation commanders intent. If the enemy has managed to establish a continuous front and the strength and width of his positions preclude an outflanking move, an attack must be mounted to force a gap.

33.   **Routes**. Once routes have been cleared and opened it may be necessary to employ forces to ensure their security and maintenance, particularly if small pockets of enemy are bypassed and remain to the rear of friendly forces. Routes used for logistic traffic need to be kept separate from those used by combat forces, if possible. It is also necessary to ensure that empty CSS vehicles, or those carrying casualties, can return to the rear. These routes are especially vulnerable to enemy action and require securing against both land and air attack. These are elements of rear operations.

34.   **Exploitation**. If the enemy is unbalanced by a successful advance, or defeated by a successful attack, the opportunity to exploit the loss of cohesion must be seized quickly. The timely launching of maximum forces in pursuit provides the opportunity for the battlegroup commander to turn the enemy's withdrawal into a rout. The commander must select deep objectives and ensure that these are understood so that his subordinate commanders are not hampered by uncertainty as to what is expected of them. The keys to success are:

a.   Speed of decision and action.

b.   Relentless maintenance of momentum.

c.   Persistent contact with the enemy.

d.   Concentration of effort on the main objectives.

35.   **Pursuit**. The mechanics and planning of the pursuit are similar to those of the advance but greatly speeded up. Though it may be necessary to give axes, bounds

and report lines and controls to co-ordinate artillery and air support, these must not become the cause of unnecessary delay. It is also advisable to avoid passing one force through another. Risks must be accepted on the flanks and with combat and logistic support but the commander must be aware of the danger of overreach. He must constantly seek intelligence of the enemy and retain a reserve for the unexpected. Close air support and aviation will be especially important as a means of countering unforeseen enemy action.

Combat Service Support

36.   ***General***.   Generally, a column formation is the easiest movement technique to support.   Any other formation requires increased logistics planning.   The time-distance factors involved in the movement will also affect the ability of a given amount of CSS elements to sustain movement. For example, if a battlegroup's fuel tankers require half a day to travel to a point where they can be refilled, that unit can only refill its combat vehicles once a day using its organic vehicles. CSS support will mirror that required for all tactical moves.

SECTION 3 – MEETING ENGAGEMENT

Fundamentals

37.   ***General***. The meeting engagement is a combat action that occurs when a moving force, incompletely deployed for battle, engages an enemy at an unexpected time and place. Initiative and delegation will be of the essence.

38.   ***Circumstances***. A meeting engagement can occur in various circumstances:

   a.   When a force, moving either tactically or in column of route, makes contact with an enemy they know little or nothing about.

   b.   When both sides are aware of each other and decide to attack without delay to gain positional advantage, ground or to maintain momentum over the enemy.

   c.   When one force deploys hastily for defence while the other attempts to prevent it from doing so.

39.   ***Characteristics***. The key characteristics of the meeting engagement are:

   a.   Lack of information.

   b.   Lack of time.

   c.   Confusion.

40.   ***Key Factors***. Initiative and delegation will be of the essence. In particular:

   a.   Success will depend on the battlegroup commander's anticipation and the speed of reaction of the battlegroup and the use of effective firepower. Both

of these factors will be achieved by slick and well practiced drills, and a well balanced battlegroup that is structured to find, fix and strike. The importance of a balanced combat formation cannot be stressed highly enough.

b.   A meeting engagement demands situational awareness. He should make use of the IPB process. In particular he should continually study the terrain and the graphics to deduce areas in which it would be particularly likely for a meeting engagement to occur. Additionally, he should take particular note of the latest situation or intelligence reports and assessments concentrating on likely enemy capabilities, objectives, avenues of advance, going and natural obstacles.

Planning

41.   It will not be possible to plan in detail for this kind of operation. However, a battlegroup that is properly deployed in accordance with recognized tactical principles will be poised to react to most situations. Meeting engagements will invariably force a commander to reconsider and often adjust his plans. The basic principle is to seize and retain the initiative. This will give the commander the freedom of action he needs, either to accomplish his mission as he originally intended or to change his plan to suit the new situation. High tempo is at a premium; success depends, to a large extent, on the speed of reaction of the commander and his forces. He can then decide how to develop the meeting engagement into one of the operations of war (offence or defence).

42.   Battle procedure needs to be efficient and focused. Assuming a reasonable balance of forces, victory will go to the side with the higher tempo. In the planning stage this implies careful reconnaissance, mission orders, balanced grouping, forward command and responsive indirect firepower on call. Forward planning in this type of battle should never be so detailed as to lead a commander into a preconceived course of action; it is not a substitute for the intuitive and bold leadership that overturns material superiority.

Conduct of Operations

43.   ***Command and Control***. The various command and control problems confronting the commander in a meeting engagement are:

a.   He will have little intelligence on the enemy force, its strength, location or intention. To counter this he will require accurate, clear situation reports from lower commanders.

b.   The effectiveness of Headquarters may be reduced by the imposition of radio silence. It will take time to reactivate radio communications.

c.   The battlegroup commander must be well forward and able to speak to his sub unit commanders.

44.   ***Combat Service Support***. CSS in a meeting engagement must be able to react quickly to changing circumstances and changing plans whenever they occur. At the

level above that which is in contact, CSS should concentrate on directing its efforts on those involved in combat both during and after the battle. This might include:

a.   Ammunition.

b.   Refuelling.

c.   Medical support and the development of the casualty evacuation plan.

d.   Maximum availability of equipments.

e.   Planning for the recovery of the battle winning equipments.

SECTION 4 - LINK UP OPERATIONS

Fundamentals

45.   Link-Up operations are conducted to join two friendly forces in enemy controlled territory. It may therefore be necessary to destroy the enemy between these forces before a link-up can be established. Both forces may be moving towards one another, or one may be stationary or encircled. They may have the same or differing missions. The operation is fundamentally offensive in nature.

46.   ***Circumstances***. They are most often conducted to:

a.   Complete the encirclement of an enemy force.

b.   Assist the break out of an encircled friendly force.

c.   Join an attacking force with a force inserted in the enemy rear such as an air assault, airmobile, airborne or infiltration force.

47.   This is an operation that requires much more control than normally expected. The major concerns are security in transit and the possibility of fratricide. The keys are:

a.   Position control.

b.   Situational awareness.

c.   The ability to change direction.

d.   Security in transit.

Planning

48.   ***Situational Awareness***. The major planning factor will be retaining a common situational awareness between the 2 moving forces. This is to ensure maximum effectiveness against the enemy and to minimise the chances of fratricide.

49.   ***Command Relationships***. The headquarters directing the link-up must establish command relationships between forces and the responsibilities of each force during the operation.

50.   ***Liaison and Responsibilities***. When possible, sub units should establish liaison. If conditions permit, the battlegroup commander and liaison teams meet face-to-face before the operation begins. If the enemy is between the forces conducting a link-up, this liaison may not occur and co-ordination is then accomplished by radio. During the operation, the two battlegroups attempt to maintain continuous radio contact with each other or the higher headquarters. As a minimum, the battlegroups exchange the following information:

   a.   Enemy and friendly situations (in detail).

   b.   Locations and types of obstacles (existing and reinforcing).

   c.   Offensive Support plan.

   d.   Air defence control measures.

   e.   Recognition signals.

51.   ***Communications***. The headquarters directing the link-up is responsible for ensuring that SOI and recognition signals are compatible between the two forces. If the linking battlegroups do not have the same CEOI, the higher headquarters directs one battlegroup to change - normally the unit not in contact. If the battlegroups involved in the operation are neither under OPCON nor attached, they maintain their parent command nets; however, recognition signals *must* be exchanged.

52.   ***Security***. The moving force or forces generate open flanks. It is imperative that tight security is maintained through the use of covering forces. The rate of movement may be dependent on the amount of security required.

53.   ***Co-ordination of Schemes of Manoeuvre***. All elements in a link-up carefully co-ordinate their operations to minimize the risk of fratricide. This co-ordination continues throughout the operation and increases as the units approach the link-up points. Control measures used are as follows.

   a.   *Zones of Attack or Axes of Advance*. If one or more of the forces are moving, the higher headquarters controls their direction and objective.

   b.   *Report Lines*. A higher headquarters through the use of report lines controls movement.

   c.   *Restrictive Fire Lines (RFLs)*. These lines are used to prevent friendly forces from engaging one another with indirect fires. One technique is to make the report lines on-order RFLs.

   d.   *Fire Support Co-ordination Line (FSCL)*. This line is used in link-up operations to allow the engagement of targets outside the areas of both units.

e.   *Checkpoints*.   Checkpoints are used to control movement and designate overwatch positions.

f.   *Link-up and Alternate Link-up Points*.   The link-up point is a designated location where two forces meet and co-ordinate operations. The point must be easily identifiable on the ground, and recognition signals must be planned. Alternative link-up points are established in the event that enemy action precludes link-up at the primary point.

54.   **FS Co-ordination**:

a.   Ensure that thorough systems are in place for battle tracking and for disseminating information up and across to the in place force.

b.   Ensure all FSCMs and recognition signals are disseminated to the lowest level.

55.   **OS Planning**:

a.   Plan fire predominantly short of the RFL.

b.   Clear all pre-planned/on call fire beyond the RFL through the controlling HQs.

c.   Ensure use of smoke/illumination does not impede friendly operations.

d.   If necessary, use SCATMIN to block enemy withdrawal.

e.   Plan to mass fire at the link-up point.

56.   **Actions Following the Link-up**.   Subsequent missions should be co-ordinated before the link-up operation and modified, if necessary, when the link-up occurs. The two commanders should collocate near the link-up point, or at a prearranged location, to confirm or co-ordinate their subsequent operations.

Types of Link-Up

57.   There are two basic forms of Link-Up Operation:

a.   *Moving Force with a Stationary Force*.   Speed is essential to reduce the possibility of enemy reaction and minimise vulnerability to attack.   Ground link-up points should be established at locations where the axis of advance of the moving force intersects the security elements of the stationary force. RFL are required to avoid fratricide. Moving forces may be involved in deliberate attacks or manoeuvre. If the stationary force is encircled it should attempt to break out or take some other diversionary action to ease the task of the relieving force. Once link-up has been made, the moving force may join the stationary force or pass through or around to continue to attack the enemy. Subsequent missions must be launched as quickly as possible to exploit the success of the link-up.   Link-up with air delivered or infiltrated forces is

normally followed by a passage of lines or relief of the forces involved. The stages of the link-up are shown in Figures 9-2 and 9-3.
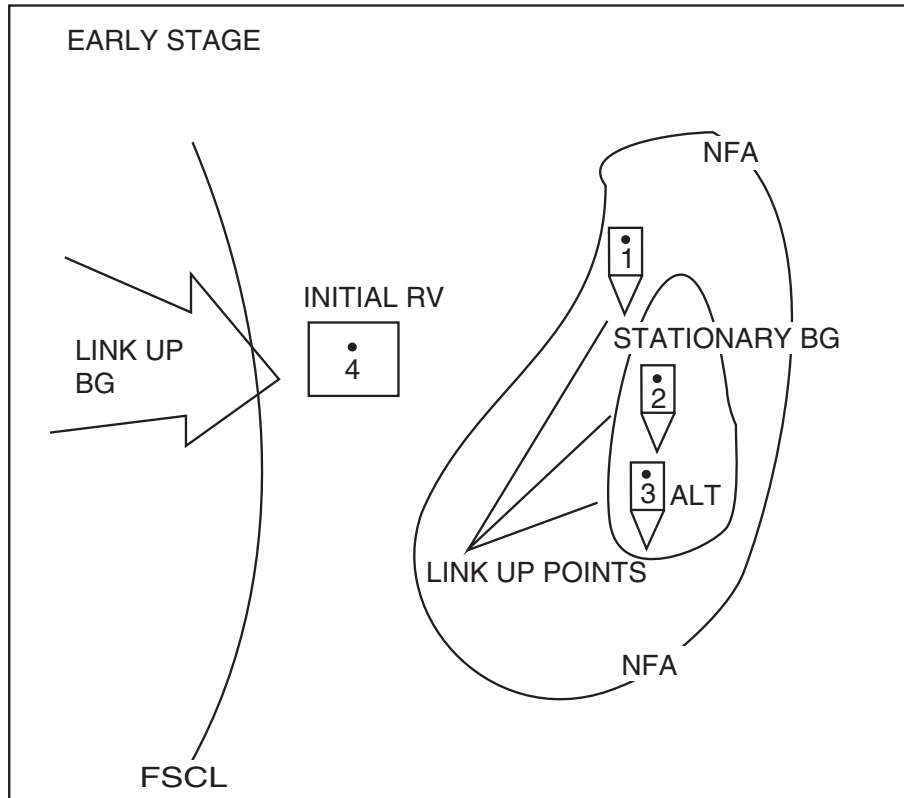

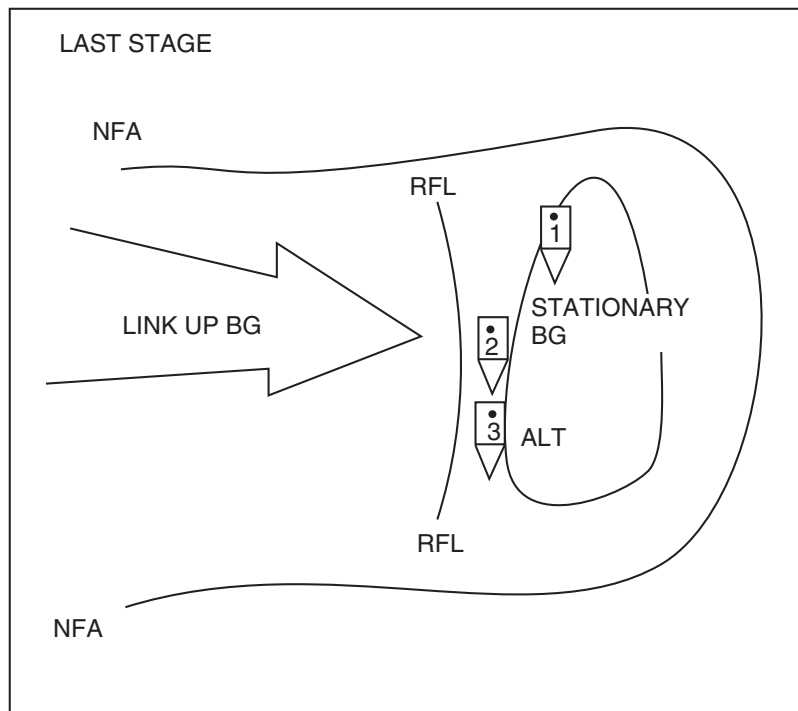**Figure 9-2 Link-Up of Moving and Stationary Forces**

Figure 9-3 Link-Up of Moving and Stationary Forces

b. *Two Moving Forces.* This is a difficult operation normally undertaken to complete the encirclement of an enemy force. It is illustrated in Figure 9-4. Primary and alternate link-up points are established on boundaries where forces are expected to converge. The reconnaissance elements of each force should seek contact as soon as possible. As the forces move closer, the need for positive control becomes important to avoid fratricide and to ensure that the enemy does not escape between the two forces. The leading elements of each force should monitor a common radio net.
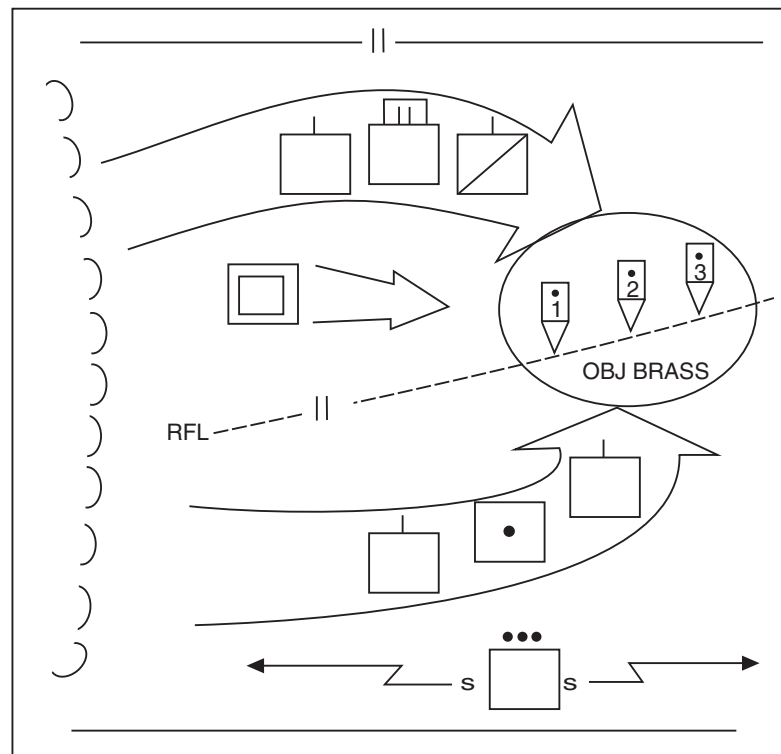
Figure 9-4 Link-Up of Two Moving Forces

Conduct

58.   *Double Envelopment.*

a. In the first example (see Figure 9-5), two sub units are advancing on separate axes to encircle an enemy force by linking up to the rear of that force. The battlegroup has co-ordinated their actions, has maintained radio communications and has exchanged liaison officers. The control measures are known to all.

b. The two sub units proceed as in a normal attack with the co-ordination of the two attacks accomplished by battlegroup HQ. Each sub unit monitors the progress of the other in the operation. The battlegroup commander is directing the fight forward. As the sub units cross RL DICK and come into direct fire range of one another, both sub units display recognition signs and the two commanders establish direct communications.
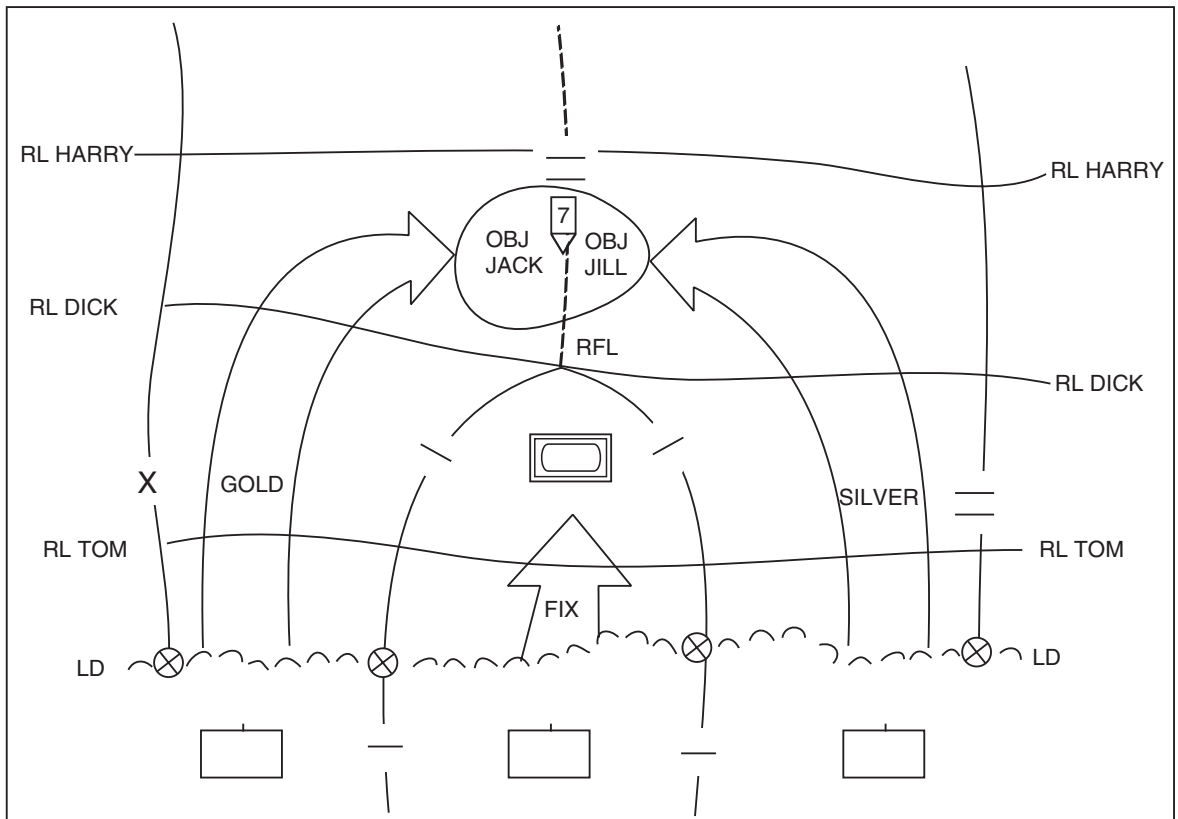
Figure 9-5 Double Envelopment

c.   The intent of the battlegroup commander is to encircle and reduce the enemy force. Therefore, the forces move into position after link-up and prevent the enemy from breaking out of the encirclement. The battlegroup should also ensure that they are secure from enemy forces attempting to link-up with the encircled force.

59.   ***Link-up with an Encircled Force***. In the second example (see Figure 9-6), a battlegroup is conducting an air assault operation followed by a link-up with a second battlegroup. In this operation, the FSCL and RFL will move as the operation progresses. Ideally, ground and air attacks commence simultaneously. As in the previous example, each battlegroup main HQ monitors the progress of the other battlegroup while the battlegroup commander directs the battle. The FSCL and RFL are moved as the operation progresses. As the battlegroup nears the link-up point, direct and indirect fires are more tightly controlled to preclude friendly casualties. Upon link-up, the forward HQs of the battlegroup meet face-to-face for co-ordination of subsequent operation.

Figure 9-6 Link-Up

SECTION 5 - WITHDRAWAL

Fundamentals

60. **_General_**. A withdrawal occurs when a force disengages from an enemy force in accordance with the will of its commander. It seeks to disengage its combat forces from th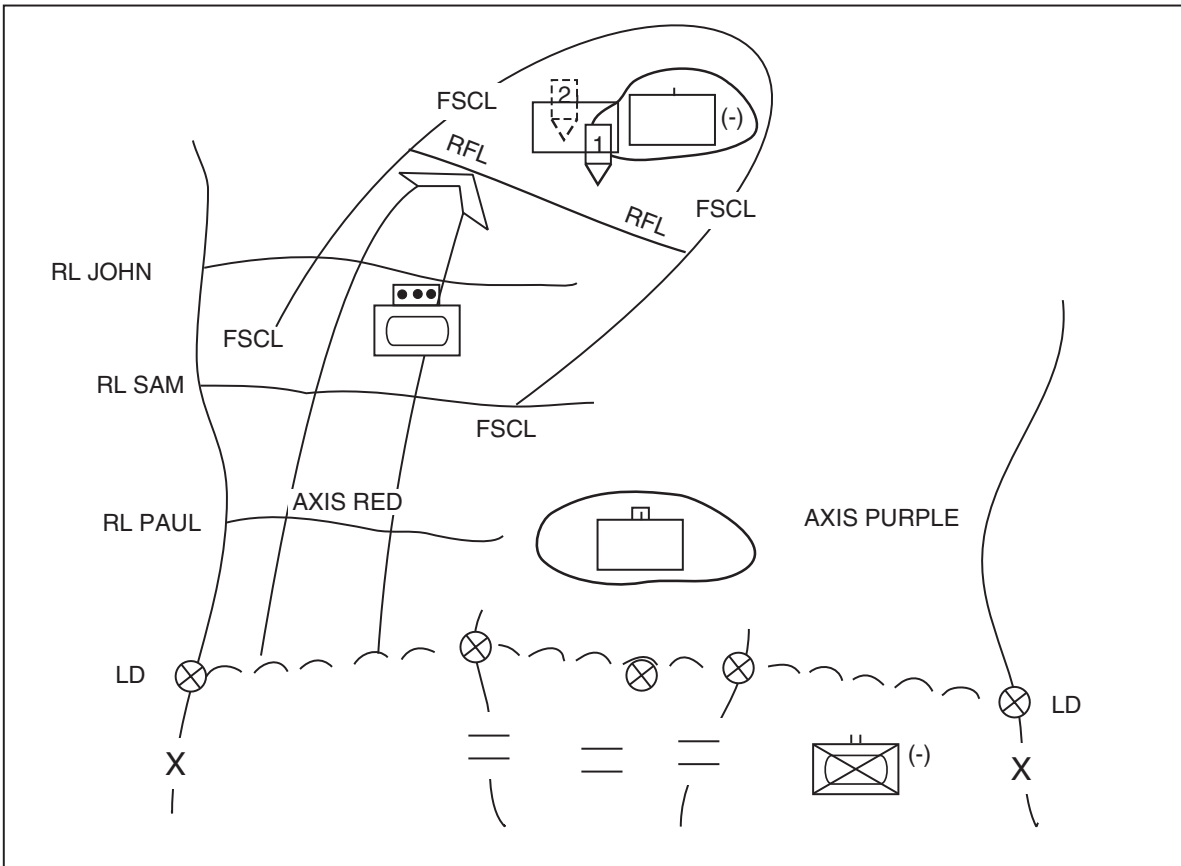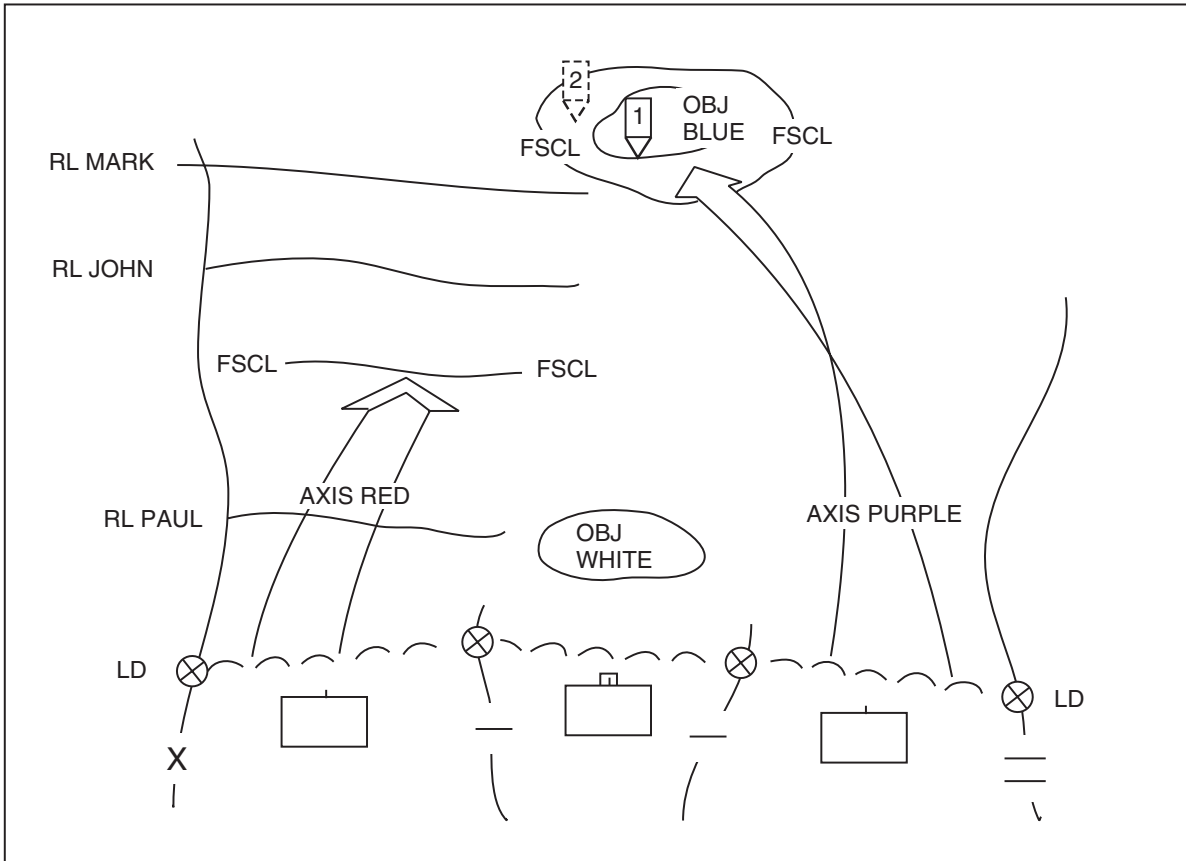e enemy although contact may be maintained through other means such as indirect fire, reconnaissance or surveillance. Success will depend on tight control, security, balance and maintenance of morale. An aide memoire and notes for a withdrawal are at Annexes D and E. The order to withdraw will not normally be given by the battlegroup commander without the agreement or direction of his superior commander.

