

**THE ARMY FIELD MANUAL**  
**VOLUME II**  
**GENERIC ENEMY (BASIC FORCES)**  
**PART 1**  
**OPERATIONAL ART**

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## AMENDMENTS

Amendment Number	By whom amended	Date amended
AL1 Cover & Facing Page		

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## PREFACE

### GENERIC ENEMY BASIC FORCES

#### GENFORCE

1. The purpose of the Generic Enemy Force (GENFORCE) is to provide a basis for the generation of enemy forces for all except the most specialised training needs. It is designed to be used flexibly, in a modular fashion, to craft enemy requirements for training.
2. GENFORCE offers three types of artificial, yet challenging and realistic, opposing force options. It will be issued in a series of three packages:

**Basic Forces:** This enemy has heavy and light armoured forces, predominantly equipped along Former Soviet Union (FSU) lines. Its Tactical Doctrine and Operational Art are modelled on a revision of Army Field Manual Volume II.

**Mobile Forces:** This enemy is futuristic, more advanced in terms of equipment and Tactical Doctrine, with an Operational Art geared towards less dense battle-field scenarios.

**Rest of the World Enemy (ROWEN):** This composite enemy has a broad range of equipments of mixed origin. Its Tactical Doctrine and Operational Art are designed to support specific operational environments: normal, desert, mountain, FIBUA and jungle.

#### GENSCEN

3. The Training Support Team at the Combined Arms Training Centre has developed an evolutionary scenario generator (GENSCEN) to be used with GENFORCE. GENSCEN will provide a range of country/infrastructure options to supplement and bring to life the GENFORCE selected for a particular exercise. Background information is provided in a format similar to real-life intelligence documents, including a selection of country briefs, with options for political and military personalities and supporting data in a variety of forms.

#### BASIC FORCES

4. The first of the three GENFORCE packages, **Basic Forces**, is issued in three separate folders as follows:

Part 1 - Operational Art

Part 2 - Tactical Doctrine

Part 3 - ORBATs and Tables of Organisations & Equipment

5. GENFORCE Basic Forces supersedes Army Code 71357 for training. However, the latter publication should be retained and will remain available on demand.

## CHAPTER 1

### CONCEPTS IN OPERATIONAL ART

#### SECTION 1 - THE NATURE OF OPERATIONAL ART

##### THE CONCEPT OF OPERATIONAL ART

0101. **Origins.** In the nineteenth century, military art was divided into two areas, strategy and tactics. Strategy consisted of manoeuvring to catch the enemy at a disadvantage and concentrate superior forces to defeat him in a decisive battle. Superior tactics would then bring about a victory in that battle which would, to all intents and purposes, mean victory in the campaign or even the war. The growing size, firepower and sustainability of armies, however, rendered increasingly illusory the concept of the single, decisive engagement. It became apparent to Genforce theorists that a strategic decision would only come about as a result of a series of battles, or even campaigns, that were, for the most part, conducted successively. There was a need to coordinate their actions to put them into the context of the strategic aim, so that each progressively contributed towards the achievement of that aim: ie, to make sure that the final value of these battles, taken together, would be greater than the sum of their individual parts. To resolve the complexities of coordinating tactical actions in time and space in pursuit of the strategic goal, Genforce introduced the concept of operational art.
0102. **Concerns of Operational Art.** Operational art is not merely a matter of moving forces to seek out and engage in battle. It is above all a matter of using **manoeuvre** to defeat the enemy. Some armies move in order to fight, but Genforce prefers to fight only if this will enable their forces to move, ie, to conduct the operational manoeuvre which will place the enemy in such a hopeless position that his **destruction** is ensured. Thus, operational art is concerned with the disruption of the enemy's cohesion on a large scale, with depriving him of the ability to react effectively to changes in the situation, with breaking up his organization and control of higher formations (ie, corps and above) and thus prevent him from accomplishing his mission. **The physical destruction of the enemy, which is the ultimate goal of any operation**, is achieved as a result of the disruption of his plans, timetables and ability to control and coordinate his actions over a wide area and to great depth, and not as a result of attritional battles.
0103. **Relationship of Operational Art and Tactics.** Operational art is the handling of higher formations, ie, of armies and army groups. Its demands govern and constrain tactics, the combat actions of divisions and below. This is obviously true in terms of organizing combat groupings and assigning objectives to them. It is equally, if less obviously, true of methods. Genforce tactics, at least at unit and sub-unit levels, are relatively simplistic. This is not due to a lack of imagination, professional skill and initiative in Genforce regimental and battalion commanders. Rather it is because, on a manoeuvre dominated battlefield, the first and most important demand of the operational commander is for speed,

and elegant, complicated tactical solutions are incompatible with rapidity. Of course, it is recognized that somewhat crude tactics can result in defeat in a low-level action. Tactical reverses are redeemable, however, while the failure of an operation may well not be. Moreover, Genforce believes that if an operation is properly planned and executed, achieving a tempo which surprises the enemy and renders his reactions belated and ineffective, then the enemy will only rarely be given the opportunity to exploit Genforce tactical weaknesses; and a weakness which cannot be exploited is no weakness at all.

0104. ***Increasing Importance of Operational Art.*** Analysis of the Second World War and subsequent local wars confirmed Genforce's belief in the primacy of operational art over tactics. Furthermore, the technological developments which have taken place since that conflict have, in its view, still further increased the relative importance of operational art vis à vis tactics. During that war, a problem which loomed very large was the conversion of tactical into operational success. In the offensive, if a tactical commander failed to break through the enemy's tactical zone of defence, then operational manoeuvre could not be generated. Even if he succeeded, thanks to the achievement of operational surprise and the concentration of vastly superior resources, the limited range of weapons and communications and the low level of mobility of most of the troops made it very difficult to prevent the enemy from redeploying forces from passive sectors and bringing up reserves to form a new defensive line in the depth. In the defensive, even if an enemy thrust was successfully slowed and disrupted, the same limitations often made it difficult to deliver a counter-blow in sufficient time to ensure the enemy's destruction before he could transition to defence. Now, however, higher formations have at their disposal tools which can influence the battle well beyond the tactical zone. Air power and operational missiles can deliver massive payloads accurately throughout the enemy's operational depth. Heliborne troops can be used to help convert tactical into operational success. Airborne units and formations, possessing hitherto undreamed of firepower and ground mobility, can be inserted deep into the enemy rear to help convert operational into strategic success. The ground forces with which the air-delivered elements cooperate closely now have the firepower, mobility and communications which imbue them with a sustainability and flexibility unknown to the commanders of yesterday. Thus operational commanders today have, under their own hand, the means to influence directly the progress of an operation. This imparts even more importance to the operational level at the expense of the tactical.

## **GENFORCE IMAGE OF THE CONTEMPORARY BATTLEFIELD**

0105. ***The Increasing Role of Manoeuvre.*** Over the course of this century, armies and their supporting air forces have grown in firepower, in mobility, and in the ability to conduct shock action. The more successful of them have also learned that surprise can confer a decisive advantage in modern war. Genforce believes that the effect of these developments has been to increase the role of manoeuvre in combat, and greatly to accelerate the pace at which situations develop. Progressive mechanization, improving communications and the ex-

tension of air-delivery has increased manoeuvrability and flexibility, both operationally and on the battlefield. This has shortened the time needed to concentrate or regroup, thus increasing the possibility of achieving surprise, and increased the tempo at which surprise can be exploited after the enemy's defences have been penetrated. Moreover, the effect of both the CFE treaty and spiralling costs has been to reduce overall force levels and therefore force densities on the battlefield. All these factors combine to reduce greatly the old problem of achieving the initial breakthrough of the enemy's defences. Mutatis mutandis, they combine to increase the problem of creating a stable and durable defence. As a result of those developments, the possibilities, and indeed need for the conduct of tactical and operational manoeuvre have grown significantly: so too has their potential decisiveness.

0106. ***The Nature of the Battlefield.*** The increased role of manoeuvre naturally implies a reduction of emphasis on linear, attritional combat, even in the early stages of an operation. Indeed, Genforce anticipates a battlefield in which there will be no recognizable front line, no secure flanks and no safe rear areas. Combat will spread over an area of considerable width and depth, with the forces of both sides inevitably intermingled.
0107. ***The Meeting Engagement.*** The logical consequence of all this is that the typical form of combat on today's battlefield will, in Genforce's view, be the meeting engagement, the clash of formations on the move. The attacker will strive to penetrate the defence ever more deeply and rapidly to break up the cohesion of the defence and bring about its collapse. The defender will, in turn, manoeuvre reserves and forces from passive sectors to conduct a combination of counter-penetration and counter-strikes, aiming eventually to develop them into a counter-offensive. The combat that will develop will be characterized by great fluidity and uncertainty, with obscure and rapidly changing solutions. It will also be characterized by great destructiveness and also decisiveness. For both sides, success will depend on seizing the initiative and forcing the enemy into a reactive posture. Thus, at least initially and probably for much of the time thereafter, both sides will be acting offensively. Each will seek to disrupt the enemy and force him onto the defensive in disadvantageous circumstances. At first, this will be done with air and long range artillery strikes and the aggressive use of forward, raiding and heliborne detachments, and then through the actions of advance guards. Main bodies will then seek to build on any advantage gained, normally to outflank the enemy but possibly also to penetrate gaps in his deployment. Attacking without pause from the line of march, they will endeavour to break up the enemy grouping and envelop substantial elements of it. Victory will go to the side that beats the enemy to the punch and builds up its combat power faster. The side that is slower, or less effectual in its reactions, will be forestalled in the race for the key terrain. Outflanked and deeply penetrated, and with no favourable, prepared defensive position to fall back on, it will lose its cohesion and its ability to react effectively and timeously, and it will, in consequence, be destroyed.



0108. ***The Importance of Momentum.*** In the meeting engagement, Genforce believes that everything depends on getting the right answers at the operational level. Subtle tactics which produce local successes will not prevent operational catastrophes if the higher formation commander does not deploy correctly, make timely decisions and build up his efforts from the depth more swiftly than the enemy. It is crucial to win the struggle for time, for the winner gains the initiative. Once the enemy is forced into a position where he is merely reacting, inevitably increasingly belatedly, he will be well on the road not merely to defeat but to destruction. In such a concept of war, there is little place for tactical niceties. The side that acts speedily and decisively will win. Hence the Genforce enthusiasm for simple battle drills at regiment and sub-unit level. By hastening the committal of units and formations they intend to win the critical battle for time and thus put the enemy into a position of fatal disadvantage. Nor, in the circumstances of the meeting engagement, are simplistic, offensive tactics seen to carry much of an attendant disadvantage as the enemy will not be able to meet the attack with a well prepared defence.

## SECTION 2 - GENFORCE PRINCIPLES OF OPERATIONAL ART

### GENERAL

0109. ***Genforce Guiding Principles*** are not regarded as immutable. Major technological developments or changes in military doctrine and consequently in strategy will prompt corresponding changes in operational art. As the contemporary period is one of rapid and fundamental change, the current guiding principles will certainly undergo development and shift in their relative importance. Naturally, some of these principles are already familiar to British officers, and these will only be expanded on where Genforce imparts to them an idiosyncratic twist. Others, less generally subscribed to, will be described in more detail.

### THE PRINCIPLES

0110. ***Selection and Maintenance of the Aim.*** The ultimate aim of any operation is the utter defeat of the enemy's main opposing grouping. To this may be added, in the course of an offensive, the taking of an important area or line, thus ensuring the further development of the offensive: and in defence, frustrating the enemy attack, holding onto vital ground, and creating conditions favourable for going over to the offensive. The overriding aim, however, is always the **destruction** of the enemy. Merely pressing him back or, when in defence, stopping his advance, are inconclusive results for the enemy can reconstitute and regroup his forces and fight again. When deciding on the form of operational action to be used, the phasing, the echeloning of forces, the geographical areas to be seized or held, the commander will always make sure that each element of this decision will lead, in the end, to the annihilation of the most important enemy grouping. The identification of this grouping, without which the enemy cannot achieve **his** aim, is thus the key part of the decision making process.

0111. **Surprise** receives the strongest possible emphasis in Genforce thinking. Its constituent elements are secrecy, concealment, deception, disinformation and the avoidance of stereotype. So important is it that regulations lay down a mandatory requirement for commanders at all levels to complement all operational plans with a deception plan.
- a. *The Initiative.* Surprise confers the initiative on the attacker, disrupting the plans of the defence, forcing the enemy into a reactive posture and depriving him of time when he most needs it. It enables Genforce to impose its style of warfighting on the enemy, compelling him to fight a series of meeting engagements where his defensive power is at a discount. In the defence, it enables Genforce to wrest the initiative from the attacker and it thus goes some way to negating the enemy's superior strength.
  - b. *Growing Importance.* As the range, accuracy and destructiveness of weaponry increases, the role of surprise becomes more important. It prevents the enemy from optimizing the use of his forces and shortens drastically his available reaction times, thereby helping to preserve combat effectiveness. At the same time, of course, it enables Genforce to gain maximum value from his own assets. It is seen to be particularly vital, indeed potentially decisive, when the enemy is only partially or mal-deployed, has a low force density and/or lacks operational or strategic depth. Given the anticipated tempo of modern operations, it is believed that a surprised defender will rarely be granted the time he needs to recover his balance and create an effective defence save at the expense of serious losses of combat power and space. When in the defence, it will catch the enemy wrongfooted and enable a counter-blow to strike him before he can transition to defence.
0112. **Activeness and Speed.** "Success in an operation or battle is achieved by that side which, all else being equal, acts more actively and resolutely, takes the initiative and holds it firmly. A side which only defends is inevitably doomed to defeat." Thus does a prominent Genforce commander encapsulate the obsession with seizing and holding the initiative, whether in attack or defence.
- a. *Significance of the Initiative.* The advantages which accrue to the defence from ground, concealment and modern firepower are all outweighed, in Genforce eyes, by the advantage which possession of the initiative imparts to the attacker. Being able to choose the axes on which battles will be fought, being able to choose his own time and method of operating and with the greater possibility of achieving surprise, the attacker can hope to impose his will on the enemy. As he is dictating the course of events, he is much more likely to win the crucial battle for time than a defender forced to react to his moves. Moreover, the very fact of being on the offensive strengthens the morale of his troops: by contrast, an enemy forced onto the defensive or withdrawal, by admitting the enemy's will is stronger, will suffer a correspondingly negative effect. It follows that, when Genforce is compelled to adopt the defensive, every effort must be made to wrongfoot the enemy, catch him off balance and, having achieved a locally favourable

correlation of forces, wrest the initiative from him with counter-blows. At all times, Genforce endeavours to maintain an offensive state of mind in its commanders.

- b. *Constant Pressure.* In the offensive or counter-offensive, there must be no let up in the attack and later, the pursuit (revealingly studied by Genforce as a distinct and vitally important phase of war). Offensive action must be pursued round the clock, regardless of weather. Where necessary, momentum will be maintained through the acceptance of casualties, loss of men and equipment being more acceptable than loss of time. **Time** is seen to be the most precious commodity in modern war. Unremitting pressure will overstrain the enemy command and control and logistics system and disrupt his ability to conduct reconnaissance and make use of his most effective weapons systems by overrunning them or keeping them on the move. Plainly, this principle is more difficult to live up to when on the defensive. Nevertheless, every effort must be made through the use of raids and local counter-blows.
- c. *Speed.* Pressure on the enemy is not enough of itself. A merely attritional approach will grind down both sides. It will not be decisive in the offensive and will probably lead to defeat in defence. The enemy must be unbalanced, his command and control must be disrupted and the will of his commanders paralysed, and his forces must be split up into isolated and demoralized fragments which can be destroyed in detail. In the offensive, this is accomplished by achieving as early as possible a high tempo of operations which capitalizes on the achievement of surprise and is itself surprising, and which retains the initiative. Attack should give way to pursuit as soon as possible: in pursuit, all the advantages are seen to lie with the attacker: his logistic consumption goes down and he enjoys a very favourable exchange rate in casualties to both personnel and equipment. Thus the greatest possible stress is laid on **manoeuvre**. Bypassing will usually be preferred to direct assault, leaving enemy groupings to wither on the vine or be forced into a withdrawal which will expose them to destruction through parallel pursuit. In the defence, emphasis is now placed less on the unyielding holding of ground and more on rapid regrouping and reaction by reserves. Transition to the counter-attack and counter-offensive, where tempo can be used to achieve success rather than merely avert failure, is always the goal.
- d. *Commander's Initiative* is central to the fulfilment of this principle. Bold and above all prompt decisions are expected of commanders at all levels. They are always made aware of their superior's concept of operations or battle and are expected to seize any opportunities to further his aims. Directive control combined with flexibility of mind and in force structuring is seen to be the only command style appropriate for the manoeuvre warfare which will predominate in future.

0113. **Concentration.** Success stems from the concentration of superior force at the decisive time and place. Genforce, however, does not consider the correlation of forces (the comparative numbers of men, tanks, guns, etc) as being the end of the story. The ratio of forces to space, especially of the defender, is seen to be just as important. Thus a defender, overstretched by being given an excessive sector to defend, can be defeated by an attacker with little or no overall superiority but possessing the initiative and with the freedom to concentrate his efforts on the chosen point of attack. By the same token, a defender with an adequate force density will be impossible to overwhelm as in the past, given the range, accuracy and lethality of modern firepower: only the massive application of firepower to lower his force density will create the necessary conditions for the generation of tactical, and eventually, operational manoeuvre.

a. *Differing Requirements for Concentration.* Depending on the enemy's situation, different levels of superiority are needed to achieve success. For instance, 1.5:1 can suffice in a meeting engagement. Offensively, 3-4:1 is desirable operationally, and that translates into 5-6:1 tactically on key sectors. In any case, given the immense destructiveness of modern firepower, there can be no leisurely massing of men and materiel to gnaw through defences in an essentially attritional battle.

b. *Approach to Concentration.* Genforce follows four complementary approaches to the problems of concentration to achieve the requisite correlation of forces in the offensive.

(1) MANOEUVRE. Ideally, the need for strong concentrations to conduct a breakthrough operation (always difficult and uncertain of success) should be obviated. Given a sufficient degree of strategic and operational surprise, the enemy will not be allowed to complete his deployment and prepare defences on the chosen axis. Opportunities for the conduct of operational manoeuvre will exist from the very start, and the enemy will be destroyed in meeting engagements.

(2) DECEPTION. If full enemy deployment cannot be pre-empted, then he must be persuaded through deception and feints to concentrate **his** forces on false axes, thus lowering the density of his defence on the chosen axes.

(3) CONCENTRATION OF FIRE. Rather than massing forces to overwhelm the enemy, the fire preparation should be concentrated on the selected attack sector from widely dispersed long range systems and airfields. With precision weapons and improved conventional munitions, it is now possible to effect a rapid and dramatic reduction of the defender's strength and so reduce the numbers required to break through.

(4) MARCH SEPARATELY, FIGHT TOGETHER. Formations and manoeuvre units will advance rapidly from dispersed locations in depth, mov-

ing in more or less parallel columns and converging only at the last minute on the chosen breakthrough sector. They will attack from the line of march against weak opposition, or with only a minimum of delay in forward concentration areas if against a stronger, better prepared enemy. Concentration, in other words, is seen as more a matter of time than of space. The aim is to achieve surprise and so to preempt any enemy counter-concentration or devastating counter-preparation.

- c. *Maintaining a Favourable Correlation of Forces.* Having broken through, advancing forces will disperse to advance on multiple axes, but always with several columns within supporting distance. Such a pattern of advance will fragment the defence and complicate its use of reserves by concealing the main axis and by presenting several threats to be countered. At the same time, interdiction will disrupt and slow down enemy attempts at regrouping and counter-penetration, and forces operating in the enemy depth will destroy the enemy's cohesion by attacking his command and control, logistics and morale. In these ways, the initially favourable balance of forces will be maintained.

#### 0114. ***Action Throughout the Enemy's Depth.***

- a. In previous wars, the single greatest problem in the offensive was that of achieving a timely breakthrough. If the tempo were too slow, the enemy could retain his balance and continually offer organized and effective resistance. He did this by deploying immediate reserves, redeploying forces from passive sectors, bringing up fresh reserves from the strategic depth or flanks and by refurbishing formations that had been seriously written down. In other words, lack of tempo in the breakthrough prevented the generation of operational manoeuvre and transition to pursuit and condemned the attacker to an attritional struggle. Genforce's answer to this problem is to elevate to a principle of war the need to attack the enemy **simultaneously** throughout the depth of his deployment. A rapid breakthrough becomes very much easier if tactical and immediate operational reserves are destroyed or disrupted, or even pinned, and vital ground, such as crossroads, defiles or obstacle crossings are seized before they can be properly defended. Once the defence has been penetrated, second and exploitation echelons can be poured through the gap and conduct operational manoeuvre. This will be designed to: collapse the enemy front by widening the penetration sector through flank and rear attacks on the shoulders; widen the zone of advance as the advance proceeds into the depth, creating a gap so wide that it cannot be plugged by operational-strategic reserves or redeployment; move so rapidly as to preempt the enemy's re-establishment of a stable defence on defence lines in depth; destroy the enemy through parallel pursuit on multiple axes and/or through encirclements.

- b. In defence, it is, mutatis mutandis, essential to balance the deployment so that the enemy's attempts to conduct deep battle and operations are thwarted, or at least limited in their effectiveness and therefore in their ability to undermine stability. It is also important, despite the difficulties which face a defender

inferior in resources, to strike into the enemy's depth. The attacker's plans and timetables are also vulnerable to disruption through such actions, and success will not only contribute to maintaining the stability of the defence but also help create favourable conditions for counter-attacks or offensives.

0115. **Realism.** Genforce is acutely aware of the danger of overtasking. Its own history saw too many examples of forces being asked to bite off more than they could chew. Wishful thinking, and in particular, an overestimation of own forces and underestimation of the enemy's, has to be countered by objectivity and the scientific elaboration of norms to establish true requirements. At the same time, undertasking is almost as bad. Excessive concentration in one area will assuredly mean an unnecessary deficiency elsewhere, perhaps even without adding to effective combat power. War, as Genforce has always maintained, is a risk business. The successful commander is the one who best balances the risks he faces and so balances his forces that he can achieve his aim whatever counter-move the enemy may undertake. Essential to this happy outcome is continuous and effective reconnaissance at all levels and flexibility inherent in the deployment of his forces, in his scheme of manoeuvre and above all, in his mind and in his headquarters.
0116. **Coordination.** At the operational level, and even, for the most part, at the tactical, there is no such thing as "the land battle". Half or more of the firepower deployed today is air delivered, and consequently there must always be a land-air approach to combat. On coastal sectors, it must be land-air-sea. Inter-service coordination must be very good if victory is to be achieved. Furthermore, even within the ground forces only a combined-arms approach to combat can bring success. Each branch has its own strengths and weaknesses, and each uses its strengths to compensate for the others' weaknesses so that the combined arms team as a whole maximizes its effectiveness and presents the enemy with no exploitable weakness.
0117. **Preservation of the Combat Effectiveness of Own Troops** has always been an important principle and is becoming more difficult to realize as war becomes more complex and destructive. Today, huge losses can be inflicted in very short periods by precision and improved conventional munitions. These losses, furthermore, are more difficult to predict than in the past, for modern target acquisition and delivery system enable the enemy to hit targets in the deep rear and not just in the first echelon. Thus, at the very time that the rise in loss rates has increased the importance of second echelons and reserves, those depth elements have themselves become more vulnerable. The same problem bedevils the exercise of the command and control and logistic support on which successful operations depend. Genforce currently sees four solutions to this problem.
- a. **Offensive Action.** The best way to preserve combat effectiveness is to adhere to the other principles. A surprise, in depth offensive pursued at a high tempo without let up is designed to prevent the enemy from establishing a well organized defence or from making optimum use of long range

weapons. Wartime experience reveals that forces advancing at 16-45 kms per day lose, compared with those making only 4-12 kms per day, only one third the number of men and two thirds the numbers of tanks (mostly repairable breakdowns), and use only one third the amount of fuel and one sixth the amount of ammunition. This represents the difference between gnawing through a balanced defence and conducting a pursuit. While such low expenditures would not be enjoyed today, the principle that they will reduce as rates of advance increase still remains valid.

- b. *Protective Measures.* The increased scope and scale of the air, long range artillery and missile threat has increased the importance of passive protective measures such as camouflage, concealment, the use of deceptive groupings and simulations, dispersion, the use of night and bad weather to conceal movement, and security (especially electronic). There is also a considerable stress placed on technological counter-measures to attack, eg, the use of corner reflectors, radar and infra-red reflecting materials, decoys, smokes and aerosols, systems to jam, fool or destroy smart munitions, ECM. Of course, defensive measures alone will be insufficient. There has to be sustained physical and electronic attack on the enemy's whole intelligence gathering and fire control system at every stage of its operation.
- c. *The Restoration of Combat Effectiveness* after devastating strikes is a great concern. Special reserves, eg of medical, engineer, repair and recovery and chemical defence troops, are maintained to ensure prompt reaction. Once command and control is restored, relatively unscathed elements continue the mission, and they are joined as soon as possible by composite detachments and groups which are formed through the amalgamation of badly mauled sub-units and units.
- d. *Logistic Support.* Fast moving, manoeuvre-dominated operations where there is no clearly defined front line or safe rear areas complicate the problem of logistic support, even when the stocks required have been correctly assessed and accumulated. Genforce has devised a logistics system which is designed to cope with this problem. (See Chapter 7).

0118. ***Synergy of the Principles.*** Genforce believes that, at least at the operational level, the offensive is the stronger form of warfare. It should be noted, in this context, that there are synergetic effects in combining several of the above principles. There appears, at first sight, to be some contradiction between the need for both surprise and concentration: the achievement of the latter can all too easily be achieved only at the expense of the former. Surprise is, however, a force multiplier (by a factor of 1.5-2 in Genforce thinking). By catching the enemy unprepared or on the wrong foot, it reduces the need for large scale, time consuming, give-away concentrations and logistic build-ups. This need is further reduced by the conduct of operations simultaneously throughout the depth of the enemy's deployment. (The insertion and actions of such forces are, in turn, made easier by surprise preventing the enemy from deploying in a

balanced way to cope with the threat). By undermining the stability and viability of the defence through disrupting the enemy's command and control, logistics and reserves, deep operations reduce the ability of the enemy forward-deployed forces to resist the main attack. Moreover, the crumbling of the defence from within makes it easier and quicker to batter down its outer shell. This will lead to higher rates of advance and lower loss rates within the main forces, leading in turn to speedy link-ups with forces operating in the depth and reducing the time the enemy has available to deal with either threat.



## CHAPTER 2

### STRATEGIC AND OPERATIONAL MARCHES

#### SECTION 1 - THE SIGNIFICANCE OF, AND PREPARATIONS FOR MARCHES

##### IMPORTANCE OF MARCH CAPABILITIES

0201. ***Mobilization, Concentration and Deployment.*** The outcome of initial operations, which will shape the rest of a war, is usually dependent on which side wins the race to mobilize its forces, concentrate them in the area of conflict and deploy them for battle. In the event of both sides adopting an offensive strategy, the winner will receive the invaluable prize of the initiative, with his opponent being caught off balance to boot. If one side has opted for the strategic defensive and wins the race, it will be able to face the enemy with a dense defence in prepared positions, backed by strong operational reserves: this is a formidable prospect for the contemporary aggressor, especially if the defender has strong airpower and high precision weapons. On the other hand, should the attacker win the race, he will forestall the creation of prepared defences, probably find gaps or weak spots in the defender's combat formation and thus avoid through pre-emption the need for a breakthrough operation and instead be able to generate momentum and engage in operational manoeuvre from the outset. Thus rapid mobilization procedures and the march capabilities of formations assume a fundamental importance, whether offensive or defensive operations are contemplated. On these will depend the achievement of surprise and the seizure and retention of the initiative in the attack or the avoidance of those advantages accruing to the enemy in the defence.

##### MEASURES TO SUPPORT THE MARCH

0202. ***March Support.*** To ensure the timely arrival in the combat zone of formations in battleworthy condition, the following measures are undertaken:
- a. ***Priority in Movement.*** Top priority is given to the deployment of the ground elements of aviation, missile troops, formations, and key support units that are held at constant readiness to execute important tasks.
  - b. ***March Capabilities.*** Full advantage must be taken of both the march capabilities of formations and of the infrastructure in the area of the march. Where combined rail and road marches are conducted, the movement of heavy equipment by rail must be closely coordinated with road columns.
  - c. ***March Support.*** The successful execution of a march depends on several support measures. Constant cover against air attack must be ensured, especially at obstacle crossings and choke points and in concentration and rest areas. Measures must be undertaken beforehand to support the passage of obstacles. The constant supply of material reserves, especially

POL, must be ensured. Troop control must be flexible and continuous. The secrecy of embarkation, movement and debarkation, and of assembly areas must be assured: various forms of disinformation and deception will be employed to cover movement and deployment.

0203. **Peacetime Preparation.** Ideally, theatres are prepared in advance for strategic movement. Amongst these preparations are included:
- a. *Infrastructure.* The road and rail net, bridges and by-passes round major junctions and administrative centres are prepared.
  - b. *River Lines.* Crossing sites, including reserve sites, are organized on important rivers.
  - c. *Material Support.* Dumps of POL and other materiel reserves are established.
  - d. *March Zones.* Alternative march plans are prepared in peacetime and march zones and axes allocated.

## SECTION 2 - RAIL AND COMBINED MARCHES

### RAIL MARCHES

0204. **Advantages.** Rail marches are seen to confer three benefits. Fuel and engine and track life are conserved. Personnel are not exhausted by prolonged exertion and discomfort. Above all, a high rate of movement is ensured regardless of weather conditions. On modern lines, 600-1000 km per day can be achieved (including loading and unloading times, which may amount to over 50% of the total).
0205. **Disadvantages.** There are two major drawbacks to rail movement. The paucity of lines means that an army relying totally on rail will require a long time to deploy. Thus, for instance, an army of four motor rifle and one tank divisions and normal army assets will require about 550 trains. If that army has to move a distance of, say, 1200 km on lines with a capacity of 160 trains per day at a rate of 600 km per day, it will take eight days to complete its concentration - and that assumes that enough trains are available to avoid having to wait on locomotives and rolling stock to become available (ie, each echelon has its own trains and does not have to wait on the return of empty ones), and that there is no non-deployment traffic on the lines. The other disadvantage of rail movement is that it is very vulnerable to air, or precision interdiction. Both the level of destruction and the delay and disruption that such attacks would cause are insupportable.
0206. **Conclusions.** Genforce maintain that, certainly for distances under 1000 km, road, or combined road and rail marches will result in a more rapid concentration than pure rail moves. Moreover, whatever the relative time advantages of

road or rail movement, the latter becomes unacceptably dangerous once hostilities have begun. Thus deployment in peacetime may be conducted by rail, but during combat, the movement of formations by rail will, save in strategic depth, be rare and used only in exceptional circumstances.

## COMBINED MARCHES

0207. **Combined Road and Rail Movement**, with tracked and heavy equipments being transported by rail and the rest travelling by road, is seen to offer an optimum solution. It is economical in the use of transport resources and preserves both equipment and personnel. The price, of course, is the destruction of unit and formation integrity and problems in command and control. In the event of the severe disruption of either form of march, a whole division or more may be rendered ineffective. Thus, this sort of march, too, is most suited to pre-war deployments.
0208. **Use of Air and Sea Movement**. While the deployment of whole motor rifle or tank divisions by air is not practical, air transport may be used to deploy high value items needed forward urgently: SSMs, SAMs, EW equipments and headquarters elements may come into this category. Large numbers of personnel may also be moved rapidly by air, to man prestocked sets of unit equipment, to preserve them from the rigours of a long road march or to provide replacements of purely infantry units. Sea movement is probably too slow and too vulnerable to interdiction to be much used when war has already started.

## SECTION 3 - ROAD MARCHES

### PERFORMANCE

0209. **Rates of March**. Genforce divisions train to achieve daily march rates of up to 350 km, sustain this for 4-5 days and then enter battle with only a day's pause. Of course most, and ideally all of each march stage should be completed during darkness or bad weather to aid concealment.

**TABLE 2-1: AVERAGE SPEEDS OF MARCH COLUMNS (KM PER HOUR)**

Column Types	Paved Roads		Dry, Dirt Roads		Muddy, Hilly, Urban Rds	
	Day	Night	Day	Night	Day	Night
Motorised Colm	30-40	25-30	20-25	18-20	10-15	8-10
Mixed Colm	20-30	14-20	15-20	12-15	10-12	8-12

Notes:

- (1) During fog, reduce 25-30% of day speed.
- (2) Performance is sharply reduced in mountains, desert, arctic, marshy areas and during winter.

(3) Rest halts:

- (a) Short halt of 20-30 mins every 2-3 hrs (first one after 1-2 hrs).
- (b) Long halt of 2-4 hrs necessary if a forced march of 12-14 hrs is being conducted.

**TABLE 2-2: DAILY MARCH PERFORMANCE OF MARCH COLUMNS (KM)**

Column Type	Paved Roads	Dry, Dirt Roads	Muddy, Hilly, Urban Rds
Motorised Colm	250-350	180-300	80-180
Mixed Colm	200-350	120-240	80-140

Note: (1) The route is measured on the map and 5-10% of distance is added on average terrain and 20% in mountainous terrain.

(2) Calculation is for march of 10-12 hours. Remaining 12-14 hours spent:

- (a) Technical maintenance 3-4 hrs
- (b) Serving hot meal 1-1 1/2 hrs
- (c) Deployment and camouflage 1-1 1/2 hrs
- (d) Movement to start line 1-1 1/2 hrs
- (e) Rest 4-8 hrs

(3) On a march of over 1000 km, and possibly even in a shorter one, there will be a rest day, probably in the rest area before the final assembly area, for essential repair and maintenance work.

0210. **Ensuring Combat Capability at the Conclusion of March.** Long road marches impose considerable wear and tear on tracked and heavy equipments. To an extent, the problem of ensuring the viability of units at the end of such a march is limited by the very sparing use of combat vehicles in peacetime training. Genforce expect a fall-out rate of only 1-2% of vehicles per day. There are two other ways of overcoming the problem:

- a. **Replacement of Parts.** The problem is most acute in the case of tanks and, to a lesser extent, SP artillery and BMPs. Genforce regulations demand that tanks must always start an operation up to 3600 km of operable range. This means that, tanks should be able to march 1000-1500 km and then conduct an offensive of up to another 1000 km. Thus, they must be able to cope with a march of 1000-1500 km with a "manoeuvring in the march coefficient" of 1.2, for a total of 1200-1800 km, and then be able to advance 1000 km with a "manoeuvring in the march coefficient" of 1.8, for a total of 1800 km, giving a grand total of 3000-3600 km. If the performance range of some tanks is less than that specified by regulations, then a

change of tracks and/or engines will be necessary during the course of the march. One description of a 1250 km march by a combined arms army includes the changing of these items on 30% of its tanks during the rest day. Such a necessity is, understandably, described as “absolutely undesirable”. Should it be necessary, however, the required items will be pre-dumped in the chosen rest area to await the arrival of the formation.

- b. ***Use of Heavy Equipment Transporters (HETs).*** Tanks and other tracked and heavy equipments may be transported on HETs, at least to the final assembly area. Genforce maintains a substantial HET fleet to ease the strain of long marches. Of course, the number of usable routes will be limited by the use of HETs: adverse meteorological conditions may make unpaved roads unsuitable, and bridges with a capacity for 80-100 tonne loads will be required to cross rivers.

## **MARCH ROUTES AND COLUMNS AND MARCH SUPPORT**

0211. ***March Routes.*** It must be borne in mind that to Genforce, whose equipments are designed with this in mind, a dirt road is an adequate march route for armoured or mixed columns. During a march from the depth to final assembly area (about 120- 150 km from the line of committal), an army normally allocates two routes to each division and one to army troops. Thus, with only five routes available, an army would be able to move with only two divisions in its first echelon. With seven, it could deploy three divisions in the first echelon. The latter is the better case, as it is desirable to have a strong first echelon in going over to the attack. For the same reason, it is desirable to have three routes per first echelon division in the march from the final assembly area to the line of committal. Diagram 2-1 illustrates the march routes and stages of a combined arms army.

See Diagram 2-1.

0212. ***Organization of the March.*** What might be termed “administrative” march columns, employed in moving where the chance of contact with the enemy is all but nil, differ in their organization from the tactical march columns used when moving into or through a battle area.
- a. ***“Administrative” March Columns.*** Combat security patrols are always deployed, even in the depth of friendly territory, as there is always a threat, even if a remote one, of SPF, airborne or guerilla attacks. The acceptable size of such security elements will, however, be lower the further back in a formation. The columns will be organized principally for administrative convenience. Thus, vehicles of similar type, speed and cross-country capability may be kept together in packets instead of being mixed as they are when prepared for combined arms combat. Tracked vehicles, and heavy equipments such as SSM launchers, may be concentrated on one route (preferably paved), while wheeled vehicles may move on another route (possibly unimproved dirt road). Diagram 2-2 illustrates the typical march

columns of a first and a second echelon division and army troops. There can, of course, be many variations on this theme.

- b. *Tactical March Columns.* With its concern for tempo and likelihood of meeting engagements (battles) on the modern battlefield, Genforce emphasizes that, when contact becomes possible, march organization must reflect the desired organization for combat. There will be no time to stop in FUPs to marry-up battle groups. Formations must flow smoothly and quickly from the march into battle in preformed groupings tailored for combat against the expected enemy in the terrain where battle might or will take place. This will help to beat the enemy to the punch in a meeting engagement and to surprise a defending enemy through the speed with which an attack is mounted. Once in the combat zone, stronger march security is deployed, including to any open or threatened flank and forward detachments may be formed in readiness to conduct deep battle. Movement support detachments (MSD) which are tailored to the ground and the degree of enemy route denial effort will follow immediately behind forward march security or behind advance guard battalions. If a meeting battle, attack against an ill prepared or over extended enemy, or pursuit is anticipated, the first echelon will normally be tank heavy at both tactical and operational levels and forward detachments will probe ahead. The AAG and AGRA will usually move in the first echelon so that its deployment is not hampered and delayed: in the same way, the DAG will often move at the front of a division's main body. At both operational and tactical levels, anti-tank reserves and mobile obstacle detachments will move on a threatened flank or forward within the main body and ready to deploy to either flank. Second echelons and CPs will normally move on the main axis at either level. Diagram 2-3 illustrates the same elements as shown in Diagram 2-2 but now moving in a variant of tactical march formation.
- c. *Air Defence.* March columns are seen to be very vulnerable to air attack, even in the operational depth. The air defence plan of the march will be worked out in great detail, with priority for protection going to the first echelon, the SSM brigade and its missile-technical base, and army and divisional CPs. Army and divisional air defenders will move and deploy in accordance with an overall air defence plan which stresses universal, overlapping and redundant coverage. Assets will generally move dispersed throughout the march formation, but with a concentration at the head of march columns, and elements may be moved ahead to defend obstacle crossings and choke points. Coordination with the air defence and air forces through which the formation is passing in a march from the strategic or operational depth is carefully worked out: such forces may have primary responsibility for combating the air threat to the advancing formation and for the defence of critical points.
- d. *Combat and Service Support.* Measures such as reconnaissance, NBC defence, operational camouflage, concealment and deception, engineer,

topographical and logistic support are generally the responsibility of the military districts, allied states and army groups through which the march is conducted. This avoids depletion of resources which will be needed on committal to battle. Particularly difficult are the problems of fuel supply, with depots having to be established beforehand to supply each daily march stage, and technical support, with medium repairs being recovered to damaged vehicle collection points for transfer to military districts or army group repair centres.

e. *Troop Control.* Continuity of control is fundamental as is the maintenance of secrecy.

(1) DEPLOYMENT OF CPs. One CP must always be deployed and in control. Two methods may be employed. The least preferred option is to have an army forward CP move at the head of the first echelon throughout, with the main moving in the second echelon, a day's march behind. The preferable method is for main to move simultaneously with the troops (usually in the first echelon, and ideally on a separate route) while control is exercised from the forward CP which is situated in the next daily rest area. When the army moves into the rest area, forward moves on to the next one, the move being accomplished wholly or in part by helicopter.

(2) COMMUNICATIONS. Communications security is very tight. Wherever possible, mobile means (helicopters and liaison vehicles) are used. Otherwise, government line communications are employed, with army representatives manning communications centres to prevent security leaks. Army radio nets are used minimally, and only for air and NBC warning.

(3) TRAFFIC CONTROL. The Commandant's Service exercises traffic control. The march route is divided into 50-80 km sectors, each being the responsibility of a sub-unit. Posts are established at all obstacle crossings, defiles, by-passes and population centres.

See Diagrams 2-2, 2-3.

### **SPACE OCCUPIED BY MARCHING COLUMNS**

0213. ***“Administrative” Marches.*** As illustrated in Diagram 2-2, a division on two routes will be about 100 km deep (exclusive of combat security elements). Thus, the length of the army's first echelon columns, including forward deployed combat and logistic support elements, will be in the order of 140-150 km. An interval of 80-100 km will separate first and second echelons, and a second echelon division on three routes will be about 80 km deep. Thus, the total length of an army's columns marching in seven routes will be about 300 km. If only five routes were available, the depth of the army could extend to 500-600 km. The army's width will be 150-200 km.

0214. **Tactical March.** Moving from the final assembly area to the line of committal, first echelon divisions will spread out more to observe proper tactical intervals as shown in Diagram 2-3: intervals between regiments will grow from 5 km to 10 km, and there will be 5 km between battalions. However, as they will, if possible, be moving now on three routes each, their depth will remain constant. The 80-100 km interval between first and second echelons will be preserved, as such a spacing allows for any necessary manoeuvre or dispersion while yet ensuring timely committal.



## CHAPTER 3

### THE OFFENSIVE

#### SECTION 1 - STRATEGIC OFFENSIVE OPERATIONS

##### GENERAL

0301. **Scope of Chapter.** This chapter will focus on army level offensive operations. It will, however, be introduced by a study of the forms of strategic offensive operations envisaged by Genforce today as these provide the context into which army operations must be placed. Historically, strategic actions have generally been undertaken by groups of army groups. They have, on occasion, been undertaken by a single army group, usually where unusual circumstances prevailed: where a limited objective was envisaged; where a separate theatre of operations contained only a single army group; or where the army group concerned was unusually large. With the force reductions that have taken place over recent years and the consequent lowering of force densities and therefore breakthrough requirements, single army group operations will become much more common.

##### ENCIRCLEMENT

0302. **General.** Encirclement is generally the preferred form of strategic operation for it offers the possibility of achieving decisive operational and even strategic results - ie, the **destruction** of a key enemy grouping - without the need to deploy overwhelmingly superior forces. In the future, however, the vulnerability of encircling formations and second echelons to precision strikes may decrease the current emphasis on encirclement.
0303. **Circumstances Which Favour Encirclement.** Encirclement is a suitable form of manoeuvre when: the enemy's centre of gravity is well forward (ie, most of his strength is up front and operational reserves are weak); the enemy is in a salient; the enemy has a strong formation sandwiched between two weak ones (especially if the enemy is committed to holding forward and will be reluctant to withdraw); the enemy can be crushed against an obstacle; the attacker lacks a decisive overall superiority in numbers.
0304. **Forms of Encirclement.** The four basic forms of encirclement are illustrated in Diagram 3-1. These are:
- a. Thrusts on converging axes against a salient.
  - b. Penetrations in several sectors to fragment the enemy, destroying elements in encirclement and catching the main enemy grouping in a series of deep encirclements as it attempts to withdraw.

- c. Conducting one or two enveloping thrusts to crush the enemy against a major obstacle: this could be a major water obstacle or mountain range or the sea.
- d. Launching frontal attacks on parallel axes, with the thrusts later converging to form a two-sided envelopment.

See Diagram 3-1.

0305. ***Execution of an Encirclement.*** Diagram 3-2 illustrates the key elements in the successful conduct of an encirclement, in this case by the forces of a single army group comprising five armies and a reserve of some separate divisions.

- a. *Choice of Axes.* Having carefully selected the grouping to be destroyed, it is essential to choose the most favourable axes for the arms of the encirclement. These are the axes that will most rapidly get the enveloping forces into the rear of the enemy. This is not necessarily synonymous with good going for armour. It may be better to attack through difficult terrain because it is correspondingly ill-defended and surprise will be easier to achieve there. In Genforce's view, the best tank going is through any area lacking anti-tank weapons. Other vulnerable sectors for the initial blows could be astride major formation boundaries or where the defence is entrusted to a weak or over-extended grouping.
- b. *Correlation of Forces.* A large overall superiority is not necessary. Weak, economy of force elements can be left to face the front of the victim formation. However, strike groupings must attain a decisive superiority over the enemy in order to deliver an initial blow sufficiently powerful to penetrate rapidly through the tactical zone of defence and thereafter maintain momentum during the advance into the operational depth. Speed is all important. The enemy must be kept off balance throughout the operation and given no time to stabilize the situation or withdraw his endangered forces. Usually, therefore, the pincers are deeply echeloned to break through, complete the encirclement and deliver strong attacks into the encircled grouping while still retaining a favourable correlation of forces on the principal axes throughout the operation.
- c. *Surprise* is usually essential. The intention to encircle must be hidden from the enemy. Therefore the build up on the axes of the pincers must be concealed, with second/exploitation echelons not initially deployed forward, directly behind the breakthrough elements. The enemy's eyes must be fixed on his front, not his flanks, and this should remain the case until the operation is well underway. To this end, the enemy should be led to expect a frontal attack, ideally on what intelligence reveals to be the axis on which he expects the main blow to fall. To this end, reconnaissance and other activities indicating an offensive should be conducted on the false axis. A dummy concentration should be created on this axis, perhaps given verisimilitude by deploying in it elements that can side-step onto one of the real

axes. When the real attack is launched, or shortly before, a feint thrust will be launched to confuse the enemy in the crucial early stages.

- d. *Fronts of Encirclement.* It is necessary to allocate in advance forces to the inner and outer points of encirclement. Both are usually needed to achieve rapid success. Generally, each arm of encirclement devotes about half of its available forces to each front.
  - (1) THE INNER FRONT completes the encirclement and prevents any breakout. It will probably be aided in this by air-delivered forces which, working in combination with forward detachments and mobile groups, will seal withdrawal routes. It must commence the destruction of the target grouping even before the encirclement is complete, launching splitting attacks into the flanks to divide it into fragments which can be destroyed in detail. Any pause gives the enemy time to go into all-round defence which may greatly slow the completion of his destruction or even win time for relief forces to arrive.
  - (2) THE OUTER FRONT of encirclement presses on into the enemy depth, widening the gap between the encircled and potential relieving forces. Ideally, it destroys enemy operational reserves in meeting engagements, retaining the initiative. If, however, the enemy is too strong, it may have to transition to defence on a favourable line. The outer fronts, too, may be helped by the use of air-delivered forces which block or slow the movement of enemy reserves and seize key features on which, given time, the enemy could establish a new defence line.
- e. *Flank Security* is vital for the strike groupings. This may be achieved either through supporting advances by flanking formations (especially when the defending enemy, being outflanked, is compelled to withdraw) or through the formation of flank detachments which include strong mobile obstacle detachments.
- f. *Command and Control* must be organized with special care, especially in the coordination of splitting attacks and closing the encirclement by the inner fronts and in the coordination of air-delivered and ground forces. Decisions on this rest with the senior headquarters, which corrects lower-level plans as necessary and issues coordinating instructions. Changes will often have to be made during the course of the operation, for instance when the two arms of the pincers are faced with attacks on both inner and outer fronts of encirclement, thus distracting from co-operation between and within the arms. Sectors have to be placed under unified command, often necessitating the resubordination of formations and units. The senior headquarters may even have to amend plans to cope with unexpected developments, eg by shifting axes or emphasis.
- g. *Air Superiority*, at least locally, is an essential. Air cover and support are vital to the rapid progress of both fronts of encirclement and to the insertion

of air-delivered forces. Interdiction will be necessary to delay and disrupt potential relieving forces, and air power will be an important means of destroying the encircled grouping if it tries to withdraw. If the latter succeeds in going into all-round defence, it will be necessary to establish an aerial blockade to prevent its resupply. It should be noted that a counter-air operation can be materially aided by airborne or heliborne, raiding and forward detachments attacking enemy air defences, airfields and forward operating bases.

See Diagram 3-2.

0306. ***Form of Operation.*** Cleaving blows are delivered on at least two axes by strong frontal thrusts that drive right through to the depth of the enemy's deployment. As a result of powerful initial blows on several axes, considerable breaches are made in the enemy's defences and the enemy is split up into isolated, non-cohesive fragments which can then be destroyed in detail. Enemy forces that are outflanked by the break-throughs may stay put, in which case they will be encircled, or they may withdraw and be harassed and destroyed in a combination of frontal and parallel pursuit. Once the enemy starts to withdraw, the width of the zone of advance grows as economy of force formations on hitherto passive sectors transition to the offensive against the enemy pulling out of his prepared positions and falling back. These forces were too weak to attack strong defences, but they are strong enough to conduct a frontal pursuit to slow the enemy while forces from the principal axes execute parallel pursuit to destroy retreating "roving pockets" in flank attacks.
0307. ***Circumstances Favouring Cleaving Blows.*** An offensive on several axes was the favoured form of nuclear offensive when weapons of mass destruction simply eliminated the problem of the breakthrough. It is possible that, in future, there might be enough precision and improved conventional munitions available to achieve the effect of multiple nuclear strikes (without, be it noted, collateral damage to, or contamination of, terrain over which the attacker has to pass). This would increase the attraction of the multi-axis, broad front approach vis-a-vis encirclement, for, in the latter, the concentrated arms of the pincers are vulnerable to precision and massed air and long range artillery strikes from both without and within the projected pocket. Other circumstances favouring cleaving blows are: when strategic and/or operational surprise have caught the enemy mal- or not fully deployed and with a consequent low force density in the forward area, ie, with his centre of gravity to the rear; when the attacker enjoys such an advantageous correlation of forces that he can achieve a decisive superiority on several axes simultaneously; when neither the lay of the land nor the deployment of the enemy favour encirclement (eg, when there is no salient, when attacking from a large bridgehead, when the enemy's strength is distributed evenly along his front with no especially weak sectors); when a linear objective has to be reached on a wide front (eg when a major river has to be forced in several places).

0308. **Advantages of a Cleaving Offensive.** In many ways the most dynamic form of operation, an offensive on a broad front is seen to confer several major advantages.
- a. *Surprise* is often easier to achieve when attacking on a broad front.
  - b. *Maximum Pressure* is exerted on the enemy, leaving him with no passive sectors which he can strip to reinforce the defence on easily identified principal axes or create new reserves.
  - c. *Multiple Threats* vastly complicate the enemy's decision as to where and when he should deploy his operational reserves. This may result in the decision being made too early, with committal on a less threatening axis, or too late, when the offensive has already achieved momentum and width. The enemy is also prevented from manoeuvring forces laterally, across the front.
  - d. *Flexibility.* The attacker has more options for the switching of emphasis from one axis to another in response to the defender's moves.
  - e. *Breaching Subsequent Defence Lines*, especially when based on a formidable obstacle, is best done on a wide front. This complicates the enemy's efforts to restore stability: ie, it becomes not so much a matter of plugging gaps than of stemming a flood.
0309. **The Execution of an Offensive with Cleaving Blows** is illustrated in Diagram 3-3. Success in such an operation would depend on the following factors:
- a. *The Choice of Axes* is vital. The enemy's main grouping, the disruption, destabilization and consequent destruction of which will compromise the entire strategic front, must be correctly identified, together with the axes that will produce such a paralysing dislocation.
  - b. *Speed.* As in encirclement, tempo is all-important. The stability of the defence must be shattered by a quick break-through and the defence must be kept off balance and prevented by a rapid advance from establishing new defence lines in depth. This demands strong strike groupings on the principal axes. An army group will need strong reserves, an exploitation echelon and perhaps a second echelon to maintain a favourable balance of forces in the enemy's depth despite casualties and the need to divert troops to encircle by-passed forces or destroy them in parallel pursuit. Depth defence lines must be forced from the march before they can be adequately defended - a task well suited to air-delivered forces, forward detachments and mobile groups.
  - c. *Surprise* is needed, especially as to the scope and scale of the offensive. Feints should further exacerbate the enemy's already complicated problem of identifying the principal axes.

- d. *Flexibility* is important if the enemy's centre of gravity is to the rear. The senior commander must be able to switch emphasis rapidly from one axis to another in response to enemy counter-moves. This requires strong reserves well-placed to move rapidly onto any axis.
- e. *Troop Control* has to be continuous, flexible and able to react rapidly to changing circumstances.
- f. *The Logistic System* has to have the capacity and flexibility to supply and maintain forces operating to great depth on a wide front.
- g. *Air Superiority* is a sine qua non.

See Diagram 3-3.

### COMBINATION OF ENCIRCLEMENT AND CLEAVING OPERATIONS

0310. ***Combined Forms of Operation*** are likely, in practice, to be more common than pure encirclement or broad-front advances. Elements of both will be seen in any strategic offensive operation. If the enemy's centre of gravity is forward and other circumstances favour it, such an operation may begin with a major encirclement. Once the key enemy grouping is destroyed, or at least neutralized, the advance into the enemy's depth will face only feeble reserves and can therefore be conducted on multiple axes. If, on the other hand, the enemy's weight is on his back foot, the offensive may start on several axes. Some of these may subsequently converge to encircle the forces between them if the enemy transitions to all-round defence instead of offering himself up for destruction through parallel pursuit. An encirclement may also be executed in the operational depth against reserves that are attempting a counter-blow, or which attempt to form an "island of resistance". Diagram 3-4 illustrates an encirclement followed by a broad front advance.

See Diagram 3-4.

## SECTION 2 - OPERATIONAL FORMATION IN THE OFFENSIVE

### GENERAL

0311. ***Operational Formation*** is the term Genforce uses to describe the grouping adopted by a formation for the conduct of an operation. It must: be in accordance with the senior commanders' concept; secure a decisive superiority on the main axis; make possible the rapid reinforcement and manoeuvre of forces in the course of the operation; enable a rapid transition from one form of combat action to another; ensure uninterrupted command and control.
0312. ***Elements***. The operational formation will include most or all of the following elements: one or two attack echelons; an exploitation echelon; a combined arms reserve; special reserves (anti-tank, engineer, etc); groups of missiles,

artillery and air defences, an air element, mobile obstacle detachments; air (and possibly sea) delivered forces; special purpose forces. The following sub-sections will elaborate on each of these at army level.

## **ECHELONS**

0313. **Attack Echelons** are formed to break through the enemy's tactical zone of defence and defeat the enemy's immediate operational reserves. Thereafter, they continue the advance into the enemy's depth. They comprise the main forces of the formation and are **not** expendable.
- a. *The First Echelon* achieves the first, and basic mission of the operation: the breakthrough. The bulk of the formation will be located in the first echelon. Its task is to defeat the enemy's corresponding first echelon (the immediate mission) and develop the offensive into his depth (subsequent mission). If the senior commander's calculations have been done properly, the first echelon should be capable of penetrating to the entire tactical depth of the defence before additional forces have to be committed to maintain momentum.
  - b. *The Second Echelon*, if formed (the practice is far from universal), is tasked with augmenting the efforts of the first. It is formed and receives its mission at the same time as the first echelon. This enables it to do a substantial amount of pre-planning for the various options it will be given and this, in turn, will make possible its rapid and timely committal. Its role is to develop the success achieved by the first echelon on the main axis. Thus, it may: conduct pursuit; breach defence zones in the depth; defeat counter-attack groupings (ideally destroying them in meeting battles through flank and rear attacks); destroy by-passed "islands of resistance" which threaten the development of the operation or unduly restrict deployment and limit the operational flexibility of the higher formation. Only when resistance is unexpectedly effective will the second echelon replace the first. That implies fighting the first echelon to a standstill and then suffering an operational pause - two cardinal crimes in the Genforce military lexicon. Always, the basic principle is to use the second echelon to reinforce the efforts of the first, to use it to exploit success and not to redeem failure. Sometimes, the second echelon will have to undertake radical replanning for committal in an unanticipated sector in pursuance of this principle.
  - c. *The Exploitation Echelon* may have to complete the breakthrough of the tactical zone of defence if time would otherwise be lost. Ideally, however, it is committed through a clear breach. Its role is the conversion of tactical into operational success. (At army group level, an army acting in this role will convert operational into strategic success). By operating in the enemy's depth, usually ahead of and physically separated from the main forces, the exploitation echelon, working in close cooperation with air-delivered forces, crumbles the defence from within. By attacking the command and control, long range weapons and logistical support of the enemy's first ech-

elon and by engaging the operational reserves and seizing depth defence lines before they can be occupied, they help to precipitate the collapse of the defence and accelerate the advance of the main forces. Thus, if conditions are favourable to an early insertion, the exploitation force may, through its actions, make the deployment of a second echelon superfluous. Its role is quite distinct from that of the second echelon, as Table 1 illustrates, and requires a higher level of mobility, flexibility and combat power.

**TABLE 3-1: COMPARISON OF THE ROLES OF SECOND AND EXPLOITATION ECHELONS.**

Tasks of Second Echelon	Tasks of Exploitation Echelon
<ol style="list-style-type: none"> <li>1. Build up pressure on the main axis and break through depth zones.</li> <li>2. Widen the breakthrough sector or bridgehead.</li> <li>3. Repel counter-attacks and provide flank protection for further advance.</li> <li>4. Strengthen the inner front of encirclement and destroy the encircled grouping with flank and rear attacks.</li> <li>5. Replace exhausted first echelon formations where necessary.</li> </ol>	<ol style="list-style-type: none"> <li>1. Drive deeply, rapidly into enemy rear, destroying/disrupting enemy high value weapons, command and control and logistic support in raids.</li> <li>2. Parallel pursuit and destruction of withdrawing enemy groupings.</li> <li>3. Create the inner front of encirclement or act as the outer front, destroying enemy reserves moving forward in meeting engagements.</li> <li>4. Seize defence lines in the enemy depth before they can be defended.</li> <li>5. Seize key political, economic or military objectives.</li> </ol>

## RESERVES

0314. **Roles.** Reserves do not receive definite missions when the operation is planned. They are used: to increase the offensive effort; to reinforce or replace elements of the first echelon; to undertake unforeseen missions that arise suddenly in the course of the operation. Thus, unlike a second echelon, reserves cannot be pre-tasked. They may be of four types.

- a. *Combined Arms Reserve.* If there is a second echelon, a combined arms reserve may not be formed: if it is, then it is likely to be very small (eg, a regiment at army level). If the operation is likely to develop in a highly fluid, unpredictable fashion, a combined arms reserve may be formed **instead** of a second echelon. Such a reserve may be the same size as a second echelon could have been, or even larger, but it differs from the latter in not being pre-tasked as its precise mission is essentially unforeseeable.



- b. *Anti-Tank Reserves (ATR)*. Working in conjunction with mobile obstacle detachments, these are automatically formed by all formations to repel counter-attacks and/or provide flank security. They are based on anti-tank units but may be reinforced by tank or motor-rifle elements as appropriate. ATRs play an important role in the fluid, manoeuvre battles and engagements anticipated by Genforce. They provide an economy of force grouping that can deal with developing armoured threats without having to weaken an attack echelon and thereby compromise its viability.
- c. *Mobile Obstacle Detachments (MOD)* are engineer groupings with rapid minelaying, ditching and other obstacle creating capabilities. An MOD usually supports an ATR, though it may also help to prepare positions for a transition to defence. The efforts of the MOD may well be supplemented or replaced by remote mining.
- d. *Special reserves* are often formed from engineer, chemical defence, medical or other rear services. These are used to reinforce efforts on the main axis and/or cope with unforeseen problems.

## **ARTILLERY AND AIR DEFENCE**

0315. ***Flexible Deployment.*** In highly mobile, fluid operations, most combat support elements will be decentralised to divisions, though army will retain control of missiles and some long range artillery to conduct deep fire missions. For a breakthrough, by contrast, an army artillery group (AAG), and often an army group of rocket artillery (AGRA) are formed from organic assets and reinforcements from army group. This ensures the concentration of fire on the main sector and the rapid manoeuvre of massed fires in support of the breakthrough and committal of second or exploitation echelons. Similarly, strong air defence groups are formed to protect the concentration needed for a breakthrough, but in subsequent, mobile operations, elements will be hived off to reinforce divisions on key axes.

## **AIR-DELIVERED FORCES**

0316. ***The Army Air Assault Battalion*** is usually inserted into the operational-tactical depth to conduct deep battle in conjunction with tactical manoeuvre elements (ie, forward and raiding detachments). Their role is to help convert tactical into operational success by: seizing vital ground (eg, cross roads, defiles, obstacle crossings) in advance of manoeuvre elements to ensure momentum is not lost; raiding against high value targets; delaying and disrupting enemy attempts to withdraw or reinforce the battle against either the main forces or exploitation elements.
0317. ***MR Units in the Heliborne Role.*** Anticipating an increased requirement for heliborne assaults in the operational-tactical depth during the later stages of a breakthrough or, more likely, during fluid operations, army may extract an MR battalion from its parent regiment (usually of the second echelon) to be held as an additional, albeit less capable, army air assault asset.

0318. **Army Group Air Assault** or even airborne units could be deployed in the operational depth of the army's zone of advance and this will obviously affect army planning and require detailed coordination.
0319. **Special Purposes Forces (SPF)** will not always be air-delivered. For the purposes of speed, however, that will be the normal method of insertion (save for those covertly deployed before the outbreak of hostilities). Both organic army SPF and those from army group operating in the army's area will be primarily concerned with deep reconnaissance and target acquisition. They may be used to vector air attacks or even, in the case of army group troops, conduct sabotage missions.

### **ARMY AVIATION**

0320. **Organic Helicopters** and any reinforcing ground attack aviation are normally held under centralised control. In fluid operations, however, the attack helicopters may be used to augment the combat power of divisions on the main axis. Transport helicopters will remain at army level, to be farmed out for specific missions in support of divisions on the decision of the army commander.

### **THE COMMANDER'S DECISION ON OPERATIONAL FORMATION**

0321. **Factors.** Along with the selection of the main and supporting axes, the commander's decision on the operational configuration of his army is the most important element in his decision. It must ensure a rapid penetration of the tactical zone of defence and an early shift in the focus of combat action into the enemy's operational depth. The factors influencing the decision will be:
- a. The aim of and plan for the operation.
  - b. The strength, depth, density and degree of preparedness of enemy defences and operational reserves.
  - c. The resources available.
  - d. The nature of the terrain in the zone of advance.
0322. **Configuration Against a Prepared Defence.** A first class enemy division deployed on a 30 km frontage to a depth of about 50 km will have 15-20 major anti-tank systems per km of front: this is a highly efficient density and depth. If such defences are well prepared and balanced by a strong operational reserve, Genforce foresees the need for a deeply echeloned attack. Both army group and first echelon armies will deploy in two echelons, and while army group will always have an exploitation force, army may have only a strong second echelon. Moreover, tactical formation (ie, division level, and below), even down to battalion, will also, for the most part, be in two echelons: the only exception will be elements deployed on passive sectors or possibly on the axes of secondary, supporting or holding attacks where objectives will be shal-

lower. The army will only attempt to breakthrough on one, narrow sector (often shoulder to shoulder with a neighbouring army). It will be difficult to break through rapidly and generate a high tempo of operations through the early committal of an exploitation force for the stability of the defence will be difficult to shake through frontal blows. Moreover, operational-tactical air-delivered forces will be difficult to deploy early in the face of a prepared air defence system and strong, ready reserves. Operational manoeuvre will only be generated after a prolonged attritional struggle and the defeat of the enemy will, perforce, have to be sequential rather than simultaneously throughout his depth. Diagram 3-5 illustrates the operational formation of an army for a breakthrough operation.

0323. **Configuration Against Partially Prepared Defence.** It is far easier to crack a partially prepared defence, where strong covering forces are deployed when the blow falls but the main defensive area is not even fully manned, far less prepared, and whose operational reserves are not fully deployed. The concern here is to maximise the rewards of surprise by delivering the strongest possible blow before the enemy's parry is prepared. Having caught the enemy off balance, it is essential to keep him in a purely reactive posture and prevent him from creating a stable defence, even in the operational depth. A army group is likely to utilize all available axes (including difficult terrain) and to attack in a single echelon with a strong exploitation echelon and a relatively weak combined arms reserve (perhaps 2-3 divisions). Armies will also attack on a broader front, deploying in one echelon with an exploitation force (though a second echelon might be formed if there is insufficient room to deploy all its constituent divisions in one echelon). The AAG and AGRA may be smaller, with more assets being decentralised to main axis divisions. For ease of control, to maintain momentum, and perhaps because room to deploy is limited, tactical formation is likely to be in two echelons but there will be extensive use of forward detachments from the outset. In such a situation, the insertion of the exploitation echelon should be relatively easy and therefore rapid: an army should be able to commit its one on the first day, and army group between the first and third. Moreover, the deployment of air delivered forces should pose fewer problems and the delay before link up by tactical and operational manoeuvre elements should be short: survivability, in other words, will be less of a problem. With a combination of air interdiction, airborne and heliborne assaults and the deployment of mobile groups at all levels, the principle of simultaneous action throughout the enemy's depth can be acted on effectively. Diagram 3-6 illustrates an army's operational formation against a partially prepared defence.

0324. **Configuration Against Unprepared Defence.** An unprepared enemy, with weak covering forces, no preparation of the main defensive area and few ready operational reserves represents the ideal target. It is desirable to maximise the fire and shock action brought to bear at the outset so that the weight of the blow is sufficient to overwhelm the defence across virtually its entire frontage and generate operational manoeuvre on all axes simultaneously. Thus, both at army group and army level, deployment will probably be in a single echelon

with relatively small reserves and artillery decentralised to the divisions. The defence being very weak and the possibility of initiating deep battle and operations from the start being very good, more numerous air delivered forces may be used more freely and exploitation echelons may lead the attack at all levels, including army. Operational formation against an unprepared enemy is shown in Diagram 3-7

See Diagrams 3-5, 3-6, 3-7.

## SECTION 3 - ARMY OFFENSIVE OPERATIONS

### TASKS AND MISSIONS

0325. ***The Army's Role in the army group Concept.*** An army's mission will depend upon its place in the army group concept of operations; ie, whether it is acting in the first echelon (and then, whether on the main or a subsidiary axis), in the second echelon or as an exploitation force (ie, as an operational mobile group -OMG). This factor will also determine the army's composition, that is to say, the number of divisions and the degree of support allocated to it by army group. Generally speaking, combined arms armies are used to conduct breakthroughs, to act on secondary sectors (offensively or defensively), to operate in difficult terrain or to form second echelons or reserves. Tank armies usually fill the more specialised role of operational-strategic exploitation, manoeuvre forces. They are almost always found on the main axis, acting in the first echelon against weak defences or as an OMG or reserve/second echelon against a stronger enemy.
0326. ***Tasks.*** The army's operation will involve some or all of the following aims: the destruction of an enemy grouping; the seizure of political or economic centres or of vital ground to create favourable conditions for subsequent operations; consolidation on achieved objectives if specifically ordered by army group - generally "objectives" are more like phase lines and armies do not halt on them except on specific circumstances (ie, transition to defence on a army group final objective, when faced with a superior enemy force, when the army group switches the focus of its offensive effort elsewhere, or when combat power is exhausted).
0327. ***Criteria for Success.*** Three indicators are used to assess the success of an operation: the degree of destruction inflicted on the enemy; the depth of penetration achieved; and the degree to which the fighting power of the army is preserved, at least on the main axis. The degree of destruction to be imposed on the enemy is said to be at least 50% of his initial strength and the ruination of his command and control system, for these together will render the enemy combat ineffective. The degree of penetration demanded will vary according to relative strengths, terrain and other factors. The third indicator is relative. The ability of the attacker to maintain the offensive is a function of the loss rates of both sides. If the defender has lost not less than 50% and the attacker not more than 40%, momentum can be maintained: losses even greater than

40% can be accepted if a slight superiority in numbers remains and the enemy's morale has lost its firmness. The operation is considered a success if all three criteria are met, partially if only the second is achieved and not at all if the depth of penetration is inadequate.