61. **_In or Out of Contact_**. The withdrawal will take place in or out of contact.

    a.   _Out of Contact_. In the withdrawal, the battlegroup commander has the difficult task of extricating his force from a position where it may be in close contact with the enemy, retiring a suitable distance and possibly occupying a new defensive position. The battlegroup commander will always seek to conduct the withdrawal out of contact, thereby retaining control of events and the initiative. When conducting a withdrawal out of contact the commander can take the decision as to when to begin the operation. He will want to make the best use of secrecy and deception through, for example, taking maximum advantage of darkness and other conditions of reduced visibility. This may reduce the ability of the enemy to deliver effective observed fire.

    b.   _In Contact_.

        (1)   It will be more usual for a withdrawal to be conducted in contact. The enemy may have both ground and air superiority and will attempt to harass the withdrawing force continuously. It thus becomes probably the most difficult type of operation to conduct and will require strong leadership and firm discipline if it is not to become a rout. Despite its difficulty, however, it should be regarded as a manoeuvre designed to create a more favourable situation before resuming the offensive. The battlegroup commander will conform to the intent of his higher formation commander. Delaying tactics will be needed in order for forces to fight their way to the rear. The greater the mobility and the longer the range of firepower, the easier it will be for the formation to conduct the withdrawal successfully.

        (2)   _Breakout from Encirclement_. A breakout from encirclement is a form of withdrawal in contact, which requires specific planning considerations. For more details see paragraphs 83 to 95.

62. **_Commander's Concerns_**. The commander's concerns will be:

    a.   To ensure a clean break.

    b.   To ensure a strong protection element.

c.   To safeguard the withdrawal routes.

d.   To maintain balance throughout the operation.

e.   To maintain leadership and morale.

63.   ***Principles***. The battlegroup commander should note the following principles:

a.   Flexibility.

b.   Offensive Action.

c.   Simplicity.

d.   Control.

e.   Security

Planning

64.   ***Phases***. Withdrawals are accomplished in three overlapping phases.

a.   *Preparation Phase*. Reconnaissance and rear recce elements are des-patched, warning orders are issued, and planning is initiated. Echelon HQ elements, and non-essential vehicles are relocated to the rear.

b.   *Disengagement Phase*. Designated elements begin their movement to the rear. When contact with the enemy is broken, they assemble and conduct a tactical movement to a designated assembly area or position.

c.   *Security Phase*. A security force assists disengagement of other elements, assumes responsibility for the battlegroup sector, deceives the enemy, and protects the movement of disengaged elements with manoeuvre and fires. This phase ends when the security force completes its movement to the rear.

65.   ***Grouping and Tasks***. The plan must be simple, and normal organizations should be retained as far as possible. Regrouping during the operation must be avoided. Particular attention should also be paid to:

a.   Surprise and deception, possibly including noise coverage by artillery.

b.   The maximum use of cover and concealment to achieve protection.

c.   Allocation of routes and an appropriate traffic control system.

66.   ***Elements of Manoeuvre***. The commander will arrange his forces as follows:

a.   *Security Element*. Covering troops are required between positions to impose delay and caution upon the attacker. At the start of the withdrawal they will

take up station behind the old main position ready to hold the front when that position is abandoned. Thereafter they will cover back between positions imposing as much delay as possible.

b. *Main Body*. The main body of the force will move back to pre-determined intermediate or main positions which they will prepare and occupy. As the move they will need to ensure that forces are allocated to the protection of flanks as well as advance and rear guards.

c. *Counter Forces*. If the covering force is experiencing too much difficulty in delaying the enemy, additional forces may have to be allocated to assist. Counter forces will take limited offensive action,

d. *Reserves*. Reserves will be difficult to find and usually a commander will want to earmark troops not in contact as his reserve. Their tasks will be to counter penetration of the front, assist with the extrication of troops in contact, reinforce threatened areas and protect withdrawal routes.

e. *Aviation*. The versatility and long-range firepower of armed and attack helicopters make them particularly suitable to support the operations of the security element, particularly as they disengage.

67. **Security and Deception**. The vulnerability of defending forces once the withdrawal has begun necessitates both passive security measures and a deception plan. The battlegroup may augment formation security and deception measures with its own, provided these have been agreed as being compatible with the formation plan. They may include:

a. *Passive Measures*.

(1) *Radio Security*. No reference should be made to the withdrawal over any insecure radio net. Unless radio silence is already in force, every effort should be made to maintain the normal pattern of routine radio traffic until the withdrawal is complete.

(2) *The Maintenance of Routine*. Any established routine for harassing fire, artillery adjustment, vehicle and echelon movement.

(3) *Movement*. Very firm control must be imposed on rearward reconnaissance and thinning out.

b. *Active Measures*.

(1) The use of artillery, mortars, tank fire and illumination to defeat enemy NVGs, disrupt organised attempts to withdraw, screen friendly movement and mask true intent.

(2) Improvised fire simulation, lights and noise to simulate the continued occupation of defences after withdrawal is complete.

(3) Patrols etc should be maintained.

68.   ***Battle Procedures***.   Once the basic framework of timings and routes has been decided, planning concentrates largely on battle procedures, drills and movement control arrangements. The sequence of withdrawal should be based on:

a.   The despatch of reconnaissance parties as soon as this is permitted to reconnoitre the battlegroup's next task.

b.   The withdrawal of non-essential vehicles and personnel.

c.   The withdrawal of rear sub units and air defence elements.

d.   Finally, the withdrawal of forward sub units and support weapons. Armour and infantry may withdraw:

(1)   Infantry first, if they are dismounted and the threat is predominantly from armour,

(2)   or concurrently if AIFV are forward and the armour threat is lower,

(3)   or rarely, with tanks moving first in close country or with a dismounted threat.

69.   ***Movement Planning***. The movement plan should provide for:

a.   Secure and concealed withdrawal routes from all sub unit areas. Even by night, surveillance devices may detect exposed movement. Separate routes may be necessary for the withdrawal of any dismounted infantry. Gradients and bends which armoured vehicles cannot negotiate quietly should be avoided.

b.   Platoon and company check-points through which any dismounted infantry will be checked before embussing.

c.   Troop/platoon and sub unit RVs at which tanks, AIFVs and transport gather before continuing.

d.   Report lines to assist in monitoring the withdrawal.

e.   Route signing, traffic control and guides.

70.   ***Artillery and Mortars***.   Artillery and mortars will be required for all their normal defensive fire and illuminating tasks and may also be needed to provide noise, smoke, or blinding illumination to cover movement. FOOs and MFCs should therefore remain forward, with their respective commanders, until the last troops vacate the position.

71.   ***Engineers***. The majority of engineers will have been despatched to the rear at an early stage. Some engineers, however, should remain until the end to delay the enemy follow up by demolitions and nuisance minefields, and to ensure continued

freedom of manoeuvre. Battlegroups can do much by self help to augment this engineer effort.

72. **Positions**. A withdrawal will either be conducted direct to a new main position, or indirectly through one or more intermediate positions or to prepare for offensive missions. During a delaying operation intermediate positions may be used. In this case a rearward passage of lines will be required in order to check the enemy at the intermediate position.

   a. *Intermediate Positions*. The principals to be observed when selecting intermediate positions are:

      (1) They must be strong enough to force the enemy to deploy early and to undertake time consuming preparations for an attack. This will mean selecting positions that incorporate natural obstacles and deploying long-range direct and indirect weapon systems.

      (2) They should be far enough from the main position and from each other to force the attacker to move his artillery each time to engage.

   b. *Subsequent Mission.* The battlegroup commander must plan in outline and be prepared to send the correct groupings to prepare for subsequent missions, whether this is offensive or defensive in nature.

73. **Timings**. The commander will control the withdrawal by imposing 2 key timings. Two other timings which are desirable, although are not mandatory: the time at which foremost troops may start thinning out; and the time by which all troops will be clear of a line behind the position. These timings will be particularly useful for co-ordination of fire support. The key timings are:

   a. *Denial Time.* The time up to which the position has to be denied to the enemy. This timing will form the basis of the withdrawal plan.

   b. *No Rearward Move Time.* The time before which there will be no rearward movement except for normal traffic and reconnaissance parties.

Conduct

74. The conduct of a planned withdrawal, especially by night, demands:

   a. Excellent battle discipline. Any slip in battle discipline leading to a breach of radio security, light or noise may sacrifice surprise and expose the withdrawal to enemy reaction. Commanders at all levels must insist on the highest standards.

   b. Well controlled movement.

   c. Effective reaction to the unexpected. Commanders at all levels must show initiative and determination in overcoming unexpected developments and movement problems.

75.   When withdrawing by day, troops in contact must be prepared to use fire and movement. Whether withdrawing the forward elements through those in depth, or whether forward troops can conduct this fire and movement themselves, will depend on the situation. As a general guide, when the enemy is pressing hard, it is unlikely that the forward troops will have the strength to withdraw unaided. Against a less active enemy, however, this will often be possible. In both instances the aim must be to achieve a clean break.

76.   Every effort must be made by good security and imaginative deception to conceal the withdrawal and full use must be made of obstacles, long range anti-tank fire and concentrated artillery fire to slow the enemy advance and prevent his overrunning the withdrawing forces.

Withdrawal in Contact

77.   In the worst case, defending forces may be forced to withdraw precipitately and without adequate warning. Normal battle procedure will be impossible and commanders and troops at all levels will have to improvise in a rapidly developing situation. The battlegroup commander must aim to maintain an intact front at all costs.

78.   The battlegroup commander should prescribe specific control measures to maintain order during the withdrawal. These measures may include:

        a.   AO.

        b.   Battle positions.

        c.   Report lines.

        d.   Routes.

        e.   Contact points.

        f.   Checkpoints.

        g.   Hand-over line.

        h.   RVs.

        i.   FSCM.

79.   Success of the withdrawal in contact depends on achieving disengagement of the main body by effective fire and manoeuvre.

80.   To assist withdrawing elements, the security force must be strong enough to detect and engage the enemy on all avenues of approach. The battlegroup may form its security force from forward sub units elements. Missions of the security force are:

        a.   Block, disrupt, disorganize, or reduce the enemy's capability to pursue.

b.   Reduce, through smoke and suppressive fires, the enemy's capability to observe movement of the battlegroup.

c.   Rapidly concentrate additional combat power in critical areas.

81.   As the order to withdraw is given, the battlegroup must engage the enemy with concentrated direct and indirect fire to enable the first withdrawing element to disengage, conduct a rearward passage through the security force, assemble, and move to their next position.

82.   The security force assumes the fight from the forward elements. This includes delaying the enemy advance while the bulk of the battlegroup conducts movement to the rear. On order or when other predetermined criteria are met, the security force disengages itself and moves to the rear as a rear guard. Depending on the battlegroup's next mission, the security force may be required to maintain contact with the enemy throughout the operation.

Breakout from Encirclement

83.   *General*. A breakout is a form of withdrawal in contact. It is an offensive operation conducted by an encircled force. A force is considered encircled when the enemy cuts off all ground routes of evacuation and reinforcement.

84.   *Purpose*.

a.   A breakout from encirclement is conducted to allow the encircled force to regain freedom of movement or contact with friendly units. Encirclement does not imply that enemy forces in strength surround the battlegroup. An enemy force may be able to influence the battlegroup's subsequent operations while occupying only scattered positions and may not be aware of the battlegroup location or its strength and composition. The battlegroup can take advantage of this by attacking to break out before the enemy is able to take advantage of the situation.

b.   To be successful in breakout from encirclement, a battlegroup must:

(1)   Deceive the enemy as to the composition, strength, and intentions of the battlegroup.

(2)   Conduct reconnaissance, then concentrate sufficient combat power at an enemy weak point.

(3)   Provide security to the flanks and rear of the battlegroup as it moves out of the encircled area.

85.   *Time of Attack*. Attacking at night or during other conditions of limited visibility is advantageous; however, if waiting for limited visibility risks the destruction of the battlegroup, the attack is executed as soon as possible.

86. ***Location of Attack***. The battlegroup attacks the enemy's weakest point. Against scattered resistance, it attacks through gaps between enemy elements. If the enemy is more concentrated, a penetration may be necessary.

87. ***Speed of Execution***. Breakout operations depend largely on speed of execution. Once the breakthrough is achieved, elements move rapidly out of the encircled area, maintaining the momentum of the attack to link with friendly units.

88. ***Security***. As soon as the commander determines that his battlegroup has been encircled, he moves his main body toward the centre of the area to ensure their survival. Additionally, he may have to re-deploy some of the manoeuvre sub units to provide all-round security. Since the battlegroup concentrates the bulk of its forces to break through enemy resistance, its rear and flanks are vulnerable. A rear guard is organized to protect those areas. A feint by the rear guard or deception measures may deceive the enemy as to the intentions of the battlegroup.

89. ***Evacuation of Wounded***. Evacuation of severely wounded by air may be done once the breakout is completed. Less severely wounded soldiers can be evacuated in conjunction with emergency re-supply. Wounded soldiers should not be left behind, although at times difficult decisions may have to be made.

90. ***Destruction of Equipment and Supplies***. Equipment and supplies should be carried out of the encircled area. Some usable equipment and supplies may have to be abandoned in order to execute breakout operations quickly. This materiel must be destroyed or disabled.

91. ***Combat Support***. The battlegroup uses suppressive fire to support movement.

92. ***Organization***. Regardless of previous command relationships, all elements encircled become attached to the senior tactical commander. The battlegroup is organized into four elements for breakout operations: rupture force, echelon force, main body, and rear guard. If possible, the task organization of the battlegroup should complement both the breakout and subsequent attack or linkup (see Figure 9-7).

    a.   A breakout force penetrates enemy positions and opens a gap for the remainder of the battlegroup to pass through. Then it either joins the rear guard or becomes the rear guard, depending on the situation.

    b.   The echelon force normally passes through the breakout force, maintaining the momentum of the breakout operation by deploying as the advance guard.

    c.   Within the main body CS elements are task-organized to support the attack whilst CSS elements move as a single group within the main body. Positive command and control of this element by the A1 Echelon HQ precludes unnecessary delay in the battlegroup movement.

d.   A rear guard protects the rear of the battlegroup as it moves out of the encircled area. The rear guard must be strong enough to delay or disrupt an enemy attack. It is normally a sub unit group.
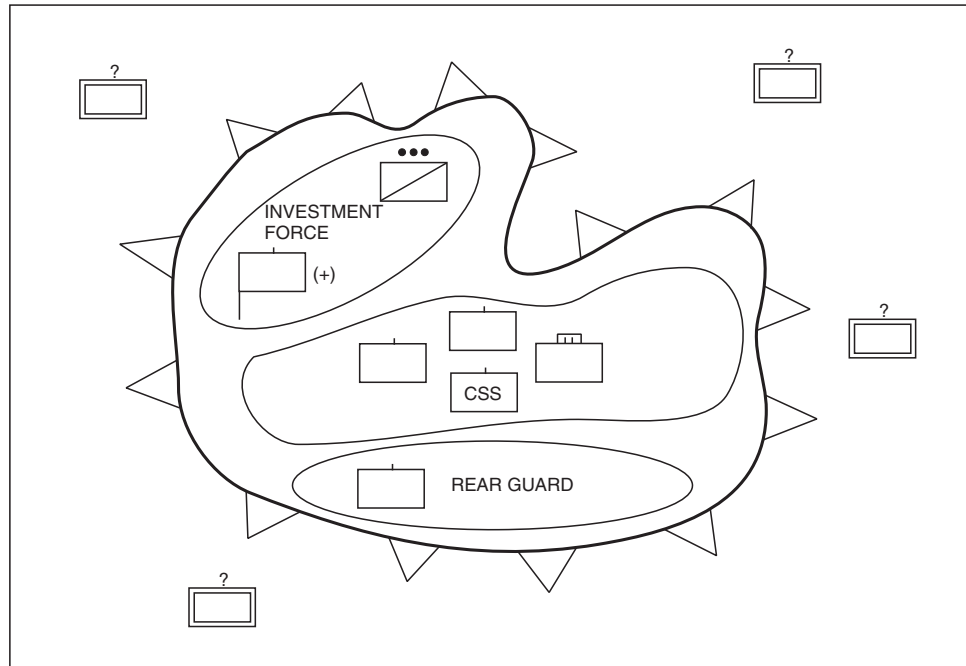
Fig 9-7 Organization for a Breakout

93.   ***Use of Close Recce Troops***. The close recce may be employed to assist the echelon after its transition to the advance guard. The recce can conduct forward reconnaissance or screen to the flanks of the advance guard. They may also be placed under TACON of the rear guard to screen or to maintain contact with the enemy.

94.   ***Defining Control During Breakout***. Since the battlegroup will be required to fight in numerous directions during the breakout, control of battlegroup subordinate elements must be clearly defined. Command of the rupture, echelon, rear guard, CS, and CSS elements is assigned to maintain the momentum of the attack, even if communications within the battlegroup are lost or degraded. The forward HQ initially is positioned to command and control the investment operation.

95.   ***Other Preparations for the Attack***. After the battlegroup commander has completed his estimate, he issues orders and initiates the attack. The rupture force moves to its attack position. The rear guard assumes the defensive responsibility and remains in position to protect the battlegroup rear area and deceive the enemy as to the rupture force's intentions. Control measures for the operation are limited to objectives for the breakout force, an axis of advance, and checkpoints.

Command and Control

96.   ***Command***. One of the commander's greatest concerns will be morale and every opportunity should be taken during the withdrawal to improve it. To sustain morale:

a.	Commanders should remain forward to see the situation, and personally influence events.

b.	All ranks must be kept informed of the purpose of the operation and the true situation to dispel rumours.

c.	Good administrative arrangements must continue, especially the evacuation of casualties.

d.	Offensive action should be taken when possible to exploit opportunities.

97.	***Control***. Control measures of particular importance in the withdrawal are:

a.	Liaison parties.

b.	Routes.

c.	Report and phase lines.

d.	Traffic control measures including:

(1)	Recovery and engineer plans.

(2)	Arrangements for refugees but using civilian police where possible.

e.	Check points.

f.	FSCL - and provision for its adjustment.

g.	Timings as required for critical phases or sequences.

Combat Service Support

98.	The withdrawal places greater strain on the logistic system than any other operation, since:

a.	All logistic elements and stocks in forward areas will be highly vulnerable to a rapid enemy advance or local breakthrough.

b.	The air situation will almost certainly be unfavourable.

c.	The casualty evacuation, equipment repair and recovery systems in particular may have difficulty in keeping pace with the withdrawal.

d.	Fuel and ammunition consumption will probably both be high.

99.	Logistic planning should begin and all non-essential logistic elements, including the bulk of the A2 Echelon, should be moved to the rear as early as possible.

100.   The A1 Echelon will probably be needed forward until quite late in the withdrawal to provide a mobile reserve of combat supplies. These may be augmented by ground dumping, but plans must be made for the destruction of any dumped supplies not consumed.

101.   Medical plans should be based on the rapid evacuation of all casualties as far to the rear as possible, preferably making the maximum use of helicopters taking account of the medical 1-2-4 principle.

102.   Repair and recovery will have a decisive effect on the battlegroup's continuing combat effectiveness if major equipment losses are to be avoided.

    a.   An overall battlegroup recovery co-ordinator, possibly the BGLogO in conjunction with the EME, must be nominated to:

        (1)   Balance tactical and technical factors in deciding repair and recovery priorities.

        (2)   Control and task all recovery resources.

    b.   Recovery resources, although under central control, must be held well forward where they can react quickly. A recovery vehicle must also be deployed to any reserved demolition guarded by the battlegroup.

    c.   Plans must be made for the destruction of any equipment which cannot be repaired or recovered, and for the recovery of crews.

103.   Battlegroup drills covering the withdrawal are at Annex D and drills for the Sequence of Withdrawal are at Annex E.

SECTION 6 - RELIEF OF TROOPS IN COMBAT

Fundamentals

104.   This Section covers the doctrine by which combat activities are taken over by one force from another. The Brigade Headquarters has the critical task of co-ordinating the relief or passage of battlegroups. The types of relief operations are defined as:

    a.   *Relief in Place*. An operation in which all or part of a force is replaced in a sector by an incoming unit.

    b.   *Forward Passage of Lines*. An operation in which a force advances or attacks through another which is in contact with the enemy.

    c.   *Rearward Passage of Lines*. An operation where a force effecting a movement to the rear passes through the sector of a unit occupying a defensive position.

105.   These operations are undertaken when forces are:

a.   Unable to continue or have completed their mission.

b.   Required for operations in another area.

c.   Conducting an echelon change.

d.   Withdraw elements of a force.

e.   Due to be rotated to avoid exhaustion.

f.   Not suited to accomplish the new task.

106.   Generally, relief is undertaken in order to sustain the overall level of combat power, maintain momentum, balance and the initiative. Inherent in these operations is the transfer of operational responsibility for a mission. The requirement is that this transfer should take place while maintaining the required level of operational capability. Command passes laterally and commanders normally collocate to effect the handover.

107.   The mission will be determined by the commander's intentions, the type of operation the committed force has been engaged in, the enemy's anticipated course of action and the type of force involved.

108.   During any transitional operation there is a period when congestion increases the vulnerability of the forces involved. The possibility of confusion is inherent; two parallel command systems will be operating in one area at the same time. The complexity of these operations, and particularly the forward and rearward passage of lines, should not be underestimated, but, by contrast the beneficial, and possibly decisive, effects to be gained from successful synchronisation of the combat power of both forces should not be forgotten.

109.   *Interoperability*. It is quite possible that a relief operation will involve two forces of differing nationalities. In this instance the following additional points should be considered:

a.   Dissimilar unit organizations may require special adjustments in some areas, particularly during a relief in place.

b.   Control of fire support may require special liaison.

c.   Language difficulties may require the increased use of guides.

d.   Special communications arrangements may be required.

Relief of Troops in Place

110.   **Purpose**. The purpose of relief in place is to relieve all or part of a force in a sector by an incoming battlegroup.

111. ***Objectives/Employment Considerations***. Relief in place is normally conducted in defensive operations and might occur in any of the following circumstances:

    a. When an existing force is depleted or exhausted and needs to be replaced.

    b. When troops of one capability or role need to be replaced by troops of a different role.

    c. For routine rotation of troops.

112. ***Planning***. The following factors are important when planning the relief in place:

    a. *Security and Protection*. The intention to conduct a relief must be concealed from the enemy. Deception measures should be employed which include continuing with the normal pattern of activity.

    b. *Early Liaison*. Liaison at an early stage, which should include reconnaissance by the incoming force, is vital. Close co-operation and co-ordination at all levels are required.

    c. *Allocation of Routes*. Routes must be allocated for the incoming and outgoing forces. These may well utilise the same route.

    d. *Allocation of Areas*. The allocation of areas will include areas for staging and deployment.

    e. *Timings*. The detailed timing of the operation will be made within the guidelines set by the overall commander.

    f. *Fire Support*. The force in position will always provide fire support for the moving force.

113. ***Conduct***. The incoming force normally assumes the mission of the relieved force, usually within the same boundaries and, at least initially, with a similar disposition of forces where possible. The transfer should take place without a loss in operational capability.

114. ***Execution***. The relief in place depends essentially on the time available and the local conditions. Combat support troops should not be relieved at the same time as combat troops. It will normally be the case that night and limited visibility will be utilised and exploited for the relief. It is important that the incoming force conduct reconnaissance, where possible, in daylight. Communications must be maintained, unaltered if possible, for the entire duration of the relief. Combat service support troops of the relieved force will be sent back as early as possible.

115. ***Command and Control***. The outgoing battlegroup commander is responsible for the defence of his sector until command passes. The moment when command is to pass is determined by mutual agreement between the two commanders within the overall direction of the superior commander. The following are some important points about the C2 aspects:

a.   The commanders should be co-located through the operation.

b.   Following the passing of command, the incoming commander will assume command of all elements of the outgoing force not yet relieved.

c.   Change of command must be reported upwards.

116.   ***Co-ordination Points***.   There are a number of important co-ordination points that refer, in particular, to the responsibilities of the superior or controlling headquarters. It is responsible for:

a.   The time frame in which the operation is to be conducted.

b.   Designation of control lines and routes.

c.   Arrangements for liaison, recce, and advance parties.

d.   FSCM.

e.   Tactical air support.

f.   Deception plans.

g.   Airspace control measures.

h.   Air Defence.

i.   Combat Service Support.

117.   ***Combat Service Support***.   During a relief operation the stationary force should assist, where possible, with casualty evacuation, traffic control, vehicle recovery, fuel and ammunition.   A force taking over responsibility for further operations should be fully replenished.

Forward Passage of Lines

118.   ***General***.   A forward passage of lines is an operation in which a force advances or attacks through another in place force which is in contact with the enemy.   The change must be executed quickly, fluidly and with a rapid transfer of accurate information.   The battlegroup is vulnerable during a passage of lines.   As sub units are concentrated and the battlegroup is not disposed properly to react to enemy action.   Detailed reconnaissance and co-ordination are key to ensure a quick and smooth passage.
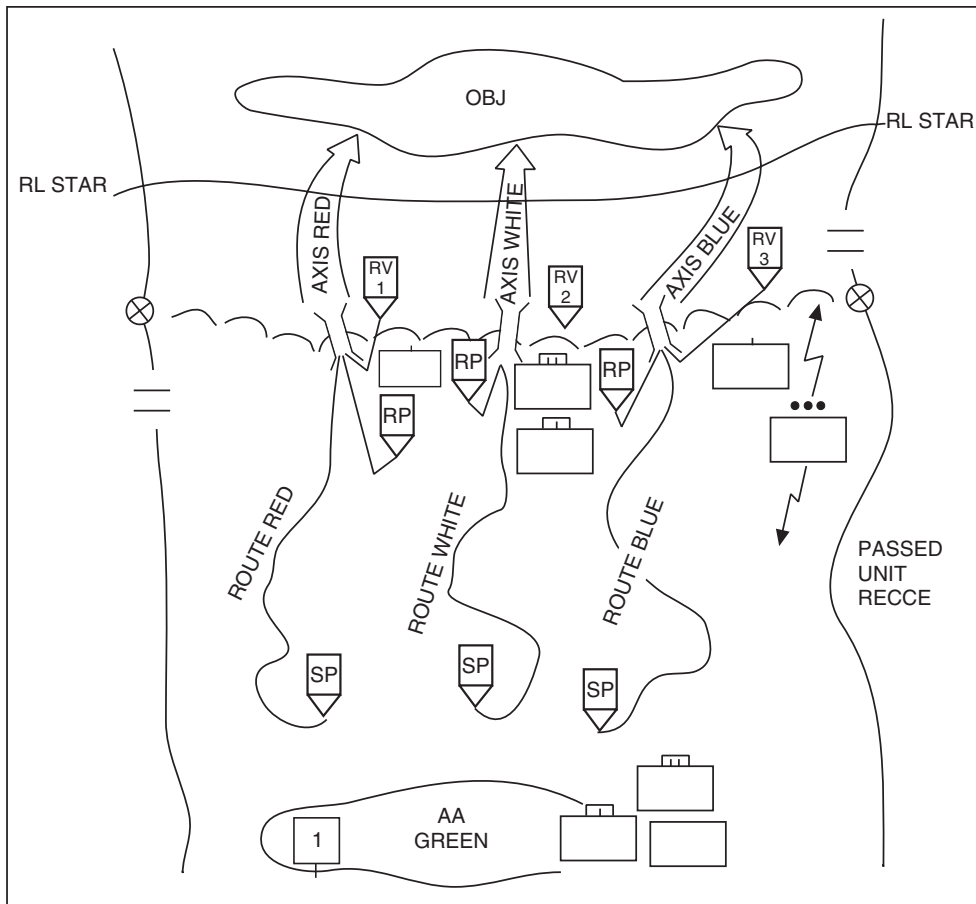
Figure 9-8 Forward Passage of Lines

119. ***Planning Considerations***.   The battlegroup commander of the advancing battlegroup makes a tentative plan for the conduct of the operation as follows (see Figure 9-8):

a.   *Organization*. The advancing force will be task organized for its mission.

b.   *Order of March*. An order of march is prescribed, based on the scheme of manoeuvre once passage is completed, the number of check points, the degree of security required, the enemy situation and the terrain. A movement order precludes confusion and congestion by setting priorities on battlegroup movements.

c.   *Command and Control*.