0328. **Missions.** Army missions will, of course vary according to their place in the army group's operational formation.

a. *First Echelon Armies* constitute the bulk of army group forces and their success is essential if the army group aim is to be achieved. If they do not accomplish a breakthrough, exploitation forces will be unable to conduct deep operations and there will probably be insufficient combat power residing in them and the second echelon to carry the offensive through to the army group's subsequent objective. Moreover, Genforce fears that, particularly if the operation develops slowly, enemy interdiction may prevent the timely committal of the second echelon in battleworthy condition. The first echelon is therefore required to reach at least the immediate objective of the army group without reinforcement. It should be able to continue its advance beyond this point. That, however, means that each army will be expected to conduct two successive operations with little or no pause between them. Of course, if the depth of the army group operation is very shallow and the enemy lacks strong reserves, a single army operation will be enough to achieve the army group goal.

(1) THE IMMEDIATE MISSION (ie, the first offensive operation) must destroy the main forces of the opposing grouping and immediate operational reserves and seize lines or areas which will upset the stability of the defence, thus creating favourable conditions for the continuation of the offensive.

(2) THE SUBSEQUENT MISSION will be the completion of the destruction of the enemy, the defeat of operational reserves and the seizure of the area designated as the army group immediate objective.

b. *Second Echelon or Reserve Armies* will usually execute only one offensive operation, reinforcing the first echelon in order to carry the army group operation forward from its immediate to its subsequent objective if the first echelon is beginning to flag or the enemy deploys larger than expected reserves. Other tasks which may be given to a second echelon army include: widening the breakthrough sector through flank and rear attacks; destruction of encircled or by-passed groupings; pursuit. A second echelon army may still be moving up when the offensive is launched. If not committed on arrival, it may be held anywhere between 50 and 120 km (ie, a comfortable night's march, depending on road conditions) from the line of contact.

c. *Army Acting as an Exploitation Echelon.* When acting as a army group OMG, an army may conduct one operation, or more probably two succes-

sive ones with little or no pause between them. The task of the OMG is to destroy the cohesion and stability of the defence at the operational level through actions within the enemy depth. In this way, it will ease the progress of the main forces which are engaging the bulk of the enemy's combat power. It is vital, therefore, that committal takes place as early as possible. If not actually leading the advance from the start, as it will against a weak and unprepared enemy, an OMG will be held well forward, probably only 30-50 km from the line of contact to ensure rapid committal in exploitation of the breakthrough. Ideally, it will be committed on the first day, and certainly by the third if it is to achieve its purpose. The OMG will operate 50-60 km or more ahead of the main forces: its activities will be elaborated on in Section 4.

- d. *Mission Changes.* While army group missions are generally immutable, those of armies may be changed as a result of an alteration in the army group concept of operations, shifting emphasis from one axis to another. Factors which lead to such a change include: unexpectedly successful resistance on one sector or another, resulting in a lowering or even loss of combat power due to heavy casualties; the enemy's committal of operational reserves; the reducing capacity of army group to reinforce, support and supply its armies.

## SCOPE OF ARMY OFFENSIVE OPERATIONS

0329. ***The dimensions of an Army's Offensive*** will vary according to the relative strengths of the sides, the terrain and the mission. The following generalizations are thus guidelines only:

- a. *Width.* The sector of responsibility of a main axis army of 5-6 divisions is likely to be 60-80 km in "normal" conditions. On secondary sectors, or sectors where the enemy's force density is inadequate to create an effective defence, the frontage may grow to 100 km or so. The effect of force reductions will be a widening of sectors of responsibility. Where breakthrough battles continue to be necessary, however, penetration sectors are likely to remain much the same, as little as 10-12 km for 2 divisions. The determining factor is the need to concentrate the superiority required to ensure success. An overall superiority of 1.5:1 is adequate, but that must be translated into 3-4:1 (and usually rather more in artillery) on the main axis. That, in turn, allows the creation of 5-6:1 or greater superiorities on key tactical sectors.
- b. *Depth.* The depth of a first echelon army's immediate mission will normally be about 100-150 km (ie, the depth of a defending corps). Against a strong, well prepared defence, however, it could shrink to 80-100 km. The subsequent mission of such an army will vary from 150 to 350 km from the original line of contact, depending on the enemy resistance, the strength of depth positions and the enemy's use of reserves.

- c. *Rates of Advance and Duration.* The rate of advance in “normal” terrain is largely a function of the relative strengths of the opposing forces. Diagram 3-8 illustrates this relationship graphically. Usually, Genforce plans on achieving an **average** rate of advance of 40-60 km per day in “normal” terrain and 30-50 in low mountainous or other difficult going. Thus, for instance, in planning an operation extending to a depth of, say 350 km over average going, an army staff would calculate on requiring 6-9 days.

See Diagram 3-8.

0330. ***Calculating Rates of Advance.*** Despite the problem of establishing definitive norms, empirical evidence shows a correlation between the rate of advance (R, in km per day) and the coefficient of the influence of the correlation of forces (Ci), using the formula  $R = 140 \times C_i$ . (The quantity 140 represents the maximum possible speed of advance in “normal” terrain). Using the formula and the nomogram in Diagram 3-8, it is possible to evaluate approximately the necessary correlation of forces to achieve a planned rate of advance, or to determine the likely rate of advance with a given correlation, eg:
- An average rate of advance of 40 km per day is required on a strike grouping’s sector. The necessary superiority is found as follows:  $C_i = R/140$ , or  $C_i = 40/140 = 0.29$ . The quantity 0.29 is entered on the nomogram and it follows that a correlation of 3.4:1 is necessary on strike grouping’s sector.
  - On a strike grouping’s sector, a 2.5:1 superiority has been created. Its rate of advance will be determined as follows: from the nomogram, it is clear that  $C_i = 0.13$  corresponds to a superiority of 2.5. According to formula  $R = 140 \times 0.13$ , 18.2 km per day will be the average rate of advance.

### CONCEPT FOR THE OPERATION

0331. ***The Commander’s Decision*** depends first and foremost on a clear understanding of the army group plan and the missions of the other elements of the army group. Having established the context of his army’s actions, the commander will make his assessment and arrive at a decision. His decision, in turn, will include his concept of operations for the guidance of his subordinates. Various types of operational breakthrough and their relationship to other aspects of the army group plan are shown in Diagram 3-9.

See Diagram 3-9.

0332. ***The Concept of Operations*** includes the following basic elements.
- The Enemy.* The main grouping of the enemy, his strength and weaknesses and likely intentions are identified, as is the consequent form of his destruction and therefore where obstacles will have to be overcome and battles fought.

- b. *Axes.* The number of axes on which attacks are mounted is determined largely by the requirement for the establishment of a decisive superiority on specified directions. Sometimes an army will mount attacks on two or even three axes during the initial offensive operation. The entire direction of the main thrust will be specified at least to the depth of the immediate mission and often to the depth of the operation. The axes of other attacks will be determined by the need to support the main blow (including through feint thrusts).
- c. *Operational Formation* will be determined by the mission requirements (eg, the prescribed form of the operation and its depth), by the requirement to establish strike groupings strong enough not only to achieve penetration but thereafter to maintain momentum, and by the terrain.

0333. ***Forms of Army Offensive Operations.*** There are basically four forms of operation, though of course elements of them may be combined.

- a. *The Single Thrust* is most common when the enemy defence is strong, well prepared and deeply echeloned. In these circumstances, as is portrayed in Diagram 3-10, most of the army's strength has to be concentrated on a narrow sector to achieve a breakthrough, widen the penetration sector to permit the insertion of operational manoeuvre forces and still retain enough strength to carry the offensive through to the depth specified by army group.
- b. *Encirclement.* An army is, of course, too small to execute an encirclement of operational scale by itself. There may, however, be the occasional opportunity, particularly when launching a counter-blow, to eliminate a badly balanced enemy grouping. Diagram 3-11 illustrates the encirclement of an enemy strike grouping that has failed to break through but has, instead, created a vulnerable salient.
- c. *A Blow from One Flank.* A variation on the theme of encirclement, depicted in Diagram 3-11, is the crushing of the enemy against an obstacle, there to destroy him. In coastal operations, where the obstacle is the sea, annihilation will be complete. If the obstacle is a major river or canal or a mountain ridge, crossings have to be seized or denied by destruction and remote mining. If such interdiction is successful, groups of men will be able to exfiltrate, but at the price of abandoning all their heavy equipment: effectively, the force will be destroyed. The concentrated blow from one flank is also used to encircle a much larger enemy grouping in cooperation with the forces of another army, or to turn the position of the main enemy grouping so that it can be destroyed in flank and rear attacks
- d. *Offensive on Several Axes.* Two or more rupturing blows may be delivered to achieve the disintegration of the enemy grouping, splitting it up into isolated pockets. Illustrated in Diagram 3-13, this sort of operation can only be undertaken when the enemy's defence is hasty, overextended, lacking in depth and deficient a strong reserve.



See Diagrams 3-10, 3-11, 3-12, 3-13.

0334. **Missions and Scope of actions of Subordinate Elements.** Missions are assigned in accordance with the army concept of operations:

a. *First Echelon Divisions.* The scope of a division's actions will vary widely according to its role and the strength of the enemy:

(1) **FRONTAGES AND TACTICAL FORMATION.** A conventional breakthrough battle against strong, deeply-echeloned and well-prepared defences is normally conducted on a mere 4-6 km front to ensure the requisite superiority ratios, and it is even possible that the division's zone of advance and penetration sector will coincide on the army's main axis. Such narrow frontages reflect an attack organized in great depth, with up to half the division acting in the second echelon and with regiments and even the leading battalions forming second echelons. For the breakthrough, strong artillery groups will be formed, with RAGs of 3 or even 4 battalions and a DAG and AGRA of 4-6 or even more between them. In attacks on a less strong and well prepared enemy, the zone of advance of a division will extend to 15 and 20 km, or even more when the division is operating in the enemy's depth.

(2) **MISSIONS.** In a breakthrough, a leading regiment will be expected, as its immediate task, to destroy a first echelon defending battalion, a depth of about 8 km: its subsequent mission will be to destroy the reserves of a forward brigade and penetrate to the depth of the division's immediate objective. A division's immediate mission is the destruction of a forward brigade, the seizure of the position defended by the brigade reserve and penetration to the fire support positions of direct support artillery: the depth of the task will be 20-25 km. The destruction of the enemy's first echelon brigades and attacks on the gun lines will disrupt the fire system and mutually supporting defences created by the opposition and thus create favourable conditions for the destruction of the rest of his forward division. The subsequent mission is the destruction of the enemy divisional reserve, the completion of the breakthrough of the first zone of the defence and the capture of favourable terrain from which exploitation can be conducted to the flanks and in depth: this objective will be 25-30 km deep. The division may also be assigned a mission of the day, 40-60 km from the line of going over to the attack, which will probably be the destruction, in cooperation with adjacent formations, of enemy corps reserves. Another mission assigned by or to the divisional commander will be the dispatch of one or possibly two forward detachments as soon as the stability of the defence is disrupted, ie, usually at a depth of 16-20 km: these tactical manoeuvre forces, usually composed of a reinforced battalion, will attempt to infiltrate into the enemy rear, off the main axis, and seek to seize dominating ground or obstacle crossings in depth or forestall the actions of enemy tactical reserves. Finally, the division will be required

to ensure the trouble-free deployment and committal of the army OMG or second echelon: to accomplish this task divisional engineers and air defence will prepare and protect routes, one or two reinforced regiments will launch a supporting attack, and the DAG will fire missions against forces opposing the OMG/second echelon. In attacks on unprepared or hastily prepared defences, when the breakthrough will be less of a problem, a divisional immediate mission may be the destruction of both a forward and (in conjunction with other forces) a reserve brigade: the subsequent mission would be to penetrate to the full depth of a defending division, and the mission of the day could be 60 km deep.

- b. *Second Echelons and Army OMGs.* An army may form either a second echelon or OMG, or even both in some circumstances: the issue is dealt with in Section 2, as are the possible exploitation missions assigned to each. Such divisions are held in concentration areas 50-120 km to the rear while the breakthrough is being achieved. As the opportunity or requirement for committal approaches (ie, for an OMG or a second echelon), the division moves closer to the line of contact, following the leading divisions at a distance of 50-60 km until committed (which process should take up to four hours only). It is possible that its divisional artillery may be temporarily detached to augment artillery support for the breakthrough. They are given two, just possibly three, alternative lines of committal and routes to them. Ideally, committal will follow a clean breach in the defence and will be at night on a sector 12-20 km wide, on three routes to generate maximum combat power on going into the attack. They may well be augmented by elements of the first echelon and/or the AAG or AGRA as they are committed, and maximum air and artillery support will accompany committal. Often, however, such forces may have to attack on narrower frontages, as little as 5 km, and complete the breakthrough as well. Diagram 3-14 illustrates a preferred mode of committal, on a 15 km front through a gap in the deployment of the first echelon. As the progress of the operation in the enemy's depth cannot be predicted with certainty in any detail, second echelons are assigned only an immediate mission and a subsequent axis of advance. Once a second echelon is committed, it is considered essential to establish a reserve, either by withdrawing other forces from combat or through reinforcement from front.
- c. *Army Artillery Group.* A strong AAG will be formed to support a breakthrough - 8 battalions or even more. The bulk of the AAG will be long range guns though some howitzers may be assigned, eg, from a second echelon division: it is also possible that an army will form two groups, one comprising tube, and the other rocket, artillery (AGRA). Its most important task is, together with fixed wing air, the suppression of enemy precision weapons and artillery. It will also manoeuvre concentrated fire to support the attacks of both first and second echelons/OMG and engage enemy reserves.

- d. *Attack Helicopter Regiments.* The more modern attack helicopters may be used for missions over the line of contact, to attack enemy gun lines and reserves, especially as they are trying to deploy. This, of course, will only be done when preceded by air defence suppression (for instance, when operating in an air corridor). They also give close air support to units fighting through the enemy defences, in which case their support is seen to be of considerable importance in the transition from the artillery preparation to support phases and in the accompaniment phase. They are, however, considered most useful in the fluid conditions of pursuit, engaging targets beyond effective artillery range or when artillery support is falling off because of the gunners' need to relocate more frequently. Their actions are closely coordinated with those of the artillery, air defence and fixed wing aviation. The transport helicopters, possibly with additional heavy lift reinforcement from army group, and with strong artillery and air support to suppress enemy air defenders, will be used to insert the army air assault battalion and possibly heliborne MR troops.
  
- e. *Air Desant Forces.* The organic air assault battalion may be augmented by motor rifle troops, and/or motor rifle battalions may be pressed into the heliborne role (particularly for shallow missions). The less well prepared the defence and the less dense and well organized its air defence, the more scope there is seen to be for air assault. Heliborne landings can be used to conduct company to battalion-sized raids against vulnerable, high priority targets such as precision weapons, HQs, key logistic assets. They will commonly be used to seize defiles, obstacle crossings and prepared but as yet unoccupied counter-penetration positions in the enemy's depth. In this way, they will help in the conversion of tactical into operational success and the generation of operational momentum by blocking the moves of enemy reserves or the withdrawal or redeployment of forces, and by taking positions on which the enemy could fight delaying actions. Heliborne assaults, launched up to 50 km or so into the enemy rear in the case of specialized troops, will expect early reinforcement from forward detachments.
  
- f. *Reserves.* The subject is fully covered in Section 4. It is, however, worth reiterating the importance of the combined arms and anti-tank reserves in augmenting the first echelon so that the second does not have to be committed prematurely, and in providing strong defence against counter attacks (strokes) so that elements of the main forces are not diverted from their mission.

#### **SECTION 4 - CONDUCT OF ARMY OFFENSIVE OPERATIONS**

0335. *Initiating the Offensive.* Ideally, an attack will be mounted from the march, from concentration areas out of contact. In this case, leading divisions will have their final assembly areas 20-40 km from the enemy forward line (or international border), with covering forces deployed 1-5 km from the enemy (border). They are thus out of range of pre-emptive artillery strikes, but still

only 1½-3 hours night march from the line of going over to the attack. Where the enemy has succeeded in deploying a covering force, this will be destroyed by battalion to regimental sized forward detachments of the first echelon divisions with strong artillery and air support. The main bodies of divisions will follow the forward detachments in tactical march or pre-battle formation, aiming to attack the enemy FEBA hard on the heels of the retreating covering force and gain a lodgement. If, however, enemy resistance in the security zone is very strong, it may be necessary for first echelon regiments, even divisions, to be committed. It is considered important to ensure that the development of the actions of units penetrating the covering force must develop in such a way that they can be integrated into appropriate groupings once they come into contact with the enemy main defended area. There are circumstances in which an attack may have to be launched from a position of close contact, ie, when an army resumes an offensive that has been checked or when it transitions to the attack after conducting a successful defensive engagement. In the latter case, the timing is seen to be of great importance. The army should go over to the offensive only when the enemy has taken such heavy losses that he has lost his capability to continue his attack, but before such time as he has regrouped or reorganized to meet the counter-blow.

0335. ***Destroying a Defending Enemy.*** Breaking through a well-defended position is seen to be a very difficult task requiring detailed preparation and great concentration. Success depends on the following:

- a. *Penetration Areas* have to be carefully selected to lead to both the achievement of geographical objectives and the destruction of the main enemy grouping. Ideally, weak enemy groupings should be penetrated to get to the strong from the flank or rear. Other vulnerabilities that can be exploited are inter-formation boundaries (especially when these are inter-national as well) and difficult terrain that the enemy has defended but lightly because of its unsuitability for offensive action.
- b. *Detailed Reconnaissance* of both terrain and the enemy is essential if accurate calculations about required force levels and densities are to be made and reliable suppression of the defence is to be achieved. Previously, it was thought to be sufficient to locate 60-65% of targets: today, reconnaissance is required to reveal 75-80%, and up to 100% in the case of particularly vital systems.
- c. *The Estimate of Forces Required* to break through must be correct and staff work must be meticulous to concentrate those dispersed groupings rapidly to attack from the march. The formula used by Genforce to calculate the required size of shock groupings and the width of the breakthrough sector is given in Annex A to this chapter.
- d. *Sufficient Neutralization* of the enemy on the penetration sector and to its immediate flanks is crucial. Suppression, ie, the destruction of up to 30% of all enemy personnel and weaponry in the target area, is the norm usually

required. It will, for instance, reduce the density of major enemy anti-tank weapons from 15 per km, which will stop even the densest armoured attack with about two thirds casualties, to about 10 per km, which will reduce casualties to around 25% and thus give the attack a fair chance of success. This, however, involves the concentration of large quantities of artillery: eg, an army breakthrough on a 12 km sector will require 95-110 guns, multiple rocket launchers and mortars per km (the number varying according to the strength of the opposition). Such phenomenal masses of artillery consume equally phenomenal quantities of ammunition when tasked with inflicting such a level of casualties. Thus, a 12 km sector might be defended by two reinforced battalions in the first echelon. To achieve suppression of these, and their supporting artillery, some 31,500 rounds will be necessary (and considerably more if reconnaissance has failed to reveal most of the targets). The problems of movement, coordination and logistic support involved are self evident. While they are not insuperable in overcoming the first echelon of a prepared defence, the same may not be true if a further breakthrough battle has to be fought at the back end of the enemy tactical zone of defence, ie, 40-60 km from the FEBA. To move both tank and motor rifle elements and their supporting artillery and the ammunition required through possibly narrow penetration corridors, over battle-damaged terrain, and in face of enemy interdiction may well overtax the system.

- e. *Neutralization of Enemy Tactical Reserves and CPs* must be accomplished by artillery, air attacks and forward, raiding and heliborne detachments if the stability of the defence is to be destroyed and early momentum gained. The problems of locating and then effectively dealing with such targets in a dense and deep defensive deployment are considerable.
- f. *Rapid Penetration* by the first echelon is essential to destroy the cohesion of the defence and generate operational manoeuvre from an early stage. Otherwise, the battle degenerates into one of attrition and precious time is lost. This, in turn, depends on the continuity of fire support and the timely reinforcement of efforts by second echelons (reserves) at all levels. These are thorny problems on a congested battlefield.

0337. ***Developing the Offensive.*** For strategic goals to be achieved in good time, it is necessary from the earliest moment to develop deep battle, using forward, raiding and heliborne detachments, and then, as a result of successful tactical manoeuvre, to conduct deep operations with OMGs working in concert with air and airborne assault forces. Diagram 3-14 illustrates the committal of an army's second echelon or OMG and Diagram 3-15 portrays the desired development of an army operation as a whole. There will be five major problems in executing operations in the enemy depth, these being dealt with in the following paragraphs.

See Diagrams 3-14 and 3-15.

0338. ***Destroying Enemy Reserves and Repelling Counter-Blows.*** Enemy reserves will be used wherever possible to deliver counter-attacks (strokes). In less favourable conditions, they will be employed to reinforce the defending first echelon on critical axes or to occupy intermediate lines of defence. The counter-blow poses the most difficult problem as it represents an enemy effort to regain the initiative. Approaching enemy reserves should be delayed, disrupted and damaged by air attacks and then by long range artillery. First echelon forces, or perhaps an OMG, should then destroy them in meeting engagements if force ratios will allow, or they should be blocked by strong anti-tank reserves and flank detachments. If, however, the enemy enjoys too great a superiority and/or is the victor in a meeting engagement, it will be necessary to transition to the defence. In that case, it may be necessary to switch the axis of main effort, for nothing must be allowed to prevent deep penetration. The second echelon, or elements of it, may be committed to destroy the enemy counter-blow and resume the offensive.
0339. ***Pursuit.*** Pursuit is seen, and taught, as a separate and decisive phase of war. Given that 60-80% of the duration of an offensive may well be spent in pursuit, this seems sensible. The purpose of an offensive is not merely to drive the enemy back but to destroy him so that he cannot reinforce, reorganize and continue the struggle. Encirclement and pursuit are the two basic methods of completing the elimination of a grouping. There are three basic elements in pursuit, illustrated in Diagram 3-16. Frontal pursuit is conducted vigorously by a portion of the army to prevent the enemy from disengaging and to slow him down by forcing him to deploy not just rearguards but elements of the main body. The attacker's main body will conduct parallel pursuit, moving on routes parallel to the withdrawing columns with the aim of overtaking them and of delivering flank attacks to split the enemy force into isolated groupings for destruction in detail. Meanwhile, blocking forces of forward detachments, heliborne and even airborne forces are sent ahead to seize defiles and/or obstacle crossings which the enemy needs to escape or over which enemy reinforcements may arrive. Strong flank detachments and/or anti-tank reserves may also be necessary to prevent the disruption of the pursuit by approaching enemy forces, eg, from sectors which are quiet or on which less success has been achieved. Pursuit is centrally organized, but its execution is decentralized (as are resources, such as artillery). It should be planned for in advance, for precious time, of incalculable advantage to the enemy, will be lost if there has not been prior identification of routes for withdrawal and the advance; an outline plan for combat organization and the scheme of manoeuvre will be issued and the formation ahead of time of forward and heliborne detachments will be set in train. Reconnaissance, and for that matter, counter-reconnaissance efforts have to be intensified for a pursuit to be successful. The early detection of a withdrawal, difficult if it is deliberate rather than forced, is important, both to avoid the enemy stealing a march (literally) and to escape the danger of precision attack, for which withdrawal may be a precursor: warning indicators are looked for, such as the rearward shift of logistic elements, the preparation of obstacles and demolitions in depth, the overall diminution of fire across the front (but with local intensification), and the preparation of local counter-at-

tacks. Commanders at all levels are required to initiate pursuit immediately on detecting an attempt to withdraw, informing higher headquarters as they do so: it is an occasion when the exercise of initiative without awaiting orders is mandatory. A pursuit is continued until the enemy is destroyed, or until terminated by the higher commander because the pursuing forces or logistic resources have become overstretched, or because the correlation of forces has changed for the worse as the result of the arrival of enemy reserves. A pursuit will often end with the seizure of an operational scale bridgehead over a major obstacle.

See Diagram 3-16.

0340. **River Crossings.** Europe is criss-crossed with rivers and canals. Six-20 m wide streams are found every 20 km, a river up to 100 m wide every 35-60 km, one 100-300 m in width every 100-150 km and a major obstacle over 300 m wide every 250-300 km. The enemy will certainly use these to try to stabilize the situation, or at least to impose delay: historically, one third of the time spent in operations by tank armies was used up in forcing water obstacles. It is thus seen as very important, whenever possible, to pre-empt the establishment of defence along a river line through the use of heliborne or forward detachments at the tactical level and airborne units and OMGs at the operational. Following hard on the heels of a retreating enemy, the main forces will endeavour to crush the enemy against the obstacle, destroy him on the home bank and thus cross the river unopposed. Should an opposed crossing be seen to be inevitable, the decision for it must be made well in advance: combat missions are issued at least 1-2 days in advance of leading divisions reaching the obstacle so that combat groupings, engineer and air support, air and heliborne assaults and deception measures can be organized ahead of time. This is essential if the necessary speed and surprise are to be achieved and crossings are to be made from the march. Generally, a river line will be forced on a broad front, as this reduces the danger of vulnerable concentrations and traffic jams and so complicates the intelligence picture for the defender in the crucial early stages that he is unable to deploy his firepower and reserves to best advantage. Thus, all leading divisions will attempt to cross with at least two regiments, and each of those will, in turn, attempt a crossing at two points. As soon as tactical footholds are seized, efforts will be made to link them up and deepen them into an operational-sized bridgehead. Ideally, formations will not pause to consolidate bridgeheads: rapid, onward progress is always of paramount importance. The enemy, however, will often put up a determined fight for river lines, and heavy counter-attacks may often force formations onto the defensive to hold the favourable line gained for exploitation by subsequent echelons.

0341. **Operations at Night or in Adverse Weather.** Operations have to be continued round the clock to deny the enemy any breathing space and prevent his consolidation on new lines or the restoration of the defence. In practice, of course, combat in conditions of limited visibility is fraught with problems, and Genforce soldiers too need rest and time for equipment maintenance and resupply. Complex manoeuvres will have to be avoided. Divisions and units will take turns to attack and to rest. Most offensive action will be restricted to

exploiting gaps and weak spots where the enemy is in disarray, to seizing limited objectives which provide a favourable line for resuming full-scale offensive operations at dawn, and to raiding, air-delivered assaults and the actions of forward detachments. Full use will, however, be made of the hours of darkness for major operational moves and for regrouping. However, the committal of second echelons and OMGs may well take place at night, on the calculation that surprise and the enemy's lack of balance will offset the dangers involved.

0342. **Reinforcement of Success.** Success in developing the offensive will depend on the timely committal of OMGs, second echelons and reserves, on shifting the army's axis of main effort onto a different direction when resistance is too strong, and consequently on regrouping forces from less favourable axes. The underlying principle is the continual reinforcement of success and never of failure. Such a principle is actually seen as helping those formations that have run into trouble: the continuation of the advance will expose to attack the flanks and rear and lines of communication of a successful defending or counter-attacking enemy. The decision to switch an army's main effort onto a new axis is made only on the instruction, or with the permission, of the army group commander. The resultant regrouping, it is stressed, must be both rapid and secret, quite possibly with attacks being continued on the former direction for deception purposes. Diagram 3-17 depicts an army's switch of axis.

See Diagram 3-17.

## SECTION 5 - MEETING ENGAGEMENTS

### THE NATURE OF MEETING ENGAGEMENTS

0343. **Definition.** A meeting engagement is a clash between opposing sides when they are both simultaneously striving to fulfil their assigned missions by means of offensive action. The goal of such a combat is to rout the enemy rapidly, seize the initiative and create advantageous conditions for subsequent operations.
0344. **Occurrence.** Meeting engagements may occur during the course of a march, especially in the initial period of war when the enemy has been surprised and is still in the process of deployment when the blow falls. They may also take place during the course of an offensive, when exploiting a breakthrough, in pursuit, or when dealing with counter-attacks (strokes). In defence, they may occur during counter-blows or when dealing with enemy air or sea assault landing forces. A meeting engagement is the preferred form of combat action compared with a breakthrough operation, and often, too, compared to a defensive posture. If however, operational aims can be achieved without combat, by manoeuvre, then of course a meeting engagement will be avoided. The Genforce does not move in order to fight. It fights in order to be able to move.
0345. **Characteristics.** In many ways, the meeting engagement is the most difficult, demanding and unpredictable form of combat. It is characterized by:



- a. *Shortage of Time.* There will be only limited time to organize for combat. To take an extreme example, if both sides are advancing at, say 20 km per hour, the closing speed will be 40 km per hour, so even an initial separation of, for example, 80 km will leave only 2 hours for the commander to make a decision and to transmit its content to his subordinates and for them in turn to organize their ?. This problem is exacerbated for both sides by the fact that neither enjoys the advantage of choosing the time or place of the engagement. Formations and units will often have to be committed from the march, though it is also possible that they will already be in pre-battle formation.
- b. *Obscurity of the Situation.* With limited time for reconnaissance, forces will usually enter combat on the basis of limited information. Once battle is joined, there will be frequent, abrupt changes in the situation as both sides will be acting aggressively in conditions where there is no continuous front.
- c. *Struggle for the Initiative.* The essence of the meeting engagement is an intense struggle to win time and seize the initiative. The winning side will be the one which imposes its will upon the enemy, forcing him into a reactive posture. The struggle for the initiative begins well before the main forces actually clash. The engagement will start with air attacks, long range artillery fire and the use of heliborne forces and forward detachments.
- d. *Fluid Battlefield.* The engagement will develop on a wide front and in considerable depth: historically tank armies with upwards of 500 tanks and 1500 guns and mortars found the struggle extending over a frontage of up to 60 km and lasting from one to three days. This is a consequence of each side trying to gain advantage through manoeuvre against the flanks and rear of the enemy, combined with the endeavours of both to deploy their maximum first echelon strength in delivering the initial blow. Inevitably, there will be exposed flanks and gaps in combat formations, and these will create opportunities for manoeuvre.
- e. *Decisiveness.* The losing side, outflanked and/or penetrated frontally, with its command and control disrupted and lacking prepared positions to fall back on, will find transition to defence very difficult. It will probably be rendered combat-ineffective as a result of heavy losses and fragmentation.

## THE CONDUCT OF MEETING ENGAGEMENTS

0346. ***Conditions for Success.*** There are several principles for the conduct of meeting engagements which, properly observed, will enable an equal, or even somewhat weaker force to triumph:
- a. *Reconnaissance.* Constant, aggressive reconnaissance is required to detect and monitor the size, composition, order of march, speed of movement and deployment of the enemy grouping: especially important targets for reconnaissance are, of course, enemy recce-strike complexes and other

high value weapons. Good and timely intelligence is the basis of a correct decision by the commander and thus the key to seizing the initiative.

- b. *Pre-Emption.* The seizure of the initiative, being the first to deliver air strikes, open artillery fire and deploy the main forces is considered to be of fundamental importance. This puts a premium on careful organization of both operational and march formation. There will be no time to regroup prior to a meeting engagement, so the order of march will be the order of deployment and committal.
- c. *Commander's Decision.* The commander must make a timely decision if the enemy is to be forestalled and the initiative seized. It is impermissible for commanders to wait until the situation is clarified before adopting a decision, for that would allow the enemy to deliver the first blow and deploy earlier.
- d. *Manoeuvre.* Swift manoeuvre is essential: to forestall the enemy in the occupation of advantageous ground; to concentrate a decisive superiority on the main axis; to deliver surprise attacks into the flanks and rear of the enemy grouping; and to exploit weak sectors in the enemy's deployment.
- e. *Security.* Flank detachments, anti-tank reserves and MODs assume an important role in meeting engagements, providing security against enemy attacks without diverting elements of the main forces and thus weakening the force of their blow.
- f. *Command and Control.* Firm, uninterrupted troop control and constant coordination, forward command and the exercise of initiative by subordinate commanders are all seen as being of crucial importance.

0347. ***Conduct of Meeting Engagements.*** The engagement opens with air and missile strikes on the approaching enemy grouping. Meanwhile, air delivered assaults and forward detachments (regimental sized at army level and reinforced battalion sized in divisions) act far in advance of the main forces to seize key terrain such as defiles, obstacle crossings, and dominating features. As their success will ensure favourable conditions for the committal of the main forces, the commander will pay considerable attention to their efforts and he will provide them with prompt support. The concept for the engagement will usually be one of rapid and bold manoeuvre to strike the enemy on one or both flanks and/or his rear, these blows being accompanied by pinning frontal action. It is also possible, when the enemy's front is over-extended, to deliver frontal attacks into the gaps between enemy columns and split the enemy grouping into isolated fragments. While the destruction of the enemy first echelon is being accomplished, the approach and committal of his second echelon is delayed and disrupted by air and long range artillery strikes and perhaps by heliborne assaults. Diagram 3-18 illustrates the decision of an army commander for a meeting engagement.

See Diagram 3-18.

## CHAPTER 4

### OPERATIONS IN THE ENEMY'S DEPTH

#### SECTION 1 - PHILOSOPHY OF DEEP OPERATIONS

0401. ***A Fundamental Requirement.*** Modern forces can create a strong, stable defence very rapidly. Genforce has, as previous sections show, developed a theory for the penetration of such a defence. In practice, it is doubtful about its ability to accomplish this rapidly enough to achieve the momentum essential to victory. Surprise provides part of the answer: preempt the establishment of a prepared defence. Surprise confers a substantial initial advantage, but it is, however, inevitably a wasting asset. Given time, the defender will recover, identify the main thrusts and take effective steps to counter them; he will be aided in this by having large reserves, many of his main defence forces having failed to occupy their allotted positions in time. For an offensive or, for that matter, a counter-offensive, to be successful, it is essential to prolong and deepen the effects of surprise. The enemy must be prevented from recovering his cohesion and balance. This is not accomplished solely by head-on attacks. Such attacks are necessary, of course, but a decision can only be reached by bold, rapid and deep manoeuvre. The enemy must be destroyed as near as possibly simultaneously in both front and rear, and not in sequential phases.
0402. ***Roles of Forces in the Enemy's Depth.*** In other words, action in the enemy rear is not merely a useful addition to the Genforce offensive operation effort. It is seen as its decisive element. The morale, cohesion and physical strength of the defence is to be eroded from within more than battered down from in front. It is intended to accomplish the following:
- a. ***Neutralize Enemy Precision Weapons.*** The most important mission is to prevent the enemy from using precision weapons, by destroying some delivery means and forcing others to keep on the move and by reducing, through their speed of movement and their intermingling with defending troops, the vulnerability of the most dangerous spearheads.
  - b. ***Exploit Surprise Fully.*** Action in the enemy's depth will prolong the destabilizing effects on the defence consequent on surprise.
  - c. ***A Battle of Manoeuvre.*** It is seen as desirable to force defensive groupings to fight a running battle in which they will reap no advantage from the ground or alternatively, if they remain in place, to force them to face the threat of attacks from flanks and rear.
  - d. ***Capture Vital Ground.*** To maintain the momentum of the advance, it is necessary to capture ground vital to the enemy before it can be prepared for defence and occupied.

- e. *Attacks on the Command and Control and Logistics System.* The easiest and quickest way to defeat the enemy is to destroy, or at least so to disrupt as to render ineffective, the defender's command and control and logistic system, on which intact combat groupings depend for their effectiveness.
- f. *Attack on Morale and Political Will.* Operations in the enemy's rear are calculated to undermine the enemy's morale and spread panic, not least amongst the civil population and the political leadership: refugees will hamper deployment, defensive manoeuvre and logistics, and it is probably easier to destroy many governments' will to continue the struggle than it is to destroy their armed forces.

## **SECTION 2 - SPECIAL PURPOSE FORCES**

- 0403. **Resources.** Genforce attaches great importance to SPF, particularly when the enemy is unprepared and when significant elements can be deployed prior to the start of the offensive. The effects of their activities can be out of all proportion to their numbers, if only through spreading fear and uncertainty. They are seen to be particularly valuable if they can operate in conjunction with partisan groups in the enemy rear. Not surprisingly, Genforce deploys them in comparatively large numbers. Each division has a small long range reconnaissance company, each army deploys a small battalion, and each army group a brigade.
- 0404. **Missions.** The role of the SPF is special reconnaissance, by which Genforce means both reconnaissance (the main function) and sabotage.
  - a. *Reconnaissance.* Priority tasks will be the location of high value weapons systems, especially precision weapons; formation HQs; air defences and EW assets; major groupings; logistics bases; suitable drop zones and beaches for airborne and seaborne assaults. As a uniquely discriminating asset, the information gathered by SPF is accorded special significance by Genforce intelligence.
  - b. *Physical Attack.* There is a severe limit to the amount of sabotage that SPF teams can accomplish, even against less well defended targets. Such groups can also, however, vector air attacks and designate targets using laser and other systems. Precision weapons, HQs, air defences and fixed and rotary wing air bases could all be targets: so too could be the destruction of key economic targets, such as power stations, pipelines and oil and gas storage facilities, and the disruption of communications, ports and road and rail traffic, especially when the enemy is still in the throes of mobilization, concentration and deployment.

## SECTION 3 - HELIBORNE AND AIRBORNE FORCES

### MISSIONS

0405. ***Depth and Missions.*** Given the payload/range limitations and vulnerability of helicopters, most heliborne assaults will be confined to the tactical and operational-tactical depth of the defence though their significance may well be operational. They will be organized at not lower than divisional level and may well be ordered by army or army group (possibly drawing the required resources from a motor rifle or airborne formation if enough specialist air assault troops are not available). Missions include, in no particular order of precedence:
- a. *Early Seizure of Vital Ground.* The capture of such features as defiles, crossroads and river crossings and protection of open flanks are seen to be important to the maintenance of the momentum of the advance. Ideally, such features should be taken before the enemy has had time to prepare their defence.
  - b. *Raids.* Raids will be launched against nuclear delivery systems, HQs, communications centres and logistic installations. After destroying their target, such raiding parties would then harass the enemy rear until the advance reached their area. They will not usually be extracted by air or exfiltrate on foot.
  - c. *Checking Enemy Reserves.* It may be necessary to block the approach routes of reserves or counter-attack forces which might influence the outcome of the main battle.
  - d. *Preventing Withdrawal.* Genforce will endeavour to block the withdrawal routes of retreating forces to aid their destruction, or to prevent their occupation of a potentially troublesome position, eg, in a city Genforce wishes to bypass.
  - e. *Vertical Envelopment.* Airmobile forces may help to overcome the defence by mounting an attack from the rear.
  - f. *Deception.* Airmobile assaults may be mounted as a feint, to mislead the defence as to the main axis of the advance. The committal of high value assets should contribute materially to the success of deception.
  - g. *Seizure of an Airhead.* The capture of an airfield or highway strip to airland mechanized air defence and artillery elements, eg, of an air assault brigade, may well figure in operational planning.
  - h. *Counter-Penetration.* Airmobile elements will be valuable in the defence, for counter penetration, or to check a counter-attack/stroke.
  - i. *Anti-Air Assault.* The mobility of heliborne troops makes them valuable in defence as rapid reaction force.

## HELIBORNE ASSAULTS

0406. **Forces Availability.** The forces available for heliborne assaults include:

- a. *Ordinary Motor Rifle Troops.* These are most commonly employed for shallow penetrations. They will usually operate within range of supporting artillery, ie, not more than 20 km from the line of contact, if they are expected to take and hold ground. Missions will generally be in support of a main axis division, with approval from and lift provided by army. Such troops will be taken from second echelon units, or perhaps even formations. For ground holding missions, Genforce forces will prefer to draw on battalions equipped with BTRs as they have organic anti-tank platoons. Motor rifle troops may be used less frequently in the heliborne role now that specialist air assault troops are available.
- b. *Army Level Air Assault Battalion.* Elements could be parachuted in to secure an LZ for helicopters, or the whole unit could helicopter in. The BMD company would make an ideal raiding force, or it could enhance both the offensive and defensive actions of the battalion. In view of this, and the elite nature of the battalion, it could well be used in greater depth than ordinary motor rifle elements to seize an area of concern to the army commander.
- c. *Army Group Level Air Assault Brigade.* With two parachute and two BMD mounted battalions, an artillery battalion (including MRLs), anti-tank and air defence batteries, reconnaissance and engineer companies, the elite air assault brigades are formidable units. A brigade could be used as a whole to seize an important objective on the main axis of an army, and given its organic resources operate in some considerable depth for a relatively long time. Assaults by major elements of the brigade could well be launched 50 km over the line of combat or even more. Alternatively, smaller elements of the unit could be used in the same fashion as the army battalions, perhaps with BMD sub-units being used as an effective counter penetration force in defence.

0407. **Size of Force.** The size and equipment of a heliborne force will depend on the mission, anticipated time to relief, and the available lift. A raiding detachment would be likely to be quite small, perhaps a company, preferably in BMDs, and without support weapons except organic AGS-17s. A force intended to seize and hold ground would require to be larger - how much so depending on the estimated time to link-up. A battalion, with its mortar and anti-tank platoons, an engineer platoon with a mine laying trailer, and artillery and air liaison officers to direct friendly artillery (when in range) and attack helicopter or FGA sorties, could hold out for up to 18-24 hours provided its ammunition does not run out and it is not attacked in overwhelming strength. The key factor is seen to be the amount of fire support available, whether artillery or air delivered.

0408. ***Fly-in.*** A heliborne assault will usually be an important part of a commander's plan, and the helicopters are a valuable and relatively scarce resource - more so than the troops they carry. The fly-in will therefore be well prepared and protected. Known and suspected air defence systems on the chosen route and near the objective will be suppressed by artillery, ground attack aircraft and EW. The assault force will use terrain cover wherever possible and will be given fighter top cover and attack helicopter escorts to suppress ground fire. The LZ will be thoroughly prepared if necessary by artillery and/or air delivered fire. Prior, possibly clandestine, ground reconnaissance will normally indicate whether or not an LZ is defended.
0409. ***Risk Against Gain.*** Complete success in a ground taking and holding mission will depend very much on the rate of advance achieved by the troops moving up to use the feature seized by the heliborne force. Should it be slower than expected, the enemy may well eliminate the assault detachment and recover the vital ground. Even in this case, however, the heliborne troops will have made an important contribution. They will have drawn on to themselves substantial forces which would otherwise have opposed the ground forces' advance, and they will have prevented the enemy from preparing the area for defence with the thoroughness he would doubtless desire. Bearing in mind the benefits that will accrue from even a partial failure, Genforce commanders may well be prepared to undertake what otherwise might be considered risky ventures in vertical envelopment.

## **AIRBORNE ASSAULTS**

0410. ***Missions.*** Whereas heliborne units fulfil tactical and operational-tactical missions, the airborne troops are used for operational and strategic missions. Airborne operations are likely to be planned and executed by theatre in support of army group operations, though some may be mounted at the outset to seize theatre objectives. Some airborne divisions will undoubtedly be held in theatre reserve to meet strategic contingencies. Their very existence can be expected to exert a powerful negative influence, inhibiting enemy planning and deployment. Missions for parachute assaults include, in approximate order of importance depending on the operational situation:
- a. *Destruction of Strategic Nuclear Delivery Systems* and their associated means of command and control and logistic support.
  - b. *Seizure of Vital Ground*, eg, bridgeheads, defiles, bridges, commanding ground in support of the ground forces or the capture of large islands and peninsulas and/or straits in conjunction with a seaborne assault.
  - c. Destruction or Disruption of Higher Level C3, political as well as military, eg, assault on centres of government.
  - d. *Destruction of Key Air Defence Systems*, in support of the air operation and in preparation for larger scale airborne operations.

- e. *Destruction or Neutralization of Key Reinforcement Ports and/or Airfields* and of transport choke points crucial to the enemy's mobilization, and perhaps even of some units before they have completed their deployment.
- f. *Block Routes* being used by enemy reserves moving forward or by groupings attempting to withdraw.
- g. *Destruction or Disruption of Key Industrial Facilities* eg, power stations, oil refineries and storage depots, military electronics plants.
- h. *Destruction of Logistic Installations*, especially fuel and ammunition.
- i. *Disruption of the Enemy Transportation Infrastructure*. This will be particularly important in the initial period of war.
- j. *Seize an Airhead or a Port* for the build up of a substantial force to open a new front in the enemy's depth.
- k. *Support Partisan Operations* inside enemy (or enemy held) territory.

0411. ***Size of Force and Depth of Mission.*** As with heliborne forces, the size of an airborne assault is tailored to mission requirements. Major determining factors are the enemy strength, especially in main battle tanks and aircraft, whether and for how long ground has to be held and, inevitably, the lift available.

- a. *Groupings to Seize Vital Ground.* Assaults to seize and hold ground of operational significance will normally be made in greater depth than is risked with heliborne troops - ie, over 50 km from the line of contact. Operational missions mounted in support of an army group offensive are likely to be anywhere between 150 and 300 km deep. The deeper the mission, the larger the force that will be required. Because they are launched in great depth and presumably have to hold out for longer before link-up, they are likely to be in at least regimental strength, and to include a fair number of support weapons. For instance, a major obstacle crossing 100 km beyond the line of contact could be a regimental task. Moreover, the regiment would require incremental support from division, perhaps two or three artillery batteries, an engineer company and a recce platoon. Such a force would be expected to hold a position for 24-48 hours, depending on the scale of effort the enemy deployed against it. Should it be dislodged, however, it would revert to being a raiding force harassing the enemy rear.
- b. *Raiding Detachments.* They are likely to vary from company to battalion size, usually mounted in BMDs. After destroying their main target, they will cause as much havoc as possible within the enemy rear areas through raids and ambushes. Their armoured mobility in BMDs makes such groups a major threat to the command and logistic support so essential to the main battle.



- c. *Operational-Strategic Tasks.* Missions in the enemy's operational-strategic depth would be executed with the expectation of either no relief from the ground forces or at best a link up only after several days. They would thus have to be mounted on a considerable scale, ie, divisional or even greater. Because of limited lift available and the vulnerability of an airborne force flying deep into the enemy rear, such missions are very much less likely than raiding or operational tasks. A possible exception is the very start of war, when airborne troops might be used to execute coup de main operations.
0412. ***Airlanding.*** Larger forces could be delivered quickly if a prior airborne or even ground forces assault had secured an airhead. Ideally, this would be a proper airfield, but a suitably long, straight stretch of motorway (about 2,000 m) would suffice. When airlanding, larger loads can be carried, and civil aircraft pressed into service can be used. It is noteworthy that all Genforce military transports and most civil airliners and transports have heavy duty landing gear, enabling them to operate on to and off rough strips.
0413. ***Preconditions for Mounting.*** Any airborne assault larger than battalion strength is going to involve large quantities of scarce and valuable resources, both of troops and aircraft. Thus it will only be attempted if there is a very high probability of delivering the unit or formation safely to the objective. Preconditions for mounting an operation are:
- a. *Reconnaissance.* Thorough reconnaissance by all available means of the route to the objective, the DZ and the objective itself, including the insertion of LRRPs some 24 hours before the drop. The presence of significant quantities of armour in the target area will preclude an attack unless it can be reliably neutralized.
  - b. *Air Defence Suppression.* Ground based air defences must be effectively suppressed 20-50 km (or more against Patriot SAMs) on either side of the fly in route and around the DZs.
  - c. *Air Superiority.* At least temporary local air superiority must be achieved. If it can only be maintained for a short time, the whole force should be delivered in one lift. Enemy fighter airfields, radars and air defence centres are attacked from 200 to 800 km from the line of contact.
  - d. *Security.* Strict security is vital to achieve surprise and thus cut enemy reaction time to a minimum.

Usually, drops will take place at night, often just before dawn, to ensure surprise and conceal from the enemy the size and target of the assault. Any operation of greater than regimental size will be mounted from more than one airfield to enhance security and speed up the operation.

0414. **Mounting an Airborne Assault.** It is a general rule that no more than one transport regiment should be based on a single airfield in case of attack. Operations are mounted from 1000 km or more in the strategic depth so that operational missiles and tactical aviation cannot hit troops or transport on the ground. An operation can be got underway in 25-27 hours with aircraft at the third stage of readiness. If the transports are held at levels two or one, the time required can be lessened by 5-8 hours. Because of the stipulation on the dispersal of assets, a transport regiment needs 4 main and 1-2 reserve airfields, so a divisional assault will be mounted from 16 main and 4-6 reserve airfields spread over a wide area. Troops move to departure fields by night and remain there no more than 24 hours.
0415. **Insertion.** The fly-in offers a large target. The battle formation of a transport regiment is 32 km deep in daylight or 100 km at night (ie, flying a column of wedges of 3 aircraft by day and in single file at night). The depth of a transport division is thus (with 2 minute intervals between regiments) 180 km by day or 900 at night, assuming a flight on only one axis. The fly-in will be preceded by artillery and air-attacks on known and suspected air defences on the chosen route and around the DZs. It will almost certainly be down a corridor punched through the ground based air defences as part of the air operation. As a general principle, the fly-in will be at the lowest safe altitude, with fighter top cover and sweeps ahead of the transports and with fighter-bomber escorts to suppress hitherto unlocated air defences. There will be ECM support, both from stand-off and escort jamming aircraft, and chaff trails will be laid to conceal the size of the force and defeat enemy SAMs. The enemy will probably be further confused by deception attacks and ECM activity on routes not chosen for the fly-in. To minimize the effects of any losses, careful attention will be paid to combat loading: key personnel and equipments will be dispersed amongst several aircraft.
0416. **Drop Zones.** When selecting DZs, Genforce usually adhere to the principle that they should be as near as possible to the objective to maximise the surprise effect and cut to a minimum the time available for the enemy to react. It must be noted, however, that the equipping of airborne units with BMD makes it possible to land some distance from an objective (eg, with strong air defences) and yet attack it after only a short period. DZ characteristics are as follows:
- a. **Numbers.** Genforce does not use separate DZs for personnel and the heavy drop. Instead, elements secure the DZ and establish standing patrols. Then equipments are dropped, followed by their crews. A battalion will thus use only one DZ. A regiment will preferably have three, one for each sub-unit, though it may make do with two. A division requires at least one per regiment and may use as many as 6-9 (including alternate DZs), which are seen as necessary for any operation planned some days in advance (as in the case with large scale, strategic missions).

- b. *Dimensions.* A battalion DZ could be as small as 1.5 x 1 km, while a single, regimental DZ would need to be about 6 x 1 km.
  - c. *Separation.* In a regimental drop, battalion DZs should be separated by up to 5 km, and there should be 5-15 km between regiments. This minimizes and localizes the effectiveness of any enemy counter-measures.
  - d. *Pathfinders.* Guidance groups may precede the drop by as little as 20-25 minutes.
0417. ***Speed of Insertion.*** If a transport division flies in on a single axis, it will take 25 minutes to complete the drop by day and an hour and three quarters by night. As such extended presence over the dropping area is unwelcome, it is usual for a division to use two ingress routes. Dropping heights are 600-800 m, but a tight grouping on the ground and thus speedy clearing of the DZ is achieved by the simultaneous use of multiple exits. A battalion can be put down and organized, ready for action in as little as 45 minutes by day, longer by night. BMDs do not need to be dropped on stressed platforms, thanks to their special suspension and the use of retrorockets, and each vehicle has a homing device to enable its crew to find it.
0418. ***Tactics.*** After clearing their DZs, Genforce airborne troops employ the same tactics as motor rifle troops. Of course, being in the enemy depth, speed and surprise are even more important to them than to motor rifle units. They will generally try to avoid contact with the enemy until such time as they reach their objective, though raiding parties may be detailed en route to accomplish incidental missions. The point is stressed, however, that BMD equipped units are quite capable of conducting meeting battles and may even be given the task of covering the main axis of the main advance. Whatever role they are performing, airborne troops will certainly display a higher level of initiative, skill and aggression, than ordinary motor rifle troops both in attack and defence.

#### SECTION 4 - EXPLOITATION FORCES

0419. ***Limitations of Air and Heliborne Operations.*** Airborne and heliborne forces can carry the battle into the enemy's depth. They suffer, however, from some major limitations. Airborne and perhaps even deep heliborne assaults cannot be carried out until at least local and temporary air superiority has been guaranteed. This may take several days. Moreover, the availability of transport aircraft limits both the size of any air delivered force and its mobility and firepower once on the ground. Such a force is also always going to be vulnerable to air and armoured counter-attacks. In other words, vertical envelopment is rarely likely to be sufficient, by itself, to so destabilize the defence as to bring about an operational, far less a strategic collapse. Air-delivered forces play an important role in disrupting the cohesion of the defence, but the decisive element in the struggle in the enemy's rear can only be provided by significant armoured groupings. These are to be inserted early into the enemy's depth in order to overstretch the defender's resources by forcing him to fight in two directions, to

front and rear, while at the same time denying him the means to do so by disrupting his command and control and logistic systems. These exploitation echelons are known as forward and raiding detachments at the tactical level and operational mobile groups (OMGs) at the operational level.

## **FORWARD AND RAIDING DETACHMENTS**

0420. ***Role of Forward Detachments.*** A forward detachment is a tactical grouping, usually (though not invariably) organized at divisional level and within OMGs, which is used to capitalize on initial success and open the way for future tactical or even operational success. It is inserted through a gap created, or which opens up, in the enemy deployment, and it then advances ahead of the main body, manoeuvring to avoid contact wherever possible, to seize and hold obstacle crossings or other vital ground in the path of the main forces. Alternatively, a detachment might be tasked to engage enemy reserves to prevent them from influencing the main battle. Accomplishing either of these tasks, forward detachments will help to maintain the momentum of their parent formations and prevent the enemy from stabilizing the situation on a good defensive position or from completing a withdrawal. They will also perform an incidental but valuable reconnaissance role for the main body. Such detachments may work in cooperation with or in support of airborne or heliborne assaults, for instance by acting as a relieving force.
0421. ***Composition of Forward Detachments.*** Forward detachments with tactical objectives will generally be of reinforced battalion size; whether they are based on tank or motor rifle sub-units will depend on the troops available and the terrain. As they operate separately from their units, they have to be all arms groupings. A typical forward detachment might thus comprise a BMP battalion, a medium tank company, an SP howitzer battalion, an engineer platoon (possibly including ferries and/or amphibians), an anti-tank platoon, a recce platoon (including engineer and NBC reconnaissance), an air defence section and a TACP. If the situation allowed, it is possible that an even bigger forward detachment, based on a regiment, could be committed as an army forward detachment to seize ground of operational-tactical importance. Such a large force would, however, find it much more difficult to infiltrate through the enemy deployment, and it would present greater command and control problems. It is thus likely to be used only in a very fluid situation, or in the initial period of war against surprised groupings. Army separate regiments are ideal in this role.
0422. ***Planning the Use of Forward Detachments.*** Ideally, the employment of a forward detachment will be pre-planned by division or army. The best unit/sub-unit available from the follow on forces will be tasked and the grouping made up well ahead of actual committal. It will sometimes be the case, however, that an opportunity unexpectedly presents itself, and because it is likely to be fleeting, the nearest available sub-unit is used. In this case, lack of a well balanced team and command and control problems may make success more doubtful, and such detachments will generally be given objectives of lesser depth - perhaps 20-30 km into the enemy's depth rather than 30-50 which might be expected of a task-orientated grouping.

0423. **Raiding Detachments.** Raiding detachments are dispatched, not to take and hold ground, but to attack important targets such as nuclear delivery means, HQs, air defence systems, gun positions, VTOL aircraft or helicopter operating sites, logistic areas. They are particularly appropriate where helicopters are not available for air delivery and where the enemy's location has not been ascertained accurately enough to enable his engagement by air or artillery attacks (eg, by SIGINT). After destroying their primary target, such detachments will then harass the enemy rear and/or perform reconnaissance until the advancing main body reaches them. While raiding groups could well be the same size as forward detachments, many may be of no more than company group size. Raiding groups may also be dispatched temporarily from forward detachments, either in a pre-planned attack or to engage an opportunity target, especially precision weapons. Alternatively on completion of a raid, a raiding detachment may be transformed into a reconnaissance or forward detachment.

0424. **Preconditions for the Success of Forward/Raiding Detachments.** Genforce identifies the following conditions as necessary, or at least highly desirable, for the successful committal and action of a forward or raiding detachment:

- a. *A Fluid Situation.* There must be a gap or an open flank in the enemy deployment. This will normally be the case either as the result of successful attacks on the forward edge of the defence or during action in the enemy's operational or operational-tactical depth, ie, after the penetration of at least the forward battalion positions and associated obstacles and more usually after the defeat of a forward brigade or when surprise has prevented the enemy's organization of a cohesive defence. In a meeting engagement or battle, a detachment has a very good chance of manoeuvring to arrive undetected in the enemy rear. The committal of the detachment should receive maximum fire support.
- b. *Pursuit* offers almost unlimited opportunities for reaching the enemy rear and forestalling his occupation of important terrain features on the path of withdrawal. In this situation, there will be fewer dangers and a considerable gain in time through using a successful first echelon sub-unit or unit as an impromptu forward detachment.
- c. *Initiative.* Forward detachments are, of course, given an axis of advance (off the main axis, until approaching the objective). They are, however, given considerable freedom to manoeuvre to reach their objective. In principle, their zone of advance is equal to the width of the sector of attack of a combined arms unit, ie, about 10-15 km though it may be greater.
- d. *Reconnaissance.* Thorough and continuous reconnaissance is vital.

#### **THE OPERATIONAL MOBILE GROUP (OMG): ROLE AND TASKS**

0425. **Role of the OMG.** The OMG is, in effect, a formation tasked to achieve at the crucial operational level what the forward detachment accomplishes at the tac-

tical. It is little more than the logical development of the latter. As an exploitation force, it is thus quite distinct from an ordinary second echelon. The OMG is given an ultimate objective. It may, however, be required to execute intermediate missions en route, these being outlined in a broad directive rather than detailed by higher formation. The OMG commander is thus given much greater latitude, and is expected to show much more initiative and independence than his second echelon counterpart. Possible missions can include:

- a. *Raids.* The OMG will carry out raids against key targets in the enemy depth, such as precision weapons, HQs, communications centres, airfields and air defences, logistics units and facilities and lines of communication. These raids are designed to help the main forces by reducing the effectiveness of the enemy opposing them. They are thus an essential part of the OMG's operational task, and not a mere "optional extra". Nor do they distract the OMG from its ultimate geographical objective as the raids are launched against targets on or near the formation's axis.
- b. *Pre-Emptying the Defence.* Seizure of possible defence lines in the enemy rear before they can be prepared and occupied for defence.
- c. *Strategic Objectives.* Seizure of a key political and/or economic objective, such as an enemy capital is a possible role for an army group OMG.
- d. *Enemy Reserves.* Destroy in meeting engagements enemy reserves moving to counter the main body, especially when acting in the outer front of an encirclement.
- e. *Enemy Forward Formations.* Aid the main body in destroying the defence opposing it by attacks from the rear, by establishing blocking positions on withdrawal routes or by parallel pursuit.

0426. ***Dynamism of OMG Concept.*** Both OMGs and second echelons serve the same ultimate purpose - ensuring the speedy advance of the main forces, the destruction of selected enemy groupings and the consequent occupation of important areas. The concept of helping the main body through the use of an exploitation echelon is, however, more flexible, more dynamic, perhaps more potentially damaging and difficult to counter than the concept of using a second echelon:

- a. *The Second Echelon* merely reinforces the efforts of the first, piling on more force until the defence eventually cracks under intolerable pressure. Such a use of available forces is, however, essentially predictable. The defender, faced with consecutive attacks on broadly known axes, launched indeed at more or less predictable intervals, can take effective counter-measures. Troops can be redeployed from secondary sectors and reserves moved to behind the point of greatest danger. Meanwhile efforts can be made to interdict the forward move of the second echelon.

- b. *The OMG*, by contrast, is intended, not to overwhelm the defence from in front, but to erode its viability from within; hence the stress on early commitment, usually long before that of a second echelon. By destroying and disrupting the soft infrastructure which supports and directs the hard defensive shell, by forcing the defence to face the possibility of attack from behind as well as in front, and through its impact on enemy military and civilian morale, the OMG is designed to pre-empt and negate possible counter-measures. The concept is, of course, most easily translated into practice if at least partial surprise is achieved.

0427. ***OMG as Replacement for Second Echelon.*** As the OMG and the second echelon are but two different variations on the theme of the subsequent echelon, Genforce commanders may well not form both if the defence is weak or overstretched initially. If the use of an OMG is planned, there should, if all goes well, be less requirement for a major intensification of the efforts of the main forces. Furthermore, the situation is likely to develop unpredictably, and a pre-tasked second echelon would thus not be appropriate. For both these reasons, major formations deploying OMGs will probably forsake a second echelon in favour of a combined arms reserve. Should the strength and stability of the defence preclude the use of an OMG, the formation will simply become part of this reserve.

#### **ORGANIZATION OF AN OMG**

0428. ***Level of Deployment and Scale.*** OMGs can be formed, as their name implies, by either or both operational level formations - army and army group. Generally speaking, an army will only form an OMG on an axis on which army group is not deploying one. As they will be expected to operate semi-independently up to the subsequent objective of the parent formation, possibly up to 150-350 km for an army or 500(+) km for army group, and they will be expected to undertake onerous tasks, they will require to be strong, all arms formations with substantial air support. Their composition will be task oriented and organized thoroughly in advance.

- a. *An Army's OMG.* This would be based on a division, usually tank, given its superior mobility and capacity for shock action. The chosen division is likely to be the best in the army.
- b. *An Army Group Level OMG.* This is likely to be a tank army of three, possibly four divisions. In a strategic offensive operation of limited depth, it is quite possible that large army group OMGs would not be formed, suitable force levels being provided instead by the multiple effects of several army level OMGs over the whole front. Alternatively the army group level OMG in a limited operation could be a grouping of 2-3 divisions.
- c. *Improvised OMGs.* Should Genforce achieve an unexpected success, they would automatically adjust the objectives and momentum of the operation to exploit their advantage fully. They might, as part of this process, nomi-

nate any formation in a favourable position to become an OMG. Such an improvised grouping, lacking both preparation time and probably the resources normally allocated, would probably be given a less demanding mission than a pre-designated OMG.

0429. **Reinforcement.** Operating separately from their parent formations in the enemy's depth, OMGs will need substantial enhancement packages. These will include:
- a. *Air Defence.* The OMG will need to take its own air defence envelope with it and will need extra assets. It may well have dedicated fighter aviation; as it will be operating within a corridor cleared through enemy air defences, it should be possible to provide fighter cover at acceptable cost.
  - b. *Engineers.* Substantial and varied engineer support will be necessary, including elements for route opening, bridging and ferrying, minelaying, exploiting captured POL resources and even the creation of improvised runways.
  - c. *Fire Support.* Being some distance from the main forces and with the likelihood of meeting strong enemy reserves, the OMG will receive extra artillery. This could well include long range artillery systems. There will also be strong air support, both fixed wing and rotary, the latter certainly under command and quite probably the ground attack as well. An OMG may also have a considerable EW establishment, for the effectiveness of SIGINT and communications jamming will be greatly enhanced if the equipments are operating from within the enemy rear areas.
  - d. *Logistics.* With no secure land line of communications, an OMG will have to carry most of its needs with it and will thus need extra load carriers. This problem should not, however, be exaggerated as the OMG will not be expected to fight the sort of gruelling battle or engagement that characterizes the action of the main forces. Raids, and short but intense meeting battles, will be the norm. At least limited air resupply may well be possible, either by parachute or by airlanding. Refuelling tanks from heavy lift helicopter "tankers" has, for instance, been a feature of several exercises.
  - e. *Command and Control.* OMGs will almost certainly make use of airborne CPs (in HIP or HOOK) and liaison aircraft and will have secure, long range and reliable communications means (eg, troposcatter and satellite communications).

#### THE COMMITMENT OF AN OMG

0430. **Early Insertion.** Bearing in mind that the raison d'être of an OMG is to help to smooth and accelerate the progress of the main forces by eroding the defence from within, the group must be inserted as early as possible into the enemy's depth. Ideally, ie, when the enemy's defence is essentially unprepared, army,



and even army group OMGs may lead the advance of their parent formations. Otherwise, mobile groups are committed on the first or second, or at latest third day of the battle in the enemy's main defence zone. Such an early committal assumes a substantial degree of surprise is achieved by the offensive, there being little likelihood that a prepared contemporary defence could be substantially fractured in a mere day by a first echelon army. Of course, the diminution of the OMG's combat effectiveness consequent on its having to complete the breakthrough is unwelcome - but less so than a loss of tempo.

0431. **Nature of Insertion.** Even with partial surprise, it must be considered doubtful whether a first echelon army will succeed in a matter of hours in creating a gap through the enemy's deployment. Although it is quite likely that an OMG will have to complete the penetration of well prepared forward defences itself, it will not be expected to fight a major battle. If a clean breach has not been created, the enemy defence must, at least, be on the point of breaking. The group will attack on a narrow front using forward detachments on each axis to complete the breakthrough in conjunction with elements of the first echelon, receiving the maximum support possible from all army assets and maximum aviation effort. The role of the forward detachment is crucial. Its flank and rear attacks on strong points on the chosen sector for committal must speedily and reliably complete the breach. It must then dash into the enemy depth to seize a lodgement in the enemy's second defence line before it can be strongly defended to check the OMG. Almost as important an element is the MSD, which closely follows the forward detachment and improves the routes being used to commit the OMG across battle damaged terrain. The aim will not be to open a breach and to keep it open. It is merely to push the OMG through the last vestiges of the defence into the rear area. It is quite possible that enemy reserves or troops moved from more passive sectors to form a defensive counter-concentration will re-establish some sort of integrity temporarily to the defence. This is quite acceptable as long as the OMG has got through, for the OMG will then be able to help the main forces to create a more permanent, indeed irreparable rupture.

0432. **Committal.** The committal of the OMG is the most difficult, most dangerous and most crucial part of the whole concept. It is illustrated in Diagrams 4-1 and 4-2. Genforce commanders realize that certain things must be accomplished if the insertion of the group is to be successful and not a monumental disaster, with a huge concentration of troops stalled nose to tail presenting a lucrative target for enemy artillery and ground attack aircraft.

a. **Security.** The time and area of committal must remain unknown to the enemy until it is too late for him to take effective counter-measures. Thus:

- (1) THE ASSEMBLY AREA of the OMG must be close to the line of contact to ensure that the opportune moment is not lost and surprise prejudiced through having to conduct a long approach march. Thus, the group is likely to be held just out of artillery and surveillance radar range, perhaps 30-50 km (ie, 2-3 hours march from the line of contact.

In such an area, the OMG could easily be mistaken for a second echelon if located by aerial reconnaissance. Genforce forces, will, of course take every precaution to conceal the presence of the formation through normal camouflage means and strict electronic silence. They will also attempt to confuse the defence by siting the waiting area to the flank of the intended line of committal, and by deploying dummy concentrations behind secondary sectors, backing up their deception with false radio sets and misleading radars. While concealment of a large grouping so far forward is certainly difficult, it does not have to be accomplished for long if insertion is intended on the first day (or more likely, night) of the battle.

(2) THE FORWARD MOVE of the OMG must be impeccably coordinated with the first echelon formation through which it is being committed. To this end, considerable engineer effort will be deployed to improve routes; routes will be ruthlessly cleared of first echelon traffic, the CPs of the two formations will be co-located, with the forward ideally giving observation of the battlefield, and the Commandants Service will deploy a massive traffic control effort; often key Commandants posts are commanded by senior officers, for instance the OMG's deputy commander or chief of engineers, to make sure traffic jams do not occur. Until the last minute, however, communications will be restricted to line and LOs in vehicles and helicopters to avoid prejudicing surprise. The group will move forward, and indeed through the defence on two or three routes (if possible) to ease control problems and shorten the time taken to insert the formation. Normal march intervals will be largely ignored in the interests of control and speed, and a whole reinforced division may be only about 25 km deep on a front of as little as 4-6 km. The passage of the line of committal is, however, likely to take place at speeds of only 8-10 km per hour, given the presence of battle damage (both to the ground and first echelon elements) and of enemy mine-fields and anti-tank ditches, etc. Thus, a division-sized OMG will take 2-3 hours to complete its insertion, and a tank army in two echelons, using four routes, will require up to 10-12 hours.

b. *Intelligence.* Genforce forces will need to have formed an accurate intelligence picture. Of crucial importance are the identification of the weak spot in the defence through which the OMG will drive and the correct moment to do so, the location of any reserves that can react within even the short warning that they intend to allow, and the location of all artillery, especially multiple rocket launchers, that can strike the penetration sector. While the combined arms army elements through which committal is to be made are fighting through the tactical zone of defence, reconnaissance groups from the OMG follow and exploit any opportunity to move through gaps created and get into the enemy depth. Also, mobile officer OPs of the OMG move in the front line, reporting on progress and likely weak sectors for committal.