(1)   Multiple check points and routes are established with centralized control. To ensure co-ordination of passage with a minimum of confusion and misunderstanding, the command groups of the advancing and in place battlegroups are collocated. In this manner, the FOOs and FACs of the two battlegroups can co-ordinate and pass responsibility in accordance with the commanders' guidance.

(2)   In a forward passage of lines, the commander of a advancing battlegroup assumes responsibility for the zone of attack when his lead

elements reach the RP(s) of the passage lanes. Responsibility may also be event-related, based on the passage of a specific number of sub units through the passage points. Co-ordination and control of the battlegroup through the passage points are facilitated if the boundaries of the advancing battlegroup and the in place battlegroup coincide.

d.   *Control Measures*. Within the area of passage, the same control measures should be used by both advancing and in place battlegroups.   Control measures include:

(1)   Assembly areas.

(2)   Battle handover line (BHL).

(3)   Attack position.

(4)   Time of passage.

(5)   Recognition signals.

(6)   Contact point.

(7)   Routes, including start and RP.

(8)   FSCM.

e.   *Fire Support*.   Direct and indirect fires of the in place battlegroup are integrated into the fire support plan of the passing unit. Command and control may be collocated to provide co-ordinated and responsive support. All direct and indirect fire support responds directly to the commander responsible for the zone of action.

f.   *Reconnaissance*. A thorough reconnaissance covers routes to, through, and beyond the area of passage. The reconnaissance should note existing and proposed troop locations. A technique to ensure deception during a forward passage is to limit the number and size of reconnaissance parties and use vehicles of the stationary battlegroup.

g.   *Co-ordination*.   The advancing battlegroup sends commanders and liaison teams forward. During the planning process, commanders and staffs of the battlegroups involved co-ordinate the following:

(1)   Intelligence.

(2)   Tactical plans.

(3)   Signal operation instructions information.

(4)   Arrangements for reconnaissance.

(5)   Security measures during the passage.

(6)   Selection of area of passage and provisions for guides.

(7)   Priorities for routes and facilities, including provisions for movement control. The advancing battlegroup has priority.

(8)   Time or circumstances when responsibility for the control of the area of operations is transferred.

(9)   Fire and other combat support to be provided by the battlegroup in contact.

(10)   Combat service support to be provided by the battlegroup in contact, including medical, maintenance, and recovery assistance.

(11)   Exchange of liaison personnel.

(12)   Exchange of information on minefields and other obstacles.

(13)   Command and relationship between the advancing battlegroup's CS and CSS assets and the battlegroup in contact, including site locations.

(14)   Tactical cover and deception plans.

120.   ***Conduct***.   The in place battlegroup commander is responsible for establishing the contact points and routes, if they are not specified in the brigade order. As a minimum, the in place commander provides guides at contact points to lead the advancing battlegroup to RP near the FEBA or LD. The following points should be considered:

a.   The advancing unit main HQ collocates with the main HQ of the in place unit. Passed forces maintain normal radio traffic. Advancing sub units maintain listening watch on their battlegroup net. The in place battlegroup's guides notify their commander that movement of the advancing force forward from the contact points has begun.

b.   The in place battlegroup provides overwatch for the advancing force. The advancing force BC will meet face to face with the with the in place force BC in order to coordinate fireplan effects. Organic firepower assets will be positioned by the advancing force commander after co-ordination with the in place commander. Fire missions are authorised by the in place unit BC until sector responsibility is passed. After that, any fire missions for the in place battlegroup are cleared through the advancing unit BC.

121.   Battlegroup drills for the forward passage of lines are at Annex G.

Rearward Passage of Lines

122. ***General***.   Rearward passages are movements away from the enemy through friendly units. A rearward passage of lines may be conducted:

    a.   As part of a withdrawal operation.

    b.   As part of a delay operation.

    c.   As a means of changing the type of force facing the enemy.

    d.   As a means of reliving a force unable to continue with its mission.

123***. Conduct***.   The commander of the in place battlegroup designates the contact point for co-ordination and notifies the passing unit of its location, if this has not been designated by higher headquarters. The contact point is normally on an easily identifiable terrain feature forward of the hand-over line. At the prescribed time, liaison parties from the two units meet and do the following:

    a.   Exchange:

        (1)   Latest enemy information (size and type of force, location and direction of movement).

        (2)   Recognition signals.

        (3)   Signs and countersigns.

        (4)   Comms information

    b.   Verify:

        (1)   Provisions for and placement of guides.

        (2)   Estimated time of main body arrival, and numbers and types of vehicles to pass.

        (3)   Time or event for hand-over.

        (4)   Minefield and obstacle information.

        (5)   Passage points, lanes, and alternates.

    c.   Co-ordinate:

        (1)   Passed battlegroup's security force positions to support the handover.

        (2)   Supporting direct and indirect fires.

Other Forms of Rearward Passage of Lines

124. Close recce of the in place battlegroup screen along the hand-over line and monitor the passing unit's command net.

125. After verification that the check points are occupied, recce or liaison parties make contact at each check point. The withdrawing battlegroup's recce must know which sub units are to pass through their respective check points. The withdrawing sub unit should pass in order: CSS elements, main HQ, combat support elements, tactical HQ, and manoeuvre sub units. For ease of control, the withdrawing unit temporarily collocates its recce with the Tac HQ of the in place battlegroup near the FEBA.

126. The check points should be manned by the withdrawing battlegroup recce and representatives from the forward sub units of the in place battlegroup. Lanes through obstacles are marked and provisions are made to quickly close them. Both recce platoon/troop leaders collocated near the hand-over line monitor the progress of the passage and are not distracted with the requirement to man check points. The in place battlegroup close recce may not have sufficient combat power to screen the hand-over line. The close recce platoon may be placed under OPCON of the sub unit.

127. The mission of the sub unit on the hand-over line is to assume responsibility for the fight from the forward battlegroup. If withdrawing sub units are in contact, their manoeuvre elements must be a bound behind the hand-over line, covered by the withdrawing unit. The withdrawing units must quickly redeploy into column formation, display the proper visual signal, orientate weapons toward the enemy, and move rapidly to the check point and to the release point. Care must be taken to avoid friendly obstacles emplaced in the MBA. The hand-over line should also be far enough forward to allow the withdrawing battlegroup room to move into column, yet close enough to permit overwatch by units along the FEBA (see Figure 9-9).

128. The in place battlegroups's recce notify their forward sub units that friendly forces are at the hand-over line and are en route to the check point.

129. The withdrawing battlegroup's vehicles move quickly through check points and are led along the routes to the rear, while overwatched by the in place battlegroup. The in place battlegroup commander, and sub unit commanders must carefully observe this passage. The only time the in place battlegroup should fire is when positive enemy identification is made. The commander of the withdrawing battlegroup is responsible for identifying the last element of his command as it passes through the in place battlegroup's positions.

130. Disabled vehicles are self-recovered, destroyed in place, or assisted by other elements of the withdrawing unit. The in place unit provides medical assistance, fuel, oil, lubricants, and maintenance as required after passage is complete.

131. Because of potential congestion at passage points, withdrawing units must move rapidly to minimize exposure time.
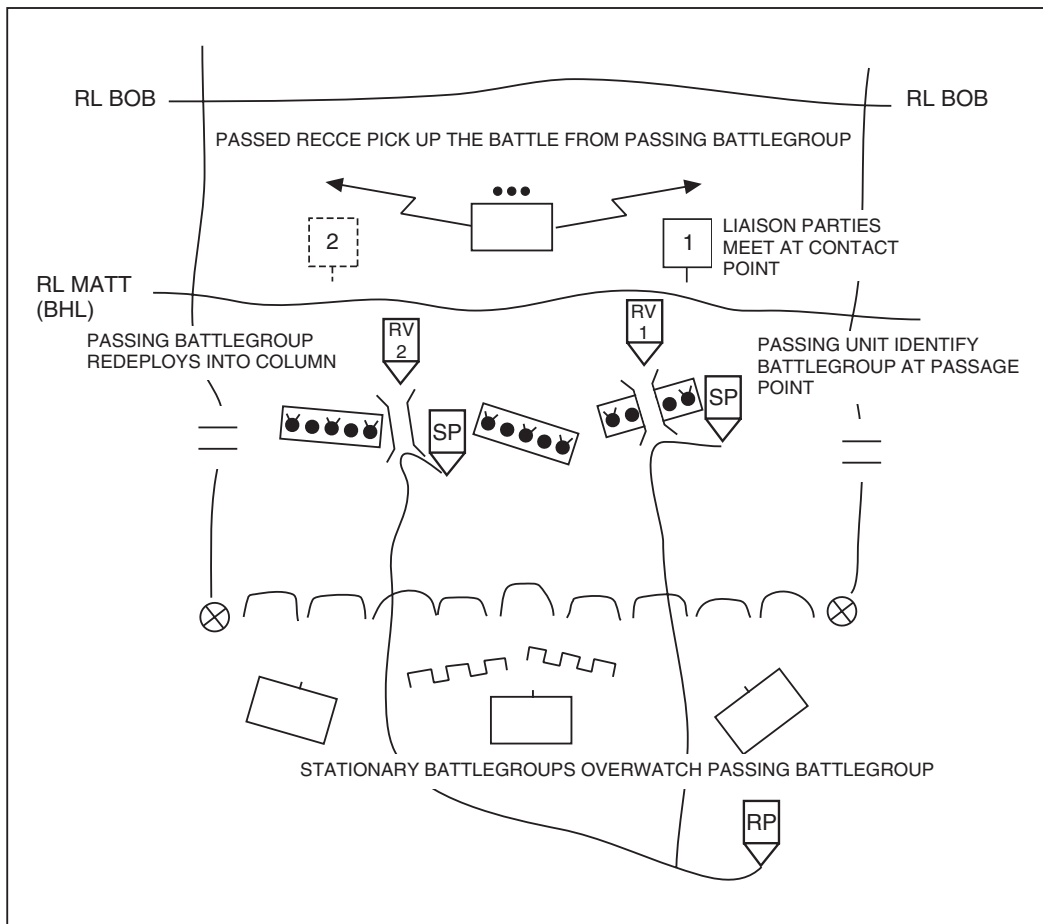
Figure 9-9 Battlegroup Rearward Passage of Lines

132.   Battlegroup drills for the rearward passage of lines are at Annex H.

Annexes:

A.   Battlegroup Drills - The Advance in Box Formation
B.   Battlegroup Drills - The Advance in Vee Formation
C.   Battlegroup Drills - Meeting Engagement
D.   Battlegroup Drills - Withdrawal
E.   Battlegroup Drills - Sequence of Withdrawal
F.   Battlegroup Drills - Relief in Place
G.   Battlegroup Drills - Forward Passage of Lines
H   Battlegroup Drills - Rearward Passage of Lines

BATTLEGROUP DRILLS - THE ADVANCE IN BOX FORMATION
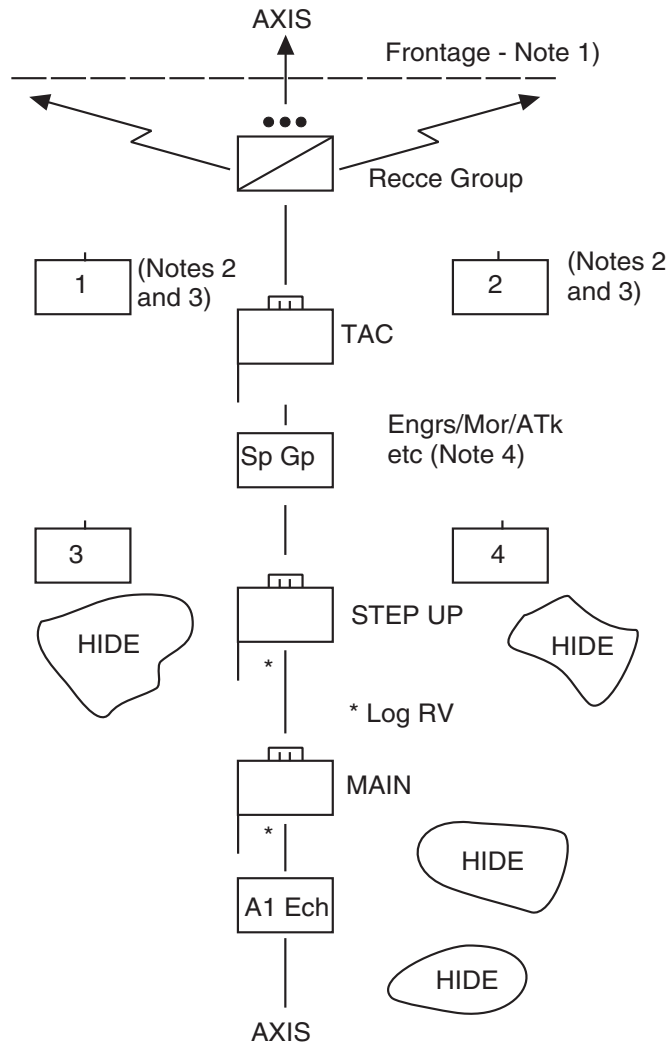
Notes:

1. Orders must incl:

   a. Axis (series of 4 or 6 fig grids).

   b. Frontage (in m).

   c. Log RVs.

2. For BGs with only 3 sub-units, amend drill to either one up or two up.

3. Lead elms (usually armr) con by Fwd. Sp Recce Gp. Close quickly up to recce if recce make contact.

4. Rear elms con by BG HQ. Move either in colm [best con] or hide to hide [best sy]. Def of hides. 5 min rule for cam. If in colm, deploy on first contact within BG.

5. MAIN & STEP UP leapfrog.

CSS Notes:

A1 Ech move hide to hide.

2. RAP move with A1 Ech, but prep to move to MAIN on orders.

3. BG Log RVs (*) on or near axis. Locs selected by BG HQ. PW, cas, veh cas etc taken to Log RVs. A1 Ech clear RVs.

BATTLEGROUP DRILLS - THE ADVANCE IN VEE FORMATION

AXIS

(Frontage - Note 1)　　　)
　　　　　　　　　　　　　　)Recce
　　　　　　　　　　　　　　)

S　　　　S　　Recce Group

1　(Note 2)　　HIDE　　) Advance
　　　　　　　　　　　　　) Guard
　　　　　　　　　　　　　)

3　　　　(Note 3)　　2　) Flank
(Note 5)　FWD　　(Note 5)　) Guard
HIDE　　　　　　　　　　　) (Echelon)

*

Sp Gp　Engrs/Mor
　　　　(Note 4)　　　)
　　　　　　　　　　　)
　　　　　　　　　　　)
　　　　　　　　　　　)
MAIN　　　HIDE　　　) Main
　　　　　　　　　　　) Body
　　　　　　　　　　　)
*　　　　　　　　　　　)
A1 Ech　　HIDE　　　)
　　　　　　　　　　　)

STEP UP　　) Rear
　　　　　　) Guard
HIDE　　　　) (Reserve)

4

AXIS

Notes:

1. Orders must incl:

    a. Axis (series of 4 or 6 fig grids).
    b. Frontage (in m).
    c. Log RVs.

2. Advance Guard is con by Tac. Sp Recce Gp. Close up to recce quickly on contact. Fix en position. Prepare to act as Sp Gp for BG attack.

3. BG Comd decides on

    a. Attack.
    b. Bypass.
    c. Issues orders.

4. Mors deploy. Indirect fire employed.

5. Flank sub units.

    a. Maintain fwd and flank security.
    b. Prepare to attack/bypass a position.
    c. Prepare to exploit.

CSS Notes:

1. A1 Ech move hide to hide.

2. RAP move with A1 Ech, but prep to move to MAIN on orders.

3. BG Log RVs (*) on or near axis. Locs selected by BG HQ. PW, cas, veh cas etc taken to Log RVs. A1 Ech clear RVs.

BATTLEGROUP DRILLS - MEETING ENGAGEMENT

1.   The battlegroup commander may execute the meeting engagement as follows: See Figs 9C-1, 9C-2 and 9C-3.

2.   On contact, leading elements of the screen or guard go firm as quickly as possible and act as a block and eventual pivot for further manoeuvre.

3.   The lead elements and any other available sources must determine the enemy's strengths and dispositions, especially their flanks. The aim is to discover the enemy's weaknesses. Time must not be traded for more detailed information.

4.   As the block and the flow of information is developing bring maximum fire to bear on the enemy to disrupt his movement and to create free manoeuvre lanes for the battlegroup's use. This may also occur using artillery to hinder the enemy's recce and OPs, thus restricting his use of indirect fires.

5.   Make a decision on the course of action and give orders.

6.   Ensure that both flanks are secure, especially the flank chosen for manoeuvre.

7.   Manoeuvre the striking force to retain the initiative. This may be to a flank or through the centre.

8.   Carry out offensive action and consider the use of the reserve for exploitation.

9.   With two manoeuvring forces, nothing will stay constant for long. Therefore, all elements of the battlegroup must fulfil the information gathering function.

10. Recce move to the rear of the enemy to secure and prepare exploitation.
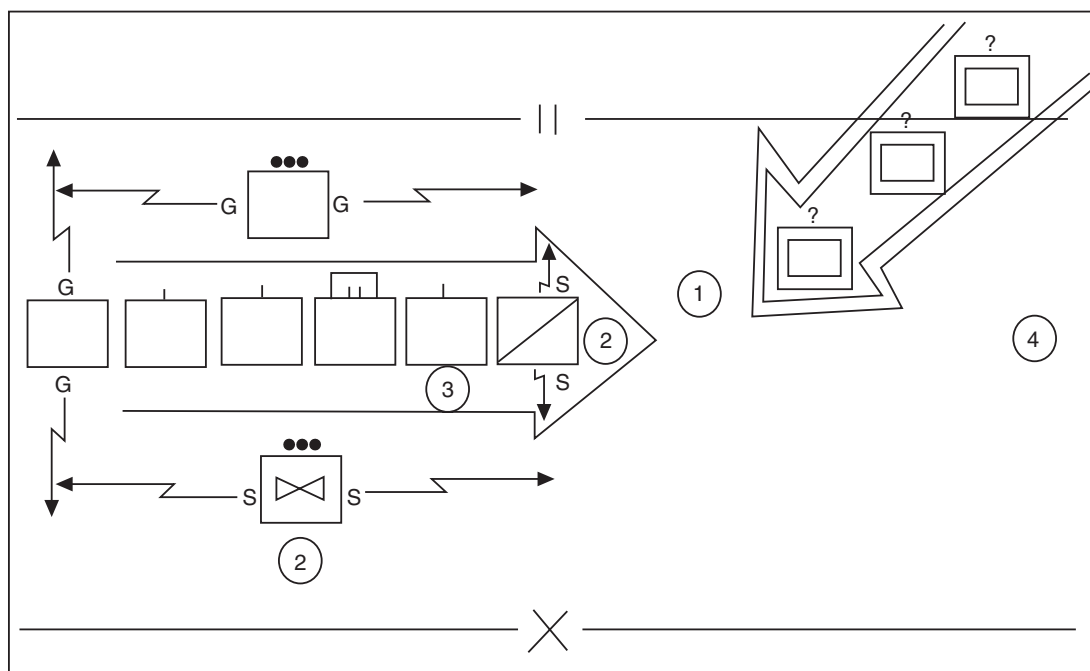
Figure 9-C-1

Notes

1.   Contact occurs unexpectedly with enemy units of unknown size.

2.   Reconnaissance elements move rapidly to establish enemy size and intentions.

3.   Battlegroup commander decides to fix enemy with leading sub-unit while remainder of force conducts envelopment to enemy flank.

4.   External sources continue to look DEEP and provide early warning of enemy reinforcement or counterattack.

5.   Lead sub unit moves forward to take up fixing function. The enemy must not be permitted to interfere with the movement of the main body. In this case the fixing force must hold the enemy's left flank.
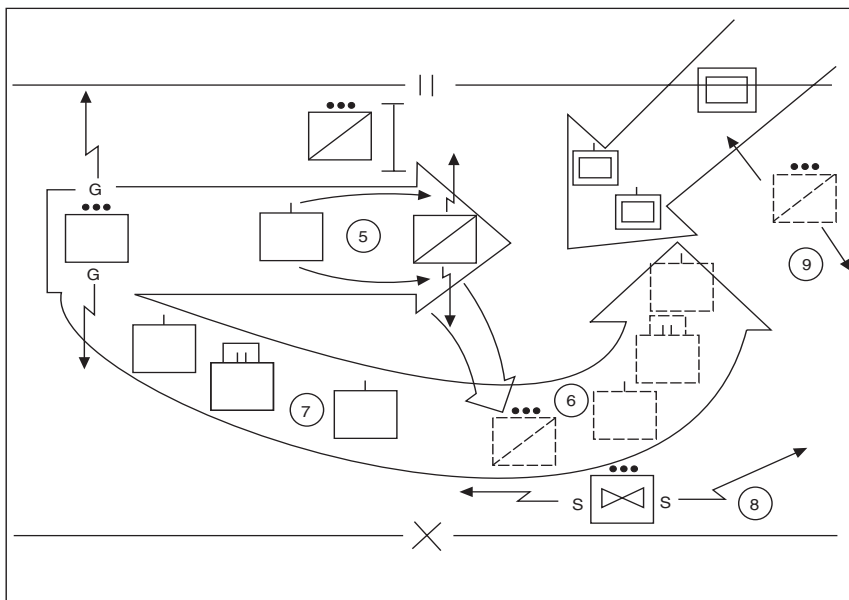
Figure 9-C-2

6.   Close Recce assets conduct route recce for enveloping force (if time permits).

7.   The main body moves (preferably on multiple routes) to envelop enemy flank
8.   Original right flank screen (aviation and elements ?) continues to screen the right flank. This will include the reorientation of the main body to the axis.

9.   As the engagement develops recce, aviation and artillery assets isolate the enemy by attacking enemy echelon forces.

10.   Fixing force.

11.   Rear guard.

12.   Main attack an en enemy flank
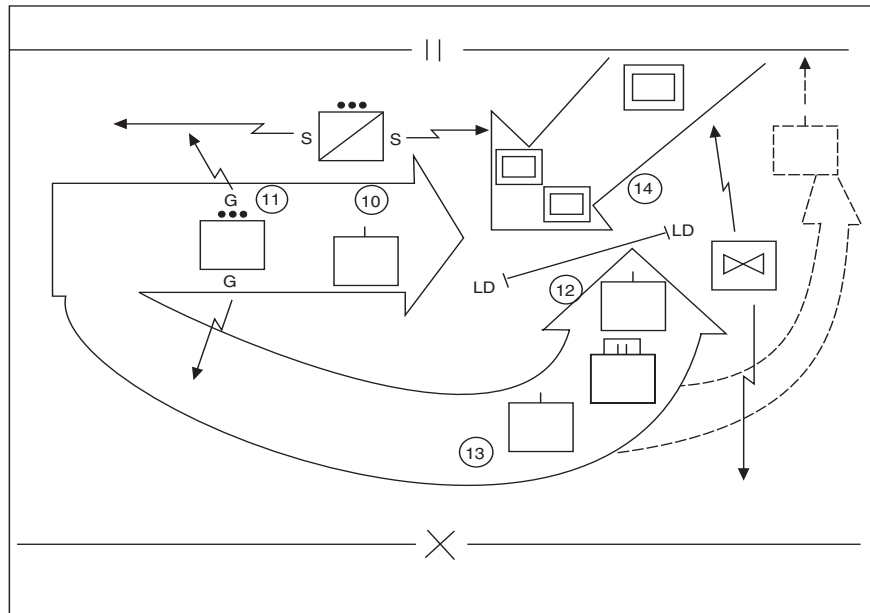
Figure 9-C-3

13. Echelon sub unit either:

    a. Remain as tasked echelons to the main attack.

    b. Move to enemy rear to cover in preparation for operations as required.

14. Once enemy are defeated, battlegroup must be prepared to:

    a. Exploit. (If across battlegroup boundary then formation agreement is required.)

    b. Continue advance within bounds.

    c. Adapt hasty defence.

    d. Allow follow on forces to pass through.

    e. Act as echelon/reserve force.

BATTLEGROUP DRILLS - WITHDRAWAL

EMPLOYMENT CONSIDERATIONS

Concept - Undertaken for the fol reasons: avoid defeat, avoid battle in difficult sit, draw en, conform to flanks, reform forces, for combat svc sp reasons.

Conduct - En interference with op to be min. Emphasis on surprise and speed. Provision must be made for sy of wdr force. Protective elms must be org and tasked in accord with en capability.

Msn - To disengage the force. Normally part of higher comd's plan.

Characteristics
- Normally under adverse conditions.
- En may have the initiative.
- Vulnerable to air and ground attack. Use cover or ni poor vis.

Comds Concerns
- To ensure a clean break. To ensure strong protective elm. Safegd wdr routes. Maint balance throughout. Success will depend on tight con, sy and maint of morale.

CONDUCT OF OPS

Org - 2 elms, protective and main body. Main body needs adv, rear and flank gds. Subsequent msn will influence org and sequence of wdr. Non essential elms to thin out early.

Planning - Comds Est of Sit, incl consideration of: distance to be moved, weather, length of darkness, ground, use of obs, en strs and relative mobs, sit on flanks, air sit, combat svc sp elms.
- Plan Should: Cover entire op, be simple and flexible, use surprise and deception, use cover and concealment, alloc routes and TC, prep and dml obs early, coord denial measures, use consistent gping throughout.

Execution - Main Body Disengage either by stealth or concealment after engagement.
- Protective Force. Prevent en engaging main body. May need to conduct delaying ops. May need rft from main body. May need to occupy intermediate posn.
    - Intmed Posn. Must: be strong enough to force en to deploy, make max use of obs and long range wpns. Should be far from new main and original posn.
    - New Main Posn. Early prep is important. Recce, engrs deploy early start battle procedure.
- Gping and Tasks. Consider forces to:
    - Prep and occupy intmed/new posn.
    - Covering tps.
    - Gds, flank, rear and adv.
    - Res.
- Timings
    - Key Timings. Posn denied until. No rearward mov before (except recce and normal tfc)
    - Other Timings. Thinning out. Clear of line. Abandonment.
- Sequence. Recce ptys and non essentials. Covering tps take up posn behind. Units/sub units and AD commence wdl through covering tps (OOM vary by day/ni) inf first if dismtd and threat armd, concurrently if IFV fwd and lower armd threat, tks first if dismtd inf threat.
    - Posn abandoned, covering tps take up battle/intmed posn.

FMN WDR CONCEPT

BG WDR CONCEPT
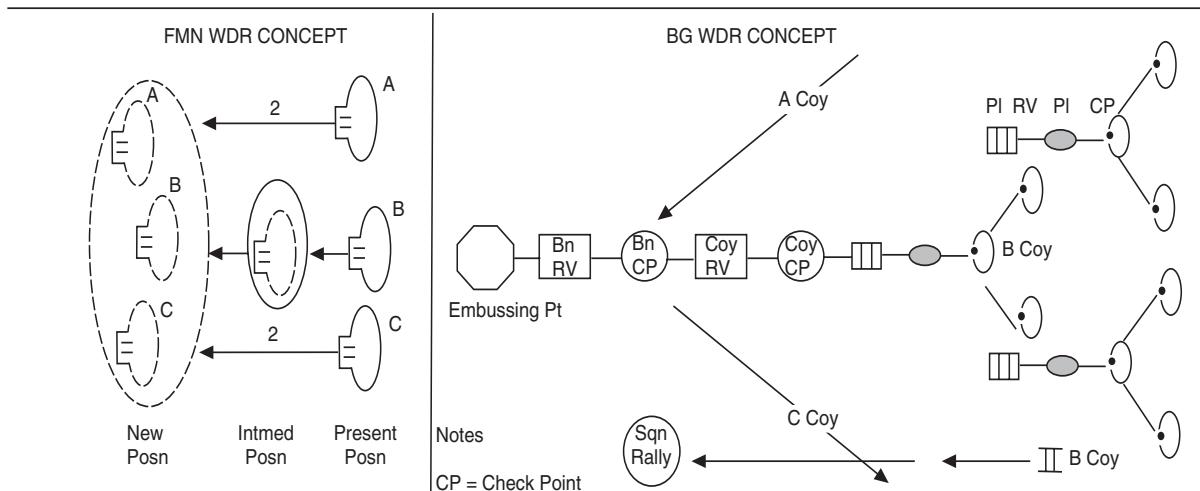
- <u>Sy and Deception</u>.
    - <u>Passive</u>. COMSEC. Maint Routine. Mov Con. C Surv Con measures.
    - <u>Active</u>. Radio tfc. Indir fire. Simulate occupation after wdr.
- <u>Fire Sp</u>.
    - <u>Indirect</u>. Arty/mors org and deployed to cover whole op. Mov con reqd to ensure continuous fire sp.
    - <u>Air</u>. OAS may include C Air and Close Sp. (CAS). CAS may be used to cover for arty and assist in clean break.
- <u>Other Combat Sp</u>
    - <u>Hels</u>. Armd hels - protective elm. Recce hels - gds and screens. Tpt - CASEVAC and combat svc sp.
    - <u>AD</u>. To cover critical pts, particularly defiles and res dmls. Estb AD pris.
    - <u>Engrs</u>. Prep dmls, obs. C Mob tasks for protective elm. Mob tasks for main body.
    - <u>EW</u>. Deception plan and disruption.

<u>COMD AND CON</u>

Con measures	-	Liaison elms, routes, axes, report lines, phase lines, TC, check pts, fire sp coord, critical timings, issue AFW 9811, civ pol for con of refugees.
Morale	-	Important for all to understand op and be kept info. Exploit opportunities to strike back.
Use of Comd	-	Well fwd. Step Up back ready for assumption.
Comms	-	Radio silence for disengaged. Maint normality.

<u>COMBAT SVC SP</u>

General	-	Consider requirements of wdr force and loss of mat and C Sups
Sup	-	Reduce fwd stocks and backload whee poss. Plan for high eqpt loss
Maint	-	Conc maint effort and critical eqpts. Rec centralized to keep routes open and rec critical eqpts.
Med	-	Eff CASEVAC. Needs to be vis to maint morale.
General Measures	-	Denial plan tied in with op plan.

BATTLEGROUP DRILLS - SEQUENCE OF WITHDRAWAL
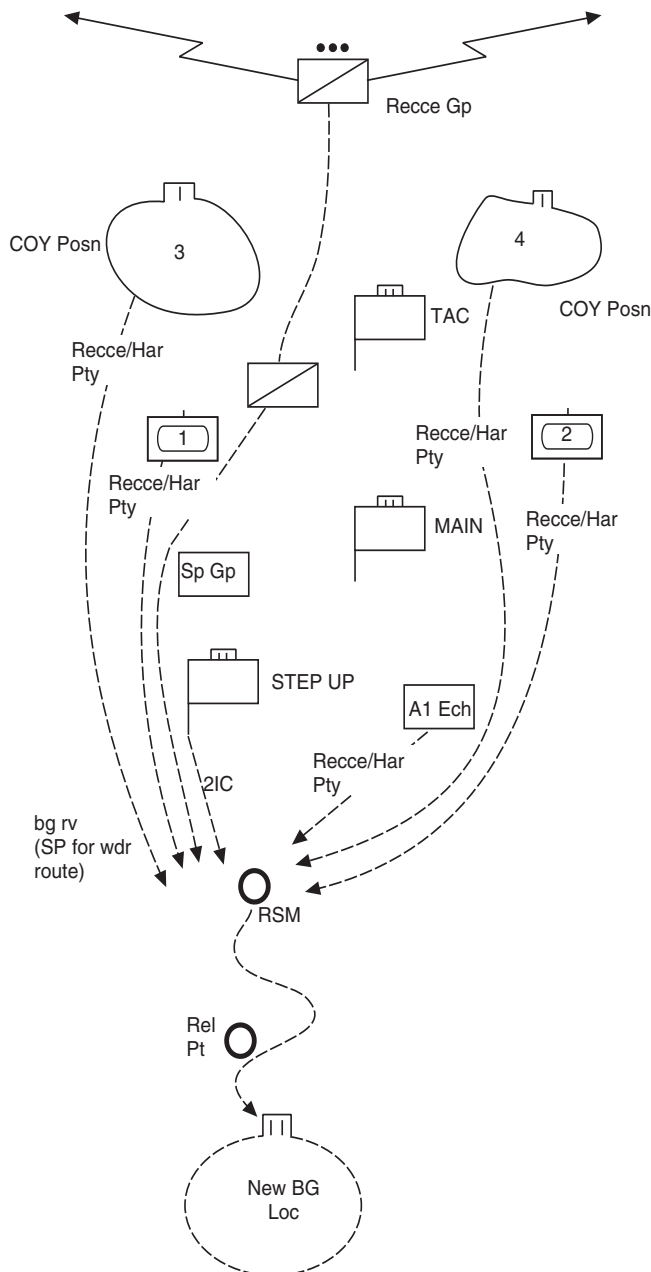
1. BG Comd issues WngO (SOC). Must incl:

    a. Outline of new BG task.
    b. Time posn must be denied to en until.
    c. Time rearward move may start.
    d. Time rearward recce may start.
    e. Loc of BG RV.
    f. Route from BG RV to Rel Pt (near new loc).

2. On hearing WngO (and ltd by recce timings given in WngO):

    a. BG 2IC liaises with Comd to determine new BG task and loc then takes STEP UP to BG RV to meet recce/har parties.
    b. BG RSM (BG LO as altn) goes to cfm BG RV and recce waiting circuit (see para 5c on p 6-2).
    c. Sub-units send recce & har parties to BG RV.
    d. Recce gp sends one sect to BG RV for rear recce/sy.
    e. BC nominates one FOO for rear recce. He goes to BG RV.
    f. BGE nominates engr rep for rear recce. He goes to BG RV.
    g. BC checks validity of current Fire Plan and, in liaison with Comd, produces deception Fire Plan (smk, illum etc).
    h. A1 Ech Comd ensures all BG elms are/have been replen'd then preps A1 Ech and RAP for mov.

3. 2IC arrives at BG RV, checks all har/recce parties present, briefs them and leads them to new loc. On arrival, subject to OPSEC/EMCON constraints, STEP UP is estb. Recce parties recce new posns and har parties RV at BG RelP in time to meet main bodies to guide them to new posns.
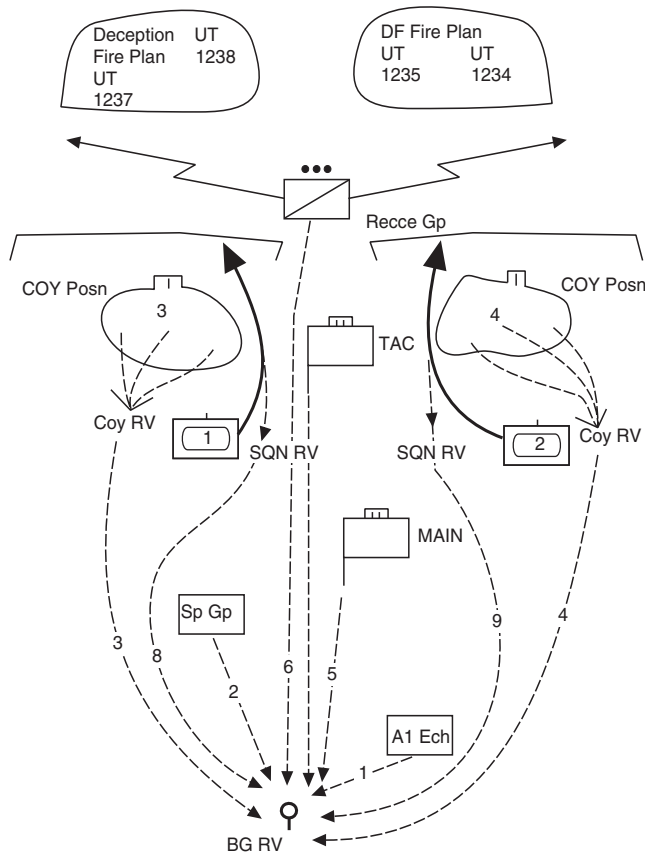
4. BG Comd issues orders (SOC or quick O Gp). Must incl:

    a.   Cfm of details in WngO.

    b.   Concept
       - in or out of contact?
       - noisy/silent?
       - sequence of wdr (ie OOM).
       - con measures.

    c.   Deception, incl:
       - Fire Plan.
       - EMCON.
       - Mov of vehs.

5. If no time to give full orders, fol drill takes effect:

    a.   Timings as in WngO.
    b.   Wdr is noisy.
    c.   Csurv measures A-E2 & F3 in force from BG RV.
    d.   BG OOM (con by TAC) is:
       (1)   A1 Ech incl RAP [waits at BG RV under con of RSM/ LO].
       (2)   Sp Gp [waits at BG RV under con of RSM/LO].
       (3)   Inf sub-units in order. A1 Ech then Sp Gp fol first coy through BG RV.
       (4)   MAIN HQ.
       (5)   Recce Gp.
       (6)   TAC HQ.
       (7)   Armd sub-units in numerical order.

    e.   OOM within sub-units from sub-unit RV - Drill 2.

    f.   On 'rearward mov may start' time, automatically:

       (1)   Armd sqn(s) occupy battle posns.

       (2)   A1 Ech moves to BG RV.

       (3)   Deception Fire Plan starts.

       (4)   Internal wdr within coys starts (see coy level drill).

       (5)   Sp Gp moves to BG RV - will arrive after A1 Ech, but listen on BG Comd Net to make sure.

    g.   BG RSM/LO tells TAC (BATCO) as each elm passes BG RV. TAC calls remaining elms of BG OOM (inf coys, MAIN, Recce Gp and armd sqns) to move as sit demands. Armd sqns should be ordered to move at "denial time".

    h.   Har ptys (con by BG 2IC) meet BG elms at RelP and guide to new locs.
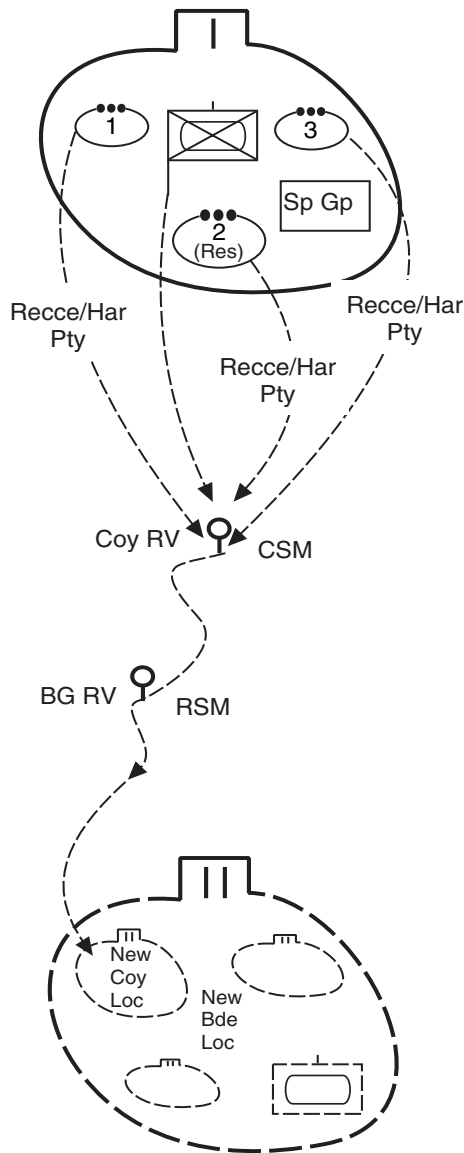
6.   Coy Comd issues WngO (SOC over CNR or line or by runner). Must incl:

a.   Outline of new Coy task (if known).
b.   Time posn must be denied to en until.
c.   Time rearward mov may start.
d.   Time rearward recce may start.
e.   Loc of Coy and BG RVs and Check Pts.
f.   Route from Coy RV to BG RV (unless coy is indep).

7.   On hearing WngO (and ltd by recce timings given in WngO):

a.   Coy 2IC liaises with OC for details of new coy task and loc then takes LR to Coy RV to meet recce/har parties.
b.   CSM goes to man Coy RV.
c.   Pls send recce & har parties to Coy RV.
d.   FOO checks validity of current Fire Plan.

8.   2IC gets to Coy RV, checks all har/recce parties present, briefs them and takes them to BG RV (or new loc if indep). On arrival at new loc, 2IC and recce parties recce new posn and brief har parties who RV at BG RelP in time to meet main bodies to guide them to new posns.

9.   Coy Comd issues orders (SOC or quick O Gp). Must incl:

a.   Cfm of details in WngO.

b.   Concept - in or out of contact?
            - noisy/silent?
            - sequence of wdr (ie OOM).
            - con measures.

c.   Deception, incl:
            - Fire Plan.
            - EMCON.
            - Mov of vehs.
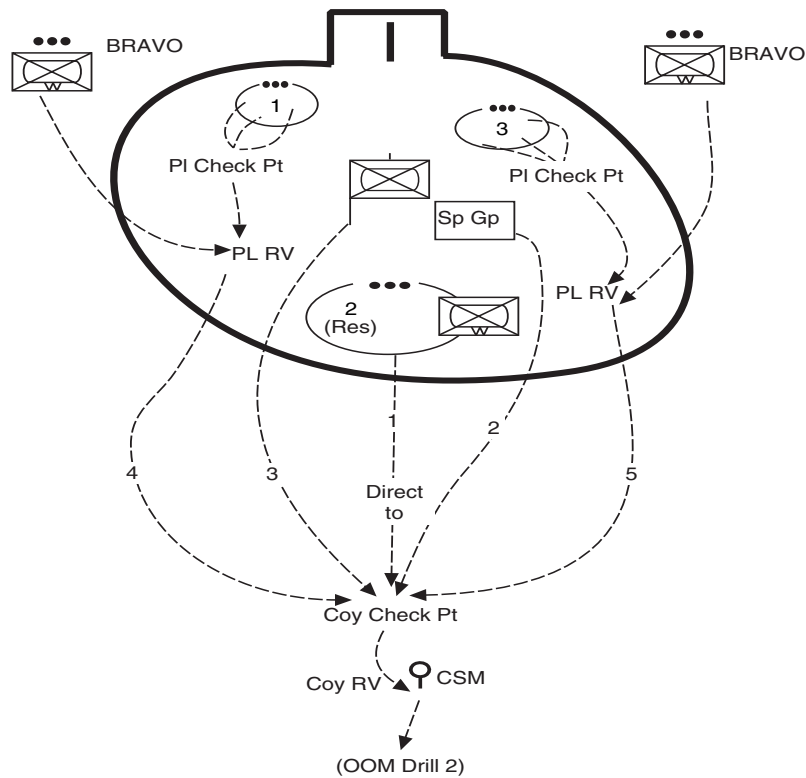
10.   If no time to give full orders, fol drill takes effect:

    a.   Timings as in WngO.

    b.   Wdr is noisy.

    c.   Csurv measures A-E2 & F3 in force from BG RV (or Coy RV is coy is op indep).

    d.   OOM to Coy RV - Res Pl, Sp Gp, Coy HQ, Comd Gp, remaining pls in numerical order.

    e.   OOM within coy from Coy RV - Drill 2.

    f.   If BRAVO WARRIORS on coy posn, marrying up takes place on the posn. Pl Check Pts and Pl RV are not used and pls go direct to Coy RV. Thus, on 'rearward mov may start' time, automatically:

        (1)   Res Pl mounts up and goes to Coy RV.

        (2)   Sp Gp preps to move.

        (3)   CSM at Coy RV tells Comd as pls etc arrive. Coy Comd orders elms of coy gp (in OOM as above) to move as appropriate. Pls mount up on posn and go to Coy RV.

    g.   If BRAVO WARRIORs not on coy posn, they marry up with pls at Pl RVs, which are manned by WARRIOR Pl Sgts. Pl Check Pts and RVs are used. Thus, on 'rearward mov may start' time, automatically:

        (1)   WARRIOR Pl Sgts move to Pl RVs. Res Pl sects wdr to Pl RV via Pl Check Pt. Pl mounts up and moves to Coy Check Pt.

        (2)   Sp Gp preps to move.

        (3)   CSM at Coy RV tells Comd as pls etc arrive. Coy Comd orders elms of coy gp (in OOM as above) to move as appropriate. As pls ordered to move, their BRAVO WARRIORs move to Pl RV. Pls mount at Pl RV and move to Coy RV.

    h.   When coy all at Coy RV, move under con of Coy Comd to BG RV (or direct onto wdr route if indep).

    i.   Har ptys (con by 2IC) meet coy at RelP and guide to new locs.

BATTLEGROUP DRILLS - RELIEF IN PLACE

FUNDAMENTALS

Purpose   To relieve all or part of a force in a sector by an incoming unit/fmn

Objective   To replace an existing force which is depleted or exhausted
                To replace tps of one capability with tps of different capability
                Routine rotation

FORCES AND TASKS

Arty   Guns of in place fmn remain in posn until op complete. Early relief by FOOs to familiarize with fire plan
AD   Cover conc of forces har areas etc and choke pts
Engr   Assume responsibility for obs plan, assist with fd def for incoming unit
Avn   Liaison and recce
EW   Deception, monitor en mov/intention

PLANNING AND PREP		Plan	Surprise and deception
			Def plan (takeover extant plan)
Msn	Incoming force adops msn of force to be relieved		Mov plan
			Equip Plan (def stores, surv devices, GPMG(SF) comms eqpt)
Factors	Sy and protection		Relief of OPs and Ptls
	Early liaison		
	Allocation of areas		
	Allocation of routes		
	Timings		
	Fire sp		
	C2		

CONDUCT

Sequence	Wng O		
	Recce/Briefings (ideally by day	Factors	Clear comd responsibility at all stages
	Orders		Uninterrupted surv of BG area
	Gd Force deploys (if applicable)		Maint of eff fire sp
	Changeover of BGs (ideally by ni)		Mob res
CONCEPT	Strong gd force fwd (provided by relieving force) behind which ops is completed	or	Strong posns estb to rear of MDA through which in place BG wdr (in a manoeuvre battle this may be the only viable option)
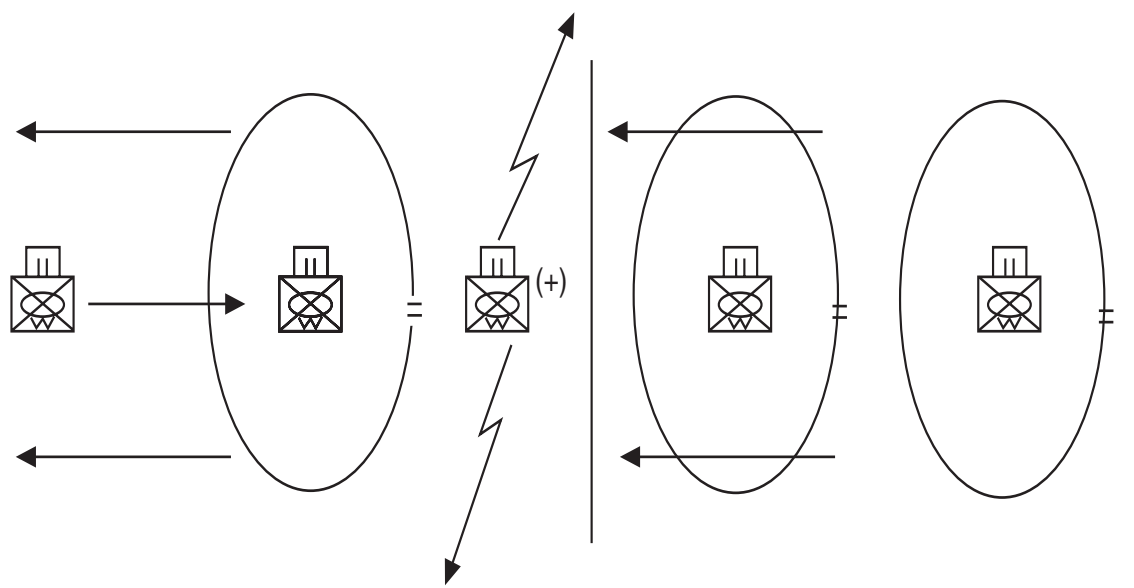
COMD AND CON

Comd   Comds coloc throughout op
                Transfer of comd   -   when 2 or more units or sub-units have been relieved
                Comd responsibility -   once comd passed, incoming comd will assume op comd of all outgoing units/
                                           sub-units not yet relieved

Coord   Superior HQ responsible for
                     timeframe within which op is to be conducted
                     designation of control lines and routes
                     arrangements for liaison, recce, adv parties
                     fire sp
                     overall deception plan (incl EW)
                     tactical air support
                     airspace control
                     air defence
                     CSS

COMBAT SVC SP

Combat sp tps should not be relieved at the same time as combat tps
Relieving fmn/unit should be fully replen before start of op
        fmn/unit should assist with   casevac
                                           rec
                                           C sup
                                           PW
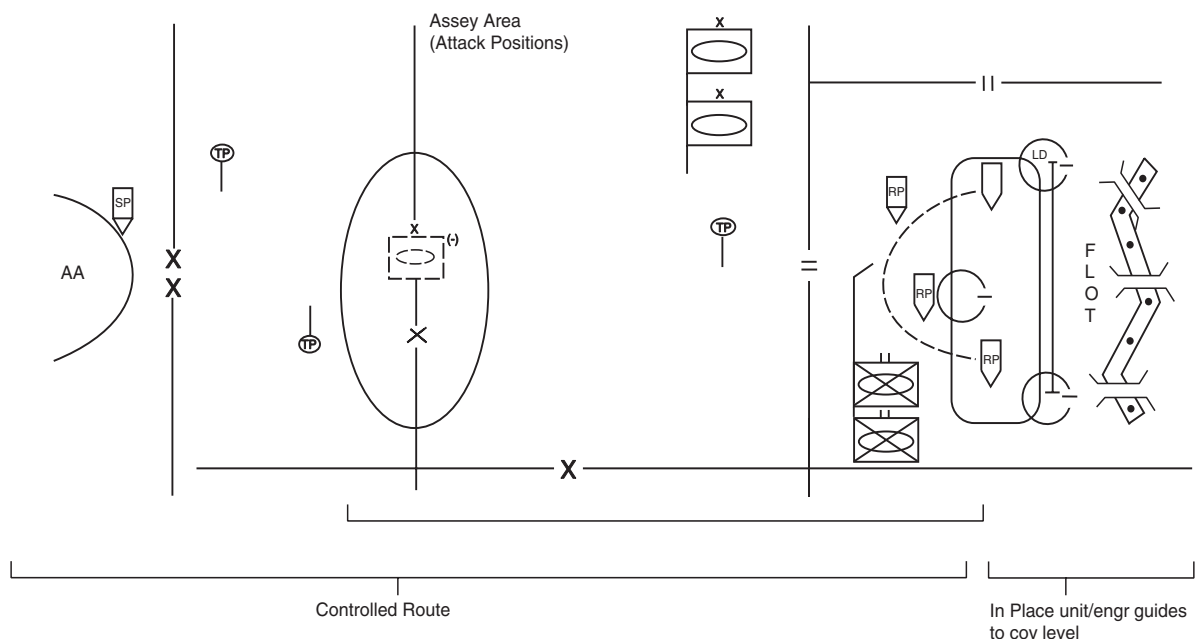
BATTLEGROUP DRILLS - FORWARD PASSAGE OF LINES

EMPLOYMENT CONSIDERATIONS

Fwd passage of lines is an operation whre a force adv or attacks through a force that is in contact with the en. Force in contact remains in place and provides tac and CSS asst.

Principles	-	Op con by next higher fmn. Superior comd will designate force to be relieved and msn of adv force.
	-	Comd of adv force to maint contact with en after LD. LD should be FLOT.
	-	Comd of adv force assumes comd of force being relieved as long as it can provide fire sp.
	-	Plans for fwd passage of lines should take pri.
	-	Passage should take place in unoccupied areas.
	-	Op planned as single fluid move.
Concept	-	An attack is to be cont with fresh tps.
	-	The force to be relieved is in close contact with en.
	-	The adv force has to take possession of suitable terrain in order to cont battle.
	-	Incoming force organized to carry out msn after fwd passage of lines.
	-	In place force posture to facilitate passage and provide sp.

FORCES AND TASKS   Overall Comd Stipulates:

- Relief of force in contact
  - Plan incl timings, fire sp, con lines, routes, RVs
  - Liaison, recce
  - Deception, incl EMCON, EW
  - Air sp, coord AD, fire sp coord
  - Tfc con
  - Combat svc sp
  - Degree of sp by in place force
  - Comd relationships
- Force in Contact
  - Int on en and ground + coord of recce
  - Liaison
  - Sy of LD
  - Sy and main of routes fwd within bdys
  - Alloc of real estate
  - Tfc con
  - Fire sp
  - Guides
  - AD if aval up to LD and across if poss
  - Fwd replen after mov fwd

- Force Mov Fwd

- Fwd HQ coloc with force in contact
- Agree with in place force real est
  - Gun areas
  - Con areas/assy areas
- FOPs
- LOs
- Asst with tfc con
- Timings for mov fwd
- Planning
  - Mov/coloc of comd elms
  - Mov of recce, adv elms, cbt sp
  - Os and battle procedure
  - Mov of main body

Assey Area
(Attack Positions)

AA

Controlled Route

In Place unit/engr guides
to coy level

Incoming force balanced to continue with mission after fwd passage of lines. Force in posn adopts posture to facilitate passage and provide max sp. Advantage taken of sy offered by in place force.

Sequence	-	Recce Elms	Sy and deception	-	Normally carried out at ni
of mov	-	Combat sp units, Coord of ARA/AMA		-	Maint normal patterns of
to FUP		- Combat units			activity
		- On 2 or 3 routes plus lateral routes		-	EMCON and EW
	-	Poss separate route for wh vehs		-	Limit fwd recce
		To fwd assy area if req for regping, rest and final Os			
	-	Regp prior to mov to FUP			

Force should be able to continue adv without halting. It will deploy into asslt fmn in the FUP.

COMD AND CON

Con Measures	-	Con lines, routes, tfc con, guides, LD, timings
Comd	-	Overall superior HQ. Transfer from force in contact to adv force at or prior to H Hr
Comms	-	Link to deception plan to incl plan for coord between 2 forces

---

COMBAT SVC SP

Gen	-	Sp for move fwd will be provided by force in place. Asst may be nec with rec plan, incoming force assumes full responsibility for combat svc sp forward of LD.
Sup	-	Arty log must be carefully planned. Pre-posn stocks for asslt, plan to retain DMS for ops after H Hr.
Med	-	Coord between 2 forces.