- c. *Air Superiority.* At least local and temporary air superiority must be guaranteed, or enemy airpower will severely maul the OMG and upset a very delicate timetable. Overwhelming fighter and attack helicopter strength will be concentrated to provide top cover, there will be an intensification of offensive counter air action, and the air defence weapons of the OMG and the formation through which it moves will give priority to its protection. Committal may well take place at night to further confuse enemy reconnaissance and counter-moves, both by air and ground forces.
- d. *Concentration of Maximum Support.* Every available weapon from first echelon units and formations and army resources will concentrate on supporting the OMG as it approaches and then passes through the defence. The aim will be to put down so much mortar, howitzer, rocket launcher, helicopter and ground attack fire that there will be no combat-worthy units in the corridor through which the OMG will move, or to its immediate flanks. Fire support will begin up to an hour before the OMG arrives on the line of contact, with the last 20-30 minutes being an intense preparation for committal. Ideally, the OMG would not use its own artillery to support its committal because of the resultant distortion of the group's tactical march formation. The need for firepower, however, will often force its employment. Both preceding and during the OMG's committal, supporting attacks will be delivered on the flanks by the first echelon.

See Diagrams 4-1 and 4-2.

### **THE ARMY LEVEL OMG IN THE ENEMY'S DEPTH**

- 0433. ***Actions During the Advance.*** Once inserted, the OMG's ultimate task will depend on the army group concept of the operation. On the way to its geographical objective, the OMG will launch battalion or even regimental sized detachments in raids against targets crucial to the viability of the defence still resisting the main forces. The OMG will also make considerable use of forward and heliborne detachments to smooth its advance by forestalling defensive or counter-attack preparations. Diagram 4-3 illustrates the activities of such an OMG.
- 0434. ***Cooperation with Other Forces.*** Although operating ahead of the main forces, the group will not be fighting in isolation. Air recce and SPF patrols will provide intelligence and targeting data. Heliborne and airborne assaults will be used directly to help the OMG, while others will help indirectly by confusing the enemy and inhibiting his reaction. Air interdiction will endeavour to prevent counter-attacks or counter-penetration. The group will receive the highest priority for both air defence and ground-attack aircraft. Indeed, as the group advances beyond comfortable supporting range of helicopters operating from over the line of contact, it will probably acquire its own air component - helicopters moving with the OMG, complete with a mobile forward operating base. It will also be possible to make at least temporary use of captured airfields or improvised strips to base fighters or fly in resupply. OMGs, airborne and heliborne and air

operations are all crucially inter-dependent, the successes of each contributing materially to the viability of the others.

See Diagram 4-3.

### **ARMY GROUP FRONT LEVEL OMGS**

0435. **Missions.** An army group subordinated OMG will, if formed, be tasked against much deeper and larger targets than the smaller, army level group. The objective, laid down by theatre, will be of strategic significance, eg, an enemy capital, or (in conjunction with the OMG of another army group), a major encirclement. This is illustrated in Diagram 4-4. An army group may also deploy two tank armies, working in close cooperation, as mobile groups. This will give it a powerful strike group operating in the enemy depth - one capable of dealing with strong enemy reserves.

See Diagram 4-4.

0436. **Insertion.** The problem of inserting 3,000-4,000 vehicles of an army level OMG through a small penetration sector is immense, and the risks being run are very great. Obviously it would be impractical to try to commit an army group of up to four times that size in the same way. The risk would also be quite disproportionate. The loss of a division to an army would be serious, but not, at one twentieth or less of the army group's strength, fatal: it would certainly have little operational importance. The loss of an army to an army group is another matter altogether, and it would have serious operational repercussions. Thus, an army group OMG is likely to be inserted only after the tactical depth of the defence has been largely penetrated on a broader front, say 12-20 km, ie, on the first or second day against an unprepared, weak or overextended defence but possibly on the third or even fourth day, and perhaps even after the committal of the second echelon, against prepared defences of some strength.

0437. **Actions in the Enemy Depth.** An army group level OMG is less likely to have to expend combat power in raiding activities, especially if preceding army level groups have already disrupted the enemy's operational-tactical rear and the major point of raids, the undermining of resistance to the first echelon, will have become less compelling with that echelon's success. If, as is more likely, an army OMG has not preceded the army group's then raiding actions will still be the norm, though conducted to greater depth.

## CHAPTER 5

### DEFENSIVE OPERATIONS

#### SECTION 1 - GENFORCE VIEW OF DEFENCE

##### GENERAL

0501. **Scope of Chapter 5.** This chapter will focus on army level defensive operations. It will, however, outline the scope and concept of army group level defensive operations in order to put the former into proper context.

##### RELATIONSHIP BETWEEN THE OFFENSIVE AND THE DEFENSIVE

0502. **Circumstances in which Defence is Adopted.** Operational level defence, especially by an army group used to be considered as a temporary form of combat action, assumed when, due to inadequate resources, offensive action was not possible, or when, considering the operational and strategic situation, it was undesirable. It is now accepted that all strategic operations will inevitably consist of a mix of offensive and defensive operations. A formation may act on the defensive in the following circumstances:
- a. *The Initial Period of War.* At the beginning of a war superior enemy forces, probably aided by surprise, may have to be met, at least initially, by strategic defensive action to prevent the enemy seizure of important economic, administrative and political centres and to gain time for the mobilisation, concentration and deployment of strategic groupings. Such a defence is merely a prelude to a decisive counter-offensive.
  - b. *Defeat.* Either at the beginning of a war or during the course of operations, an army group or army may transition to defence after defeat in a meeting engagement or of an offensive.
  - c. *Counter-Offensive.* In the course of offensive operations, an army group or army may be forced to transition to defence to repulse a counter-offensive which is too strong to be met in a meeting engagement.
  - d. *Completion of the Mission.* At the conclusion of an offensive operation, a formation may assume the defensive because it has taken the designated strategic objective, because there is a need to regroup and resupply before offensive operations can be resumed on its axis, or to cover the exposed flank of another grouping conducting an offensive.
  - e. *Deliberate.* It is possible for a formation to assume the defensive even when superior in strength to the enemy. This could be either because it is deemed politically expedient or in a deliberate attempt to wear down and unbalance an enemy determined on the offensive. In the latter case, defence is only a prelude to a decisive counter-offensive. A deliberate de-

fence may also be adopted as an economy of force measure to make possible the achievement of a decisive superiority on another axis.

0503. ***The Strengths and Weaknesses of Defence at the Operational Level.*** Genforce has always recognised the advantages enjoyed by the defence. The defender can choose his ground and protect his forces by digging and creating or enhancing obstacles. He can conceal his forces, and from the safety of prepared positions destroy enemy attack concentrations by manoeuvring fire and then decisively counter-attacking depleted and disrupted penetrations. The growth in the range, accuracy and lethality of modern weaponry has, moreover, done much to enhance the stability of the defence: in previous wars, the covert massing of vastly superior numbers made it possible, if not easy, to overwhelm the defender and generate operational manoeuvre, but today a defence which achieves optimal density and depth can be relied on to preclude a quick breakthrough and impose a battle of attrition on the attacker. Traditionally all the advantages accruing to the defender have been outweighed, in the Genforce view, by the surrender of the initiative. The attacker's ability to choose the time and place to launch an offensive, coupled with the contemporary capability for the conduct of deep operations, gives him a crucial edge. This advantage becomes potentially decisive when the defender has not been allowed his choice of ground or time to prepare, either because he has been surprised or because he has been forced onto the defensive by a changing correlation of forces. Finally, all the benefits enjoyed by the defence are seen to be eroded by the mass employment of precision and advanced conventional munitions. These can be relied on to suppress the enemy's defence much more reliably than the traditional artillery preparation, and at much lower cost in terms of the number of weapons and weight of ammunition required.

## SECTION 2 - THE NATURE OF MODERN DEFENCE

0504. ***The Threat.*** In the Genforce view, a contemporary offensive (or counter-offensive) will pose four principal threats to the viability of the defence.
- a. ***Precision or Advanced Conventional Munitions and EW.*** Even a solid, well prepared positional defence with an adequate force density can no longer be relied on to hold the enemy for a long time and inflict heavy attrition on him. Precision attacks on point targets and effective area weapons such as fuel-air explosives can suppress a chosen defensive sector much more reliably than traditional artillery and air bombardment. Moreover, they can do so much more swiftly. The defender can suffer such losses in such a short period of time that the viability of his defence is totally compromised and unable to resist a rapidly executed concentration of armoured striking power. Furthermore, the reserves on which the defender relies to restore the situation can also be brought under such fire even when they are situated in the operational depth. Meanwhile, electronic attack can seriously disrupt and delay the reactions of the defender's command and control of his fire support and his reserves.

- b. *Airpower.* A sophisticated enemy can deliver formidable firepower from the air. Even in 1979, an authoritative source maintained that 50% of the destructive power on the conventional battlefield was air delivered. The development of long range, high precision weaponry, both missile and air delivered, is increasing this threat.
- c. *Armour.* Modern armies base their offensive capabilities on masses of armoured fighting vehicles, especially tanks. These are seen to possess high mobility, flexibility, firepower and shockpower, and in consequence they can quickly exploit any weakness in the defence to generate operational manoeuvre into the enemy rear.
- d. *Air Assault.* Armoured thrusts are usually complemented and aided by air (or in coastal areas, sea) assaults. These threaten to undermine the defence by disrupting its command, control and logistic systems, by seizing vital ground and by attacking defending forces from the flank or rear..

0505. ***The Characteristics of Genforce Defence.*** The basic characteristics of Genforce defence are that it is anti-air/missile, anti-tank and anti-air and sea assault. The requirements for these are to some extent contradictory, and failure fully to reconcile the contradictions must create some problems in defence. These are illuminated by a consideration of the Genforce principles of defence.

## **PRINCIPLES**

0506. ***Concentration and Dispersal.*** Genforce stresses the need to identify the main directions of the enemy offensive and to concentrate their main efforts on the enemy's principal axes. This poses two major problems. Today, it is even more difficult correctly and in good time to discern the enemy's intentions, given the mobility and flexibility of his formations and consequent short periods required for concentration. Moreover, any counter-concentration must be tempered by the possibility of the enemy using high accuracy conventional weapons to achieve a quick breakthrough. It is no longer possible to defend continuous lines with high densities of troops. Partial answers to these problems are found in:

- a. *Concentration of Fire.* Given the range of modern missiles and artillery, not to mention both fixed and rotary wing aircraft, it is now considered possible both tactically and even operationally to concentrate the fires of dispersed weaponry on key sectors and so break up the attack. The defence should rely not on numbers of troops but on the manoeuvre of firepower and of obstacles (especially by remote mining). Long range, high precision weapons, possessing the destructiveness of small nuclear weapons and targeted by all weather, deep looking surveillance means, can even wear down the attacker as he moves forward from the operational depth. By the time he reaches the forward edge of the defence, he can have been so damaged and disrupted that he will lack the necessary correlation of forces to

break through: he may even have been so seriously depleted that the defender can transition to the attack and destroy him in a meeting engagement. Even if he does break through, such weapons can be used by formations being outflanked to hit his columns as they drive into the defender's depth, and, of course, to interdict second echelon forces that may be needed to maintain the favourable correlation of forces needed to maintain momentum.

- b. *Dispersal Laterally and in Depth.* Tactically, it is increasingly recognised that to sit on vital ground is to attract devastating fire. It may be better to defend the approaches to it and dominate the ground itself by fire from flank and rear. Alternatively, minimal forces may be left in place until the conclusion of the enemy's preparatory fire, when earmarked forces will move in. Operationally, it is considered desirable to defend in great depth; the heavier the expected blow, the greater that depth should be. In the future, the second echelon may well be as strong as the first, perhaps even stronger.

0507. ***Activeness and Manoeuvre.*** The defender cannot afford to be passive, relying on positional defence. The initiative must not be surrendered to the attacker. Defensive operations in the future will be characterised by a defensive-offensive mix, with the share of offensive activity tending to increase. The more aggressive the defence, the more stable it is said to be. Within the context of theatre and army group operations respectively, army groups and armies can be expected to deliver attacks of limited goals and spatial scope but with important roles on decisive axes.

- a. *Pre-Emption.* This ultimate expression of activeness is considered highly desirable, especially against enemy precision systems and airpower. These are the highest priority target for destruction, and every effort will be made to divine and then pre-empt the enemy's mass, initial precision strikes. Counter-preparation is also considered a key to success in conventional defence, by altering unfavourable force ratios at the last minute and through the disruption of the enemy's timetables. Ideally, a defensive operation should start with a surprise counter-air operation and strikes on enemy artillery and missile concentrations and on the assembly areas of assault troops. Spoiling attacks by divisions, armies or larger formations are also not excluded, even on a strategic scale. Indeed, it can even be held that the best way to repulse an invasion is to overtake the enemy in deployment and launch a pre-emptive surprise offensive.
- b. *Manoeuvre.* The manoeuvre of fire, a key concept, has already been touched on. Just as important is the manoeuvre of combat troops, both laterally from passive sectors and from the depth to form counter-concentrations either for counter-penetration or for counter-attacks (strokes). This avoids lengthy occupation of the attack sector, with its consequent heavy losses to the enemy's preparation, and fulfils the need for anti-precision manoeuvre (ie, the frequent relocation of units to get out from under enemy



strikes). Successful, timely, manoeuvre increases the power of the defence and makes it possible to defeat a superior enemy force.

- c. *Counter-Attacks/Strokes.* These offensive actions, to retake ground or destroy any enemy penetrations, are the basis of a successful defence. Ideally, they are launched when the stability of the defence is unimpaired, yet the enemy has already committed his immediate reserves, and those more distant are delayed and disrupted by interdiction. They can be initiated against an enemy temporarily transitioning to the defence or, and preferably, in the expectation of a meeting engagement with a disrupted penetrating force. They must, however, be sure of producing significant operational (or operational-tactical) results. If only a dent can be achieved in an enemy penetration, it is better to use second echelons or reserves for counter-penetration.
  - d. *Counter-Penetration.* In the event of the attacker making better than expected progress, upsetting the stability of the defence and still having combat power within reinforcing reach of the battlefield, counter-attacks (strokes) may be eschewed in favour of replacing elements of the first echelon and blocking the enemy's further advance and generation of operational manoeuvre. In this case, more decisive counter-moves will be left to the senior commander using his reserves (the ultimate aim always being not merely to stop the enemy but to destroy him). As well as the second echelon and reserves, army group and army air assault elements, or heliborne motor rifle troops, may be available for counter-penetration tasks.
  - e. *Reconnaissance.* Without continuous and aggressive reconnaissance extending well into the enemy's depth, the prospects of success will be compromised. Determining the enemy's main axes, the locations of his groupings and his timetable are essential to pre-emptive actions, the disruption of approaching attack forces by long range fire, timely manoeuvre and damaging counter-blows.
  - f. *Deep Battle and Deep Operations.* Even in defence, there is a place for deep attacks to disrupt, damage and delay the attacker. These may not be confined to air and missile strikes. Air and sea assaults in the enemy rear are expected to yield considerable dividends. In friendly territory, there will also be intensive efforts to organise a partisan movement, the activities of which will be reinforced by regular troops and carefully coordinated with the main forces.
0508. ***Steadfastness.*** Not all defensive actions can have a manoeuvre character. Some key areas and lines will have to be held to maintain the stability of the defence, disrupt the enemy and gain time for the execution of manoeuvre from passive sectors and from the depth. Defending units and formations do not have the right to withdraw without orders from the senior commander. They must be prepared to hold resolutely, even when communications with superior formations and flanking forces have been lost and even when they are encir-

cluded. Generally, attempts to break out of encirclement are equated with the effective loss of the formation as a fighting entity, quite apart from the adverse effect such a move is likely to have on efforts to stabilize the defence in depth, or counter-attack. The mix of static resistance and manoeuvre will vary from sector to sector. In some areas, solid retention of occupied lines and areas will be combined with local counter-attacks, in others, manoeuvre defence may be used, and in still others a combination of the two. Methods will vary according to the mission, the terrain, force available and other criteria. As a result, operations will develop in a non-linear fashion.

0509. **Engineer Preparation.** Forces involved in positional defence must be well dug in to withstand high-precision or conventional artillery bombardment. For similar reasons, second echelons and reserves must be protected to survive enemy deep strikes. Furthermore, depth positions and waiting areas must receive engineer preparation if enemy penetrations and attempts to generate operational manoeuvre are to be stopped. Genforce engineers are very generously equipped with plant to achieve the necessary depth and density of prepared defences. Equally important is a comprehensive obstacle plan. Lavish use will be made of mines to disrupt and canalise enemy attacks. In this respect, note must be made of minelaying during the course of operations. Genforce believes that it is generally more effective to lay a minefield at the last minute, during the course of a battle and directly in the enemy's path, rather than lay it beforehand and thus give the enemy time to detect it and prepare breaching means in advance. Such surprise minefields are also more economical with resources, often a factor in defence during the course of offensive operations. It is this consideration which makes the MOD (mobile obstacle detachment) and its associated anti-tank reserve so important a part of tactical and operational formation. There is also growing stress on surprise, rapid surface laying of mines by helicopters and, more importantly, by aircraft and multiple rocket launchers delivering Remotely Delivered Mine (RDMs). These can be used to seal gaps in the defence or to tie down even deep reserves in order to win time for the defence.
0510. **Surprise.** It is recognised that it is much easier for the side holding the initiative to achieve surprise. However, it is still an essential tool of the defence, helping to compensate for shortage of forces and persuading the attacker to conduct operations in unfavourable conditions. It is achieved by concealing the defence and by deceiving the enemy as to its alignment and deployment and by unexpectedly conducting active operations, wresting the initiative back from the attacker. Genforce stresses several points on achieving surprise in defence:
- a. *Avoidance of Stereotype.* The alignment, grouping and methods used in defence must not be according to a template, predictable to the enemy even if his intelligence picture is incomplete. This does not mean the abandonment of norms, but their imaginative application. (Norms are only averages and vary according to troop strengths, capabilities, terrain and the mission.)

- b. *Counter-Reconnaissance*. Surprise in defence can only be achieved through an active struggle against enemy reconnaissance. Reconnaissance means must be located and destroyed. They must also be deceived by extensive use of dummy positions and structures, false movement, dummy radio nets etc. Strict camouflage discipline is, of course, vital to both the concealment of real defended lines, areas and reserve concentrations and to the success of deception plans.
  - c. *False FEBA*. If possible, a false front should be created to mislead the enemy into a mistaken fire preparation and attack plan. Where that is not possible, it is considered desirable temporarily to withdraw troops covertly before the enemy's artillery and air preparation, a technique used in the past, and now very important in view of the increased destructiveness of modern weaponry. In view of its complexity, such a withdrawal must necessarily be shallow (though there has been argument in favour of deep withdrawals, leaving only enough forces on the FEBA to repel an attack by forward units).
  - d. *Counter-Preparation*. To be successful, the preparation of counter-preparatory fires and strikes must be covert. Given the long range and accuracy of modern weapons, little if any prior manoeuvre will be required of many of the participatory systems, provided the correct time and place of the attack have been anticipated.
  - e. *Manoeuvre*. Manoeuvre is essential to maintaining the stability of the defence. It must, however, be covert or the enemy will disrupt and defeat counter-attacking or regrouping forces. Thus it is essential thoroughly to prepare routes and to use concealment, bad visibility and deception to cover movement.
0511. ***Air Defence***. Defeat of the air enemy is essential to successful ground defence. If accomplished, it will restrict or deny enemy air reconnaissance, air preparation and interdiction and the insertion of significant air assault forces. The main contribution at the operational level should be made by the air forces (aided by missile troops, SPF and raiding detachments) conducting a (ideally pre-emptive) counter-air operation. The air defence of the ground forces will in addition attempt to create a dense, seamless, overlapping air defence umbrella with considerable redundancy (ie, ability to absorb losses).
0512. ***Anti-Landing Defence***. Both large and small scale air (and on coastal regions, sea) assaults are now seen as integral parts of offensive operations. Such forces are capable of disrupting the stability of the defence by destroying command and control elements, logistic support and key weapons systems and by seizing vital ground. It is now considered desirable to hold a dedicated anti-landing reserve at both tactical and operational levels. Where this is not possible, second echelons (reserves) will be located so as to defend particularly important areas or targets, and anti-landing obstacles may be created by engineers. The mobility and flexibility of the army group level air assault bri-

gade and army air assault battalion (with their BMDs) would make them effective anti-landing forces in the defence.

0513. **Deep Battle.** The struggle in the enemy's operational and operational-tactical depth retains its significance in defensive operations. Deep reconnaissance and targeting, diversionary-sabotage action, ground forces and air assault raiding and air/missile interdiction are all practised, though on a reduced scale compared with offensive operations.

## TYPES OF DEFENCE

0514. **Positional Defence** is considered by Genforce to be the basic form of defensive action. Indeed, until recently it was the only form at the operational level, for only a resolute, unyielding defence was seen to not only deny the enemy his territorial objectives but also to wear down his strength and thus prepare the way for a decisive counter-offensive. This is not to say that, in positional defence, every metre of the FEBA is to be defended to the death and, if necessary, retaken by automatic counter-attack. Rather, Genforce accepts that penetration is inevitable. It designs its defence to ensure that such penetrations cannot be turned into a breakthrough which will enable the enemy to generate operational manoeuvre. The aim is to ensure that penetrations are only achieved on axes acceptable to Genforce, and at a cost in time, casualties, disruption and loss of momentum unacceptable to the enemy. In this way, optimal conditions will be created for a counter-blow, and the enemy will then be destroyed by offensive action. Thus, positional defence implies a considerable use of manoeuvre. Certainly, vital ground is stubbornly defended to wear down the enemy and canalize his offensive, but manoeuvre is the "soul of defence". It is necessary for counter-penetration to slow down and then halt the attacker and to achieve the necessary force ratios to destroy him once he has reached his culminating point.
0515. **Manoeuvre Defence** is a subordinate form, intended to economize forces on less important axes and/or to buy time for the deployment of forces from the depth and/or passive sectors in order to create a positional defence in depth or mount a decisive counter blow. In manoeuvre defence, the aim is to wear down the enemy's strength and deny him operational momentum by defending on successive, deeply echeloned lines but refusing to become decisively engaged on any of them. Given the lower force densities anticipated on the battlefield of the future, it will not be possible to create strong, continuous defences everywhere, so manoeuvre defence will, of necessity, be resorted to more frequently than in the past.

## CONDITIONS UNDER WHICH DEFENCE IS ADOPTED

0516. **Deliberate or Hasty (Forced) Defence.** The circumstances under which defence is adopted will do much to determine the layout and resilience of the defence.

- a. *Deliberate Defence.* A formation preparing to defend prior to the outbreak of war, or preparing depth defences during the course of hostilities, may be said to be preparing deliberate defence. Such a defence, planned and organised out of contact with the enemy, is characterised by relatively long preparation time. Alternative plans are prepared for attacks on different axes; selected groups from armies are (with General Staff approval) briefed on the concept of operations; cooperation is organised; extensive engineering work is undertaken. The combat troops may not, however, be deployed until the last minute to maintain secrecy and to give the maximum time to study the enemy deployment and divine his intentions, thus ensuring the implementation of the most suitable variant of the formation plan. In such a defence, the bulk of the formation's combat power may well be to the rear to allow maximum freedom of and time for manoeuvre to adjust the emphasis of the defence in accordance with the perceived weight of the attack on various axes.
- b. *Hasty (Forced) Defence.* A defence adopted while in contact with the enemy may be characterised as hasty. If a formation is already severely attrited or under strong counter-attack, or is defeated in a meeting engagement, the defence will not be merely hasty but forced. In both cases, but particularly in the second, preparation time will be strictly limited, and in the second, preparation will have to be undertaken simultaneously with efforts to repulse enemy ground and air attacks and stabilise the first echelon's position on favourable ground. The weight of the defence is likely to be forward, quite possibly with its emphasis on the wrong axes. Moreover, limited offensive action may be necessary even as the defence is being established in order to seize favourable ground. In these circumstances, typical of defence during the course of the offensive or as a result of a surprise attack, defence is considered to be very difficult and uncertain of success.

### SECTION 3 - ARMY GROUP DEFENSIVE OPERATIONS

#### THE AIMS AND MISSIONS OF DEFENCE

0517. **Aims.** The aims of an army group defensive operation will be specified by the Commander-in-Chief of the theatre and will depend on: the strategic mission and concept of the theatre; the significance of the axis to be defended; the missions of adjacent formations; the likelihood of enemy air and ground attacks and their likely strength. In most cases, the aim will be to repel enemy attacks, inflict maximum casualties, retain important lines or areas, and possibly also to establish favourable conditions for mounting subsequent offensive operations. In the initial period of a war, if the enemy has achieved strategic surprise, the aim may well be the covering of the deployment of strategic groupings and their organised committal into combat.
0518. **Missions.** In pursuance of these aims, army group missions will be to: inflict heavy casualties on the enemy's approach to the defended area (a mission

which will be accomplished by air and missile strikes); repel ground and air attacks; destroy penetrations of defended areas; eliminate enemy air or sea landings; create the conditions necessary for mounting a counter-offensive.

## LAYOUT OF THE DEFENCE

0519. **General.** The following paragraphs will describe the operational formation and defensive layout of an army group in deliberate defence. This is the ideal, which will be replicated as far as possibly adverse circumstances permit, by army groups adopting a hasty or forced defence.
0520. **Scope of an Army Group Defence.** The scope of the defence will depend firstly on the composition of the army group as specified by the Commander-in-Chief. It may comprise 2-4 armies and a reserve of 2-3 divisions (ie, a total of 12-20 tank and MR divisions), 1-2 SSM and SAM brigades and an air army (of 3-4 aviation divisions and 3-4 separate regiments). It will also depend on the composition and strength of the expected attack, and on the terrain and the nature of the theatre. In average conditions, an army group might defend on a frontage of 350-400 km, and to a depth of 250-300 km or more. A determining factor will be the need to achieve a force density adequate to repel the enemy. This implies a first echelon division per 20-25 km on a main axis and per 30-35 or more km on a secondary axis, together with second echelons and reserves appropriate for the weight of the expected attack. Of course, the deployment in significant numbers of advanced weaponry, particularly reconnaissance-strike complexes with high precision warheads may alter this, and other norms given below. In the future, formations may be able to, and, indeed, may have to defend greater frontages than at present. If compelled to adopt manoeuvre defence, they will also operate in greater depth.
0521. **Operational Formation and Tasks.** The army group deploys in a series of defensive belts with switch positions as appropriate. These belts are not intended simply for the conduct of successive, positional defensive battles, however. Prepared positions in depth provide protection and lines or areas for counter-penetration, but the basis of the defence is manoeuvre and counter-strike/offensive action against enemy forces endeavouring to reduce prepared defences. The defence, it must be remembered, is designed to be penetrated, but at a significant cost in casualties, time, momentum and disruption. Having thus created the optimum conditions for a counter-strike or offensive, the enemy is destroyed by offensive action.
- a. **First Echelon.** The task of the first echelon is to repel attacks with heavy losses, hold important areas and create favourable conditions for army group counter-strikes/offensives. Usually, but not invariably, the bulk of the army group is deployed in the first echelon. First echelon armies deploy in the first two or three belts, as follows:
- (1) **SECURITY ZONE.** When defence is organised out of contact with the enemy, a security zone at least 15-20 km deep but often up to 50-60 km is organised in front of the first belt and defended by troops of the first echelon divisions. Its purpose is to force the enemy into prema-

ture deployment, canalise him onto unfavourable axes, establish the enemy's main groupings and intentions and inflict delay for the preparation of defence and counter-moves. (A security zone may also be established when defence is assumed in contact with the enemy, when the FEBA is not established on the line of contact but in depth.) Invariably, the form of action adopted for the security zone battle is manoeuvre defence.

- (2) **FIRST BELT.** The first belt, defended by an army's first echelon divisions, is usually the main one of the defence. It comprises three or more defensive positions to a depth of about 20-30 km.
  - (3) **SECOND AND THIRD BELTS.** Each of these belts comprises one or two defensive positions, with 50-80 km separating the second from the FEBA and up to 100 km separating the third from the FEBA. The second echelon and reserve of the army is held in these belts. The total depth of a first echelon army is thus 100-120 km.
- b. *Second Echelon and Reserves.* The army group's combined arms reserve comprises several MR and/or tank divisions. Its primary role is the provision of counter-penetration elements, the reinforcement of forces operating on decisive axes, the relief of battered formations, the destruction of airborne assaults or the execution of other, unexpected, missions. Usually, several units will be designated as dedicated anti-landing reserves and deployed near likely targets for air or sea assaults. A second echelon army deploys 150 km or more from the FEBA. Its primary role is to act as a counter-strike force, used to destroy major penetrations and, usually, to restore stability to the tactical zone of defence. In the event of a collapse of the first echelon it may, however, be used to establish a defence on vital lines in the operational depth on the enemy's main axis. The second echelon and reserve deploy in the defensive belts (usually two or three) established by army group troops. Together with the first echelon army's third belt, they form the operational zone of defence. If time permits, defences will be prepared in the operational zone as alternative positions or positions which can be occupied by withdrawing forces. The total depth of an army group defence, with two or three army belts and two army group belts, may reach 250-300 km. Diagram 5-1 illustrates the typical deployment of an army group in defence.

See Diagram 5-1.

c. *Deployment of Other Army Group Assets:*

- (1) **SSM BRIGADE.** SSM brigades are assigned a primary area 60-80 km from the FEBA and one or two alternative areas which are 15-30 km apart.
- (2) **ARTILLERY.** Army group artillery assets will reinforce armies on the more important axes.

- (3) **ANTI-TANK RESERVE AND MOD.** The anti-tank reserves are established from organic resources and from large anti-tank units, attached to the army group from the reserve of the Supreme High Command. They almost always work in close cooperation with the mobile obstacle detachments (MOD), of which the army group usually establishes two. Together, these anti-tank forces are used to reinforce the anti-tank defence of the first echelon, act as counter-penetration groupings, or deploy to support the committal of army group counter-strikes.
- (4) **AIR FORCES.** Fighter-bomber and reconnaissance airfields are located not closer than 100-150 km from the FEBA, with bomber bases at least 200-300 km distant. Each aviation division is assigned an airfield complex which includes four to six operational airfields and two or three reserve fields.

0522. ***Deployment of HQs.*** An army group may deploy up to six HQs (excluding dummies) as follows:

- a. *Main CP.* This is deployed 100-120 km from the FEBA, to the flank of the most likely axis of the main attack.
- b. *Alternate CP.* This is deployed to the flank or rear of the main CP. It is constantly manned by an operations group from army group HQ, and all communications are duplicated.
- c. *Rear CP.* This is deployed with the army group forward supply base, up to 150 kms to the rear. It is able to take over from Main if required to do so.
- d. *Airborne CP.* This auxiliary CP is used when the army group commander visits an area of operations.
- e. *Auxiliary CP.* This may be established to ease command and control problems of formations operating on an independent axis.
- f. *Forward CP.* Such a CP will always be set up to control army group-level counter-strikes.

### **THE FIRE SYSTEM**

0523. ***The Fire System*** includes the organization of fire strikes, the establishment of multi-layered, massive fires of all types of weapon immediately in front of the FEBA and to the flanks and rear, and preparation for the manoeuvre of fire onto all axes. Generally, the air and missile forces will engage targets beyond artillery range, and moving and point targets. The fire system and air strikes are designed to accomplish the following:

- a. *High Value Systems.* The destruction of enemy precision weapons, air assets (fixed and rotary wing) and MLRS is the first priority.



- b. *Strike Groupings.* Losses are to be inflicted on enemy forces in their assembly areas, during their forward movement, while they are deploying and in attack positions. Mass tank-infantry attacks are to be repelled, or destroyed if they penetrate the defence.
- c. *Artillery, Air Defences, CPs and Radars.* All are to be neutralized at appropriate stages of the operation.
- d. *Security Zone.* Friendly troops operating in the security zone will receive very strong fire support.
- e. *Counter-Preparation.* Where intelligence makes it possible, the enemy attack will be forestalled by a surprise counter-preparation.
- f. *Counter-Strikes.* The full weight of available fire support is brought to bear to support counter-strikes.
- g. *Weak Spots.* Flanks, intervals in combat formations (covered only by obstacles) and gaps created by enemy action must be covered. Remote mining is particularly important in fulfilling this task.

## COMBAT SUPPORT

0524. **Engineer.** Engineer works are seen to be vital to the stability of the defence. Of course, such work is an all-arms, and not just an engineer responsibility. Complete preparation of an army group's defensive belts is said to require 8-10 days and nights.
- a. *First Priority.* Divisions occupying defensive belts concentrate first on: digging weapons pits and trenches; constructing OPs, CPs and medical centres; creating obstacles in front of the FEBA, in gaps in the combat formation and to the flanks; preparing fields of fire for anti-tank weapons; preparing lines for counter-penetration and counter-strikes and routes to such lines; preparing bridges and other vital targets for demolition; establishing water supply points.
  - b. *Second Priority.* After the initial tasks are completed, work will be done to: integrate weapons pits into section, then platoon, trenches and prepare alternate positions for tanks and other weapons; improve deployment lines for counter-moves and routes to them; increase the density of obstacles in front of the FEBA, in depth, to the flanks and in gaps.
0525. **Reconnaissance.** With the initiative in the hands of the attacker, timely intelligence is vital to forestalling the enemy with a counter-preparation and to prepare counter-moves in good time. The organization of reconnaissance includes: the planning and issuing of missions to troops executing reconnaissance tasks, including the establishment of a reconnaissance reserve; the coordination of reconnaissance efforts with combat and combat support; the organization of

communications, including with groups operating in the enemy rear; the collection, assessment, and analysis of information and dissemination of intelligence to higher, lower and flanking formations.