BATTLEGROUP DRILLS - REARWARD PASSAGE OF LINES

EMPLOYMENT CONSIDERATIONS

Principles - Similar to Fwd Passage of Lines but more difficult because:
  - Liaison, recce and ident difficult.
  - Wdr force probably in contact.
  - En may be pressing hard.
  - Wdr force should be org for disengagement.
  - In place force org to assume msn.
  - In place force ensures smooth mov of wdr force.
  - Handover line (easily recognizable) estb early.
  - Conducted at ni or reduced vis.
  - Early liaison at all levels essential.
  - Coincidence of bdrys of in place and wdr forces ideal.

Concept - As part of a delay op.
  - Change type of force to face en.
  - When terrain can be abandoned.
  - Force cannot cont its msn.
  - Part of a fmn wdr.

FORCES AND TASKS

Arty-Mors - Gun Gps and Tac Gps rft wdr forces remain well fwd.
Engrs - Route maint, closure of routes and crossing pts, firing of dmls.
AD - Coverage by in place force, while wdr force AD moves.
Avn - Mov of HQs, LOs, route recce, log replen, asst to break clean.

PLANNING AND PREP

Msn - Wdr a force through the sector of a unit occupying a rearward def posn.
Planning - Con HQ.
  - Timings.
  - Con lines (esp handover line), sufficient routes, conc areas.
  - Liaison, recce and adv parties.
  - Fire sp.
  - CAS, Avn.
  - Deception, incl EMCON and EW.
  - Airspace con Os.
  - AD.
  - Combat svc sp.
  - In place and wdr forces.
  - Int on en and ground.
  - Liaison.
  - Fire sp.
  - Sy of handover line.
  - Sy and maint of routes within bdrys. (incl lateral routes).
  - Tfc con.
  - Guides.
  - AD.
  - Wdr plan.
  - Obs/barrier plan.
  - Coloc of HQs.
  - Comd handover procedures.
  - Comms, ident and recognition.
  - Combat svc sp.
  - Sy and deception.
  - Real estate. (conc areas etc)
  - Subs op.

CONDUCT

Sequence - Wdr force.
  - Combat svc sp units, cas, veh cas wdr early.
  - Eqpt, C Sups mov.
  - Rear recce depart.
  - LOs to in place force.
  - HQs coloc.
  - Cross handover line (no stop), break clean.
  - Handover.

- In place force.
- Estb routes (incl lateral), guides tfc con from handover line back.
- Maint routes.
- AD units cover wdr force area.
- Strong force fwd on handover line.
- HQs coloc.
- Cover break clean.
- Takeover.

Sy and deception
- Op carried out at ni or reduced vis.
- Limit rear recce.
- EMCON and EW.
- Ensure sy routes, crossing pts etc

COMD AND CON

Con measures	-	Con lines, routes, tfc con, timings, handover line LOs.
Comd	-	Coloc HQs, handover procedure, flexibility and bal forces, LOs.
Comms	-	Link to deception plan, coord between forces, eqpt compatibility, LOs.

COMBAT SVC SP

Gen	-	Wdr force combat svc sp units mov early, in place force to asst, especially rec, CASEVAC replen.
Sup	-	Arty log and ground dumped stocks to be carefully monitored, handover of eqpt and C Sups.

CHAPTER 10 - OPERATIONS IN SPECIFIC SITUATIONS

SECTION 1 - INTRODUCTION

General

1.   Operations in specific environments and under specific conditions encompass operations That may require special techniques and procedures. The tactics and command procedures employed will be the same as those already described in this manual. These special conditions may result from an area's natural and man-made characteristics or the unique conditions and nature of the operation.   Each environment or condition has its own unique effect on personnel and equipment. Units and individual soldiers will require special training for each and in some may require specialised equipment or modifications to standard equipment.

2.   Certain specific environments are already covered in detail in other parts to the AFM and do not need to be included here.   Therefore, the following subjects are not covered in this Chapter:

a.	Operations in NBC Conditions	See AFM Vol 1 Pt 5
b.	Mountain Operations	See AFM Vol 2 Part 1
c.	Tropical Operations	See AFM Vol 2 Part 2
d.	Desert Operations	See AFM Vol 2 Part 3
e.	Cold Weather Operations	See AFM Vol 2 Part 4
f.	Operations in Built Up Areas	See AFM Vol 2 Part 5
g.	Operations in Woods and Forests	See AFM Vol 2 Part 6

3.   This Chapter covers only:

a.   Obstacle Crossing Operations.

b.   Operations in Conditions of Limited Visibility.

SECTION 2 - OBSTACLE CROSSING OPERATIONS

General

4.   An obstacle is a natural or man-made restriction to movement that will normally require special equipment or munitions to overcome it. A co-ordinated series of obstacles is known as a barrier. The obstacles which are likely to prove the greatest impediment to movement are inland areas of water or waterways (rivers and canals) and minefields. These will often require a specific operation and specialist engineer support to surmount them. Other obstacles which will impede and slow movement,

and may require a crossing / breaching operation and engineer support to overcome, include:

a.   Rough, soft or marshy ground and terrain covered by snow.

b.   Craters and ditches.

c.   Vertical steps and slopes.

d.   Abatis, extended wire entanglements, battle damage, debris.

e.   Landfalls and avalanches.

f.   Flooding and inundation.

Principles

5.   The principles that should be considered for obstacle crossing operations are:

a.   *Surprise*.

b.   *Security*.

c.   *Momentum*.

d.   *Balance*.

e.   *Simplicity*.

Obstacle Crossing Operations

6.   Obstacle crossing practices and procedures described in this Chapter apply equally in defensive, delay, transitional, offensive operations. The term obstacle crossing refers to any operation to cross through or over an obstacle (ie a breach or a bridge etc). There are a number of different types of obstacle crossing operations:

a.   *Hasty*. A hasty obstacle crossing operation takes place from the line of march, with little preparation, using resources immediately available. The intent of conducting such an operation is to maintain momentum and to execute a crossing before the enemy has the opportunity to prepare his defensive position fully or react. Should the tactical situation permit it, attempts should always be made to conduct a hasty crossing. Battlegroups will be expected to conduct hasty obstacle crossings operations using their own resources, supported by their close support engineers.. The operation is best achieved as a drill with rapid organisation of fire support and C2. Risk must be balanced against Security, determined by enemy action and the potential for success.

b.   *Deliberate*. A deliberate obstacle crossing requires thorough reconnaissance, detailed planning, extensive preparations, rehearsal and heavy or specialist

engineer equipment. It is conducted because of the complexity of the obstacle, the strength of the opposition, when a hasty obstacle crossing has failed or in the case of a covert breach to achieve surprise. The planning and conduct of deliberate major water obstacle crossing operations is unlikely to occur below brigade level.

c.   *Assault Crossing.*   An assault crossing is employed to gain a foothold in an enemy's defence.   It allows a force to penetrate an enemy's protective obstacles and assault through the objective.

d.   *Covert Crossing.*   The covert crossing is a silent operation by dismounted troops.

Planning

7.   **IPB**.   The IPB process, in support of the specific mission, should have identified terrain obstacles (eg rivers) and areas that favour the use of man made ones (eg minefields).   The process should have served to focus the ISTAR effort, and in particular that of recce, in respect of confirming the terrain assumptions made in the IPB process (eg. going, water depths and widths).   Once it is clear that an obstacle crossing operation is required the IPB should be reviewed within the constraints of the type of crossing operation being undertaken and the time available. This review should focus on the immediate vicinity of the obstacle AO and AI to ensure that the Comd has a full understanding of possible enemy courses of action and of how the whole obstacle crossing should be completed.

8.   ***Tactical Considerations.***   Wherever possible a commander should aim to seize crossings or gaps and lanes through obstacles intact in order to maintain tempo and momentum. If this cannot be achieved, an obstacle crossing operation will be necessary. Because a BG is so vulnerable during any crossings the Comd must give due and timely consideration to the following factors in any crossing:

a.   *Surprise.*   The Comd must decide between conducting a noisy or silent breach. Whereas a noisy crossing is fast the silent crossing takes longer but can still be very effective. A compromise between the 2 can be adopted.

b.   *Deception.*   A deception plan seeks to deceive the en as to our own intentions. In an obstacle crossing effort must be focused on drawing the enemy's attention away from the intended-crossing site. Any plan should be co-ordinated at BG level and it will normally have to conform to the higher commanders' intent. Local deception plans must always be considered in an effort to divert the enemy away from the site of the actual or intended crossing. Although limited in scope it must be credible and could include:

(1)   Overt reconnaissance of other crossing sites.

(2)   Simulation of crossings away from the actual crossing site.

(3)   Use of a deception fire plan.

c. *Rapid Exploitation.* The BG is extremely vulnerable during the crossing operation and therefore the requirement to maintain the momentum will be an essential part of any plan. It requires a combination of speed, a flexible crossing plan and rapid exploitation.

d. *Command and Control (C2).* There is a requirement for a robust clearly understood C2 mechanism that plans and executes the crossing. The C2 mechanism is explained further at Paragraph 12.

9. ***Tactical Factors.*** Tactical factors include the following:

a. *Intelligence.* Intelligence is gained by thorough reconnaissance. It is necessary to confirm the extent of the obstacle, details of the enemy weapons and positions covering the obstacle and the possibility of bypassing or mounting a hasty crossing. The reconnaissance must not compromise the whole operation. Close reconnaissance must include engineer reconnaissance to ensure that the essential technical information is available as early as possible. For a gap crossing this may include width, depth, bed profiles and current. A minefield breach may involve the hand breaching of a lane to establish the depth of the obstacle, type of mines, going and suitability of the ground for the use of mineploughs. Reconnaissance must also identify suitable routes, RVs, hides, FUPs etc.

b. *Bypassing.* As a result of bypassing longer distances may have to be travelled although momentum will be maintained.

c. *Movement.* Movement to and across the obstacle must be strictly controlled to avoid congestion and maintain momentum.

d. *Crossing Sites.* Crossings, if possible, should be conducted on a broad front, with more than one crossing site to allow tactical flexibility. Ideally as many sites as can be supported will be developed, in order to confer maximum redundancy: Obstacle crossing operations should have the following features:

(1) Crossing sites that offer cover from observation with concealed approaches where possible, with sufficient separation to prevent any 2 being engulfed by a single enemy artillery concentration.

(2) Routes to/from the sites and within the bridgehead, both with suitable lateral routes. Good approaches for wheeled and tracked vehicles including oversize specialist vehicles (eg AVRE, AVLB, GSB Vehicles and M3).

(3) A suitable number of crossing sites allowing movement forward and to the rear (for casualties etc).

e. *Suppression of Enemy Positions.* If the crossing is defended, suppression of the enemy, using both direct and indirect fire, and the screening of friendly movement is essential.

f.   *Terrain Management.* Terrain allocation must include suitable locations for fire support elements and recovery assets, space for assembly areas, waiting areas, hides, artillery areas.

g.   *Reserves.* Crossing operations rapidly absorb combat power and in the initial stages split the unit either side of the obstacle. The employment of a reserve is therefore difficult but nevertheless a reserve should be nominated whenever possible and should include appropriate engineer equipment.

Conduct of Obstacle Crossing Operations

10.   ***Stages of an Obstacle Crossing Operation***. An obstacle crossing operation is normally carried out in 5 overlapping stages:

a.   *Overwatch*. Overwatch provides security initially to the reconnaissance and then to the Assault.

b.   *Assault.* The Assault secures a lodgement on the far side by armoured assault vehicles (bridging or breaching), by boating, swimming, fording or airlifting a force across the obstacle.

c.   *Build Up.* The intention of the build-up is to rapidly extend the lodgement on the far bank into a bridgehead, from which to mount subsequent operations. It is during the Build Up that sufficient crossings will be developed to support the move forward of the main body and follow on forces.

d.   *Consolidation.* Once the bridgehead is established a firm base is secured within it and the force consolidates to provide the required degree of security and space for the move forward of the breakout force. Consolidation must be achieved as rapidly as possible to ensure the timely move forward of the breakout force and subsequent exploitation and the maintenance of momentum.

e.   *Exploitation.* The purpose of the operation is to breakout and exploit. This must be achieved as soon as the tactical situation permits, balancing risk against maintenance of momentum.

11.   ***Grouping.*** The groupings required for an obstacle crossing operation are:

a.   *In-Place Force.* The In-Place Force provides Overwatch and fire support to the Bridgehead force during the Assault and Build-up. It is responsible for home bank security and the defence of the crossing site.

b.   *Bridgehead Force.* The Bridgehead Force consists of an assault echelon and a main body. The assault echelon's mission is to seize a lodgement on the far bank, whilst the main body's mission is to build up and consolidate the bridgehead to allow the breakout operation to be mounted.

c. *Breakout Force.* The Breakout force is tasked with the breakout from the bridgehead and the subsequent exploitation. This task is usually allocated to a separate unit, but can be given to the bridgehead force.

d. *Combat Support Elements.*

(1) *Artillery.* Artillery and mortars must be positioned so that they can give continuous support to the obstacle crossing operation. They are also used to mask enemy observation and to assist with deception.

(2) *Air.* A favourable air situation is required as a minimum.

(3) *Aviation.* If allocated to the battlegroup aviation can be used to secure the approach routes, move the assault echelon and provide a reserve.

(4) *Engineers.* Engineer support will be required for most operations. Their task is to enable the bridgehead and breakout forces to cross the obstacle. Engineer groupings prior to the operation will require careful thought, if momentum is to be maintained. Engr recce must be well forward with close recce to facilitate early identification of obstacles and potential crossing sites. Engineer crossing equipment must be positioned as far forward as is tactically sound.

e. *Combat Service Support.*

(1) *Medical.* The Casevac plan needs to be considered carefully with medical facilities needing to be established on both banks.

(2) *Logistics.* Assault echelons must be largely self-sufficient. Ammunition and replenishment vehicles must cross early to ensure adequate resupply.

(3) *Equipment Support.* Repair and recovery resources must be included in the movement control plan, to ensure that routes and defiles remain open. They must be sited to enable immediate support to the crossing sites.

12. **Command and Control.** A flexible and robust command and control system is vital. There are a number of headquarters:

a. *Overall Commander.* The overall commander is the battlegroup commander who is responsible for issuing the crossing plan, which should include groupings, missions and movement plans. The battlegroup commander will normally command the operation from Tac HQ.

b. *Crossing Area HQ.* The Crossing Area HQ will be established by the battlegroup 2I/C. Step-Up HQ is frequently used to enable the Main HQ to carry on with planning the main operation. It is responsible for security, movement control and crossing support. The Crossing Area Engr (as appropriate: engr sqn OC, BGE) will usually collocate with this HQ.

c.   *Crossing Site HQ.*   The Crossing site HQ is normally provided by an appropriate engineer troop commander who is responsible for the technical aspects of the crossing.

13.   ***Sequencing***.   The sequence of events is:

a.   On identification of an obstacle close recce will establish the extent and discover if it can be bypassed. If not they will find suitable crossing points. (Figure 10-1).
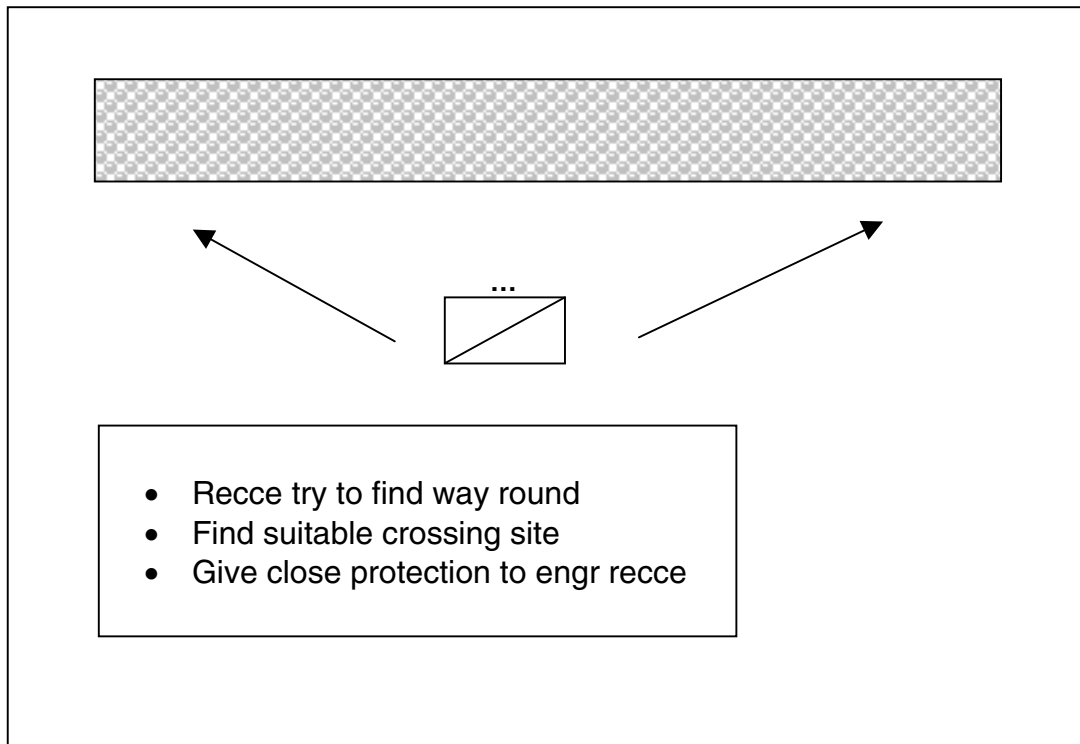
Figure 10-1

b.   To assist, a sub unit should move up to provide an overwatch of the area in order to provide protection and maintain security. This will include protecting recce and covering the area of the crossing with sub unit direct fire weapons. The battlegroup recce will identify a BG RV and engr recce will identify crossing sites, the earliest likely crossing time and an engr RV. This critical information is passed promptly to the battlegroup comd and the engr OC. The BG RV and the engr RV will normally be separate locations and should be easily identifiable or clearly marked. (Figure 10-2)

c.   Battlegroup Tac, on understanding that a crossing operation is required to continue, will move to a position to allow it to take detailed command of the operation The battlegroup commander gives orders and will then look forward to the next operation allowing the 2IC to control the crossing from BG Step Up HQ.
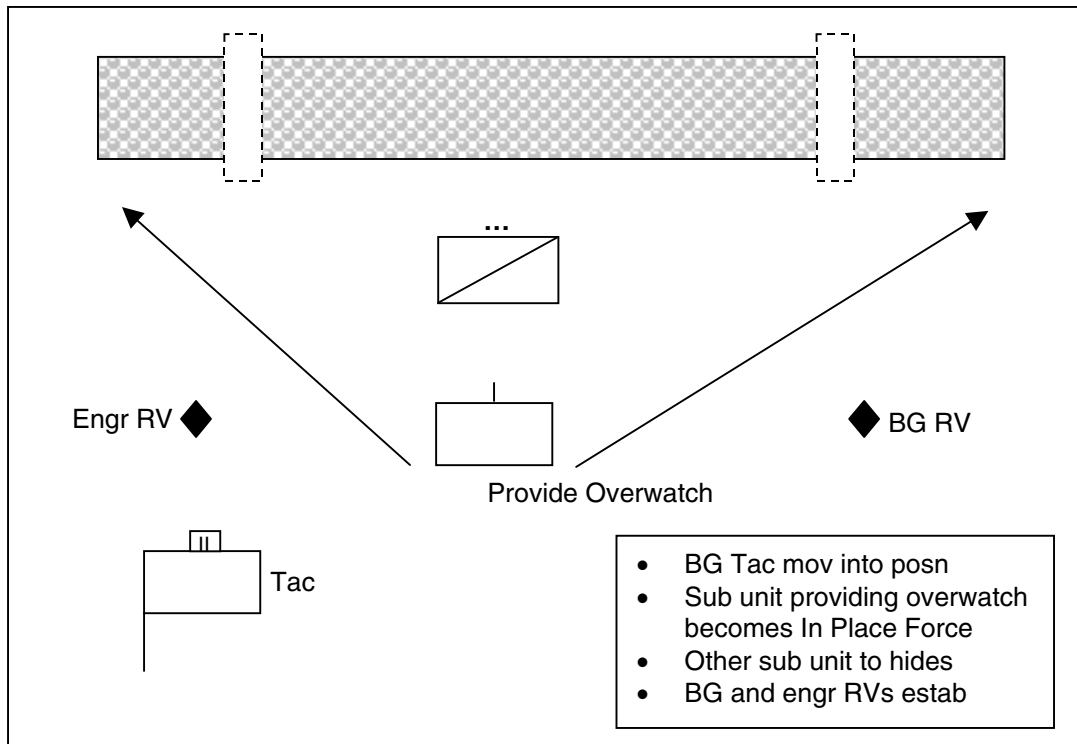
Figure 10-2

b.   An In-Place Force is established (this may be the existing sub unit providing overwatch).   This force provides home bank security and secures routes to the obstacle and co-ordinates the defence of the obstacle itself. This forms the base from which to launch the operation. (Figure 10-2).

c.   The other sub units will move into hides and await orders to recommence the advance. Engineer crossing assets move forward to the engr RV normally accompanied by the engr sqn 2 i/c or engr sqn CV. Engr recce moves back to the engr RV ready to lead the engr task vehicles to the crossing site. Engr task vehicles require close protection throughout the crossing operation. For example in an armoured battlegroup this may be achieved by the allocation of a close protection tank troop or tank.

d.   The battlegroup must establish a suitable control mechanism. The in place force, with the appropriate engrs, will establish the Crossing Site HQs. Battlegroup Step Up, with the battlegroup 2IC, will act as the crossing area headquarters. The engr OC or BGE will collocate with battlegroup Step Up as the Crossing Area Engr (Figure 10-3).

Figure 10-3

Within the figure:

- Brhd Force
- Crossing Site HQ
- Crossing Site HQ
- Step Up | Crossing Area HQ

- Engrs create crossngs
- Engr OC as Crossing Area Engr with Crossing Area HQ
- Brhd Force cross and estab brhd
- Break Out force crosses
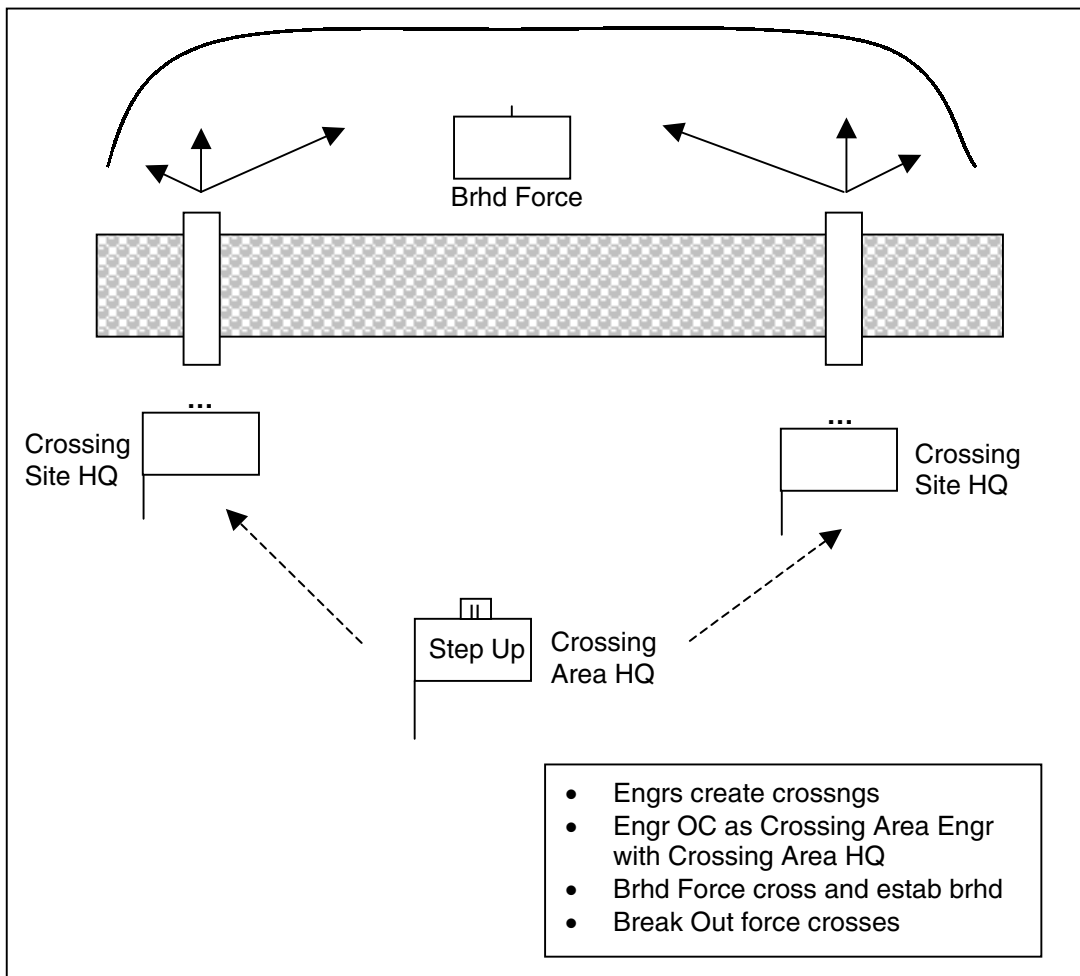
d.   The engineers create successful crossings and the bridgehead force sub unit crosses the obstacle and creates a lodgement if not already achieved by other means. Once secure the build-up phase begins with the crossing area HQ controlling the build up of troops within the bridgehead. The Consolidation phase follows. Once the Breakout force is complete the Exploitation commences (Figure 10-3).

f.   *H Hour*. H hour for an obstacle crossing is no different from H hr for any other operation ie "The specific time at which the operation commences. It is also the time at which the Line of Departure (LD) is crossed by the leading elements." [1] In the case of an obstacle crossing the leading elements are often the engr equipments required to affect the crossing (breaching /bridging/ ferrying assets). H hour may therefore be when the engineer task equipment leaves the engr RV but, as with all other operations, H hour must be related to such factors as the ground, enemy, and own situation, rather than to any particular sub unit's action. H hour must be clearly defined in the plan and in all orders given.

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[1] SOHB, Part 8

Summary

14.   Obstacle crossing operations can be a difficult and complex task. If the tactical situation is suitable, attempts should always be made to bypass an obstacle or, if a bypass is impractical, mount a hasty crossing. If neither is possible, then a deliberate crossing may be mounted. It is vital that a clear C2 organisation is established to run the operation. It is also important to remember that despite the difficulties involved, the crossing itself is only a means to an end and therefore it is essential that momentum be maintained in order to enable the breakout force to continue the main operation.

SECTION 3 - OPERATIONS IN CONDITIONS OF LIMITED VISIBILITY

Introduction

15.   ***General***.   This section considers the effects of low visibility on operations and how to exploit them. Limited visibility will slow tactical operations although modern surveillance equipment can reduce the effects of darkness, fog, rain, smoke and dust, and thus help to maintain operational tempo.

16.   ***Characteristics***. Fog and rain are predictable, they affect the whole battlefield, but they are uncontrollable. Light levels may be controlled artificially and used either to enhance observation of the enemy, or be used as part of a co-ordinated deception plan. The effects of smoke and dust may also be used under control to increase operational security either by screening or in conjunction with deception measures.

17.   ***Employment***

    a.   Continuous operations will place severe demands on human endurance and combat service support that must be taken into account by the battlegroup commander.

    b.   The battlegroup should be equipped and organised to conduct operations under all conditions of visibility. Battlegroups must train to fight at night as a matter of preference.

    c.   In low visibility (eg fog and heavy rain) mobility is the key to maintaining surveillance coverage of the battlegroup's area of interest, co-ordinated with battlefield surveillance radar and remote ground sensors.

    d.   When visibility is poor passive EW systems will have greater opportunity to detect and locate the enemy because command and control by the enemy will be more difficult. Emphasis must be placed on giving subordinate commanders more initiative in these conditions to reduce the need for radio traffic.

    e.   Many AFVs now have a night vision capability and this should be reflected in their deployment in support of the STAP.

f.   The employment of close air support and indirect fire support will be reduced dramatically in fog and heavy rain.

18.   **Surveillance Aids**.

a.   Passive devices such as optical instruments, image intensifiers, thermal imagers, TV and remote ground sensors (RGS) may be used without restriction on the battlefield.

b.   Thermal imagers can detect through much of the man made battlefield obscuration and camouflage although its performance will be degraded in certain conditions (dust/smoke). They remain as effective by day and night.

c.   Limitations on the use of active systems such as visible/IR emitters, radar and lasers must be imposed at the highest level through the implementation of counter surveillance control measures. Indiscriminate use of active sensors will compromise operational security.

Planning Factors

19.   In low visibility:

a.   Plans have to be kept simple.

b.   Time is to be given for reconnaissance, preferably when visibility is good.

c.   Closer co-ordination with flanking elements is required.

d.   Specific attention has to be paid to security, noise and light discipline.

Battlefield Illumination

20.   *General*. British military doctrine requires there to be a seamless transition between day and night operations. Battlefield Illumination is principally required for dismounted infantry operations and the adjustment of indirect fire at night. This dependence will be reduced, as low level night vision equipment becomes more widely available, thus enhancing operational security and combat effectiveness. Nevertheless, white light will still be required:

a.   When ambient light levels fall below overcast starlight (caused for example by smoke and dust in the upper atmosphere) making image intensifiers (II) less effective.

b.   If night vision devices are neutralised (through very low temperatures, damage by shock waves or non-lethal weapons) or not available.

c.   To trigger a reaction or to give early warning (for example a trip flare in an ambush).

d.   As part of a deception plan or to disrupt the enemy's night visibility plan.

e.   To give prearranged signals to aid command and control.

f.   For activities that are not best conducted wearing night vision devices (for example minefield clearance or bridge construction).

g.   In the close quarter battle, particularly in built up areas.

h.   To enhance the security of fixed key installations.

21.   ***Coordination of Illumination***. Near IR laser illumination is used in conjunction with image intensifiers and direct fire weapons. Their use will not normally form part of the battlegroup illumination plan, although control of these devices to maintain operational security, as they will be seen by the enemy's II devices, will be critical:

22.   ***Principles***.   The following principles should be applied when planning and conducting operations involving illumination:

a.   *Control.* Control is vital. The following must be tightly controlled:

        (1)   Illuminating stocks which are often scarce or not positioned correctly.

        (2)   Employment of illumination through integration with the STAP.

        (3)   The illuminated area which will depend on height and prevailing meteorological conditions.

        (4)   The use of near IR lasers.

b.   *Co-ordination.* Illumination must be co-ordinated:

        (1)   With higher and flanking formation illumination plans.

        (2)   With the battlegroup commander's other plans e.g. direct and indirect fire plan.

        (3)   With the deception plan which must be co-ordinated at the highest level.

c.   *Security.* In order to maintain security:

        (1)   Effective use of counter-surveillance control measures.

        (2)   Avoid self-illumination.

d.   *Deception.* Illumination may aid deception by:

        (1)   Deceiving the enemy or at least confusing him, to gain time.

        (2)   Hiding our true locations, strengths and intentions if used imaginatively. Plans must be consistent.

(3)   Disrupting the enemy's night visibility plan. This may form part of the deception plan.

23. **Planning**. The illumination plan must be fully integrated with the Fire and STAP. Fog and rain can greatly degrade the effectiveness of illumination at night and this must be taken into account when planning illumination. The plan should be included in operational plans and orders as an Annex.

24. **Definitions**. The following are the NATO agreed illumination terms and definitions.

a.   *Battlefield Illumination*. The lighting of the battle area by artificial light either visible or invisible to the naked eye (AAP-6).

b.   *Lower Level of Battlefield Illumination.* That level required to enhance the performance of certain night viewing devices (image intensifiers).

c.   *Upper Level of Battlefield Illumination.* That level required to enhance the performance of certain night viewing devices (image intensifiers).

25. **Types**. The 4-types of battlefield illumination are:

a.   *Pyrotechnics.* Such as artillery and mortar illuminating projectiles, tripflares, marker flares, tracer.

b.   *Chemical.* Such as light sticks.

c.   *Electrical.* Such as torches, searchlights and electroluminescent panels or strips.

d.   *Nuclear.* Such as beta light and other low level radioactive luminous devices.

26. **Methods of Employment**. Illumination should whenever possible be controlled by those using it to minimise reliance on external sources. Observation or fire must cover the area illuminated.

27. **Alternatives**. Alternative types of illumination are:

a.   Indirect illumination provided by para illuminating flares, mortar or artillery illuminating shells.

b.   Indirect illumination provided by searchlights to increase ambient light levels.

c.   Ground flares triggered by enemy movement.

d.   Signal flares to aid command and control.

e.   Covert or semi covert route marking lights, either visible or infra-red.

f.   Visible or IR beacons and markers for airborne or airmobile operations.

g. IR laser illumination for target acquisition, designation and engagement.

h. IR light emitting diodes to enhance the performance of night vision goggles.

i. IR sources to aid combat identification.

j. Tracer used as an aid to orientation, navigation and target acquisition.

28. **Illumination Plan**. The Illumination Plan must be integrated with the Fire Plan and the STAP. Careful control is required as stocks of illuminating rounds are always scarce. Once the need to maintain security has diminished, illumination may be used:

a. As part of the fire plan to allow weapons without night sights to engage the enemy.

b. To raise the ambient light level (for deliberate operations such as the breaching and crossing of obstacles).

c. To enhance a deception plan at battlegroup level.

d. In the close quarter battle.

29. **The STAP**. The STAP is a 24 hour plan which includes:

a. A plan controlling our own surveillance measures and,

b. The measures required to maintain the operational security of the battlegroup.

30. **STAP Trace**. It is derived from the IPB process. It usually takes the form of a trace displaying a basic surveillance framework of passive sensors; patrols, Listening Posts (LPs) and RGS may then fill gaps. All essential Named Areas of Interest (NAIs) and Target Areas of Interest (TAIs) in the battlegroup area of interest should be covered, preferably by more than one sensor. Active sensors may then be superimposed to reinforce the passive framework. STA Planning will normally be co-ordinated by the battlegroup 2IC, OC Sp Coy, BC or OC mortar platoon.

31. **STAP Updates**. The STAP is a dynamic battle management tool; to be useful it must be refined and updated continuously.

32. **Operations of War**. The STAP is an appropriate throughout all operations of war. The product of an effective STAP will be to:

a. Ensure that gaps in surveillance coverage are minimised as visibility deteriorates.

b. Plan the readjustment of battlegroup assets to maintain effective surveillance.

c. Observe the enemy until he can be engaged and destroyed.

Defensive Operations

33.   The following factors should be considered when planning the defence by night and in low visibility:

   a.   The same camouflage and concealment measures are required by night as by day.

   b.   More emphasis must be placed on mobile patrols, battlefield radar and RGS to maintain surveillance coverage.

   c.   As warning times are reduced so reaction times for reserves will need to be adjusted.

   d.   Security measures should be increased to prevent infiltration.

   e.   Low visibility may prevent the use of guided weapons (if visibility is less than the minimum range).

   f.   Good siting of RGS and battlefield radar will be essential to maintain effective indirect fire support when visibility is poor.

Offensive Operations

34.   In the attack, operations will be affected by low visibility as follows:

   a.   Reconnaissance may often be conducted by daylight.

   b.   The rate of movement will generally be slower.

   c.   The width and breadth of objectives may have to be reduced.

   d.   Axes should, if possible, be straight and lead to easily identifiable features.

   e.   Control will be more difficult. Communications security will be more difficult to maintain.

   f.   Infiltration operations will be easier to conduct.

   g.   Indirect fire support will be limited.

Combat Identification

35.   At night and in low visibility the danger of engaging ones own forces is greatly increased. Some measures to help reduce the changes of fratricide are listed below:

   a.   Increased use of Global Positioning System for accurate locating of sub units.

   b.   Strict use of passwords.

      c.   Visible markings on vehicles (if tactically acceptable).

      d.   Thermal tape to provide unique cold spot signature.

      e.   Infra-red emitters (detectable by II sensors).

      f.   Improved recognition training.

      g.   Well rehearsed drills and procedures.

36.   Combat identification devices should be protected from disclosure to the enemy until the latest possible time to maintain security.
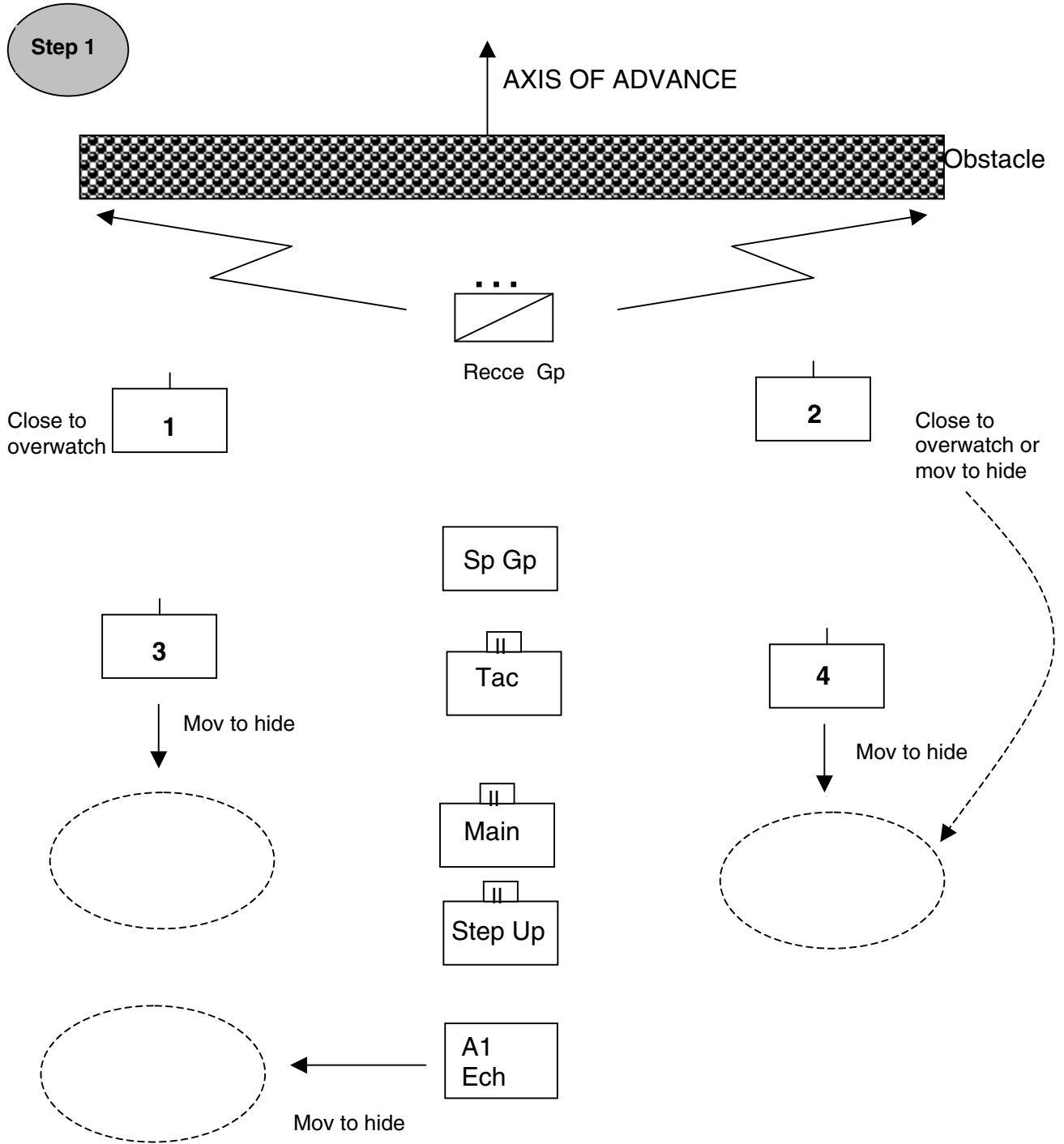
Deception

37.   Noise and light may be used very effectively to deceive the enemy when visibility is poor. The enemy is deprived of his other senses and as he cannot then verify the source, he may be fooled more easily into reacting to these deception measures.

Annexes:

A.   Battlegroup Drills - Obstacle Crossing Drills
B.   Obstacle Crossing Operations - Aide Memoire

BATTLEGROUP DRILLS - OBSTACLE CROSSING

Step 1

AXIS OF ADVANCE

Obstacle

Recce Gp

Close to overwatch

1

2

Close to overwatch or mov to hide

Sp Gp

Tac

3

Mov to hide

4

Mov to hide

Main

Step Up

A1 Ech

Mov to hide

Recce Group Reaches Obstacle				
BG	**Sub Units**	**Recce**	**Arty**	**Engr**
		Info BG of Obs Attempt to bypass Give close protection to engr recce until overwatch in posn	Recce gp FOO reports obs and observes far side	Engr recce looks for suitable Xing sites
Tac con mov of overwatch sub units fwd BG Comd starts estimate	Sub units 1 and/or 2 close to overwatch			Engr start technical recce Sqn 2IC (and engr task vehs) prep to mov fwd to engr RV once ident
BG HQ con mov of remaining sub units to hides. A1 Ech mov to hide loc	Sub units 2 (if not overwatch), 3 and 4 mov to hide locs			Grids of Xing sites, task veh requirements and engr RV passed to engr OC.Est H hr not brefore time passed to BG

Step 2

AXIS OF ADVANCE

Obstacle

Xing Site

1 — Overwatch becomes In Place

Tac

Engr RV ◆

◆ BG RV | Step Up

Engr Sqn 2IC and task vehs mov to engr RV

BG Step Up mov to BG RV

3 | Sp Gp

Main

4 | 2

A1 Ech
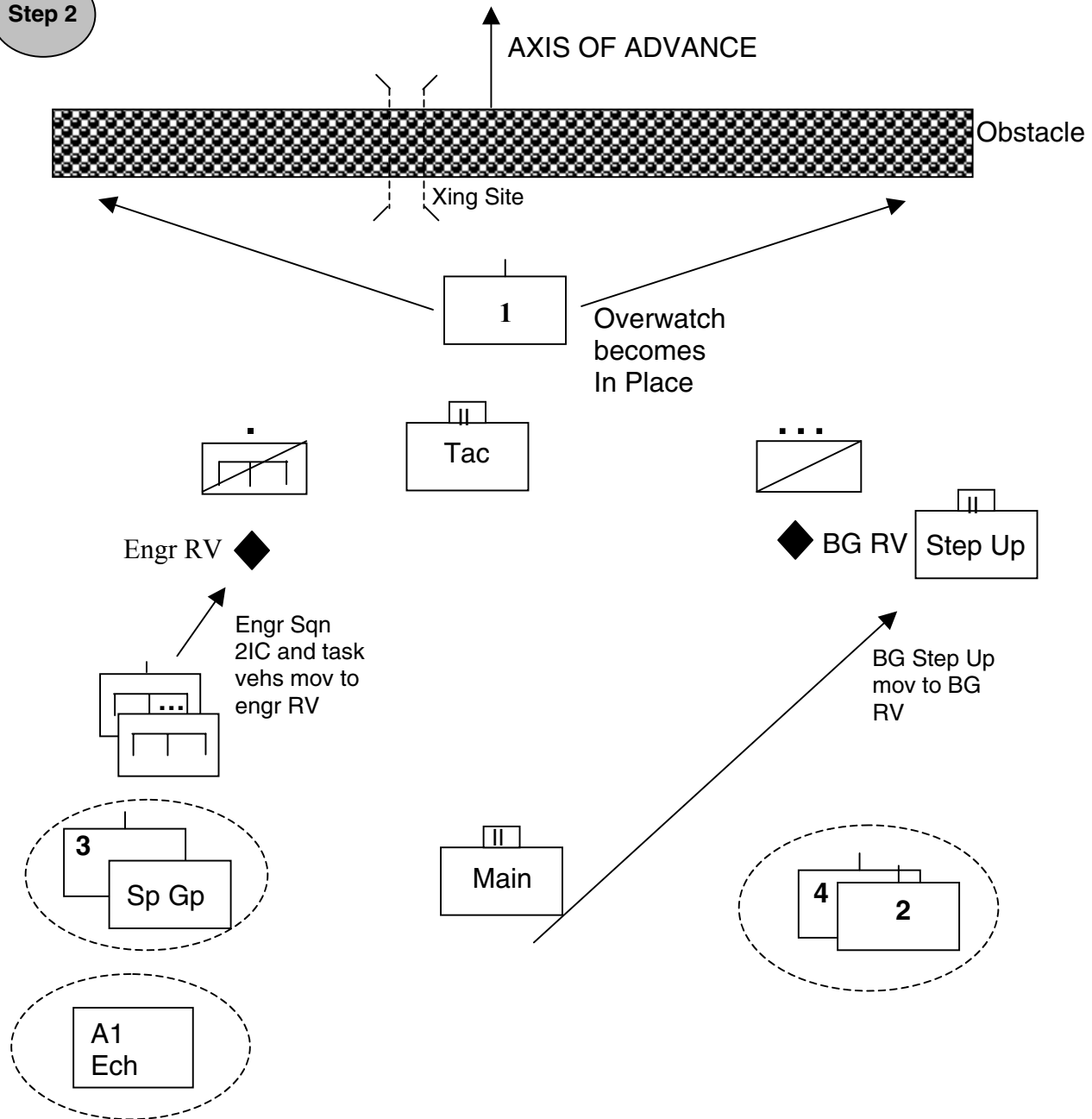
Preparation for Crossing				
BG	**Sub Units**	**Recce**	**Arty**	**Engr**
Tac controls op. BG 2IC mov Step Up fwd in anticipation of BG RV loc	Sub unit 1 (and 2) in overwatch to protect recce and prevent direct fire engagement of xing site			
BG Comd Issues WngO to incl: Loc of xing Loc BG RV In Place force Brhd force Breakout force OOM H hr not before	In place force into posn tk tp / tk mov to engr RV to provide close protection	Recce vehs to BG RV to mark route(s) to xing site(s)	Recce FOO supresses far bank to allow In Place force to secure home bank. FOO with In Place force takes over from recce FOO. BC develops fire plan.	Engr OC (having consulted with BG Comd) issues engr prelim Os. Engr sqn 2IC and engr task vehs mov to engr RV. Prep equip for xing task. Marry up with close protection assets.
BG 2IC mov to BG RV and con op	Units 1, (2), 3 , Sp Gp (-) A1 Ech in hides			Engr recce move to engr RV in prep to lead task vehs to site

Step 3

Deception

Brhd
Force

| 3 |

Obstacle

Xing Site

Engr close protection

Engr RV ◆

2IC
Sqn CV

Tac

| 1 |

◆ BG RV | Step Up

Xing Area HQ

| 3 |
Sp Gp

Main

| 4 | 2 |

A1
Ech

Lead Elements Cross the Obstacle				
BG	**Sub Units**	**Recce**	**Arty**	**Engr**
BG Comd issues orders				
BG 2IC cons op from BG RV. BG 2IC / Step Up is Crossing Area HQ			BC directs fire plan including deception tgts if needed	Engr task vehicles lead by engr recce and protected by close protection assets mov to xing site. Create xing and mark Report xing open to BG. Engr is Crossing Site HQ
Tac ready to cross obstacle	Sub unit 3 movs through BG RV to cross the obstacle to form the Brhd force	Recce marks route from BG RV to xing site	FOO att to Brhd force	
Tac crosses obstacle	Sub unit 4 movs to BG RV ready to cross obstacle and effect breakout / exploitation		FOO sp Brhd force regps to Breakout force	

Step 4

3 | Brhd Force

4

Breakout Force

Tac

Obstacle

Xing Site

1

BG RV | Step Up

Sp Gp

A1 Ech

Main

2
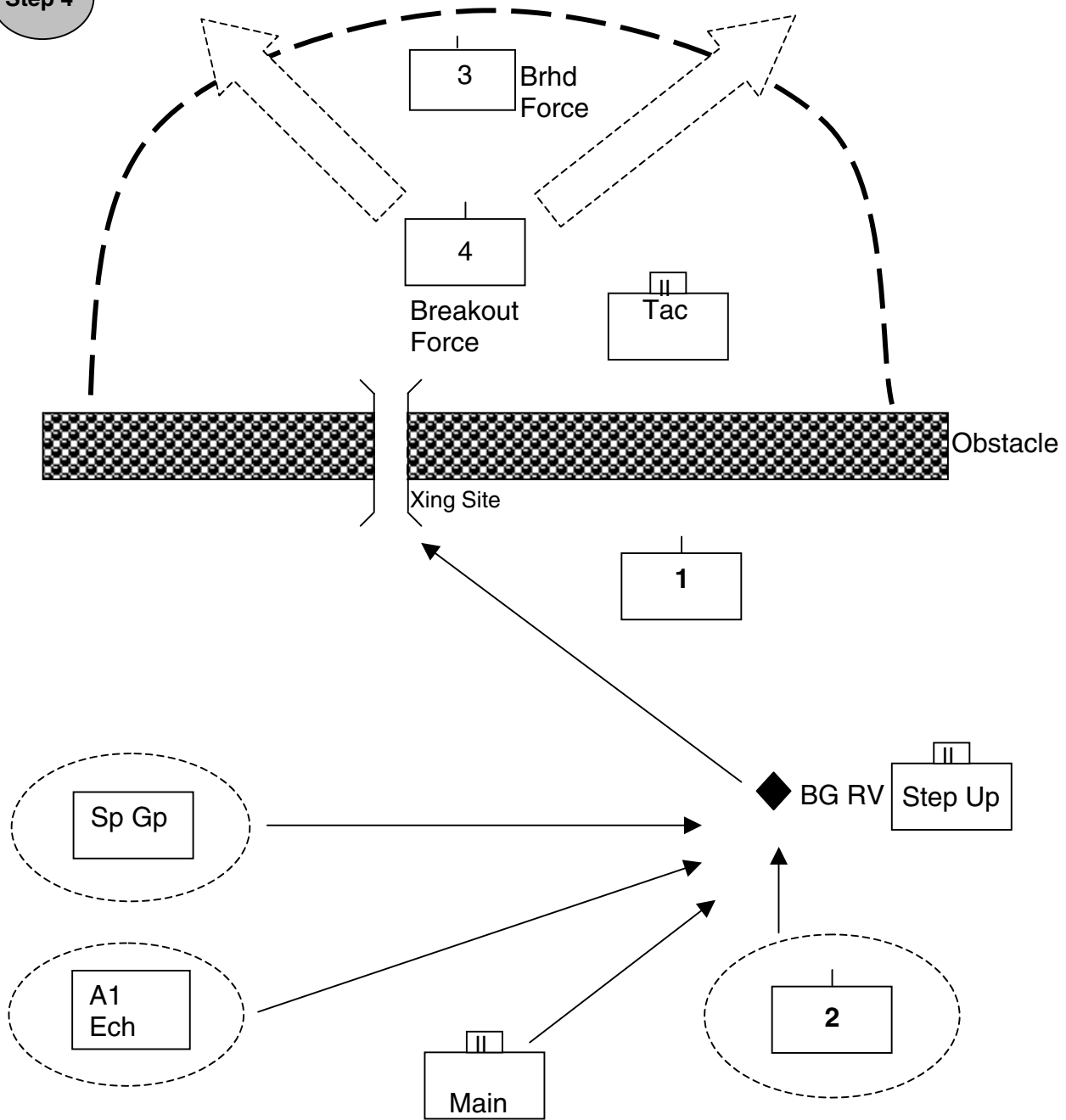
Remaining Elements Cross the Obstacle				
BG	**Sub Units**	**Recce**	**Arty**	**Engr**
BG 2IC cons mov of remaining sub units across obstacle	Sub units mov fwd trough BG RV in OOM	Recce elms continue to mark route to xing site		Engr consolidate crossing and recover equip as necessary.
Tac prepares to breakout	Sub unit 3 consolidates the brhd. Sub unit 4 prepares to breakout.	Recce moves to sp breakout	Recce FOO prep to take up adv	Engr recce rejoins recce gp. Sqn prep to sp breakout and adv.

MARKING OF ROUTE FROM BG RV TO XING SITE BY CLOSE RECCE

Obstacle

Last Recce Veh
(Tp/PL 2IC) marks
left of Xing site

Xing

Step Up

Xing Area
HQ

Recovery
Assets

Recce Vehs
(Intervisible)

BG RV

- Each Recce veh points hull towards next recce
  veh on route to Xing site

- Vehs mov from BG RV to Xing Site:

  - Close hatches at BG RV.
  - Pass recce vehs on immed right

Recce Tp/Pl
Comd
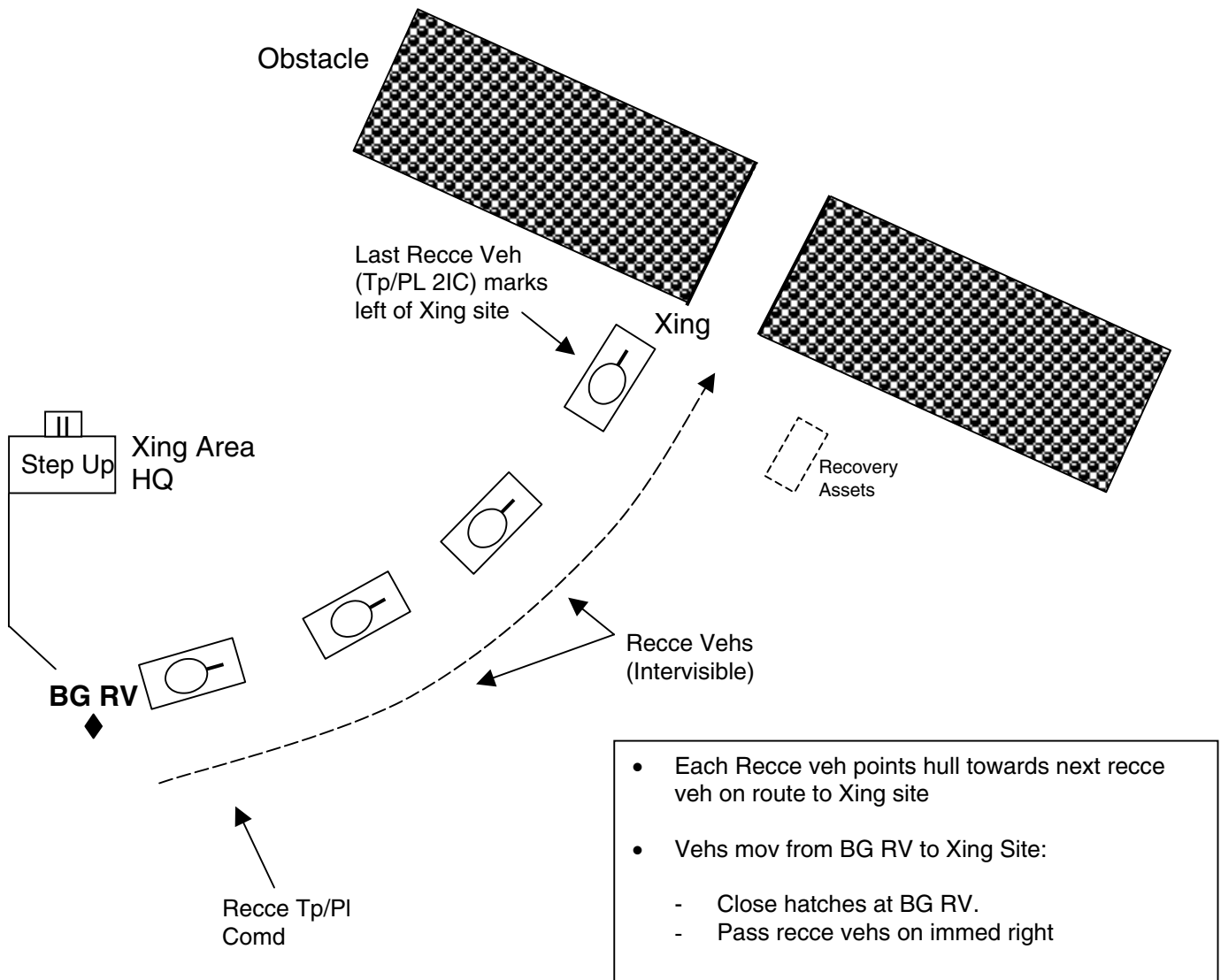
OBSTACLE CROSSING OPERATIONS – AIDE MEMOIRE

<u>EMPLOYMENT CONSIDERATIONS</u>

<u>Principles</u>

Surprise
Security
Momentum
Balance

|		
<u>Concept</u>	-	To seize a crossing site or minefd lane intact or conduct a hasty/deliberate crossing before the en has time to react.
	-	Bypassing an obstacle should always be considered.
	-	Attempts should always be made to conduct a Hasty Crossing if the tactical situation permits.
	-	May be conducted in offensive, def and transitional ops.
<u>Types of Crossing</u>	-	Hasty Crossing/Breach. Little preparation from the line of march, obs anticipated and is a drill conducted before the en can complete his defensive position.
	-	Deliberate Crossing/Breach. Detailed recce, extensive planning and preparation, rehearsals and specialist engr eqpt
	-	Assault Breach. Breach the en obs (using PYTHON etc) as part of the break-in battle and asslt through the obj.
	-	Covert Breach. Used by dismounted forces in conjunction with an infiltration during the break-in battle, to maximise surprise and minimise cas.
<u>Considerations</u>	-	Multiple crossing sites are essential. Must afford concealment, good approaches and deployment of fire sp.
	-	Int is Vital - thorough recce of crossing sites is required, but op must not be compromised.
	-	Maintenance of momentum - essential.
	-	Adequate fire sp, Air/arty/avn.
	-	Res. Avn may be the best asset due to its flexibility.
	-	Technical factors. Access, river profile, going etc.
	-	Surprise. Must be considered - timing, noisy/silent, deception.