0526. ***Deception and Camouflage.*** It is crucial to deceive the enemy as to the concept of the defence and the missions to be executed by the defending formations and to decrease the effectiveness of high precision strikes. Measures include: the concealed movement of troops and secret occupation of defensive positions; the establishment of all types of concealment (against optical, radar, EW, thermal, magnetic and acoustic intelligence gatherers) to hide the main forces and vital targets; the establishment of dummy operational formations (or parts of them), SSM deployments and CPs and a deceptive system of engineer obstacles and positions; the establishment of a security zone or forward positions to conceal the actual FEBA; the establishment of dummy airfields and EW sites; the use of the media to spread disinformation. All measures of operational deception are interconnected and coordinated in terms of time, place and objectives.

### **CONDUCT OF A DEFENSIVE OPERATION**

0527. ***Before Penetration of the FEBA.*** Much will depend on whether the defence is assumed in or out of contact with the enemy. If out of contact, the army group initiates the engagement by hitting the enemy on the distant approaches with air and missile strikes especially with high precision weapons, principal targets being high value systems, the main groupings, airfields, air defence forces, CPs and key logistic elements. Ideally, if intelligence warning and preparation time allow a surprise counter-preparation is executed by air, missile and artillery strikes before the attack is launched. (An army group level counter-preparation is fired over a period of 25-30 minutes with an artillery density of 40-50 weapons per km. It is normally conducted on a 20-25 km wide sector on the junction of two armies, and to a depth of 25-30 km.) If the army group transitions to the defence in contact, or worse, when facing a counter-strike in the course of the offensive, the defence will be much more difficult to establish as operations will commence before preparations are completed and reorganization executed in accordance with the concept for defence. In such circumstances, elements of the army group may have to continue their attack in order to seize an advantageous line. In either eventuality, during the actual start of the attack, all weapons that can be brought to bear will open intensive fire to disrupt attacking groupings, separate tanks from infantry and suppress fire support, and in this way create favourable conditions for the destruction of mechanized forces by the anti-tank system. As soon as the enemy's likely or actual axes of attack are identified, measures will be undertaken to reinforce these to increase the density of anti-tank weapons and obstacles and to increase the depth of the defence: the mission of the air forces, artillery, mobile anti-tank reserves and other troops will also be adjusted and confirmed.
0528. ***The Tactical Zone of Defence.*** The first two defensive belts (ie, the zone extending 60-80 km from the FEBA) are known as the tactical zone of defence.

Generally speaking, Genforce believes that defensive success will depend on preventing penetration beyond this zone. If the enemy succeeds in breaking through this first operational echelon of the defence, it will be very difficult to prevent him from committing his operational exploitation forces and generating momentum and operational manoeuvre in the less densely held operational zone of defence: once the enemy has managed to achieve a tempo of 30 km or more per day with a significant grouping, he will be all but unstoppable. Therefore, Genforce will always commit the second echelon and reserves of first echelon armies to preserve the integrity of the first defensive belt, or at least to the defence of the second belt if that appears hopelessly impractical. Usually, the primary role of the army group's combined arms reserve will be the reinforcement of, or counter-penetration in, the tactical zone, and its second echelon's main task will be the execution of a counter-strike to destroy any major penetration and restore the stability of the defence of that zone.

0529. ***On Penetration of the Main Defensive Belt.*** Where the enemy achieves penetration, advantageous positions are firmly held and measures are taken to prevent enemy advances into the depth or against the flanks of stable defensive groupings. Counter-attacks are mounted at divisional level to destroy minor penetrations and restore the main positions. If faced with a major penetration however, the second echelons of divisions will be ordered to hold depth defensive positions and delay the enemy. As the breakthrough of the tactical zone of defence develops, army mobile anti-tank reserves and MODs are moved to the threatened axes and other forces are redeployed thence from secondary sectors. Any units that are by-passed or encircled hold their positions firmly and absorb as much of the enemy's forces and attention as possible. Such units will be given as much air and artillery support as possible (including aerial resupply). Encircled forces will only be given permission to break out and withdraw when their actions in the encircled position cease to tie down substantial forces. While the battle for the tactical zone continues, further depth is added to the defence on the threatened axes, with army and army group engineers preparing new defence lines and developing the obstacle system.
0530. ***Operational Level Counter-Strikes.*** The counter-strike (the term counter-attack is used only at the tactical level) is seen as the key to successful defence. No matter how well prepared, forces which defend passively are foredoomed to defeat.
- a. ***Counter-Strike Missions.*** At any level, the immediate mission of the counter-strike is the destruction of the enemy by hitting the flanks or rear of the main enemy grouping. Subsequent missions will include the complete elimination of the penetration, the restoration of the integrity of the defence and the defeat of enemy reserves advancing to the area. In the most favourable of circumstances, when the enemy has committed all his reserves, has taken heavy losses, has had his troop control disrupted and has lost air superiority, the immediate mission may be to encircle and destroy the main enemy grouping and the subsequent mission may be the seizure of favourable lines in the enemy's depth from which a general army group counter-

offensive may be launched. The counter-strike is a more limited blow designed only to destroy enemy elements and restore the integrity of the defence. It exploits a temporary enemy vulnerability to inflict a decisive blow against an important grouping.

- b. *Execution of Counter-Strikes.* Ideally, counter-strikes are mounted against penetrations that have been disrupted and stopped. In extremis, they may, however, be launched against a grouping that is still advancing, in which case a meeting engagement will result. They are preceded by a short but intense artillery and air preparation and executed into the flanks of the penetration, exploiting gaps and ruptures in the enemy's operational formation. The flanks of counter-attack groupings are protected by mobile anti-tank reserves and MODs, and measures, especially air interdictions and remote mining, are undertaken to prevent enemy counter-action by reserves. After the restoration of the defence, the troops are regrouped so that a deep operational formation and reserves are reconstituted. Alternatively, if the enemy's reserves are exhausted and his deployment unbalanced, the counter-strike may be developed into a counter-offensive.
- c. *Army Level Counter-Strikes/Penetrations.* Army level counter-strikes are launched either on the instructions of the army group commander or on the basis of the army commander's decision, approved by army group. They are supported by a maximum effort of army group assets (especially air), and elements of the army group combined arms or special reserves may also be committed. If the enemy attack is very strong, army second echelons may be used, not for counter-strike, but to hold prepared lines in depth: in the event of a break into the second defensive belt with significant forces, the most important tasks become stopping the advance, inflicting maximum losses, isolating the penetrating force from follow-on groupings, preventing the movement of enemy reserves and creating favourable conditions for mounting an army group counter-attack.
- d. *Army Group Counter-Strikes* are generally launched to destroy enemy forces on the most decisive axis. Counter-strikes aim to destroy the penetration and recover ground lost during the enemy attack. It is also possible that the containment of the enemy offensive will trigger the mounting of a counter-offensive by an army group or even by theatre. This may be launched on a weak enemy sector adjacent to the penetration rather than against the halted enemy strike grouping itself. It may aim merely to restore the state border or it may continue into adjacent territories: the scope of a counter-offensive is a political decision. On other axes, supporting combat is conducted by first echelon armies. The most favourable conditions for the army group counter-strike against the enemy penetration exist when first echelon armies maintain their combat capability and firmly hold positions on the flank of the penetration, when the enemy spearhead is halted or appreciably slowed and when the enemy has taken heavy losses and committed at least his immediate reserve. Ideally, the army group counter-strike should be launched against both flanks of the penetration as this

gives the best chance of getting into the enemy's rear area and encircling the penetration. However, terrain, or the time involved in moving elements to one flank, may preclude a double envelopment: time is not an element that can be sacrificed, particularly if surprise may be compromised. To launch the army group counter-strike, as many forces must be used as can be brought to bear, ie, the army group second echelon and combined arms and special reserves, all the available resources of the air force and those elements of the first echelon which are in the vicinity of the counter-strike, possibly (if the air situation permits) combined with air assaults to block any retreat or the forward movement of enemy reserves: the counter-strike cannot be decisive if it uses insufficient troops to gather a significant superiority over the enemy. If it is not decisive, the army group will have expended its last resources and will be in a poor shape to cope with a renewed enemy offensive.

0531. ***Enemy Airborne and Heliborne Assaults.*** The enemy will endeavour to unbalance the defence and increase his momentum through the use of tactical and operational assaults. Initially, these will be combated by air defence troops and aircraft. If they succeed in landing, they must, where possible, be destroyed before they have time to organise, or at least before they can seize and consolidate on their objectives. This task belongs to the air forces and the anti-landing reserve, or where the latter is not formed through shortage of troops, elements of the second echelon or reserve.

## **SECTION 4 - ARMY DEFENSIVE OPERATIONS**

### **CIRCUMSTANCES IN WHICH DEFENCE IS ADAPTED**

0532. ***Reasons for Assuming the Defence.*** As with army group, army level defensive operations used to be considered a forced and temporary form of combat employed in support and in the interests of offensive actions (ie, to inflict losses on the enemy's strongest groupings and thus support the conduct of offensive operations on an important direction of the theatre). While army defensive operations were always going to be more frequent than those of a whole army group, they may now become commonplace. An army may act on the defence in the following circumstances:
- a. ***Army Group Defensive Operation.*** An army defensive operation may be within the context of an army group defensive operation (whether at the beginning of a war or during the course of operations). In this context, it may defend in the first echelon, either on a main or secondary axis, or it may act in the second echelon, where its primary role is to launch counterblows.
  - b. ***Army Group Offensive Operation.*** There are several circumstances in which an army may act on the defensive while most or all of the rest of the front continues to advance: eg, when the enemy launches a counter-strike; when defending a bridgehead; when repelling enemy attempts to break out of

encirclement; as an economy of force measure, defending an extended frontage to free forces to concentrate on an offensive axis.

- c. *Forced Defensive Action.* Defence may be forced on an army: by heavy losses inflicted by high accuracy conventional weapons or massed air attacks; by the enemy overtaking the army in deploying; by defeat in a meeting engagement; by encountering an enemy with superior forces.

0533. ***Problems in Transitioning to Defence.*** Going over to the defensive during the course of an offensive will often be done in an adverse ground and/or air situation, even under enemy attack. The main forces of the army will probably be already engaged in combat, with divisions at varying depths and on different axes. All elements of the army may not transition to defence simultaneously: some may continue to attack to seize favourable lines from which to defend, and others may have to deal with enemy air assaults in the rear. Often, an army will have to conduct its defensive battle with little or no help from army group, the higher formation having concentrated its efforts either on continuing the offensive on another axis or on supporting the defence on a more dangerous axis. Of course, an army assuming the deliberate defensive ahead of the enemy's attack and on ground of its own choosing will be considerably better placed to create a stable, enduring defence.

#### **AIMS AND MISSIONS OF DEFENCE**

0534. ***Aims.*** The aims of an army defensive operation will include some or all of the following: repel an attack or counter-attack by superior forces; inflict maximum losses on the enemy; support the development of an attack on an important direction; hold vital operational lines or areas; cover the flank of an army group main grouping; restore the combat capabilities of the army when it has taken such heavy casualties that it cannot continue to attack; create favourable conditions for the initiation of an attack, either by the army or by other formations.

0535. ***Mission.*** In pursuance of these aims, the army's missions will be: to destroy enemy high precision and other key weapons systems and inflict heavy losses on the enemy's main grouping as it approaches and deploys to attack; repel the enemy attack and hold vital ground; destroy any enemy groupings penetrating through the depth of the defence; repel any sea or air landings; create conditions for a transition to the offensive.

#### **SCOPE, OPERATIONAL FORMATION AND TASKS**

0536. ***Scope and Echeloning.*** The breadth and depth of an army's sector will depend on: the importance of the axis; the assessment of the enemy's strength and intentions; the strength of the army; the nature of the terrain (in mountainous, desert or arctic terrain, an army will defend a wider sector than in normal terrain as the enemy will be restricted in his choice of axes).

- a. *Main Axis, High Level of Threat.* Where an army is required to deny a

strong enemy any significant penetration it will be deployed on a limited frontage and will have to have a significant counter-strike capability. Thus, on the most threatened directions, defending first echelon divisions will cover only 20-25 kms of front. This will give them the density of anti-tank defence which is considered sufficient to stop an attack within the first defensive belt. Genforce calculates that, with 15 major anti-tank systems per km of front, 65% casualties will be inflicted on the maximum density that an attack can achieve in a single wave, ie 40 tanks per km: such losses will certainly halt the attacker. Of course, this density of defending systems must be that confronting the attacker after artillery preparation has taken its toll, so an original strength of over 20 per km is necessary to absorb losses and still promise a reliable defence. A traditional MR division with 9 MR, 4 anti-tank and 6 tank battalions deployed on a 20 km sector will have a density of 25 major anti-tank systems per km, including 20 in the first echelon if all the MR regiments are deployed therein. If it occupies a frontage of 30 km, the density will fall to 17 and 14 respectively. (These are, of course, average densities and will be greater on the most tank-threatened directions). To eliminate any penetration achieved, the counter-attack force will need a favourable force ratio of at least 5:1 to be sure of success. Thus the army second echelon will need to comprise at least a division, as well as a largely intact second echelon of the penetration division, to be sure of eliminating a penetration equivalent in strength to a weak brigade. A stronger second echelon, up to half the army's strength, will be required if a stronger enemy irruption is expected.

- b. *Secondary Axis, Moderate Level of Threat.* On those axes where a strong, deeply echeloned attack is not anticipated and a limited degree of penetration is acceptable, first echelon divisions may positionally defend 30 km sectors and a second echelon strong enough only to conduct successful counter-penetration, or destruction of very minor advances will be acceptable. Even longer defensive frontages may be allocated if ground can be traded for space and time and, in consequence, manoeuvre defence becomes acceptable.
- c. *Passive Sectors* are those where the enemy too is on the defensive. Here, it is often possible to leave only screening forces which conduct manoeuvre defence if attacked.
- d. *Creation of an Operational Pocket.* In some circumstances, it is possible that army group will be prepared to accept substantial penetration on the main axis in order to lure the enemy into an operational pocket. In that case, the defence of the tactical zone will be as weak as on a secondary axis, but the third defensive belt will be strongly held, as will switch lines to the flanks of the penetration, so that the attacker can be halted in the area selected for his destruction by a strong counter-strike mounted by the army group second echelon supported by that of the army as well.

0537. **Operational Formation.** Diagram 5-2 illustrates a typical defensive layout of an army of 5 divisions. A major blow is expected on the left of the army's sector, and the two first echelon divisions astride the main axis are deployed on a 25 km frontage. The other first echelon division, situated on a passive sector, is covering 50 km. Two divisions are held in the second echelon to deliver a powerful counter blow or to ensure reliable counter-penetration if the attack proves very strong. The following sub-paragraphs go into the operational and tactical formation in more detail.

See Diagram 5-2.

- a. *Selection of the FEBA.* The selection of the FEBA will often depend on the conditions in which the army goes onto the defensive. First echelon forces doing so in the course of an attack usually do so on the lines they have reached, though sometimes only after seizure of more favourable terrain further on. Sometimes, it is seen as desirable to establish the first defensive belt on a favourable line within the depth of friendly territory, cover for its preparation being provided by forward units. The FEBA is designated by the army commander and confirmed on the ground by divisional and regimental commanders. The number of defensive positions created within the defensive belt of each division and their precise location is specified by individual divisional commanders.
- b. *First Echelon.* The tasks of the first echelon are to repel enemy attacks with maximum casualties, prevent penetration and, should that be impossible, to hold vital ground and support the second echelon (reserve) counter-strike. Generally, the bulk of the army is deployed in the first echelon.
  - (1) **SECURITY ZONE AND FORWARD POSITIONS.** Whenever possible, a security zone is established in front of the first defensive belt. This is at least 15-20 km deep but could extend forward up to 50 km in deliberate defence. It is held by forward detachments of combined arms sub-units drawn from the second echelon regiments of first echelon divisions. These conduct a mobile defence, withdrawing from one prepared position to another when the pressure grows too strong. Their purpose is to delay the enemy, force him to deploy and attack on unfavourable directions, and detect his grouping and intentions. The battle for the security zone is supported by strong combat support elements, especially artillery. On the most important directions, 3-5 km forward of the FEBA, forward positions may be established by sub-units detached from first echelon regiments. These may comprise the final positions of the security zone. If, however, the army has gone over to a hasty defence, it may not be possible to establish a security zone at all, and the only deployment forward of the FEBA will be the forward positions. Their role is to deceive the enemy as to the layout of the defence, prevent surprise attacks on the FEBA and force premature deployment on the enemy.



- (2) **FIRST DEFENSIVE BELT.** First echelon divisions establish the first, usually the main defensive belt. Within it, each division will hold three or more positions, with each regiment holding two defensive positions and each battalion, one. The basis of each position is company strongpoints, integrated into battalion defended areas, each 3-5 km wide and about 2.5-3 km deep, with gaps of up to 5 km between such battalion positions. Generally, a regiment is responsible for a frontage and depth of up to 10 km each, and a division for a sector up to 30 km wide (as little as 20 km on a key axis) and 20-30 km deep.
- c. *Second Echelon.* The strength of the second echelon will depend on the army's strength, the width of the army's sector, the army's mission, the importance of the axis, the conditions under which defence was undertaken, and the strength of the enemy. The normal mission of the second echelon is to launch counter-strikes, but in the event of an attack too strong to be defeated at army level, the second echelon will be used to reinforce the efforts of the first echelon on the main axis, possibly relieving troops that have lost combat effectiveness, or to hold firmly in the second or third defensive belt, or to hold a line which will canalise the enemy into an area where he can be destroyed by an army group countermove. The second echelon may also have the mission of destroying enemy air landings. The initial deployment area of the second echelon is likely to be in the second defensive belt (ie, at the rear of the tactical zone of defence, about 50 km from the FEBA): elements may also be found in the third defensive belt, about 50 km from the second, though this will often be only prepared, but not manned initially. The location of these belts will depend on the terrain, the likely character of the enemy's actions, and the concept for the army's operation.
- d. *Reserves.* A combined arms reserve will be formed when there is no second echelon created. Even if there is a second echelon, a small combined arms reserve may be established to destroy enemy air assaults or cope with other unexpected missions: an army's separate MR or tank regiment could form such a reserve. Usually, in fact, a dedicated anti-landing reserve will be created, which may include the army air assault battalion as a rapid reaction force. Other special reserves that may feature in the operational formation are engineer, chemical defence and medical reserves. There will always be an anti-tank reserve, based on the army separate anti-tank regiment but often reinforced with other artillery, tank and/or motor rifle assets. This almost invariably works in tandem with a MOD. The anti-tank reserve and MOD will deploy on or near the most important or most threatened direction ready to move quickly to pre-reconnoitred counter-penetration positions.
- e. *Missile Troops and Artillery.* If on an important axis, the army may be reinforced with army group assets.

- (1) **SSM BRIGADE.** The brigade has one main and one or two alternative deployment areas. Positions are 60-80 km from the FEBA, to the flank of the likely direction of attack. The brigade's principal tasks are: the destruction of high accuracy and other key weapons; strikes on the enemy's main forces and his airfields; disruption of troop control; destruction of air defences; disruption of logistic support.
- (2) **ARMY ARTILLERY GROUP.** An AAG may not be formed, particularly if the army is defending a very wide sector, or if there is no axis more obviously important or threatened than any other. If formed, the AAG deploys on the most important axis, probably about 10-12 km from the FEBA (having started further forward if it was used to support the battle for the security zone). The principal tasks of the AAG are: the destruction of high value weapons; counter-bombardment; reinforcing the artillery of first echelon divisions; disrupting the approach and deployment of strike groupings (including, if possible, a counter preparation); supporting the launching of counter-blows; inflicting casualties on, and separating, enemy tanks and infantry in the assault; destroying enemy CPs and logistic elements; aiding the destruction of air or sea landings.

## **ORGANIZATION OF THE FIRE SYSTEM**

0538. ***The Fire System.*** The fire system is combined with the system of natural and artificial obstacles and comprises the following:

- a. ***Long Range Fires.*** Short but powerful fire strikes by one or several artillery battalions are planned on obstacle crossings, defiles, road junctions and likely routes approaching the FEBA.
- b. ***Fire to the Immediate Front.*** Massive fire concentrations and barrages, both moving and standing, are prepared on several lines in front of the FEBA (but approaching no closer than 400 m from friendly positions). Such fires are planned on likely FUPs and approaches.
- c. ***Fire in the Depth of the Defence.*** In depth, both fire concentrations and barrages are planned in likely areas of penetration and on the axis of planned counter-attacks (strokes) and to the flanks.
- d. ***Anti-Tank Defence.*** Particular attention is paid to anti-tank defence throughout the defended area, but especially on the best tank approaches. The anti-tank capability of a tank or MR division is said to be capable of repulsing the attack of two enemy divisions. However, the defence of a division may be reinforced by troops from a less threatened direction or by an army anti-tank reserve and MOD. Anti-tank weapons are deployed within the defended positions of battalions (for the most part, within company strongpoints) on tank-threatened axes, and several alternative firing lines for the anti-tank reserves are pre-designated and, if possible, prepared.

0539. **Organization.** The principal organizers of the fire system are the divisional commanders. The army commander, however, is responsible for: coordination between divisions; conducting the manoeuvre of fire to threatened areas and to cover boundaries and flanks; organizing a counter-preparation; organizing the preparatory and support fire for counter-attacks (strikes); calling on fire from second echelon or flanking formations.

## **CONDUCT OF AN ARMY'S DEFENSIVE OPERATION IN POSITIONAL DEFENCE**

0540. **Security Zone Battle.** When a security zone can be established, the forces allocated to it (forward detachments) hold critical positions on the main approaches. They are supported by strong artillery groupings engaging from temporary fire positions, with gun and MRL artillery hitting targets 15-25 km and howitzers targets 10-15 km distant. Also located in the security zone will be depth fire systems such as SS-21 and heavy MRLs to hit the enemy on distant as well as on the near approaches. During the fight for the security zone, the direction of the enemy's main attack is determined. First echelon divisions improve their defences, reconfiguring their plans and regrouping as necessary onto critical axes.
0541. **Counter-Preparation.** The counter-preparation is designed to inflict heavy losses and disruption and delay on enemy forces preparing to attack the FEBA. To fire a counter-preparation, a division needs 3-5 hours planning time, but at army level, 6-8 hours will be needed. A successful counter-preparation needs a lot of artillery - 30-40 guns, MRLs and mortars per km. To produce the right density, army will involve not only the artillery of the threatened divisions and the AAG, but also the weapons of adjacent formations and sometimes of second echelon formations as well. To be successful, a counter-preparation must also take the enemy by surprise, preferably as the enemy is completing his attack preparations, and be based on accurate reconnaissance data. It usually lasts 25-40 mins, with fire reaching 10-15 km over the FEBA (20-30 km if airpower is deployed as well) and it is combined with the jamming of enemy artillery and air support nets.
0542. **Spoiling Attacks.** A counter-preparation may well be followed by a spoiling attack to inflict further casualties, disruption and delay. Usually, elements of the army second echelon (reserve) will be used in this role to avoid compromising the stability of the defence.
0543. **Halting the Enemy Penetration.** The first echelon divisions are expected to fight a stubborn, defensive battle. They will rarely mount counter-attacks on their own. Penetrations that are being made through company strongpoints on the FEBA will trigger the deployment of the regimental ATR and MOD, and perhaps of elements of the regimental second echelon to reinforce the defence of FEBA battalion positions and plug the gaps between them. If, on the other hand, the enemy gains momentum early, the regimental second echelon, ATR and MOD will defend from their positions and switch lines to contain the wedge

that is being driven into the defence. Similarly, the divisional second echelon, ATR and MOD will usually be deployed forward to reinforce the defence of either the first or second defensive positions (ie, of the first echelon regiments) if the attack is so strong that it cannot otherwise be checked. If the enemy tempo preempts this option, then the divisional second echelon will fight from its original positions, probably being reinforced to do so by the army ATR and MOD and probably elements of the army reserve also. If the only way of stopping the enemy is to deploy yet more forces, then the army's second echelon too will be deployed for counter-penetration to try and prevent a breakthrough of the tactical zone of defence.

0544. ***Combatting Enemy Attempts to Conduct Deep Battle.*** The enemy is expected to try and break up the cohesion of the defence through the use of air landings and forward detachments in both the tactical zone of defence and operational-tactical depth, in this way creating conditions favourable for achieving a breakthrough. These must be countered promptly by artillery and air-attacks (both rotary and fixed wing), by the actions of dedicated anti-landing reserves and, if necessary, by second echelons at all levels. Rapid response is stressed to eliminate such threats before the enemy is able to seize his objectives and establish a firm defence on them.
0545. ***The Place of Counter-Blows in Defence.*** The counter-attack (strike) is considered the decisive moment of the defensive battle/operation. For this reason, all available resources are committed to it. If it succeeds, it regains the initiative and alters the correlation of forces in favour of the defender. Ideally it will create favourable conditions for the mounting of a counter-strike or even counter-offensive by the next highest formation. At least, providing it is successful, it will restore stability to the defence and win crucial time. If, on the other hand, it fails, it will worsen dramatically the position of the defender. He will have expended his last reserves to little effect, often leaving them ill-placed to prevent enemy reserves or second echelons from renewing the momentum of the offensive and perhaps expanding its scope. For this reason, Genforce will usually only mount counter-blows if it is sure of success.
0546. ***Preconditions for Initiating Counter-Blows.*** Genforce will only deliver a counter-blow if its outcome will substantially influence the future course of the battle or operation. Thus, unless it be a desperate move to gain time and/or distract the enemy it will only be contemplated if it is all but assured of eliminating the enemy penetration. This implies the achievement of the following conditions:
- a. ***Intact Defence.*** The attacker must be halted, or at least slowed to a crawl, if a counter-attack (strike) is to be preferred to counter-penetration. His forces and their command and control should be disrupted. He must already have committed his immediate reserves and be unable to generate more combat power before the blow falls.

- b. *Correlation of Forces.* A favourable correlation of forces must be achieved. This means 3-4:1 operationally in the event that an army is being committed to an army group counter-strike and 5-6:1 on that army's key tactical axis, and, of course, 5-6:1 in the event of an army's second echelon division (or a division's second echelon regiment) being committed to a counter-attack. The favourable force ratio must be maintained for the duration of the battle by using air interdiction, remote mining and, if possible, air assaults to fix or delay enemy deep reserves.
- c. *Local Air Superiority* is essential to ensure the timely, undisrupted arrival of the counter-blow force, the neutralization of enemy fire support and reserves and the unfettered use of close air support and air assaults.
- d. *Surprise* is crucial to catch the enemy before he has transitioned from an offensive to a defensive posture. This need not be a surprise as to intention or direction, though these are plainly desirable, but may merely be surprise as to the scale and timing of the blow. If it is achieved, surprise may compensate for a less than optimum correlation of forces, particularly if the enemy is disorganized and his command or control impaired.

0547. ***The Timing and Axes of a Counter-Blow*** are critical, especially the former.

- a. *Timing.* As already mentioned, the blow must be launched before the firmness and sustainability of the defence is compromised. In practice, this equally means, in the case of an army level counter-blow, before the enemy has penetrated beyond the depth of FEBA battalions and widened his penetration and/or generated even tactical manoeuvre in the less densely defended depth of the tactical zone of defence. This stricture faces the commander with an exceptionally difficult problem of timing. To illustrate this problem, assume that a second echelon division located 80 kms from the FEBA is to counter-attack elements of two enemy brigades that are wedged into the defence. With a line of departure say 20 kms from the FEBA, the time required to execute the physical move will be at least 3-4 hours by day or 4-6 by night. To this must be added: the time taken to finalize plans; issue orders; deploy traffic control, air defence, engineer and chemical troops to support the march; deploy and organize fire support and interdiction measures; update coordinating instructions. Some of these measures can be accomplished even as the troops are moving, but even so they must double or treble the time required to launch the attack. That means that the army commander must make his decision up to 9-18 hours before the blow can be delivered. This requires very good intelligence and confidence in operational-tactical calculations and foresight of a high order to identify in advance the enemy's culminating point. It also assumes that the commander will be able to bend the enemy to his will and so shape the battlefield that, when the blow falls, it will do so at the right place and time. This is difficult to accomplish when the enemy enjoys an overall superiority and the initiative. It also puts a premium on much detailed prior planning and preparation and on efficient drills.

- b. **Axes.** The direction of the counter-blow is determined by the aim, by the terrain, and also by the time taken to achieve a concentration on one axis rather than another. Normally, it is mounted against one or both flanks of the enemy penetration as the most likely way quickly to cut off spearheads from their reinforcements, attack enemy fire support weapons and CPs and split up and destroy his forces piecemeal. However, head on blows to cleave the enemy are not excluded: they may be dictated by the terrain, or the lack of time to move forces to a flank, when it would achieve surprise, or when it is necessary to re- establish the defence on a specific favourable line. Whichever axis is chosen, routes to the line of departure and deployment lines will have been chosen and prepared in advance, and lines to cover them should be firmly held. (Counter-attacks are planned for two or three sectors, with one or two deployment lines per sector, about 10 km apart.) The necessary superiority over the enemy must be achieved. To this end, the army second echelon (reserve) will be reinforced by forces of the first echelon on the direction of the counter-blow and, after regrouping, by other first echelon elements drawn from sectors not under heavy pressure. The counter-blow must be preceded by powerful fire strikes, and the bulk of the army level artillery will be committed to this end with that of the second echelon and as much of the first echelon's as can be brought to bear. This is also seen as the time for the maximum committal of air support, with the especially important task of isolating the penetrating enemy force and delaying the forward move of reserves.

0548. ***The Conduct of a Counter-Attack*** by an army's second echelon division is illustrated in Diagram 5-3. It will be seen that a force of about 2 enemy brigades had wedged itself into the defence, on one sector having overrun a defending battalion. The committal of the regimental second echelon and the ATRs and MODs of both regiment and division, combined with attack helicopter and artillery fires and remote mining have, however, halted the attack. In anticipation of this, the army commander has ordered a flank counter-attack by his second echelon tank division. This attack will be supported by another flank blow mounted by the divisional second echelon which is to be reinforced by the second echelon battalions of a forward regiment not heavily engaged. The other first echelon regiment will launch a joint attack to deceive the enemy. Fire support will come from the DAGs of both first and second echelon divisions, their RAGs (not shown) and the AAG. Air and MBRL strikes will neutralize the enemy fire support and identified HQs in conjunction with electronic attack. Meanwhile, remote mining and air strikes will impose delay on approaching enemy reserves. Should the commander's calculations about the steadfastness of the defence prove to be wrong, he can always cancel the counter-attack and use the designated forces, or elements of them, for counter-penetration. In that case, the mounting of a decisive counter-strike will have to be done by army group.

See Diagram 5-3.

## CONDUCT OF AN ARMY DEFENSIVE OPERATION IN MANOEUVRE DEFENCE

0549. **Aims.** Manoeuvre defence is designed to win time and wear down the enemy while avoiding becoming involved in a decisive engagement with superior forces. Particularly at the operational level, it is not regarded with enthusiasm by Genforce. It leaves the initiative firmly in enemy hands, it sacrifices much ground and it is very difficult and risky, having a tendency to degenerate into a rout or become a fierce fight against superior forces in adverse circumstances. Generally, it is a form of defence adopted only when forced upon Genforce, either because the enemy has achieved surprise as to the timing and/or axis of his offensive or because of defeat in positional defence. The only time it is likely to be the method of choice is when the enemy is to be lured into an operational pocket for destruction by an army group counter-strike or offensive. In all cases, Genforce will determine a line on which manoeuvre defence will have to stop because an operationally or strategically vital area must be defended. When it reaches that line, which ideally will be occupied or at least prepared by operational reserves, the army will transition to positional defence or, better still, be withdrawn into reserve for refitting.
0550. **Mission.** The army's missions will be: to destroy enemy high value weapons systems and inflict losses on the enemy main grouping while refusing to become decisively engaged; to conduct a phased withdrawal, usually according to a timetable laid down by army group; transition to positional defence on a designated line and repel any attacks on it; repel or destroy any sea or air landings; create conditions for a transition to the offensive.
0551. **Scope.** Frontages and depths of an army defence will vary more widely in manoeuvre than in positional defence, but they will always be greater in the former. Often, they will be dictated by circumstances over which Genforce will have little control. They will be dependent on the mission, the relative strengths of the opposing sides, the nature of the terrain and obstacles, the time that has to be won and the time and resources available to prepare successive defence lines. By stretching sub-unit and unit defences to the utmost while still retaining balance, divisions will be able to delay on frontages of up to 60 km on the most threatened axis and up to 80-90 km on passive sectors (assuming normal terrain). Thus an army of 4 divisions, employing one of them in the second echelon, could conduct manoeuvre defence on a frontage of 180-220 km, depending on the threat. The depth will vary from 80-90 to 150 km or more from the first to the last positions, depending on how much ground can be given up.
0552. **Operational Formation and Layout.** Given that the aim is not to stop the enemy in the tactical zone of defence (which requires a force density incompatible with manoeuvre defence), it would be inappropriate to put the main weight of the defence forward. Rather, the problem is to ensure that, when trading space for time, there is always one foot firmly on the ground when the other is being withdrawn to the next line and there is a counter-penetration/attack force capable of denying the enemy the ability to generate momentum

and deep operations. Thus, the tendency is to deploy the first echelon divisions into two approximately equal echelons whenever frontages permit and to keep an army second echelon or reserve capable of limited counter-moves, typically a division and a separate regiment. In difficult terrain, where the enemy is limited in his choice of axes and cannot easily switch forces laterally from one to another to exploit opportunities, it would, however, be possible for an army to deploy in a single echelon with relatively small reserves. In either case, units and usually sub-units also must be tactically independent combined arms groupings for they will frequently be forced to fight apart from the main forces. At all levels, ATRs and MODs and anti-landing reserves assume an even greater importance than in positional defence as the enemy will find it easier to achieve penetrations and to conduct vertical envelopment. Ideally, an army conducting manoeuvre defence will be reinforced with additional elements from army group to carry out these tasks. Strong attack-helicopter and air-delivered mining assets are considered particularly useful. With extended frontages to cover, and no obvious point of main effort for the enemy, an army may not form an AAG or even an AGRA, instead decentralizing artillery to divisions to strengthen their fire support. If, on the other hand, one axis is particularly threatened, either ab initio or during the development of the operation, an army may form either or both for the manoeuvre of concentrated fires and remote mining. The SSM brigade will be positioned to cover all likely axes with deep fires. Diagram 5-4 illustrates the layout of a manoeuvre defence by an army of 4 divisions.