<u>CONDUCT</u>

- Asslt. Secure the far bank using infiltration, boating, swimming, fording or air lifting a force.
- Build-up. Rapidly extend the lodgement info a brhd. Engrs construct crossing and movcon can then control the crossing of the brhd force main body.
- Consolidation. En resistance is eliminated and the remainder of the force cross the obstacle.
- Exploitation. (Once force is balanced, Breakout Force continues the op.)
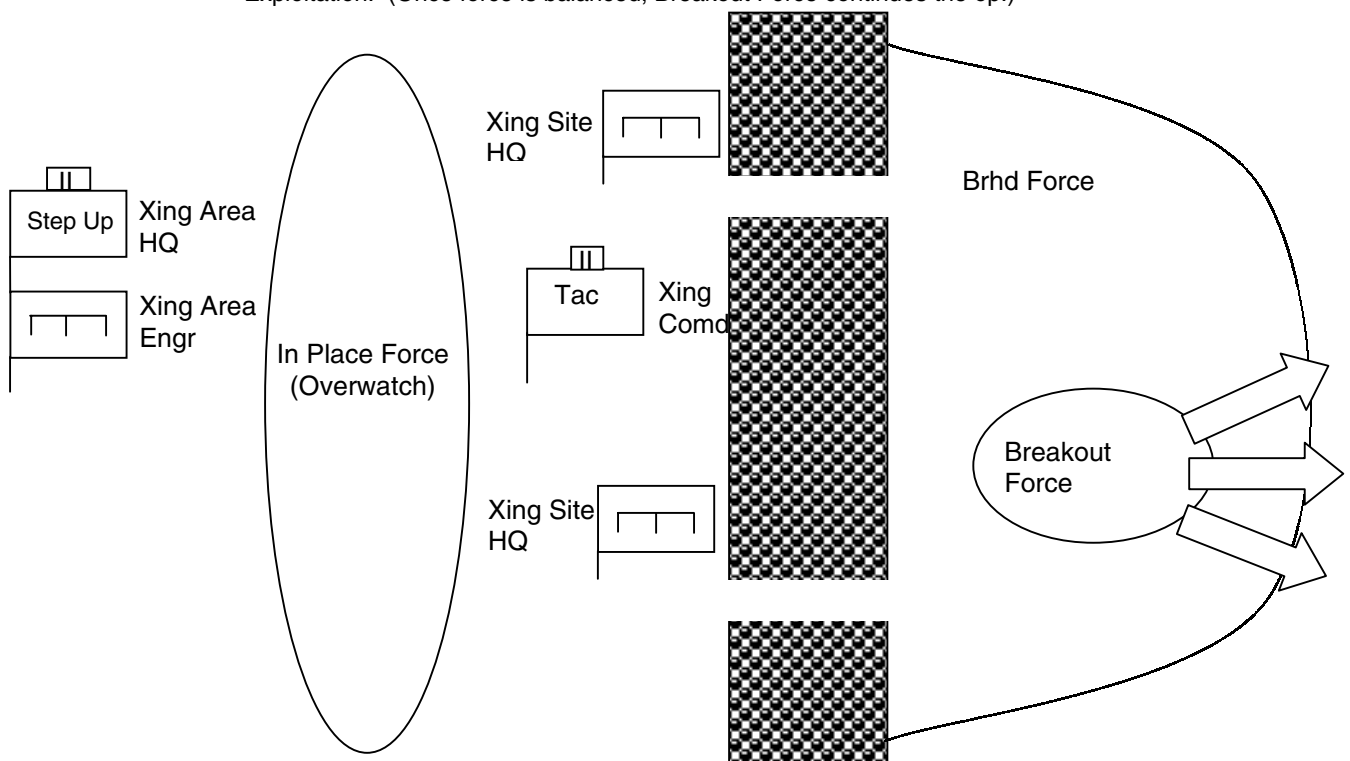
FORCE GROUPINGS

In-Place Force - Secures home bank and provides fire sp to the brhd force during the crossing. Provides Crossing Site HQs and con tfc flow over obs. Deception plan required.

Bridgehead Force - Consists of an asslt ech and a main body. Asslt ech seizes the far bank and the main body conducts rapid build-up and consolidation.

Breakout Force - Usually a separate unit tasked with the breakout and continuation of the op.

ROLES AND TASKS

Roles
- Arm/Inf. Secure far bank and breakout from brhd.
- Arty. To provide continuous fire sp during crossing, assist with deception and mask en posns.
- Avn. Assist hasty crossings and can secure approaches.
- Engrs. Ensure brhd force can cross the obs and provide flank protection if necessary.
- Air. A favorable air situation is required as a minimum.

COMMAND AND CONTROL

Comd
- Overall Comd. Tac comd has overall responsibility and issues crossing plan (incls gpgs, msns and mov plan).
- Crossing Area HQ. BG 2i/c and Step Up HQ responsible for crossing op as a whole.
- Crossing Site HQ. Normally commanded by an engr responsible for developing/maintaining the site and mov across the site.

Con - Routes, mov, hides/harbours, waiting areas, tfc con, crossing orders.

Comms - Minimize use, but requires comd, movcon and engr nets.

COMBAT SERVICE SP

Gen - Res crossing sites/engr eqpt to be allocated.
Sup - Ammo, ES and fuel replen vehs to cross early.
Med - Casevac plan
Rec - Rec assets req on each crossing site

CHAPTER 11 - BATTLEGROUP MOVEMENT

SECTION 1 – FUNDAMENTALS

General

1.   The fighting power of tactical units is dependent on their ability to move. Movement of troops from one location to another is inherent in all military operations. The essence of battlefield agility is the capability to conduct rapid and orderly movement to concentrate combat forces at decisive moments and locations. Movement is the mechanism for positioning forces, initiating offensive operations, and exploiting successes.

2.   There are two major types of troop movements: administrative and tactical. Administrative movement is one in which troops and vehicles are arranged to enable their movement and conserve time and resources. The enemy threat, except by air, is likely to be low – but escorts may be required.   Administrative movement emphasizes maximum use of air, rail, water and landforms of transport, and, when necessary, organic transport.

3.   Tactical movement is movement within a combat area when contact with the enemy is possible or anticipated.   In a tactical movement elements are organized for combat.   Tactical movements use formations and techniques consistent with the mission, required speed of relocation, security requirements and the likelihood of enemy contact.

4.   Once organized for operations, formations and battlegroups do not usually conduct administrative movements.   A battlegroup generally maintains unit integrity throughout its movement. Battlegroups participating in tactical movements plan for enemy interference either en route or shortly after arrival at their destination. Tactical movements are classified as tactical road marches, approach marches, and combat formations (combat formations are described in Chapter 9 Transitional Phases – Advance to Contact).

5.   Several fundamentals apply to tactical movements.   They are to protect the battlegroup, maintain march discipline, and employ multiple routes.

Protection

6.   All movement requires protection. The strength and composition of the protection element vary, depending upon the situation. Battlegroups conducting tactical road marches will normally have security provided by elements in contact with the enemy. However, plans and unit standing operating procedures (SOPs) must anticipate ambushes and air attacks. SOPs must include drills for air attacks and near and far ambushes. Passive measures to mitigate the effects of an air attack include route selection, vehicle intervals, and movement during limited visibility.

March Discipline

7.   Good march discipline is vital. This will include staying on the given route and start, passage, and clear times. March discipline is absolutely essential throughout the movement. Any deviation from the movement order may interfere with other movements and may have serious consequences.

Multiple Routes

8.   The battlegroup commander should, wherever possible, use multiple routes to move the battlegroup whenever possible. This reduces the length of columns, vulnerability to enemy air attack, and the amount of time the routes are not available to other units. Multiple routes provide the commander the flexibility to react to unexpected situations and permit concentration of combat power more quickly. Attention must be paid to the load-carrying capability of each route. Attention must be paid to the military load classification and the capacity of each route. When these are not known, engineer advice will be required.

## SECTION 2 – FORMS OF TACTICAL MOVEMENT

General

9.   The forms of tactical movement include tactical route march, approach march, and combat formations. The battlegroup commander employs tactical route marches and approach marches to maintain speed when enemy interference is possible. He employs combat formations when contact with the enemy is imminent. Tactical route marches and approach marches may be conducted either mounted or dismounted or a combination of the two. When the occasion demands, forced marches may be necessary to ensure the arrival of troops at the desired destination.

Tactical Route March

10.   *General*. A tactical road march is a tactical movement used to relocate battlegroups within the combat area. The primary consideration of the march is rapid movement, but security, such as flank guard, is required even though contact with enemy ground forces is not expected. During tactical road marches, the battlegroup commander is always prepared to take immediate action if the enemy attacks. The execution of a tactical road march is divided into the march column and march techniques.

11.   *March Column*. The basic formation for tactical road marches is the march column. March columns place all vehicles in a march battlegroup on a single route or avenue. It provides excellent speed, control, and flexibility, but at the cost of flank security. It provides the ability to deploy forces or mass fires to the front. March columns are used when speed is essential and enemy contact is unlikely. However, the battlegroup commander spaces combat support elements such as air defence and engineers throughout the column to protect and support the movement. A march column consists of all elements using the same route for a single movement under control of a single commander. This is illustrated in Figure 11-1. The battlegroup

commander organizes the march column into four elements: reconnaissance, advance party, main body, and rear party.

Direction of Travel
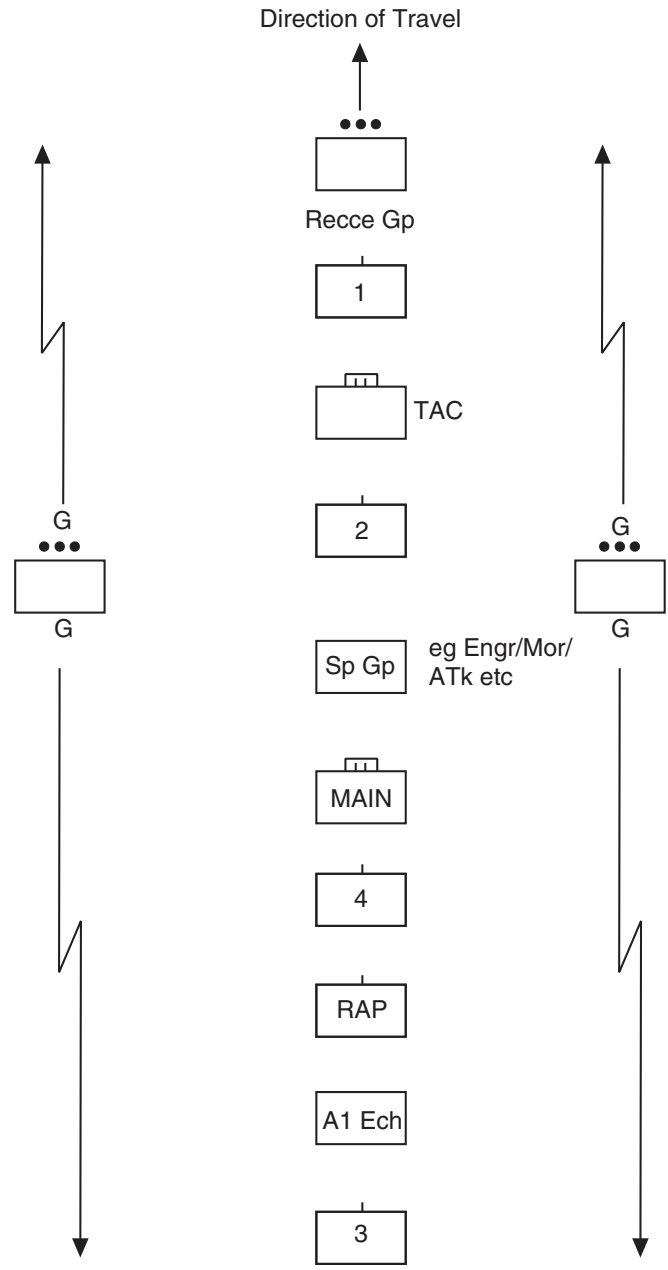
Notes:

1.	Move from	7.	Average Speed	12.	Traffic
2.	Move to	8.	Time Between Packets	13.	Medical
3.	Date	9.	Distance Between Vehicles	14.	Recovery
4.	Time Past Start Point (SP)		(Day and Night)	15.	Convoy Flags
5.	SP	10.	Halts	16.	Critical Points
6.	Release Point	11.	Lights		

Figure 11-1

a.	*Reconnaissance*. Close reconnaissance elements augmented by engineer assets perform route reconnaissance to determine travel time, capacity and trafficability of roads and bridges, and locations of river and stream crossing sites. The reconnaissance element also identifies critical points, including choke points and obstacles, along the route. Route reconnaissance confirms and supplements the data obtained from map studies, higher headquarters, and air reconnaissance.

b.	*Advance Party*. An advance party is a group of battlegroup representatives dispatched to a probable new site of operations in advance of the main body. The advance party secures, recces, and organizes an area for the main body's arrival and occupation. Unit SOPs establish the exact composition of the advance party and its transportation, security, communications equipment, and specific duties. Advance parties, typically recce, confirm the tentative locations that the commanders of their parent elements selected based on a map reconnaissance. Advance parties also usually act as a liaison between their parent headquarters and advance party of its battlegroup headquarters to change unit locations within the assembly area (AA) based on the results of their reconnaissance.

c.	*Main Body*. The main body of the march column consists of the remainder of the battlegroup, including attachments minus rear party. Before starting a march, each sub unit reconnoitres its routes to the start point and determines the exact time taken to reach it. The sub unit commander then determines and announces the times for his arrival at and clearance through the SP. During movement, sub units move at the constant speed designated in the order, maintaining proper interval and column gap. Elements in a column of any length may encounter many different types of routes and obstacles simultaneously, resulting in different parts of the column moving at different speeds at the same time. This can produce an undesirable accordion-like action. The movement order gives march speed, rate of march, and maximum catch-up speed to ensure safety. Unless the battlegroup commander directs them not to do so for security reasons, march unit's report when they have crossed each control point. During the move, air and ground security is maintained.

d.	*Rear Party*. The rear party is the last march element and is normally made up primarily of equipment support elements. It maintains communications with the main body. The function of the rear party is to recover disabled vehicles. If a disabled vehicle cannot be repaired immediately or towed to continue with the main body, the vehicle and its crew are moved to an equipment collection and coordination point (ECCP) located at a secure area near the movement route.

12.	**March Techniques**. Route marches employ the techniques of close column, open column and infiltration. For marches over extended distances, halts are associated with each of the three techniques.

a.	*Close Column*. In a close column, vehicles are spaced about 50 metres apart during daylight. At night, vehicles are spaced so that each driver can see the

convoy lights of the vehicle ahead. Close column is normally used for marches during darkness under blackout driving conditions and in restricted terrain. This method of marching takes maximum advantage of the traffic capacity of the routes, but provides little dispersion. Vehicle density would normally be in the region of 30 vehicles per kilometre along the route.

b.   *Open Column*.   In an open column, the distance between vehicles is increased to provide greater dispersion. The vehicle distance varies from 50 to 100 metres; it may be greater if required. Open column is normally used during daylight. It may also be used at night using infrared lights, blackout lights, or passive night vision equipment. Vehicle density varies from 10 to 15 vehicles per kilometre.

c.   *Infiltration*. During a move by infiltration, platoons/troops are despatched at irregular intervals at a rate that will keep the traffic density down and prevent undue massing of vehicles. Infiltration provides the best possible passive defence against enemy observation and attack. It is suited for tactical marches when sufficient time and road space are available and when maximum security, deception and dispersion are desired.

Approach March

13.   An approach march is a form of tactical movement that allows the battlegroup commander to continue moving toward the enemy with increased security and to rapidly move into combat formations when necessary (Figure 11-2). He may employ the approach march when he is relatively certain of the enemy's location and his forces are not in immediate danger of ground enemy contact. The approach march allows the battlegroup commander to retain the speed and characteristics of a march formation while protecting his unit by employing a smaller column moving on multiple routes on an axis of advance. An approach march may terminate in an assembly area, in an attack position, upon contact with the enemy, or when transitioning directly to another form of offensive operation.
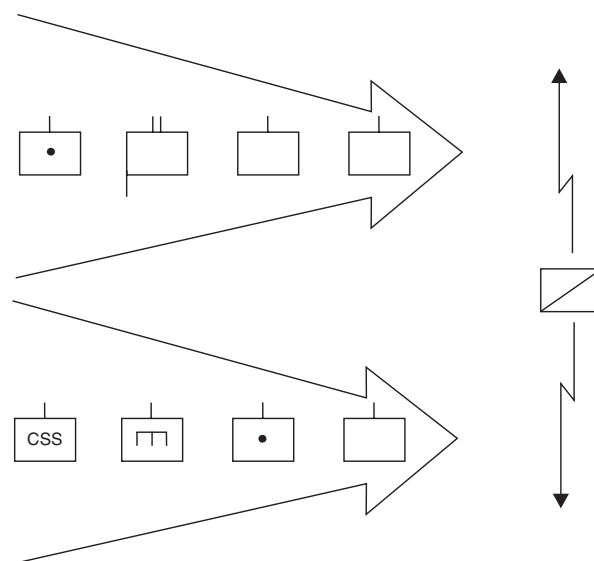
Figure 11-2 Approach March

Combat Formations

14. A combat formation is an ordered arrangement of troops and vehicles for a specific purpose. Types of combat formations include box, column, diamond, line, vee, wedge, and echelon (right or left). Combat formations are designed to allow the battlegroup to move on the battlefield, given enemy capabilities, in a posture suited to the battlegroup commander's intent and mission. A battlegroup may employ a series of combat formation with each having advantages and disadvantages. Subordinate units within a battlegroup must also employ their own combat formation consistent with their particular situation.

SECTION 3 - TROOP MOVEMENT METHODS

General

15. Within an area of operations, troop movements are made by foot marches, wheeled vehicles/armour, rail, water, air, and various combinations of these methods. The method employed depends upon the situation, the size and composition of the battlegroup to be moved, the distance to be covered, the urgency of execution, and the condition of the troops. It also depends on the availability, suitability, and capacity of the different means of transportation. Marches over extended distances have extensive logistical considerations. This section addresses dismounted marches, mounted marches, and forced marches.

Dismounted Marches

16. Dismounted marches are characterized by their adaptability to terrain. This increases the number of manoeuvre options available to a battlegroup commander while decreasing the battlegroup's dependence on roads. However, a dismounted march results in a reduced rate of march and increased fatigue to unit personnel. Dismounted marches are made when the distance is short, transport or fuel is limited, or the situation or terrain precludes the use of a large number of vehicles.

Mounted Marches

17. Mounted marches are conducted when a battlegroup employs tactical vehicles to move personnel and equipment. Armoured and mechanized battlegroups routinely conduct mounted marches. They are characterized by the speed of the march and the increased amounts of supplies that can accompany the battlegroup. Battlegroups are normally self-sufficient to conduct mounted marches over short distances. Logistical considerations for mounted marches over extended distances include the ability of the route network to support the traffic, the availability of refueling and maintenance sites and crew rest areas, and the need for recovery and evacuation and repair assets.

Forced Marches

18. A battlegroup may conduct a forced march when it becomes tactically necessary to accelerate the speed of a battlegroup so it arrives at its destination at a specified time. A forced march applies to both mounted and dismounted marches. The

commander must be willing to accept the risk of deterioration of the physical condition of soldiers and equipment following a long and fast march, a degradation in unit cohesion, and stragglers.

SECTION 4 - PLANNING FOR TACTICAL MOVEMENTS

General

19.   The battlegroup commander ensures that his staff plans and coordinates his movement requirements. He supervises the execution of the resulting movement plan to ensure the organized and uninterrupted flow of sub units throughout the area of operations.

Covering Force

20.   The battlegroup commander synchronizes all the assigned and attached covering force (screen and guard) assets available to protect his forces from enemy activities. He employs them to the front, rear, and flanks of his formations while moving and at the halt to provide all-around security for the main body. The commander can also enhance the security of his units by adopting a march formation appropriate to the mission and the enemy capabilities.

21.   Close reconnaissance provides the commander with information about the route and activities near the route that may affect the march. It verifies the capacities of underpasses, bridges, ferries, and fords on the route and locates bypasses when necessary. Close reconnaissance also identifies critical defiles and obstacles so the movement order can be adjusted to prevent route congestion at those points. Elements of the close reconnaissance can also assist the march battlegroup by manning traffic control points (TCPs) at critical locations along the route.

Infiltration

22.   During a move by infiltration, platoons/troops are dispatched at irregular intervals at a rate that will keep the traffic density down and prevent undue massing of vehicles. Infiltration provides the best possible passive defence against enemy observation and attack. It is suited for tactical marches when sufficient time and road space are available and when maximum security, deception, and dispersion are desired.

Halts

23.   Halts take place during marches at regular intervals to rest personnel, service vehicles, and adjust movement schedules as necessary. Halts are regulated by SOPs or by the march order. The battlegroup commander must emphasize the need to maintain security during halts. Once a battlegroup stops moving, there is a natural tendency for personnel to let their guard down and relax their vigilance. Midday heat or enemy action may force the adoption of long daylight halts or night marches. During long halts each battlegroup moves off the route of march and moves to a previously selected assembly area to prevent route congestion and the creation of a lucrative target. Sub unit leaders should be notified of the time and approximate length of unscheduled halts.

Coordination and Control

24.   The goal of all movement planning should be to retain the flexibility to execute a variety of plans to meet ever-changing conditions. The battlegroup movement SOP must be detailed and rehearsed. It should use a standard task organization to simplify planning, provide flexibility, and allow greater responsiveness.

25.   March discipline can only be maintained when the plan matches conditions and the battlegroup's ability to move. The battlegroup commander bases his march plans on the best available intelligence of the enemy, the terrain, the weather, and the capabilities of the battlegroup. The objective of a successful move is for the battlegroup to arrive at its destination in a suitable condition appropriate to its probable employment. The integration of, and support from, combat and combat support systems such as artillery, air defence, and engineers is critical for a successful move. The battlegroup commander's operations staff develops the detailed march plan with the assistance of his CSS staff.

26.   This plan establishes the means for moving battlegroups from their current locations into assembly areas. It also establishes the means and time required to move units from their designated assembly areas to the start points. The CSS staff establishes the control measures, coordination, and logistics support needed for the move. In coordination with the engineers, it ensures that the routes are adequate to support the movement of the types and numbers of vehicles and supplies projected for movement. It determines when CSS assets should move forward to best support the mission.

27.   The headquarters ordering the tactical road march normally provides for the passage of the moving force through other units as necessary. That higher HQ schedules the movement times and approves the routes, and allocates the required space and time on the approved routes.

28.   The battlegroup conducting the move organizes itself into columns and serials as necessary. When organizing for a road move, planners preserve unit integrity whenever possible. Combat support and CSS assets are interspersed in the column to support the force. The number of vehicles and the availability of routes help determine the movement plan. The battlegroup also establishes control measures as necessary, such as checkpoints.

29.   The battlegroup commander establishes initial control of the move by designating in his move order critical points and the time at which the heads or the tails of columns should pass these points. Coordination measures include the start and release points, route, rate, order, time gaps between sub units, assembly areas and, as appropriate, report lines and checkpoints. The battlegroup commander also announces the location of his Tactical and Main HQs and specifies the communications to be used to control the move.

30.   To enable control, the battlegroup commander establishes priorities and provides for advance parties, guides, marking of the route, and traffic control.
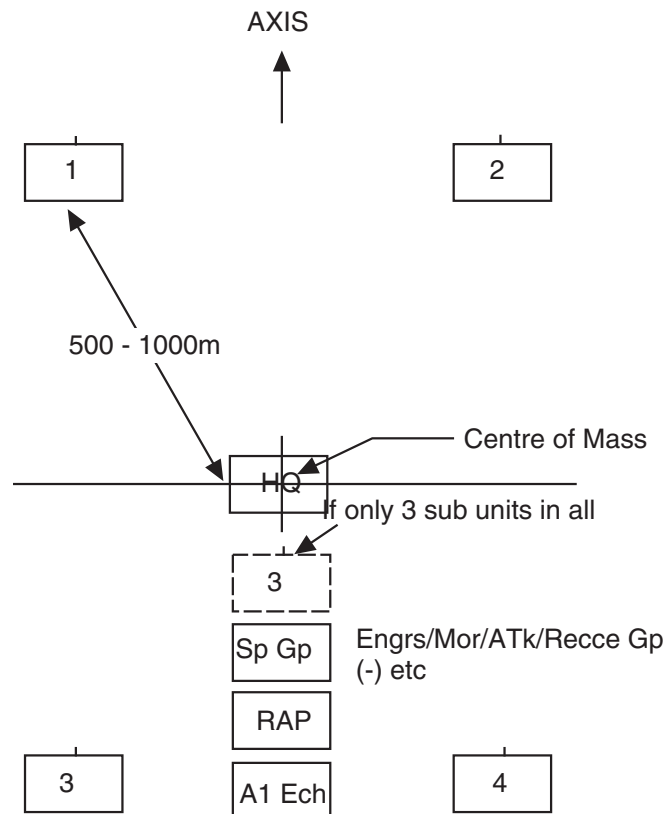
Movement Orders

31.   A major tool for controlling troop movement is the movement order. The movement order is prepared either as an annex to an operation order or as a separate order. Information normally found in the movement order includes destination, routes, orders of march, rates of march, intervals, speeds, schedule maintenance halts, communications, and location of the commander. CSS sites and services also should be identified in the movement order. However, information and procedures contained in movement TAM need not be included in the movement order. The movement order should include a strip map or overlay and wherever possible, a movement Orders Group should be conducted.

32.   The strip map or overlay graphically depicts critical information about the route. The overlay or strip map should show the start points (SPs), release points (RPs), checkpoints, critical points, and TCPs. All routes must have a designated SP. The SP is a location on the route where the marching elements fall under control of a designated march commander. The SP must be easily recognizable on the map and on the ground, such as a road junction. It must be far enough from the assembly area to allow units to be organized and moving at the prescribed speed and interval when the SP is reached. For each SP there must be an RP. The RP also must be easily recognizable on the ground. The RP is a location on the route where marching elements are released from centralized control. Marching battlegroups do not stop at the RP, but are met by unit guides and led to assembly areas.

33.   The battlegroup commander should designate several checkpoints along the route to assist marching units gauge their compliance with the timetable. Also, critical points along the route where interference with movement might occur are identified on the movement overlay. Finally, the battlegroup commander should position manned TCPs along the route to prevent congestion and confusion. The TCPs may be manned by MPs or battlegroup personnel.

Assembly/Hide/Concentration Areas

34.   Battlegroups occupy an assembly area to prepare for future operations. Preparations may include reorganization, issuance of orders, receipt and issuance of supplies, and maintenance of vehicles and equipment. Ideally, assembly areas should provide the following:

       a.   Concealment from air and ground observation.

       b.   Cover from direct fire.

       c.   Space for dispersion.

       d.   Adequate entrances, exits, and internal routes.

       e.   Good drainage and soil conditions that can sustain the movement of the unit's weapons systems.

       f.   Terrain masking of electromagnetic signal signatures.

g.   Terrain that allows the observation of ground and air avenues of approach into the assembly areas.

h.   Enables comms to be maintained.

35.   A battlegroup in an assembly area receives a degree of security by being behind friendly lines (see Figure 11-3). Despite this protection, it must be capable of defending itself against enemy ground and air forces. The battlegroup establishes a covering force for screen and guard functions.

Notes:

1. Orders must incl:	2. **Action on Arrival**.
a. Centre of Mass (6 fig grid).	a. Sub unit LOs report to BGHQ with LOCSTATS, veh states etc.
b. Dir of Axis. Line from BG Centre of Mass to (6 fig grid).	b. Sub units lay line to BGHQ if sit allows or as ordered. LOs remain at
c. Dir of entry (if appropriate).	BGHQ until line is laid and checked (and return if line fails).
d. RV (6 fig grid) (if applicable).	
e. NTM once estb in hide/assy/conc area.	c. Recce Gp Comd colloc with BGHQ.
f. Sqn/coy locs (6 fig grid) if time/recce allows or sit/terrain dictates.	
g. OOM.	
h. Surv/Counter Surv measures	

Figure 11-3 Battlegroup Drill – Hide/Assy/Conc Areas

Combat Service Support

36.   Based on the form of movement selected and the march and movement techniques adopted, CSS assets may have to be prepositioned to effect a rapid and efficient refueling and resupply effort. Generally, a column formation is the easiest movement technique to support. Any other formation requires increased CSS planning.

37.   The time-distance factors involved in the troop movement will also affect the ability of a given amount of CSS elements to sustain the march. For example, if a unit's fuel tankers require a full day to travel to a point where they can be refilled, that unit can only refill its combat vehicles once every two days using its organic vehicles. Since this is normally an unacceptable situation, that unit will require external support.

Combat Service Support Within the Unit

38.   The unit should begin a move fully supplied. At halts and on arrival at the final destination, it should refuel at every opportunity. Halts for refueling should be scheduled in advance by the unit commander. Halt times should be long enough and locations should be large enough to accomplish refueling of the entire march unit. Sufficient fuel and lubricants should be carried in A echelons.

39.   There are other considerations as well. On long, mounted tactical road marches, the battlegroup should carry extra water and POL on its tactical and combat vehicles. Foot marches require more water and medical supplies, which must be carried by the battlegroup soldiers. The battlegroup must anticipate a disruption of resupply while en route. Normal resupply should resume upon occupation of the assembly area.

40.   Recovery should be considered as one of 2 alternatives:

    a.   Recovery under sub-unit arrangements to a battlegroup plan.

    b.   The echeloning of all recovery assets under battlegroup control usually exercised by the EME.

Combat Service Support Outside the Unit

41.   Some tactical movements are supported by a higher echelon CSS organization. When the situation permits, CSS organizations establish equipment, medical, administration and logistic support points/facilities along the route.

42.   While the procedures, amounts, and types of external support vary, each logistics organization ensures that these sites are operational at predesignated and published times and locations. External CSS support along the route consists primarily of casevac, maintenance, and POL. Maintenance sites generally consist of ECCPs where disabled vehicles can be moved for limited repair. Vehicles unable to continue the movement remain at the ECCP and join their parent organization when repaired. Otherwise they are evacuated through the repair chain for repair at a Close or General Support Company REME.

43.   POL support may consist of a Refueling on the Move (ROM) facility. Refuel on the move is a technique in which POL tankers are positioned just off the route to refuel combat and tactical vehicles rapidly, but only in sufficient quantities to extend their range.

CHAPTER 12 - GUIDELINES FOR COMBAT SERVICE SUPPORT

SECTION 1 - FUNDAMENTALS

1.   **Principles**. This chapter should be read in conjunction with AFM Volume I Part 6 - *Combat Service Support*. The 5 principles of CSS planning are:

   a.   Foresight

   b.   Economy

   c.   Simplicity

   d.   Co-operation

   e.   Flexibility

2.   **Operational Imperatives**. These principles should be applied in the context of two operational imperatives, *robustness and risk.*

   a.   *Robustness.*   Operations rarely develop as originally intended.   Logistic planning, therefore, should be robust, resilient and flexible to provide the endurance and sustainability needed to maintain momentum. This will involve a degree of redundancy.

   b.   *Risk.* A commander cannot maximise his combat power without taking some risk. CSS risk assessment is a key element of the estimate and planning processes.

3.   **Pre-planning**.   Standard loads of all CSS natures should be set and understood. This alleviates the need for long detailed orders and allows preparation and re-supply times to be kept to a minimum. G3 casualty estimates are essential to med pre-planning.   Similarly, G2 PW estimates are essential for med pre-planning and allocation of resources to tasks such as guards, PW cage construction etc.

4.   **Operational Planning**.

   a.   CSS planning should anticipate special ammunition and fuel requirements, and identify any critical natures. The impact on A1 and A2 echelons of any significant attachments to the battlegroup should be considered; additional CSS assets may be needed or reorganization required. A1 and A2 echelons must be capable of administering any task organisation changes eg interoperability of weapon systems.

   b.   The type of re-supply (including delivery by air) must be considered and will depend on the nature of the operation, terrain, weather etc.   Whenever possible and for as long as possible, planning should allow for routine re-supply as per battlegroup SOIs. If any aspect of the plan is likely to be difficult eg distribution and storage of defence stores, then a staff check will quantify

the requirement. Subsequently, troops and transport must be identified for the task.

c.   CSS plans should constantly be tested against the tactical situation to confirm that they fit immediate and future operations.

d.   CSS assets must be capable of operating within an NBC environment, and must routinely book in and out of the BSG and battlegroup NBC warning and reporting umbrella through the appropriate NBC cell. When on MSRs the RMP TCPs will provide up to date NBCD information.

e.   *Routes.*   Critical clean and dirty (NBC) routes and alternative counter-movement routes should be identified. Provost assistance may be requested for traffic control, if the tactical situation requires it.

5.   **Subsequent Missions**. Planning must include potential CSS requirements after the current mission. This will include locations for A1 and A2 echelons and RAP; the re-constitution of battlegroup stocks and equipment; specific requirements on reorganisation eg defence stores on moving from offence to defence; and any transport needed to re-distribute men and equipment. In addition, policies will be needed for dealing with ground dumped stocks when vacating positions and for the possible hand-over to a new force during transitional operations.
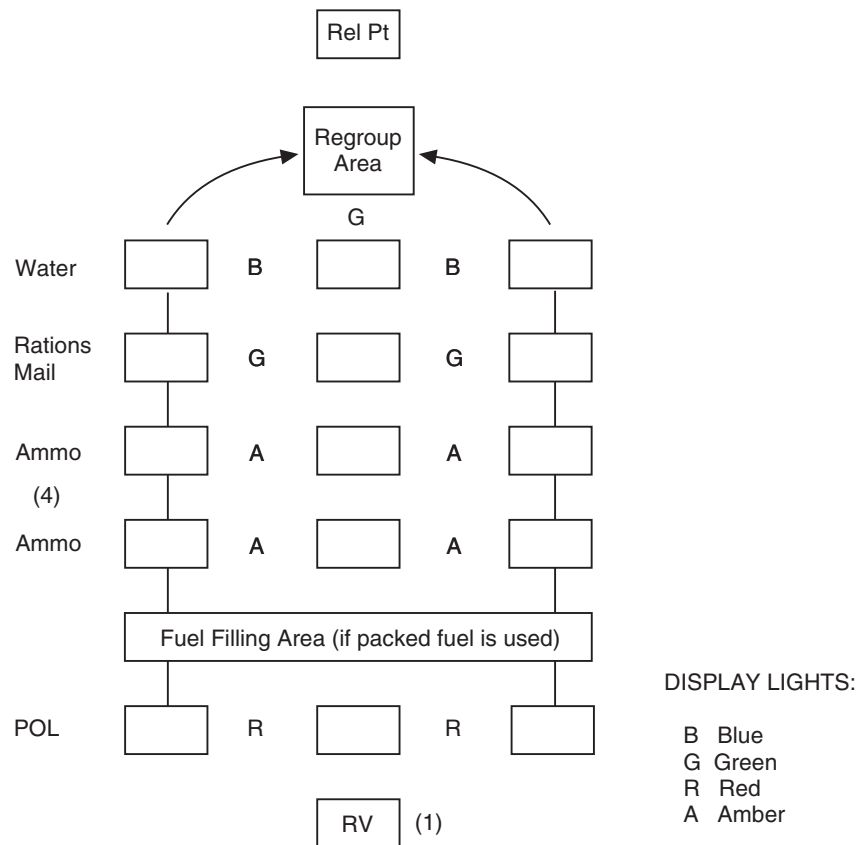
SECTION 2 - BATTLEGROUP REPLENISHMENT

General

6.   Battlegroup replenishment is carried out at any convenient time in the battle and should be as quick as possible in order to maintain operational tempo and minimize vulnerability. There are several options for delivering C Sups to the battlegroup but, in general, replenishment is conducted on a *routine* or an *emergency basis. Routine re-supply is more effective than emergency replenishment for maintaining tempo.*

Routine Replenishment

7.   Routine replenishment will usually be carried out on a 24-hour basis, normally at night. There are many variations, but it will tend to occur as follows. A1 echelon delivers C sups to suitable locations in the forward area; normally replenishing one sub unit at a time. Once the re-supply is complete, A1 echelon moves to A2 echelon where C Sups, delivered by the Brigade Close Support Squadron (Bde Sp Sqn), are positioned. A1 echelon is then replenished, either by cross-loading stocks or exchanging vehicles; it will then move forward to a suitably secure hide location, ready to conduct subsequent resupply. Throughout this sequence, A1 echelon will move as a convoy under the command of the MTO. The transfer of C Sups to sub units will occur as either *running or static replenishment.*

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                        ┌────────┐
                        │ Rel Pt │
                        └────────┘

                        ┌──────────┐
              ────────▶ │ Regroup  │ ◀────────
                        │  Area    │
                        └──────────┘
                             G

Water      ┌────┐  B  ┌────┐  B  ┌────┐
           └────┘     └────┘     └────┘

Rations    ┌────┐  G  ┌────┐  G  ┌────┐
Mail       └────┘     └────┘     └────┘

Ammo       ┌────┐  A  ┌────┐  A  ┌────┐
  (4)      └────┘     └────┘     └────┘

Ammo       ┌────┐  A  ┌────┐  A  ┌────┐
           └────┘     └────┘     └────┘

           ┌──────────────────────────────┐
           │ Fuel Filling Area (if packed  │
           │         fuel is used)         │
           └──────────────────────────────┘

POL        ┌────┐  R  ┌────┐  R  ┌────┐
           └────┘     └────┘     └────┘

                   ┌────┐
                   │ RV │  (1)
                   └────┘
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DISPLAY LIGHTS:

B Blue
G Green
R Red
A Amber

Notes:

1. Both sides of the replan are to be used where possible.

2. Tank guns rear for fuel, traverse front for ammo.

3. If resources permit, it may be quicker and easier to establish separate replen points for tanks and other AFVs.

4. *Lights*. Display lights at the RV to indicate type of replen when operating under radio silence:

   a. 2 x dimmed red tail lights – double sided replen.

   b. Single dimmed red tail light – single side replen.

   c. Amber – packed, Blue – pod.

5. Within the replen area, lights on individual vehicles are to be as shown in diagram. No light on vehicle indicates vehicle is closed – continue on to the next open vehicle.

6. *Battle Replen*. When AFVs are in fire positions and require urgent replan, replan vehicles are to be escorted to a suitable safe site to the rear of the position. AFVs are then normally moved individually to the replen point in sequence.

7. *Hide Replan*. Replen in hide should be used when rolling replen is not possible. Replen vehicles are to be escorted to a suitable RV behind the hide. Individual AFVs are then to be replen by replen vehicles and crews. AFVs are not to leave their hide positions.

Figure 12-1

a.   *Running Replenishment.*   Running replenishment is when sub units move through a static supporting CSS element, usually en route to a hide/harbour or while moving forward to commence a new phase of a particular operation. A diagram of a running replenishment is at Figure 12-1. This is the preferred method of replenishment, because it requires the least amount of time to complete. When A1 echelon delivers C Sups to sub units, running replenishment occurs in the following sequence:

   (1)   A1 Echelon CP selects primary and alternate sites from the map and clears them with the battlegroup Main HQ. Sites are selected based on: the tactical situation, camouflage and concealment, space available, accessibility, local security and routes in and out. Ideally, running replenishment sites should be along tracks in close or broken country where the terrain gives cover from indirect fire and concealment from observation.

   (2)   A1 echelon moves to the site in convoy, ideally at night. Security is the responsibility of the MTO and, following a security sweep and the posting of local sentries, A1 echelon will move into position. They will often need to manoeuvre in close and restrictive terrain in order to maximise cover and concealment. In the event of enemy action, vehicles perform a crash action, dispersing rapidly and regrouping at predetermined ERVs.

   (3)   Sub units arrive at the site and move into a concealed waiting area. After linking up with the site guide at the RV, the sub-unit moves through the site receiving supplies directly from A1 echelon vehicles, with a minimum of noise and light and in the shortest possible time. The sub-unit regroups in a designated area and moves through an established release point. A1 echelon re-deploys as rapidly and stealthily as possible once replenishment of the subunit(s) is complete.

b.   *Hide (Static) Replenishment.*   Static replenishment occurs when sub units are static, usually in a hide/harbour or leaguer. A1 echelon moves to and around them. Static replenishment involves the dumping of rations and ammunition centrally and the movement of fuel vehicles around the perimeter of the hide/leaguer. This form of replenishment is time consuming, may compromise the position, and should only be used when running replenishment is not possible (ie when vehicles cannot be moved).

Battle (Emergency) Replenishment

8.   Emergency replenishment, (also known as 'in battle' replenishment), is the urgent re-supply of ammunition and fuel to sub units. Emergency replenishment may be needed at any time in the battle. The sequence is as follows:

a.   A sub-unit submits an emergency demand for ammunition and fuel to battlegroup Main HQ, specifying quantities of supplies, timings, RV and routes.

b. If approved, A1 echelon will be tasked to despatch a replenishment element, normally consisting of fuel and ammunition vehicles, to the specified RV where they can marry up with an escort provided by the sub unit. *This slice of A1 is commonly referred to as the Battle Echelon and is normally commanded by the RSM.*

c. *The Battle Echelon's* vehicles move into a covered location to the rear of the fighting position, as close to the fighting element as the tactical situation permits.

d. Vehicles will be sent back to the replenishment point at intervals, until re-supply is complete. *This type of replenishment increases the vulnerability of armoured vehicles and should only be used in an emergency; and then only if packed fuel is unavailable.*

e. Depending on OPSEC, it may be necessary for the ammunition and fuel to be taken to individual vehicles in location, rather than moving them back to a central replenishment point.

Replenishment within the Unit or Sub Unit

9. The replenishment procedures described in paragraphs 7 and 8 are designed for speed and quantity; but only one sub-unit can be replenished at a time. If the requirements are less, and depending on the tactical situation, it may be more appropriate and flexible to use S/CQMS. S/CQMSs are located at A1 echelon and go forward to re-supply their parent sub-units. They then return to A2 echelon or a DP in order to be replenished themselves. Procedures should be standardised across the battlegroup so that S/CQMSs have the ability to replenish any sub-unit in the battlegroup if the situation demands it. At this level, the sub-unit 2IC or SSM/CSM normally chooses replenishment sites. Security of the site is a troop/platoon task, co-ordinated by the sub-unit.

SECTION 3 - REPLENISHMENT IN OFFENSIVE OPERATIONS

10. ***General***. Operational tempo, distance covered and dispersion place considerable demands on the replenishment system in offensive operations. Continuity and flexibility of CSS are required to allow commanders to maintain momentum in order to concentrate combat power quickly. Survivability will depend on speed of movement, detection avoidance and rapid distribution of C sups, particularly bulk fuel. Sustaining the battlegroup as close as possible to the combat forces, requires detailed planning and synchronisation at all levels. Consideration should be given to distributing CSS assets *to sub units*, so as to maximize tempo and maintain momentum.

11. ***Replenishment***. The following considerations apply to replenishment in offensive operations:

a. *Supply.*

   (1) Combat vehicles should cross the line of departure with complete turret stocks and full tanks. At least 2 days rations should normally be carried in F echelon with a further 3 days held in A1/A2 echelon. Depending on the type of unit however (eg dismounted infantry), less may be carried with the balance held in A1 echelon.

   (2) The general priority will be to replenish ammunition, POL and ES items, but this will depend on the phase of the operation eg during the advance to contact and pursuit, ammunition expenditure is likely to be low, but fuel will be a high priority.

   (3) Replenishment of the screening force will be challenging owing to their dispersion and ammunition expenditure. Re-supply vehicles may have to deploy well forward to deliver C sups.

   (4) In order to maintain momentum and support subsequent operations, additional cargo vehicles may be required from the Bde Sp Sqn. These will require mobility, capacity and survivability compatible with the task.

b. *Movement.*

   (1) Security must not be compromised by overt logistic activity. Most battlegroup replenishment will occur by night, at times and locations that take into account the deception plan.

   (2) The tactical movement of A1 and A2 echelons will be carefully planned to prevent interference with tactical movement. Routes will be closely controlled to maintain operational tempo and ensure the seamless provision of CSS.

   (3) A1 echelon will move in bounds behind the F echelon. The length of bounds should be such that A1 echelon is moving for the shortest possible time. Maximum use will be made of cleared routes on roads and tracks, and vehicles will move as rapidly as ground and convoy discipline permit. Battle damage, the nature of the terrain, and the deployment of F echelon may at times, however, require A1 echelon to move cross-country. Consideration must then be given to the effect on wheeled, soft-skinned vehicles. A1 echelon will move between covered hide locations which are cleared and secured before occupation. Hides will normally be sited in close terrain away from hard routes.

   (4) A2 echelon will tend to move as a packet within the Brigade Support Group (BSG). Movement should be in bounds, usually at night, making maximum use of roads and tracks.

12.   ***Command and Control***. The success of CSS activities in offensive operations will depend on anticipating requirements and reacting accurately and swiftly to changing circumstances. Echelon HQs and vehicle crews must be fully aware of developing situations. Command and control of CSS assets can be *decentralised or echeloned* to improve flexibility.

SECTION 4 - REPLENISHMENT IN DEFENSIVE OPERATIONS

13.   ***General***.   In defensive operations, CSS activities will be prone to enemy interference. Planning must account for the threat and the vulnerability of vehicles. The normal replenishment system will continue for as long as possible, but sub-units should be as self-sufficient as possible in the event of enemy disruption. If predicted usage over the planned operational period exceeds UMS, C sups (particularly ammunition, and defensive stores) may be dumped far forward, as early in the battle as possible. Rear area security and the passive or active protection of CSS vehicles will also be vital factors. Protection from nuclear or chemical contamination should be provided as required.

14.   ***Replenishment***. The following considerations apply to replenishment in defensive operations.

   a.   *Supply*.

      (1)   Ammunition expenditure will tend to be very high and sufficient stocks must be available at the required time. This will usually involve planned ground dumping in close proximity to infantry fighting positions. In mobile defence operations, POL consumption may also be high and re-supply may be better achieved through rolling replenishment, using either battlegroup CSS assets or those detached in intimate support from the Bde Sp Sqn. In either case, resupply vehicles will be required to manoeuvre in the F Echelon where they will traverse difficult terrain and be more vulnerable to enemy detection and attack.

      (2)   The medical re-supply plan must include the use of returning ambulances and medical vehicles. It must also include a G3 casualty estimate for the projection, calculation and provision of medical stores sufficient to support operations and a G2 PW estimate to allow for the treatment of PWs .

      (3)   The replenishment plan will need to account for guard/screen and countermoves forces. Normally, these elements will fight using turret stocks, but emergency re-supply, particularly of special ammunition natures, such as anti-tank missiles and mortar smoke bombs, may be required during these phases of the battle.

   b.   *Movement.*

      (1)   A1 echelon will usually be sited further to the rear than is the case in offensive operations.   This enhances its protection and avoids

interfering with the tactical scheme of manoeuvre. A2 echelon will normally be sited with the BSG and will move under its control. Concealment, the use of reverse slopes, and, where possible, hard standing, will be key factors in selecting echelon hide locations.

(2)   Replenishment routes will be established and strictly controlled in order to avoid interference with counter-moves and the obstacle plan. However, battle damage or the requirement to keep key features (such as reserved demolitions or obstacle gaps), clear may entail some off-road movement by re-supply convoys.

(3)   Movement of CSS assets must not compromise the battlegroup plan and must be co-ordinated within the formation deception plan. Convoy movement will be the norm. Alternative routes and timings should be used for daily resupply.

(4)   Replenishment operations will usually occur at night, but may occur during the day, particularly if there are insufficient hours of darkness available.

15.   **Command and Control**. The command and control of CSS in defensive operations will tend to be centralised owing to the need to complete the forward dumping of supplies and to control movement within the battlegroup's area of operations.

SECTION 5 - REPLENISHMENT IN TRANSITIONAL OPERATIONS

16.   **General**. In transitional operations, CSS activities will combine elements of both offence and defence, with the exact nature depending on the concept of operations.

17.   **Replenishment**.

a.   *Supply*.

(1)   Because there will usually be a time frame associated with a delaying operation, stocks can usually be set and monitored reasonably accurately. Ground dumping of stocks is unlikely unless the estimated usage is greater than UMS; this makes it easier to fight a mobile battle. Resupply is likely to be to a force which is withdrawing, therefore standard replenishment loads should be used whenever possible to save time.

(2)   The guard/screen forces will normally fight using turret stocks, but emergency re-supply, particularly of special ammunition natures, such as anti-tank missiles and mortar smoke bombs, may be required during this phase of the battle.

(3)   The delaying force may well have much higher rates of fire for shorter periods than in other types of operation. Consideration should be given to pushing greater amounts of UMS forward to

troop/platoon/section level to avoid the need for constant replenishment.

b. *Movement.*

(1) A1 echelon may have to be sited further to the rear than in offensive operations, to minimize the chance of it being caught in battle and to enhance its protection from enemy artillery.

(2) A1 and A2 echelons should be clearly briefed on boundaries, route co-ordinate points and hand-over lines.

(3) The identification and nomination of replenishment routes is critical when minefield and other counter-mobility measures are key features of delaying operations.

18. **Command and Control**. The command and control of CSS in delaying operations will tend to be centralised in order to control movement within the battlegroup's area of operations.

SECTION 6 - MEDICAL SUPPORT

19. *General*. Planning should be on the basis of the "medical 1-2-4 hour principle". Any CASEVAC plans, which deviate from SOIs, should be simple and clearly understood. Sub unit aid posts, the RAP and the attached Medical Section should be located to optimise medical evacuation, thus helping to maintain momentum. Maximum use should be made of helicopters for CASEVAC; call signs should be promulgated, and landing sites planned. When there is an NBC threat, RMOs must make and rehearse plans for dealing with contaminated casualties. Contingency plans for the surveillance and identification of BW use should be activated.

20. *Offensive Operations*. The RAP and the attached Medical Section may leapfrog or caterpillar to keep a medical facility open at all times during an advance. Forward pre-positioning of ambulances from the affiliated medical /evacuation squadron can reduce evacuation times. Under these circumstances, medical assets may be large enough to justify separate grouping and command.

21. *Defensive Operations*. The RAP and the attached Medical Section may be collocated to provide a larger treatment facility with direct communications to the Medical Squadron. Alternatively, they may be located separately to provide geographic cover. Sub-unit ambulance drivers must rehearse the CASEVAC route from CAP to RAP. An Environmental Health Team may be required if the battlegroup expects to be in location for a long time.

22. *Transitional Operations*. The RAP and the attached Medical Section may leapfrog or caterpillar to keep a medical facility open at all times during such operations.

SECTION 7 - EQUIPMENT SUPPORT (ES)

General

23.   The battlegroup commander's Mission and Concept of Operations are the essential and foremost pieces of information required for the ES planning process. The ES planning process consists of four stages:

a.   Determine the dependency.

b.   Determine the anticipated failures.

c.   Determine the available resources.

d.   Match the available resources to the anticipated failures.

24.   The battlegroup EME should consider all aspects of repair and recovery relevant to the particular tactical operation. He will then be in a position to give a repair and recovery plan, which will include:

a.   Priority of equipment and sub-unit, based on Main Effort.

b.   Repair Loops/XPs/ECCPs.

c.   Cannibalisation policy.

d.   Attachments and Detachments - to match the battlegroup plan and Main Effort.

25.   ***Offensive Operations***.   Maximum use should be made of forward repair and recovery assets to best match the operational plan. Additional recovery assets may be requested through SO2 ES (commonly known as BEME) to assist in the maintenance of tempo. Decisions should be made as to when and to what level reconstitution should take place. The allocation of repair priorities will enable the regeneration of combat power to be focused on critical capabilities.

26.   ***Defensive Operations***. LAD assets may possibly be held to the rear. The salvage, cannibalization and reclamation plan should be robust to maximize the availability of equipment. Priority of repair should be given to defensive equipment, eg MILAN, Engineer counter-mobility equipment and air defence.

27.   ***Transitional Operations***.   LAD assets should be held to the rear to avoid being caught in the delaying battle. Additional recovery assets may be required to keep up with delaying operations.

SECTION 8 – MISCELLANEOUS TOPICS

Prisoners of War (PW)

28.   The PW policy should be clear and efficient, detailing who is responsible for escorting and guarding PW from the point of capture to the Bde PW Cage. The plan is produced after the G2 PW estimate is received. In the event of procedures breaking down, troops should be detailed for escort duties. The plan should address the fast track movement of high value PW.

29.   In defensive and transitional operations there are likely to be fewer PWs in defensive and delaying operations, but plans should still be made for escorts and holding areas.

Burial Policy

30.   CSS planning should include a burial policy. Units must know how to carry out individual and group burial and where possible, bury their own dead.

Refugees

31.   There should be a clear policy on refugees which gives clear and effective guidance to all troops on how to handle refugees. Refugee transit routes should be identified, with CPs as necessary, to ensure that the rearward movement of refugees does not interfere with the already established lines of communication. There will indubitably be pressure to provide medical treatment to refugees. The policy must be given by higher command.

Reinforcements

32.   Reinforcements from the RHU and A vehicle crews from the Armoured Delivery Regiment (TA) can be prone to early battle stress. They must be briefed and fully incorporated into the battlegroup. This is a command responsibility.