0553. ***Conduct of the Operation.*** For the sake of clarity, the course of the operation will be described sequentially, but it should be understood that, in manoeuvre defence even more than positional, phases are likely to overlap or merge. The enemy will be trying constantly to destabilize the defence, penetrating through gaps and weak spots and executing air assaults with the intention of trapping and annihilating some defending groupings and turning the orderly, carefully phased withdrawals of others into a rout in which the defender is destroyed in parallel pursuit.
- a. *Approaches to the Defence.* Aviation, missiles, long range artillery and SPF detachments will inflict attrition as the enemy advances on the first position. If possible, forward detachments will impose delay, canalize the enemy, force him to reveal his intentions and to concentrate for attacks, thus presenting lucrative targets.
  - b. *Delay on Successive Lines.* The distances separating the lines to be defended will vary according to the terrain: obviously, wherever possible the lines will be behind obstacles. The enemy should have to reform his tactical march columns and displace his artillery forward (together with any ammunition he has dumped to mount his attack) so that he has to repeat the time consuming process of deploying against each line. Thus regimental lines should be separated by at least 8 km and will more usually be 12 km or more apart. Each defended position should be strong enough to repulse an attack from the line of march, with ATRs and MODs plugging



any penetrations into or between positions. The enemy will then be forced to mount an attack with detailed preparation. Ideally, the forward regiments will withdraw before such a blow can be delivered, their “break clean” being assisted by powerful fire strikes, remote mining and the actions of ATRs and ambush groups. They will pull back through the positions of the second echelon regiments to occupy the next line behind them. In this way, the two echelons of each division leapfrog backwards. It may happen, of course, that an echelon will have to remain long enough on one line to repulse an attack with detailed preparation, either to allow time for the next one to be properly prepared and occupied or to eliminate a lodgement made on vital ground on the next line by enemy air assault troops and/or forward detachments. It is also possible, even likely, that units and sub-units will not succeed in “breaking clean” and that they will have to fight a running battle. In this case, encircled elements and rear guards may have to be sacrificed.

- c. *Counter-Attacks* will be much more common in manoeuvre than in positional defence. They will, however, have a fundamentally different purpose. There will be no attempt to retake and then hold ground. Even destruction of the enemy may be a secondary task. For the most part, counter-attacks are mounted to check or destroy penetrations, to eliminate enemy forces conducting deep battle (especially air assault and forward detachments), to assist forces heavily engaged on a defended line to break contact and withdraw, and to win time for the preparation of depth positions. Because they are not expected to be decisive blows against an enemy who has reached his culminating point, they may be executed with poorer force ratios than are required in positional defence, and their objectives will be correspondingly shallower.
- d. *The Final Defence Line*. Ideally, when the line for transitioning to positional defence is reached, the army will redeploy to achieve the sort of “front loaded” defence, with normative densities in the first echelon, that positional defence requires. This will rarely be possible, however, unless either fresh troops are available to form at least part of the final line or unless the enemy is not pressing the withdrawal closely.

See Diagram 5-4.

## SECTION 5 - REACTION TO ENCIRCLEMENT

0554. **General.** Historically, the most decisive engagements, inflicting the heaviest casualties, were generally encirclements. These are seen to be even more likely in modern warfare, given both the increased level of mobility of forces and the availability of airborne and air mobile troops to seal the trap. There are several circumstances in which formations may become encircled: as the result of a surprise attack at the outset of a war; when the support for the flanks of offensive or counter-offensive groupings is inadequate; when forces are defending important areas which cannot be given up; when forces are deliber-

ately left in the enemy rear to defend a city which will interfere with enemy communications and split the attacker's forces; when forces are pressed back onto a obstacle. Genforce has devoted some attention to the correct reactions to encirclement, both to reap benefits and minimise consequences.

0555. ***Costs and Benefits of Encirclement.*** All but inevitably, the enemy sees encirclement as but a prelude to the destruction of the trapped grouping, and success in accomplishing its elimination will usually create a significant gap in the defender's order of battle, further undermining his ability to resist. However, an encircled force can, in certain circumstances, contribute materially to the stability of the defence. It can tie down large enemy forces (usually, at least double the number of defending troops), often for considerable periods. This diversion of resources may decisively weaken the attacker's ability to build up combat power on the main axis. Moreover, a force located in a favourable position in the enemy depth may hamper his manoeuvre and logistic support. Indeed, aggressive action by the encircled forces, perhaps reinforced by or working in conjunction with airborne forces, can create a battle front in the enemy rear, severely disrupting his command and control and rear services. Both for these reasons, and because an unsupported breakout attempt will almost certainly result in the destruction of the encircled grouping, Genforce will always order such a grouping to stand its ground and fight from within encirclement.
0556. ***Successful Action and Survival of Encircled Groupings.*** There are three pre-conditions for surrounded forces to have an impact on the enemy's operations and still survive to break out or be relieved. Firm command and control and adequate logistic stocks or support are crucial, and decisive steps must be taken to ensure that the gap which is opened between the pocket and the main body is not so wide as to preclude operational coordination with, and support from, the main forces.
0557. ***Problems of Organisation Within Encirclement.*** Perhaps the biggest problem facing a grouping in the process of being enveloped is lack of time to organise to cope with the event. The situation is likely to change rapidly, radically and unpredictably. Successfully to cope, speedy reactions are necessary to maintain combat effectiveness. These include: immediate measures to centralise the command and control of all elements within the trapped grouping; an immediate assessment of the combat and logistic capabilities of the grouping, quite possibly with measures to strengthen them before the enemy can organise a tight blockade; redeploying in order to establish a reliable perimeter force and a strong mobile reserve to prevent the enemy from cleaving the grouping into fragments which can be destroyed in detail; the maintenance of stable communications; the creation of a strong air defence umbrella. In addition the main forces, with some help from the pocket, must prevent the enemy from tightly sealing off the encirclement and then increasing the interval between the two. Air power must be able to make up for deficiencies in the combat support of the pocket, and to ensure its logistic support.

0558. **The Breakout.** It is considered unlikely that an encircled force will be able to break out without the aid of the main forces: indeed, the latter will usually play the major role in the exercise and thus dictate the plan. Usually, the axes of the pocketed and relieving forces will be convergent, on the shortest route separating them (though the surprise consequent upon the choice of other axes may be held to outweigh the obvious advantages of this). The immediate mission of the breakout grouping will be to penetrate the inner front of the enemy's encirclement, and the subsequent either to continue the advance against the rear of those enemy fighting the main forces, or to seize and consolidate on an important line (perhaps with the aid of air delivered troops) until link-up is achieved. The enemy will try, not merely to halt the breakout, but to rout it. The operational formation of the encircled forces must be organised with this in mind. Screening forces are needed to cover both flanks and the rear, and these need to be supplemented with strong combined arms and anti-tank reserves and MODs. Extensive use should be made of both forward detachments to lead the breakout (and probably, on false axes as well, for deception) and of raiding detachments to destroy enemy high precision weapons and disrupt command and control.

## CHAPTER 6

### AIR OPERATIONS

#### SECTION 1 - PRINCIPLES

##### THE USES OF AIR POWER

0601. **Characteristics of Air Power.** Genforce appreciates the tremendous reach of airpower, its ability to deliver large payloads with great (and often precise) accuracy, and its speed of reaction at the operational level. These qualities impart to airpower the following characteristics:
- a. *Flexibility and Ubiquity.* Airpower can effectively engage any target set anywhere in the operational or operation-strategic zones, and it can rapidly switch its emphasis from area to area or target set to target set.
  - b. *Responsiveness.* Firepower may be manoeuvred very rapidly across the front and into the enemy's depth.
  - c. *Concentration.* Modern aircraft can bring formidable weights of firepower to bear as long as they are employed en masse or with precision weapons.
  - d. *Surprise.* By virtue of its other characteristics, airpower is capable of producing a sudden, mass concentration of firepower anywhere of interest to the operational commander. The existence of this capability is known to the enemy, but the where and when may be surprising, particularly in the sense that it may be difficult to insure against in all sectors of importance simultaneously.
0602. **Use of Airpower.** At the operational level, airpower can be used in the following roles:
- a. *Air Denial.* For Genforce, the most important task is to prevent the enemy from exploiting to the full the characteristics of airpower. Keeping the enemy's air off the backs of the ground forces is the primary role. This means that most fixed wing aviation, save for dedicated ground-attack aircraft, will be devoted for the most part to offensive or defensive counter-air operations until at least air superiority is achieved.
  - b. *Deep Interdiction.* Genforce holds that deep interdiction has the greatest impact on the conduct of ground operations. Thus the second priority after the achievement of air superiority goes to the destruction, disruption and delay of the movement of enemy reserves and logistic support. The more fluid and mobile operations become, the more important interdiction becomes. Genforce realizes, however, that the efforts of a deep interdiction operation will only be significant if that operation is conducted continuously over an extended period and with adequate resources.

- c. *Offensive Air Support* is seen to have a more immediate, but inevitably also a more localized influence on the conduct of ground operations. It is therefore the main form of support for the ground forces only when either an insufficiently favourable air situation or a lack of resources preclude a deep interdiction operation, or during certain crucial phases of the ground operation (eg, the committal of an OMG or second echelon, to defeat an enemy counter attack, the forcing of a major obstacle in the enemy's depth). The preference is to employ fixed wing aviation against targets outside artillery range, ie for shallow interdiction and attacks on enemy reserve concentrations, deep strike systems and formation CPs. Close air support is generally left to dedicated units unsuited to deep strike and to attack helicopters.
- d. *Reconnaissance* is considered a vital mission of the Air and Space Forces, particularly of areas beyond the reach of army and army group RPVs.
- e. *Air Landings*. The actions of airborne and air assault troops are key components of deep operations. The delivery of these important assets is always preceded and accompanied by a major air effort to eliminate threatening enemy air and air defence elements and to neutralize ground forces which could intervene against the landing.
- f. *Aerial Resupply* is routinely practised for the delivery of key items needed in a hurry. It is also envisaged occasionally on a large scale to support forces operating in the enemy depth or encircled groupings.

0603. ***Principles in the Employment of Airpower*** that guide Genforce are as follows:

- a. *Concentration of Effort*. As far as possible, resources must be concentrated to achieve the main operational goal. Initially, this will always be the achievement of air superiority. Thereafter, while maintaining air superiority with whatever assets are necessary, it is likely to be deep interdiction with occasional (but en masse) diversions into offensive air support or support for air landings. It is considered essential to avoid spreading forces too thinly by pursuing several operational goals simultaneously and thus failing to achieve any of them fully. It is equally important to avoid switching from one operational objective to another before the first is fully achieved. Continuity of effort is thus stressed.
- b. *Centralized Command and Control*. To achieve concentration of effort, it is necessary to centralize command and control. This also makes it possible rapidly to refocus air effort as the operational situation develops.
- c. *Exercise of Control at the Highest Possible Level* is a corollary of centralized command and control. It ensures that effort will indeed be concentrated on the main operational goal and at the same time it guarantees the full exploitation of the flexibility that is characteristic of airpower. The highest level will be determined by the operational objectives and by the range

and capabilities of the assets available. Thus bomber, fighter-bomber, fighter and transport aviation are usually considered theatre assets, while ground attack aircraft and heavy lift helicopters are army group resources and attack and medium lift helicopters are army assets.

- d. *Decentralized Execution.* The need for rapid reactions precludes the detailed planning of all air operations by a single headquarters. The actual execution of missions must be left to the judgement of subordinate formations acting within the constraints imposed by the overall plan.
- e. *Coordination.* The coordination of force packages and of air actions with those of the ground forces, air defence and EW is seen to be a complex and difficult task. It must be organized at the highest practical level.
- f. *Economy of Force.* If concentration and continuity of effort are to be achieved, air assets must not be used to perform missions which could be executed by other means. Thus, for instance, some air defences are better suppressed by SSMs, artillery and raiding detachments or SPF than by manned aircraft. Similarly, strikes must be coordinated in terms of time and geographical area to minimize the effort required to suppress enemy air defences and defeat enemy fighter aviation.
- g. *Surprise.* To reduce attrition rates to acceptable levels, surprise is an important part of air action. It can be achieved by: choosing unexpected axes; attacking at an unlikely time; attacking in unanticipated strength; using new weapons and/or tactics; degrading enemy early warning capabilities; deceptive actions.

## SECTION 2 - THE OFFENSIVE COUNTER-AIR OPERATION

### AIMS, MISSIONS AND CHARACTERISTICS

0604. ***Offensive Action.*** The struggle for air superiority can be waged offensively (attacking enemy aircraft in their own airspace and striking enemy airbases) or defensively (waiting for enemy penetrations into friendly airspace and attacking them there). Genforce prefers offensive action as long as the numerical and technological correlation of forces permits. The reasons are as follows:
- a. *Initiative.* Only an offensive operation can confer the initiative. With it, the attacker can maximize his exploitation of the capabilities of his assets and can concentrate against enemy vulnerabilities.
  - b. *Reduction of Enemy Capabilities.* By taking the battle to the enemy, Genforce will reduce the enemy's level of offensive air action at a time of Genforce's choosing. This is accomplished by closing down enemy bases, destroying equipment and personnel and by forcing the enemy to concentrate on defensive actions.

- c. *Decisiveness.* Only by seizing and retaining the initiative, by the achievement of a favourable exchange rate (balancing numerical and technological factors) and by continuous offensive action can air superiority be established where and when it is needed. An air enemy forced onto the defensive and with no safe refuges for his aircraft (at least within range of his major targets) will be unable to interfere effectively with ground operations.

0605. **Aim.** The offensive counter-air (OCA) operation is mounted to gain the air superiority without which ground operations will not be successful. Ideally, the OCA operation will seize and thereafter maintain air superiority theatre wide for the duration of ground operations. It is recognized, however, that this will be difficult against a strong air enemy and that a more limited aim may have to be pursued: that is, to preclude the enemy from making a significant air effort for limited periods only, in this way supporting the manoeuvre of the ground forces for the duration of important phases of their operations.

0606. **Missions.** The tasks to be accomplished in the OCA operation are:

- a. *Neutralization and Destruction of Enemy Airpower.* To be accomplished partly through aerial combat and mainly through attacks on enemy airbases and on command, air navigation and logistics systems. Priority is given to attacks on airborne early warning and control aircraft and the more capable (and especially multi-role) combat aircraft. Older and less sophisticated types and close air support forces are seen to be of less importance in the struggle for air superiority.
- b. *Destruction of Enemy Reconnaissance - Strike Complexes.* Long range, precision missiles and their associated reconnaissance and command and control systems can have a major impact on both the air and ground operations and are therefore targeted alongside high value air systems.
- c. *Strategic Targets* which contribute to the enemy's generation of air and missile power may be attacked in a strategic air operation coincidental with the OCA operation.

0607. **Characteristics.** In Genforce's view, the OCA operation will be characterized by the following features.

- a. *Decisive Aim.* Air supremacy is seen to be achieved with the destruction of 50-60% of the enemy's airpower, assuming of course that the attrition rate is favourable to Genforce. Where this cannot be achieved, the aim will be to gain air superiority by keeping the enemy on the defensive and achieving a favourable attrition rate for a period specified by the High Command. Because of the overriding importance of this aim, all available resources which can contribute to it will be thrown into the OCA operation.
- b. *Broad Spatial Scope.* Given the range of modern aircraft and the ease and speed with which they can redeploy, the operation has to be theatre-wide and deep.

- c. *Pre-Emptive Nature.* To give a high probability of success, Genforce believes that pre-emption is all but essential. The first, mass strike must achieve at least partial operational and tactical surprise. To this end, the initial OCA operation may well be mounted before the ground forces are ready to initiate operations.
- d. *Combined Arms.* Virtually all aviation resources that can be brought to bear will participate, including at least elements of strategic aviation and most other fixed wing aviation. Other services will also make vital contributions. Some conventionally tipped strategic missiles and SSBMs may be used to attack enemy bases and destroy command and control centres. Operational and operational-tactical missiles will do the same for targets within range and neutralize air defences. Long range artillery will hit near air defence missiles and radars. SPF will carry out reconnaissance and target designation and perhaps sabotage. Air landing forces may be used to seize airfields, Naval forces will destroy enemy aircraft carriers and elements of Naval Aviation may participate in airfield attacks.
- e. *Complexity in Organization.* The coordination and control of the various services and combat arms in time and space is seen to be both difficult and essential.
- f. *Duration.* Ideally, given surprise, Genforce would hope to achieve air superiority, or at least a favourable air situation, within 48-72 hours of an initial, preemptive attack. Thereafter, enough assets would be allocated to the conduct of the OCA operation to maintain air superiority and some could be diverted to supporting ground operations. In practice, Genforce is prepared for a long and hard struggle in which its possession of the initiative will be challenged.

## CONDUCT OF THE OCA OPERATION

0608. ***The Initial Blow.*** The initial, mass strike is crucial to the success of the operation as a whole. If it does not achieve a high proportion of its goals, imparting an unstoppable momentum, the operation, and the air war as a whole, are likely to settle down to a struggle of attrition in which victory will probably go to the technologically superior side. The first strike is delivered in four phases: the pinning, support, main and development attacks. These are dealt with below.

- a. *The Pinning Attack.* The OCA operation opens with a massive pinning strike on all airbases by strategic, submarine launched (low trajectory) and operational missiles with conventional warheads. The first salvo will be fuel-air explosive warheads to destroy personnel and equipment caught in the open and followed immediately by a minelet bombardment to close runways and taxiways for the time it takes aviation strike groupings to arrive.



- b. **The Support Attack.** The support echelon will open up the air penetration corridors, attack the defending command and control system, execute further mining of airfields, conduct reconnaissance and deception and engage any enemy fighters not pinned to their airfields by the missile strikes. The support echelon will devote to these tasks about 10% of available light bomber forces, 30% of fighter-bombers, 25-30% of fighters and 55-60% of reconnaissance assets, as well as elements of strategic aviation.
- c. **The Main Attack.** The strike echelon will include about 85-90% of the light bombers, 65-70% of the fighter-bombers, 15-20% of the fighters, 10-15% of recce aircraft, and about 75% of strategic aviation. The mission of the strike echelon is to destroy enemy missiles and enemy aircraft and personnel on airbases, to destroy or neutralise CPs and close airfields so that aircraft cannot rebase or get fighters into the air before the second mass strike. Accompanying reconnaissance will provide near real time damage assessment.
- d. **The Development Attack.** The development forces and reserves are assigned on the basis of post-strike reconnaissance after the strike echelon's attack to service targets not sufficiently damaged by the strike echelon, and to hit newly located targets (such as aircraft which managed to rebase before being hit). These forces comprise the remaining aviation assets.
- e. **Post-Strike Recovery.** Recovery will generally be to dispersal airfields to avoid retaliatory strikes. It is a Genforce precept that an air grouping should never, where it can be avoided, return to the base from which it mounted a raid. Out of the total number of prepared airfields, 35% will be permanent, 35% will be dispersal and 30% will be for manoeuvre or reserve. Deception airfields can amount to 1/3-1/2 of all permanent airfields.

0609. **Subsequent Actions.** From the pinning missile strike to the end of the development attack will be about 2-2 1/2 hours. Those elements which can be turned round rapidly will follow up with a further attack in the middle of the day on CPs, air defences and runways. There will then be a further massed strike towards the end of the day. The dose will be repeated on the second, and probably third day of operations or until at least air superiority is won. The initial OCA operation's successful conclusion is not, however, the end of offensive counter-air effort. The enemy, it is recognized, will reinforce from his strategic depth and will redeploy forces from other, less or in-active theatres. Continual action will be required to keep the initiative in the air, losses being made good through reinforcement from military districts designated to provide reserves. There will also be a requirement for air defence operations (see next section) either because the initial OCA operation has not been successful or, even if it has, to cope with the residual threat.

0610. **Suppression of Enemy Air Defences.** Whether in the course of the support strike or during subsequent operations, enemy air defences have to be suppressed for deep penetration missions to be executed at bearable cost. As in

ground operations, the breakthrough of ground based air defences is organised on specific, relatively narrow sectors/axes. Penetration corridors are driven through the air defence system. These will be 10-15 km wide and of whatever length is necessary to get strike aircraft to their target area. Within the corridor, all defending systems will be suppressed. Additional suppression will have been carried out by some long range systems (like Hawk up to 35 km from the centre line of the corridor, or of Patriot up to 100 km from the centre line). The assessment of which long range SAMs need to be dealt with depends on complex payload - range calculations. On selected sections of the route, such weapons may be avoided by low flying, but there is a limit to which this can be done if deep targets are to be struck. One or two corridors will be created in each army group's sector (probably largely coinciding with the intended main axes of the army group). Corridors are driven through the defence using a combination of electronic and physical attack on enemy radars and missile sites.

- a. *Electronic Attack.* Enemy Early Warning (EW) and Ground Control and Intercept (GCI) radars are attacked first using ground based and aircraft stand-off jamming (SOJ) and the broad front laying of chaff. This inflicts time delays on the defence's reaction, which pass through the system and are exacerbated by attacks on key nodes and communication links in the structure. It also means that the information passed by the EW network will be ambiguous, especially as to range. These effects result in acquisition radars receiving only tentative information and being able, therefore, to pass only limited information on to fire control radars. If sufficient degradation at the top and middle levels of the air defence system is achieved, fire control radars (the hardest to jam and most numerous) will be forced to operate autonomously using only target azimuth data which is, itself, derived only from jamming spokes from a mixture of escort jammers (EJ), SOJ and self-screening jammers (SSJ) on attack aircraft. The breakdown of centralized control and the engagement of targets out of range will lead to a rapid depletion of ammunition stocks for relatively poor returns.
- b. *Deception and Concealment.* The entire penetration corridor is protected by the sowing of chaff trails. These may be over 40 km wide and 400 km deep, lasting for several hours. The chaff trail conceals the size and formation of the raid and provides cover from which aircraft can emerge to fire stand off missiles (eg, ARMs). Both EJ and SSJ takes place from within the chaff trail, both to protect the sowing aircraft and to give added general protection against all types of threat emitter. SOJ aircraft will also follow the raid and operate from within the trail. Chaff is also used for navigational purposes, turns etc being signalled by using bursts. Of course, false chaff trails will also be laid for deceptive purposes. Further deception will be achieved by launching groups of RPVs to simulate raids, causing enemy radars to expose themselves to ARM attacks and fire units to waste ammunition: enemy fighters may also be vectored against them, wasting time and fuel.

- c. *Physical Attack.* Key SAM sites will be singled out for physical destruction as well as (temporary) electronic neutralization. SAMs sufficiently near the deployment areas of SSMs could be destroyed by missile strikes: with a CEP of 50 m and a fuel-air warhead with a blast radius of about 120 m, such an attack would have a 90% chance of destroying the target. Targets close to the line of contact could be engaged by multiple rocket launchers and long range artillery. SPF sabotage of SAMs, their associated radars and command and control is also favoured by Genforce. SAMs deployed in greater depth will be dealt with by fighter-bomber aircraft.
- d. *Actions of Fighter Aviation.* Fighter escorts will protect bombers to their targets. The high performance, long endurance fighters are likely to sweep ahead of strike groups, ideally to try and catch enemy fighters on their runways or just taking off. If they fail in this and have to engage in aerial combat, they will force the enemy to expend fuel and ordnance needed to attack the bomber streams. Shorter range and less sophisticated fighters are likely to protect fighter-bomber groups. They do not fly close escort, but provide air space security on the axes used by the ground attack forces.

### SECTION 3 - THE DEFENSIVE COUNTER-AIR OPERATION

#### AIMS, MISSIONS AND CHARACTERISTICS

0611. ***Defensive Action.*** Genforce will resort to a defensive counter-air (DCA) operation-only when it either starts from a position of inferiority in the air or has found an OCA operation too expensive to continue (ie the attrition rate is unacceptably adverse). Although the defensive option surrenders the priceless benefit of the initiative, it does confer some advantages, exploitation of which may lead to such an improvement in relative attrition rates as to make offensive action possible in the future.
- a. *Combat in Friendly Skies.* With most combat action taking place over territory held by the defending side, the enemy will be exposed to SAM and AAA fire and ground based jammers as well as to aerial attack. He can also be lured into attacks on dummy targets and into air defence ambushes. Moreover, when friendly aircraft are shot down, aircrew who succeed in ejecting safely will soon be available for return to battle whereas those of the enemy will be captured.
  - b. *Proximity of Bases to the Combat Area.* When combat takes place near to the defender's airbases and far from those of the attacker, the former will be able to generate a higher sortie rate and thus make his resources go further.
  - c. *Conservation of Forces.* Given enough dispersal airfields with the necessary hardened shelters, the defender can, if he so wishes, refuse battle to husband his resources for the time when a major air effort will be required: meanwhile ground based systems will continue to erode the enemy's

strength. Moreover, with the sort of depth that Genforce enjoys, it will also be possible to hold many aircraft on bases outside the range of most of the attacker's inventory and to hold fighters quite far back so that they can achieve a decisively superior concentration against selected raids.

0612. **The Aims** of a DCA operation are the defence of friendly forces from enemy air action, giving them freedom of manoeuvre where and when this is required on key sectors, and the achievement of such an attrition rate as will contribute towards the eventual seizure or recovery of air superiority. The achievement of air superiority, if only for limited periods and over limited sectors, will always remain a goal.
0613. **Missions.** Genforce believes that it is impossible to defend everywhere against the air enemy, and therefore choices have to be made as to what will be left lightly or un-defended, at least by active means. Operational level defensive tasks, in rough order of priority, will be as follows.
- a. *Infrastructure.* Administrative-political and key military industrial targets and communications nodes in the operational-strategic zone must be protected.
  - b. *High Value Targets* such as SSMs, airbases, higher formation CPs and defiles and choke points vital to operational manoeuvre must be covered.
  - c. *Troop Concentrations and Deployments* of major groupings will be defended on principal axes. On secondary axes these may be left to rely on their organic air defence. In offensive operations, this task is seen to be difficult as a rapid advance will open holes in the ground based umbrella and, at the same time, increasingly long open flanks will offer opportunities for air attack.
  - d. *Air Landings.* Any proposed airborne assault (always problematical if the air situation is adverse, of course) must be protected in its concentration area, while mounting and en route to its objective.
  - e. *Offensive Missions.* A DCA operation does not imply purely defensive action. Limited offensive sorties will continue to be mounted against high value targets, eg enemy SSMs, HQs, threatening concentrations.
0614. **Characteristics.** Genforce sees a DCA operation as possessing the following characteristics.
- a. *Aims.* The generalized aims stated in para 0612 need further elaboration before the nature of defensive action is determined. If the main aim is to maximize the attrition inflicted on the air enemy, with a view to an early contest for air superiority, then enemy air groupings will be attacked wherever possible, whether on ingress or egress. If, on the other hand, it is essential to reduce the effectiveness of enemy attacks on friendly forces and facilities and the defending forces are weaker, then effort will be concentrated on penetrating forces only.

- b. *Spatial Scope.* DCA operations will be theatre wide and deep, but there will be fewer and shallower penetrations into enemy airspace. There may also be substantial areas where enemy air action will not be contested by friendly air.
- c. *Reactive Nature.* By definition, DCA actions will be largely reactive. This will lead to air groupings being generally based further to the rear than during offensive operations. Some offensive assets may be held far back, out of the battle, to conserve their strength.
- d. *Combined Arms.* Ground based air defences (including EW) will obviously play a large role in a DCA operation. Also important will be the actions of separate camouflage units and of all arms in concealing targets and creating dummy ones to divert attacks and thus increase survivability. Some ground forces support will be required for the limited offensive forays that will still take place during a DCA operation.

## EXECUTION

0615. ***Deployment of Ground Based Air Defence.*** Ideally the air enemy should be faced with defences layered by altitude and in depth to force him to face repeated threats of engagement. Of course, with limited assets, the defence must concentrate on the most important targets, axes and altitudes. Ground forces units and lower formations all have strong organic air defence and this will form a belt that has to be penetrated. Inevitably, however, there will be gaps and weak spots exploitable by enemy air attackers. These will often become substantial, both as a result of losses and through the need for ground manoeuvre and economy of force deployments. Operational level air defenders may be deployed in several fashions.
- a. *Linear Groupings* defend specific axes by creating a zone of continuous and overlapping engagement envelopes on the distant approaches to key areas and targets. Genforce recognizes, however, that such a belt is relatively easily penetrated by mass attacks which simply swamp the defence.
  - b. *Point Groupings* defend important targets.
  - c. *Area Groupings* create a perimeter defence of an area which contains several point targets.
  - d. *Point-Line and Point-Area Groupings* are the most common approach as they achieve the layered effect considered desirable: ie, the defence of key axes combined with immediate defence of point targets.
  - e. *Air Defence Ambushes* will be created in gaps between concentrations of air defences to effect surprise engagements of an air enemy trying to exploit them. This technique helps to realize the principles of surprise, manoeuvre and aggressiveness that are stressed in air defence.

- f. *Reserves.* Genforce believes that it is necessary to maintain air defence reserves to restore stability to a system that has come under heavy attack or to cope with changes in the operational situation or mass attacks.
- g. *Dummy Air Defences* will be created to divert air attacks and to increase the survivability of real systems by absorbing attacks.

0616. ***Deployment of Fighter Aviation.*** The mobility and manoeuvrability of fighter aircraft enables them to defend large areas and to concentrate quickly on gaps in the ground based air defence or against enemy saturation raids. The air enemy is expected to attack across a broad front with a large number of aircraft operating in small groups echeloned both in height and depth. To repel such attacks, the operational formation of fighter aviation is in several echelons, to include 2-3 at low altitude and 2 at high altitude. The first echelon is committed to combating the enemy on distant approaches. For this mission, the best pilots are used to conduct independent "free hunt" sweeps in enemy air space, beyond the reach of friendly SAMs. The second echelon is committed in the area of the line of contact or somewhat over it. The operations of these fighters are developed and reinforced by others on standby on airfields (ie, in reserve). To intercept small groups or individual aircraft, each fighter division is allocated a sector of responsibility. The destruction of targets within that sector is accomplished, according to the decision of the divisional commander, by the simultaneous committal of not more than one third of the available aircraft. The proportion of fighters deployed on combat air patrols (CAPs) in front of key target areas and of those held on airfield alert will depend on numerous factors, chiefly the level of threat and the problem of sustaining CAPs over long periods.

0617. ***Coordination with Ground-Based Air Defences.*** The problem of coordinating fighter and SAM defences is becoming more difficult as the engagement envelopes of the latter continue to grow. Where fighters are operating in the same area as ground based air defences, it is necessary to ensure a strict segregation of aircraft and air defence fires, by height and/or by area, to prevent fratricide. Diagram 6-1 illustrates the four possible ways of separating the activities of fighter aviation and SAMs.

See Diagram 6-1.

## **SECTION 4 - DEEP INTERDICTION AND OFFENSIVE AIR SUPPORT**

### **DEEP INTERDICTION**

0618. ***Importance.*** Deep operations are central to Genforce's operational concepts, especially when on the offensive but also even when on the defensive. Airpower provides the most responsive and flexible means of manoeuvring firepower in the enemy's operational and operational - strategic depth and is thus seen to be a major contributor. For this reason, air interdiction is second in importance only to counter-air operations. The destruction it wreaks, particularly on high

value targets, is expected to make a significant impact on the enemy's ability to control and fight the battles against both the main ground forces and those airborne and OMG elements operating in the depth. Even more important, however, will be the disruption and delay which is inflicted both on the command and control system and on enemy forces redeploying, being committed to battle or preparing depth defence lines. By winning a time advantage, interdiction will help the ground forces to act within the enemy's intelligence - decision - reaction cycle and to force him into (or keep him in) a merely reactive posture. In short, it is a potentially decisive weapon in the struggle for the initiative.

0619. **Concentration and Continuity.** At the operational level, the scale of effort required to achieve effective interdiction will be very large. It will also be necessary to continue to devote substantial resources to the maintenance of air superiority (without which interdiction operations will be impossible). Together, these will inevitably absorb almost all of the more capable fixed wing assets. Moreover, only a continuing effort over an extended period will yield significant results. Recognizing this, Genforce resists the temptation to divert its airpower to intervene in the tactical battle except in phases where it is crucial to the conversion of tactical into operational success. Even then, such diversions will be for the shortest possible period.

#### **OFFENSIVE AIR SUPPORT**

0620. **General.** Offensive air support (OAS) is essentially a tactical use of airpower, though on occasions it can have operational implications. For this reason, it is generally left to those less capable elements which are dedicated to the role. It takes two forms.
- a. *Battlefield Air Interdiction (BAI)* is conducted to prevent the timely, organized committal of enemy tactical second echelons and reserves to battle, to hamper and delay tactical regrouping or the establishment of defensive positions in the tactical depth and to interfere with logistic support. In keeping with the principle of economy of force, it is executed against targets beyond artillery range, and this reduces the problem of coordination with the ground forces. It is the principal form of OAS, whether in attack or defence.
  - b. *Close Air Support (CAS)* comprises air action against enemy forces in close proximity to the line of contact. It may be used against targets on the line of contact, especially where the ground forces lack strong artillery support (as is the case, for instance, with air-delivered forces or forward detachments). It is best used, however, to strike targets which cannot be efficiently engaged by artillery, either because of problems of precise target location or because of terrain masking or because the target is moving or dispersed: examples are CPs, enemy artillery, some assembly areas and forces deploying to attack. CAS poses formidable problems of coordination, needing to be tied in not only with friendly air defence but also with the artillery fire plan and ground forces manoeuvre.

0621. **OAS in the Offensive** falls, like artillery support, into four phases. For the sake of convenience, the first two will be taken together.

- a. *Support for the Advance from the Depth and Preparation.* These phases take place prior to the ground forces crossing the line of departure at various stages of an offensive operation such as the breakthrough, the committal of an OMG, forcing water obstacles, amphibious and airborne or heliborne landings and (in defence) counter-attacks. Generally, excluding OCA missions, the air preparation will extend no further than the enemy's immediate operational depth (ie to the rear areas of defending corps, about 200 km). Air attacks are used to destroy those targets which cannot be destroyed by conventional artillery and missiles due to distance, mobility or to their hardened nature. Targets thus include enemy missiles, airfields and forward operating sites, artillery, EW sites, command and control centres, depth defensive positions, reserves and their approach routes (eg, key road junctions, defiles) and service support. Support for the advance from the depth may extend over several hours. The air preparation may take as little as 10 minutes or it may extend to over an hour. It will usually take place simultaneously with rocket and artillery preparation and requires close, detailed coordination with the latter with regard to timing, targeting, entry and exit routes and support for the attacking aircraft against air defences.
- b. *Support.* This phase begins when the manoeuvre formations launch their attack. Targets are engaged in the enemy's tactical and immediate operational depth in accordance with a pre-prepared operational plan. Most attacks are pre-designated, but on call missions against centres of resistance can be mounted at the request of manoeuvre commanders within the limits of allocated resources. As with the preparation, air support is an extension of the strong artillery support associated with offensive operations and is generally used against targets beyond the range of or unsuited to the rocket and artillery troops.
- c. *Accompaniment.* This phase begins when the advance has penetrated deep into the enemy defences, when the prepared air support plan has been implemented or perhaps been overtaken by events. Responsibility for tasking will, to a large extent, be decentralized to armies, though the army group commander will continue to hold some resources for the execution of depth missions of longer term interest to the army group. The commander will also reallocate his air assets to manoeuvre formations according to the development of the combat situation. The importance of CAS as well as BAI increases dramatically in this phase owing to the increasing difficulty of target acquisition by artillery, and indeed because of the difficulty the artillery and its logistic support has in keeping up with a high speed advance. Air support is seen as particularly valuable in meeting engagements/battles and in pursuit, as a substitute for artillery. The main burden will fall on the attack helicopter units as they are best able to offer both rapid and intimate support, especially at night, in conditions of



poor visibility and in difficult terrain or a confused situation. Helicopters have other advantages over high performance aircraft. They can concentrate and probably manoeuvre undetected for an attack. They can conduct ambushes. Helicopter pilots are more capable of evaluating battlefield conditions rapidly and exactly. On the other hand, they are somewhat vulnerable and there is a reluctance to use helicopters outside the protection of the air defence envelope, at least if fighter top cover is not available. As well as hitting forward enemy groupings to help the attacks of manoeuvre units, air attacks are used to cover deployment, engage enemy reserves moving forward and withdrawing units and to prevent the enemy from establishing new defensive positions. Another important and demanding air accompaniment mission, which might take place during the preparation or support phases, is the escort of airmobile forces projected into the enemy's depth.

0622. **Critical Periods.** The most important role that airpower can play in the offensive is to keep enemy air off the backs of the ground forces. This requirement is vital and ongoing. There are, however, periods when the failure to make a substantial OAS commitment may prejudice the complete success, or at least the timely success of the ground operation. At such times, air effort may be diverted from OCA and deep interdiction missions.
- a. *The Breakthrough.* While most of the fire support for the breakthrough is provided by artillery, air action is important in the speedy elimination of unexpected centres of resistance that cannot be bypassed, in suppressing enemy artillery and helicopter assets, and in disrupting and delaying the intervention of enemy reserves.
  - b. *Committal of an OMG or Second Echelon.* The period of committal of an exploitation echelon is usually one of great vulnerability to enemy air, indirect fire and/or counter-attack, especially if the new echelon is required to complete the penetration of the tactical zone of defence. A massed target array is presented to the enemy over a period of several hours, even in the case of a division-sized force. Air defence must be impregnable, and if the artillery has not kept up in adequate strength, OAS may well be necessary to complete the breakthrough, crush hostile artillery, interdict reserves, repulse counter-attacks and even to lay mines and/or smoke. During this period the bulk of available air power will be committed in support (traditionally, 70-80%).
  - c. *Repulse of Countermoves.* If the enemy succeeds in getting his timing right, a counter-attack or strike will be mounted at a time when the attacker is unbalanced and in poor shape to meet it. Airpower may be the main or only means of breaking up the attack, or at least of disrupting and slowing it down.
  - d. *Operations in the Enemy's Depth.* When operating in the enemy's depth, conducting operational manoeuvre, OMGs, whether they be of divisional

or army size, are relatively light in artillery. Moreover, their gunners may find that keeping up with the manoeuvre units and, even more, logistic support, become a real problem. The Army thus looks to OAS to compensate for the deficiencies, especially when forcing water obstacles or breaching lines in the depth. Of course, air action also plays a key role in destroying withdrawing forces, interdicting enemy reserves and disrupting enemy command and control and logistic support.

- e. *Encirclement.* Airpower will often provide the primary source, at least for a while, of fire to disrupt or prevent break out efforts or relief attacks. In the event of a pocket establishing a viable defence (a very unwelcome development), air action will also play a major role in preventing enemy aerial resupply.

0623. ***OAS in the Defensive.*** Where a formation has transitioned to defence while others continue to advance, the priority for OAS will continue to lie with the latter except in an emergency which threatens the continuation of the offensive. Where the general operational-strategic posture is defensive, however, OAS is likely to assume a greater priority than in the offensive. There are two reasons for this.

- a. *Adverse Air Situation.* If the enemy has been able to assume the offensive, it is likely that he has been able to secure an advantage in the air. This will preclude the conduct of OCA or deep interdiction operations. Of necessity, Genforce will be conducting a DCA operation and will be husbanding its attack capability. The latter will be able to strike deep only on occasion, but will therefore be available for emergency surge operations in the OAS role where shallow penetrations will limit the attrition to which it will be subject.
- b. *Adverse Ground Situation.* The initiative will be held by the enemy. He may well be conducting an effective deep interdiction operation of his own. In these circumstances, and especially where the enemy enjoys a significant ground superiority (at least on his chosen axes of attack), air power may form the only substantial operational reserve of firepower that can be committed in good time to disrupt and check an attack. This will certainly be the case if the enemy has achieved a significant degree of surprise as to the axis, timing or the scale of his blow.

0624. ***Phases of Air Support in Defence*** are analogous to those on the offensive.

- a. *The Enemy Advance from the Depth and Preparation for Attack.* Genforce believes in hitting the attacker as early as possible. If the air situation allows it, the enemy build up will be disrupted and delayed by air action. Ideally, if his final assembly areas, FUPs, artillery concentrations and CPs can be identified and his approximate H-Hour determined, a surprise massed air and artillery counter-preparation will preempt the enemy's fire preparation and throw the whole attack into confusion at the outset. The lucrative target array existing at the outset of the operation is seen to make a major air effort worthwhile.

- b. *The Breakthrough.* As the enemy penetrates into the tactical zone of defence, BAI will be used to improve the correlation of forces on the main axes in the defender's favour, thus reducing the momentum of the attack. CAS will reinforce the defence on those sectors where a breakthrough threatens, making up for the defender's inferior firepower.
- c. *Counter-Attack.* Should the enemy be halted, the defender will almost certainly lack the necessary firepower and correlation of forces to be certain of destroying him in a counter-attack or strike unless a major OAS effort is mounted in support.
- d. *Enemy Operation in the Depth.* Airborne or air assault forces are potentially vulnerable when mounting and during the fly-in. Every effort will be made to destroy them before they can land. Being weak in air defence, they are also vulnerable on the ground, especially immediately after landing. CAS will be used to inflict attrition and disruption and in support of attacks by the anti-landing reserve. Air forces may also be the only means available, at least temporarily, to engage enemy forward detachments and manoeuvre formations which have broken through and are attempting to conduct tactical and operational manoeuvre. Effort may well be concentrated against their logistic support.

## RESPONSIVENESS

0625. ***The Problem.*** The rapidity with which OAS missions can be mounted is often critical. In the offensive, it will frequently be possible to anticipate where and when a major air effort will be required, and in a favourable air situation it should not be too difficult to deploy the necessary CAPs to protect the ground attack aircraft. In the defence, however, the enemy will hold the initiative and many calls for air intervention will be in response to emergencies. In such circumstances, organizing cooperation will be far more difficult and, in an adverse air situation (which is most likely to pertain), the generation of effective top cover will be problematical.
0626. ***Basing.*** Where a sophisticated and strong air enemy is faced, the continuity of air operations will be critically dependant on possession of an adequate number of airfields and, though to a lesser extent, on the distance of those bases from their targets.
- a. *Fixed Wing.* Each aviation regiment should have 2-3 airfields and thus each air division should have 6-9. Usually, two thirds are active bases and one third are alternative. In the theatre as a whole, probably 35% will be permanent bases, 35% will be deployment fields and 30% will be manoeuvre/alternative fields for dispersal in the face of attack or for the use of temporary groupings. (Normally, aircraft do not recover to the bases whence they mounted their mission and reserve fields are needed for redeployment from other sectors and/or from the depth to create groupings for surge operations). In emergency, highway strips can also be used for recovery or

for transit to proper bases. The aim is to ensure survivability of air assets through a combination of manoeuvre and dispersal, keeping a reserve of airfields for surge operations. Extensive use is also made of deception to enhance survivability. Between one third and one half of all bases may use dummies to divert enemy reconnaissance and attack effort: of course, dummy fields can be activated as the situation demands. During deep offensive operations, the problem of acquiring forward bases will become significant, and Genforce puts stress on their seizure, intact if possible, by airborne, air assault or forward detachments. These, and suitable highway strips, will be restored/improved by the army group's 4-8 airfield maintenance battalions, some of which will advance with OMGs. In defence, when the enemy is mounting an effective OCA operation, bomber aviation and much of the fighter-bomber and long range fighter forces will, if possible, be held rearwards to gain protection from depth.

- b. *Rotary Wing.* Attack helicopters normally deploy to forward operating sites which move forward with the advance or rearwards during withdrawal. For protection, they are usually sited near the second echelons of forward divisions in the offensive (ie, as close as 35 km from the line of contact). OMGs will take with them the resources to create 1-2 forward operating sites so that up to a regiment can continue to operate from within the formation once separation from the main forces has become too great for safe transit or adequate loiter times. In defence, forward operating sites will generally be found within the deployment area of second echelon divisions (ie, 50-100 km from the line of contact).

0627. **Response Times.** There are three levels of combat readiness for ground attack aviation, categories 1 and 2 being used to respond to on-call missions. Transit time will, of course, vary according to proximity of bases to the target.

- a. *Category 1.* Aircraft are fully serviced and armed and crews are on standby, fully briefed. Aircraft can be airborne in 5-15 minutes.
- b. *Category 2.* Aircraft are serviced, but not armed with external stores and crews are designated but not on standby and have not been fully briefed on the air and ground situation. Aircraft can be airborne in 1-2 hours.
- c. *Category 3.* Aircraft are not serviced or armed and crews are stood down.

0628. **Reserves.** The air commander is generally required to maintain a daily reserve of 10-20% of sorties to meet contingencies.

## CHAPTER 7

### LOGISTICS

#### SECTION 1 - PHILOSOPHY

##### VIEWS ON FUTURE WAR

0701. **Short War Scenario.** Genforce planners have traditionally intended any war to be characterized by a high speed, deep strategic offensive operation. It is believed that combat will be very intense in the early stages, consuming vast quantities of supplies. Once organized defences have been penetrated, however, and the attacking formations have penetrated deep into the enemy's rear, logistic requirements will lessen along with the effectiveness of the defence. Genforce planners intend the overall duration of the war to be short, ie, to achieve a decisive victory with 3-4 weeks at most. Genforce army group level logistics are organized to support this sort of war. Clearly, they will ipso facto be adequate for a less demanding strategic defensive operation.
0702. **Hedge Against a Long War.** Recognizing that, as so often happens in war, things might not go as planned, Genforce has also hedged against the possibility of a protracted conflict. Mobilization divisions provide field formations for this eventuality, and logistic stocks for a further two months of fighting at least are held in the strategic depth. The domestic economy, which even in peacetime bears many of the hallmarks of a war economy, can be geared to volume war production very rapidly indeed.
0703. **A Fluid Combat Zone.** Genforce commanders believe that there will be no continuous front line in the next war. Instead, combat will have a highly fluid, dynamic character spreading over a wide area. They anticipate deep salients as formations bypass strong opposition and thrust into the enemy rear, and as enemy counter-attacks endeavour to cut off and destroy these spearheads. There will be sudden and dramatic changes in the situation, and accordingly, there will be major shifts in emphasis from one axis to another and from attack to defence. Attrition will not take place more or less evenly across the front. Rather, there will be areas of intense, but localized destruction and long passive sectors where logistic demands will be much lighter. Secure rear areas and predictably developing operations have, in the Genforce view, become a thing of the past. In these circumstances, Genforce does not consider wholly appropriate the traditional logistics system whereby forward divisions collect supplies from dumps to the rear and evacuate rearwards their casualties and damaged equipment. Rather, they insist that formations must be prepared to live off mobile stocks, at least for a few days, and not depend on constant resupply from higher formation. Medical and repair facilities must move well forward to work in areas where there has been heavy fighting and casualties are concentrated. Logistic resources must be under centralized direction and control so that rapid adjustments can be made to meet changing operational situations.

## PRINCIPLES

0704. **Centralized Control.** The bulk of logistics resources are held at army and army group levels. This, in Genforce eyes, contributes to operational and tactical flexibility. Commanders of higher formations who are familiar with the overall operational concept can quickly plan to strip resources from stalled or burned out divisions or armies and reallocate them to formations making better progress. Changing the emphasis from one axis to another would be far more difficult in a decentralized system. At the tactical level, divisions and regiments are freed of an unnecessarily large logistic tail and are thus more able to engage in high speed manoeuvre battles.
0705. **Tailoring.** Genforce does not attempt to provide over-insurance but to make the most economical use of available assets, hence the control of scarce resources at the highest level. Just as army group and army combat strengths are tailored to their mission, so are their logistic resources. These are then allocated to subordinate formations according to the importance of their mission, the nature of the terrain and the level of fighting anticipated. Commanders will be quite prepared to reallocate not only their own resources in line with changes in the situation, but also to take away their subordinates' organic resources if the situation warrants.
0706. **Maintenance of Stock Levels.** Supplies are held as far forward as possible, and when eaten into, even at the lowest rate of consumption, are replaced as quickly as possible. The aim is to preserve divisional stocks intact for as long as possible so that, when the resupply chain breaks down, the division can continue to fight using its mobile stocks until such time as army can resume its support. Ammunition and fuel holdings at all levels include an emergency reserve, up to 30% of the total, which can only be used on the authority of the next highest commander.
0707. **Forward Delivery.** It is the responsibility of higher commanders to keep their subordinates supplied: ie, the concept governing resupply is not demand-pull, but supply-push, with resources being distributed to subordinate commanders in accordance with priorities established at the higher level. This philosophy will often cramp the style of formations on secondary axes, but it ensures economy in the use of both stocks and transport and the maintenance of the operational commander's aim. Using their transport assets, formations deliver forward to their subordinates. Often, to save time, an echelon will be skipped. For example, army group transport may deliver direct to divisions, or army to regiments. Sometimes, however, uncommitted or less hard pressed units/formations will be required to collect from their superiors to maintain the concentration of resources on key axes. This may also be required when the separation of division and army, and army and army group rear becomes too great as a result of higher formation assets having difficulty in keeping pace with the advance. As a principle, however, each level must keep up with its subordinates and not complain about the rapidity of the advance, far less press the resources of its subordinates for its own use. The concentration of the bulk of

transport assets at higher formation level underpins the forward delivery system.

0708. ***Flexibility in the Use of Movement Resources.*** Planning is based on the use of all movement resources available. Thus rail transport is used as far forward as possible, certainly to army group and possibly, in the early stages, to army also. Pipelines deliver fuels down to army level. Motor transport is the primary means of supply from army downwards, though high priority items may be delivered by air. In an emergency, large scale air resupply may be attempted (for instance to an OMG or an encircled grouping). Strict delineation of vehicles by function is not followed. Standard load carriers are used to carry fuel (in pillow tanks or cans) and when returning, they carry the wounded. Even combat vehicles are pressed into service at times. The mobility of rear services is expected to match that of combat formations. If the logistic support elements fail to achieve this, operational success may be prejudiced.
0709. ***Supply Priorities.*** The usual order of priorities for resupply is ammunition; POL; technical supplies; well at the bottom, if supplied at all, food, medical supplies and clothing. During a pursuit (which may, of course, constitute four fifths or so of an operation's duration), the priorities of ammunition and fuel may well be reversed, but otherwise the principal demand is normally for ammunition. Only ammunition and fuel resupply are considered further as the bulk of, and therefore transport requirements for, other items are by comparison very small (less than 20% by weight for all other items combined).
0710. ***Captured Material and Local Resources.*** While logistic planning in no way depends upon them, units and formations are urged to make maximum use of local resources and captured material. Special staffs exist at higher formation level to organize their exploitation. Fuel in particular is likely to prove valuable and the engineers of the fuel supply service are equipped with special pumps to exploit filling stations. Foraging may well provide most of the troops' food after a few days. (Combat units too are expected to utilize local resources. For example, non BMD equipped airborne troops may acquire civilian transport, engineers will hunt around for hard core for filling in craters, etc.) Of course, captured fuel and food will generally be utilized only after testing and approval by mobile field laboratories.
0711. ***Forward Positioning of Support Elements.*** Repair and medical facilities are moved well forward to the areas of greatest need, where battles have been fought, and set to work in situ. The emphasis is on quickly returning to combat lightly wounded personnel and quickly repairable equipment. More serious casualties are then evacuated, if possible, and longer repairs are left to higher formation facilities. The divisional teams move on to the next battle area and start again, with army and army group resources following as fast as possible. In defensive operations, however, casualties are physically evacuated if there is little likelihood of an assumption of offensive action in the near future.

0712. **Force Restoration.** Units may be kept up to strength by piecemeal replacement of casualties during combat, especially where lightly wounded personnel and damaged equipment can be returned to parent units within hours. Once casualties are sufficient to threaten total loss of combat effectiveness, however, the unit concerned is withdrawn and restored out of combat. Timely replacement of no longer effective units and formations in the first echelons is vital to the maintenance of momentum. The eroded formation would not necessarily be removed from the order of battle. It may be reorganized into composite groupings or it may be reconstituted with repaired equipment and fresh personnel.

### **CONTROL OF THE REAR**

0713. **The Chief of the Rear and Deputy Commander for Armament.** There is no exact Western equivalent of the Chief of the Rear. He is a deputy commander and the principal logistics staff officer at every level upwards from regiment. He coordinates all logistic planning and controls transport resources. The Deputy Commander for Armament is responsible for technical support (repair, maintenance and the supply of major end items) among other functions. He is the other major figure in the organization of rear support and is, like the Chief of the Rear, a deputy commander. It is essential for the Chief of the Rear to know the exact situation, both tactically/operationally and logistically, so that he can adjust to sudden changes in plan. To accomplish this, he:

- a. Receives checks and reports every 12 hours on POL and ammunition states and every 24 hours on other material.
- b. Monitors the operations net and maintains constant communication with all subordinates.
- c. Checks on movements through the Commandant's service and through use of helicopter reconnaissance.
- d. Pays frequent visits to subordinate units, or has members of his staff do so.

0714. **Staff Procedures.** The greatest sin for any rear services officer is delay. To ensure rapid reaction to the commander's decision, the Chief of the Rear, the artillery supply officer and chief of POL supply attend combat briefings. While manoeuvre unit/formation commanders are preparing their combat plans, the rear commander and his two principal deputies rapidly work out proposals for logistic support using prepared calculation tables. Using prepared proformae, the Chief of the Rear issues his proposals at the same time as unit/formation commanders issue their orders. Once they have been approved by the overall commander, he issues carbon copies to subordinate combat units/formations so that their rear services can be briefed at the same time as their manoeuvre sub-units/units. Thus rear support planning is completed at the same time as combat planning. The Chief of the Rear and his deputies then return to the Rear Control Post to implement the logistic plan.



## SECTION 2 - ORGANIZATION

### THE ORGANIZATION OF THE REAR

0715. **General.** Genforce organizes the rear into three levels, corresponding to the different levels in military art:
- a. Strategic Rear. This extends from, but excludes the army group rear back to the homeland.
  - b. Operational Rear. This comprises the rear of armies and army groups.
  - c. Troop (Tactical) Rear. This is the rear of divisions and their subordinate units.
0716. **Tasks of the Army Group Rear.** The rear services of the army group have six basic tasks. These are the maintenance of adequate material reserves and the timely supply of the subordinate formations (with priority going to those acting on the main direction); the collection, evacuation and treatment/repair of casualties and damaged equipment; the preparation and operation of railways and main supply routes (including traffic control); the organization of the security and defence of rear services installations and the maintenance of order in the operational rear; the exploitation of local and captured resources.
0717. **Assets of the Rear Services of a Army Group.** The growing complexity and diversity of equipments and units have resulted in army group rear services becoming similarly complex, diverse and large. There is no fixed composition of an army group's rear. The size of the formation, the scope and importance of its mission, the terrain over which it is to operate and the availability of logistic resources will all help to determine the make up of the rear services. Varying numbers of the following principal units and installations will, however, be included: 1-2 army group rear bases; 2-3 material support brigades; 2-3 railway brigades; 2-3 road and Commandant's service brigades; 2-3 pipeline brigades; 2-3 army group rear hospital bases; 4-6 front mobile hospital bases; mobile technical bases and other units involved in supporting SSM and SAM units; repair and evacuation units; separate medical detachments and specialized medical units; rear services signals units; security formations and units. There are many other minor units as well, so that, in total, the army group's rear services may easily reach a total of at least 2,500-3,000 major and minor units and installations, 160,000-170,000 men and 25,00-27,000 vehicles.
0718. **Organization and Deployment of the Army Group Rear.** To make this vast conglomeration of disparate units manageable, the rear services are divided into two basic groupings, with substantial resources also being decentralized to armies as required by the operational plan.
- a. *An Army Group Mobile Base* is set up to maintain a specific amount of material reserves, usually at least four days worth of stocks, held on wheels

to ensure a speedy and flexible response to changes in the operational situation. Each of its material support brigade is, in fact, totally self sufficient in transport and can thus displace forward or rearward without having to draw on non-organic resources. It is expected to move every three days if the army group's rate of advance is averaging 40-60 km per day. The guiding principle is that the separation from the army material support brigade is preferably 60-100 km and certainly no more than 150 km (ie, half a day's march). Redeployment is executed sequentially, by sub-units to ensure continuity of operation. It should also be located close to a railway line. A mobile base can maintain up to two armies and attached army group troops. To do so, it will comprise a depot for each supply item; a material support brigade; missile engineer technical bases (located respectively 30-40 km and 50-70 km from the supported missile brigades); 1-2 mobile hospital bases; mobile repair units and installations; pipeline units; two separate service companies for loading and unloading and providing security; a separate engineer company to provide protection and help in camouflage and concealment; a chemical company for reconnaissance and decontamination. Naturally, the deployment of such a base requires a large area, at least 150 square km and more usually double that.

- b. *The Army Group Rear Base* maintains a further ten days of stocks, of which its organic transport can lift rather more than one tenth in a single lift (more if the separate transport battalion is used to ship materials forward rather than to provide transport within the base area, its primary function). The rear base comprises depots for each supply item; a transport brigade and a separate battalion; a missile fuel battalion; 2-3 rear hospital bases; separate evacuation battalions and repair shops for tanks, artillery, motor transport and other items; repair shops for SAMs and SSMs, radars, signals equipment etc. Working in and from the rear base will also be: 2-3 pipeline brigades; a railway construction brigade; a separate railway bridge construction regiment; a railway exploitation regiment; 2-3 road construction and Commandant's service brigades; a bridge construction brigade; minor units. The rear base is located along a railway line or near a port and depends on rail transport to displace. Thus the interval between it and the army group mobile base is likely to grow alarmingly in offensive operations, and skip-echelon delivery forward will become impossible as army bases become over 200 km distant. The army group rear is expected to grow in depth from 300-400 km when assembling for an offensive to 800-900 km or more by the end.

0719. ***Organization and Deployment of the Army Rear.*** The army rear is much smaller than the army group mobile, as befits an organization that is required to be as mobile and flexible as the formations it supports. It is envisaged that it will displace every second day, assuming the tempo of an offensive is 40-60 km per day. Initially deploying only 40-60 km from the line of contact, it must not permit the interval between it and the rear of the first echelon divisions to exceed 125 km, ie, half the range of army transports' daily march: ideally, it should remain about 60 km from divisional rear areas (with the base having an

alternate deployment area 15-20 km from the main one). Thus, in the event of a rapid pursuit, the rear may even be expected to move daily. Redeployment is executed sequentially, by sub-units to ensure continuity of operation. The army rear normally holds only 2-3 days stocks on wheels, which helps to explain the insistence on army group material support brigade keeping up with the advance. The army rear comprises: a material support brigade; a mobile missile technical base for SSMs and another for SAMs; a separate bridging company; 1-2 separate Commandant's service battalions (a tank army usually has only one); recovery sub-units for different types of equipment; separate service, engineer and chemical defence companies; minor units. In addition to organic elements, army group level units will be working in the army rear, their numbers depending on the size of the army, its mission (including its importance in the army group concept), the nature of the terrain over which it operates and the strength of the enemy. These elements will include: road, rail and bridge construction units; possibly extra transport (especially if the army is on a separate axis and needs more material support); separate tank, motor vehicle and artillery repair battalions (the army lacking these organically, it having only a company); 1-2 mobile hospital bases and up to 12 separate medical detachments (with tank armies usually having half as many as combined arms armies).

0720. **Organization and Deployment of the Divisional Rear.** In all, the troop rear carries five days stocks, of which three are held at unit level and two at divisional. The divisional rear is small and highly mobile, comprising only a material support, a maintenance and a medical battalion. It moves daily, sometimes twice a day, in the offensive, to remain within 30-40 km of line of contact (up to 50 on the defensive). Army elements (including some from army group) will also operate in the divisional rear. These will include 1-2 separate medical detachments and repair and evacuation elements.

### SECTION 3 - THE SUPPLY SYSTEM

#### GENERAL

0721. **Principles.** It is considered essential to maintain stock levels at or near the norm for as long as possible in all formations. This means that, when interdiction, enemy counter-moves or even the rapid pace of operations interferes with or even cuts the logistic cord, formations can continue combat action by eating into their mobile stocks until such time as supply lines are reopened. In order to achieve this, skip-echelon resupply is practised wherever possible. Thus, for instance, army group material support elements will, where they can, bypass the army rear and deliver direct to division, or army transport may dump a supplementary reserve of ammunition for an artillery preparation with the divisional artillery regiment or even on the gun lines. This procedure speeds up the operation of the system by avoiding time consuming transloading. Where a formation's stocks are consumed, however, early resupply must be carried out to bring them back up to the normative level. Army may be resupplied daily and divisions up to twice a day.

0722. **Modes of Transport.** Supplies will be delivered to the army group rear base mainly by rail. Up to 75% may be moved thus, with 15% by road and 10% by pipeline. From the army group rear to the army group material support brigade, only 15% may be rail delivered, about 75% being carried by road transport and approximately 10% being carried by pipeline. Supplies moving forward from army group to army mobile bases will be transported overwhelmingly by road - at least 90%. Some urgent, high value items such as high precision munitions may be delivered by air. Air resupply will also be used to sustain airborne formations operating in the enemy rear, and perhaps forward detachments and, to the limited extent it is possible, OMGs. Diagram 7-1 illustrates the supply chain.

See Diagram 7-1.

### **AMMUNITION SUPPLY**

0723. **General.** In terms of complexity and weight to be moved, ammunition supply, particularly artillery ammunition, is normally the biggest headache facing Genforce logisticians. It may amount to over half the total tonnage (depending, of course, on the degree of resistance). Getting the right number of the right calibre of rounds to the right place at the right time will be a challenging task, especially where the routes available are limited in number and have suffered battle damage or route denial. This problem is yet another reason for ensuring that an offensive should only be launched against an unprepared or partially prepared defence. Should a breakthrough battle be required to penetrate the enemy FEBA, this problem will be somewhat mitigated by the short distance ammunition has to be moved, and by the ability to pre-plan with a high degree of accuracy. The need to mount a substantial breakthrough effort against positions in the enemy's depth will pose altogether greater difficulties. The real problem is not so much accumulating the necessary amount of ammunition - that has been done - as that of moving it.

0724. **Holdings.** To simplify logistic planning and standardize ordering and issuing procedures, Genforce use accounting units called "units of fire" (UF) comprising a given number of rounds per weapon (often equating to a basic load). Table 7-1 shows the total ammunition holdings within a division, and Table 7-2 shows some standard units of fire. All the ammunition held by the division is in the form of mobile stocks, replenished daily to maintain established levels. This ensures ready availability, ability to weather an interruption of supply or an unanticipated increase in consumption, possession of an emergency reserve and the ability to cope with highly mobile operations.

**TABLE 7-1: AMMUNITION HOLDINGS WITHIN A DIVISION (IN UNITS OF FIRE)**

	Arty	Tk	APC	ATGW	SAA
With Weapons	1½	1	1	1	½
In Bn and Regt Tpt	3	2	2	2	1½
In Div Tpt	1	1	1	1	1
<b>TOTAL</b>	5½	4	4	4	3

**TABLE 7-2: SOME STANDARD UNITS OF FIRE (ROUNDS PER GUN)**

AFVs	Nos Rds	Arty & AD	Nos Rds (a)	Inf & A-Tk	Nos Rds
T-64/72/80		120 mm mortar	80	AK-74	450
125 mm	40	122 mm howtizer	80	RPK-74	1,500
7.62 mm	2,500	152 mm howtizer	60	PK	2,500
12.7 mm	200	130 mm gun	80	RPG-16	20
BMP-1		BM-21 MRL	120	SPG-9	30
73 mm	40			AT-4	4
7.62 mm	2,000	SA-13	4	BRDM/AT-5	15
ATGM	4	SA-6	3	MT-12	60
BRDM-2/BTR-60PB		SA-6	6		
14.5 mm	500				
7.62 mm	2,500				

Note: (a) Smoke, chemical, illuminating and incendiary rounds are not part of a normal unit of fire and have to be requested specially.

0725. **Planning.** The system works as follows. Once the commander has made his plan and designated the groupings to be supported, his Commander Rocket and Artillery Troops works out a fire plan and the resulting ammunition requirements. The Chief of Missile and Artillery Armaments then designates ammunition dumps to supply the ammunition and coordinates its delivery with the Chief of the Rear and the recipient units. The Chief of the Rear provides the transport for delivery. Ideally, there will be time for army transport to deliver ammunition to divisional artillery regiments before the attack. This “supplementary reserve” (for the preparation) preserves the divisions’ “mobile reserves” (the initial load, in combat vehicles and transport) intact. In the event of a more hurried attack, divisional transport may deliver the rounds direct to the gun lines (preserving the regiment’s mobile reserves) and be resupplied from army later. Shells are delivered fully prepared and armed, but time must be allowed in planning for their unpacking from pallets, sorting, degreasing and stacking.

0726. **Expenditure.** In fighting through well prepared defences, Genforce forces calculates on using over 3 UF of artillery ammunition per division per day, with hasty defences requiring about 2 1/2 UF, a meeting engagement under 2, an advance against covering forces about 1 UF, and a pursuit approximately 1/2 UF. In defence, a division will expect to expend over 3 UFs per day, whether the defence is well prepared or hasty. Tank ammunition expenditure is likely to be at a rate of about 1 1/2 UF per day against a defending enemy and in a meeting battle and much less in other forms of action, but it is less of a problem, requiring between half and a third of the lift required for the artillery. Small arms and air defence ammunition, mines, explosives and other natures pose very much smaller problems, their weight being almost infinitesimal compared with that of artillery and tank combined. The total size of the ammunition supply task amounts to shifting about 3,000 tonnes for each first echelon division per day when engaged in breaking through a prepared defence, about 2,500 tonnes for a hasty defence and over 1,800 tonnes for a meeting engagement. To these totals must be added the weight of ammunition required by army and army group assets supporting the attacking divisions. The Genforce ability to lift these tonnages can be gauged from the fact that a division carries about 4,500 tonnes in its organic ammunition vehicles, and an army or army group material support brigade will move about 4,200 tonnes in a single lift.

## FUEL SUPPLY

0727. **General.** The fuel supply problem is more tractable than that of ammunition, despite the fact that it may well account for up to half the total weight to be moved (or over 50% if the degree of resistance is such that a breakthrough battle is not required). Firstly, the number of different types of fuel and lubricants which have to be moved is very limited compared with the multifarious natures of ammunition. Secondly, at least 20% of the POL can be moved forward as far as the army rear by pipeline, thus obviating a dependence on road transport. Pipelines are also difficult to interdict, and they are very flexible in so far as it is possible at a moment's notice to change the fuel being pumped by simply inserting a separating plug. Thirdly, captured stocks can be utilized. These, when civilian supplies are included, are likely to be very considerable, especially if Genforce mounts a surprise offensive at the outset of a war.

0728. **Holdings.** The POL accounting equivalent to the UF is the "refill", the amount of fuel carried in a vehicle's integral fuel tanks (ie, excluding the external fuel barrels often mounted on AFVs). The road range of most Genforce A and B vehicles with one refill is approximately 500 km, though some logistic vehicles enjoy a substantially greater range. A division normally carries 3 refills of petrol and 3 1/2 of diesel (including the vehicles' initial fill), with another 2 and 3 respectively at army level and two or three times that at army group. As with ammunition, stocks are kept up for as long as possible by timely resupply from army or army group.

0729. **The Supply System.** The bulk of the fuel required by an army group is pumped to it through permanent and field pipelines. Most army bases, at least on im-

portant axes, are also fed by a pipeline from army group. These tactical pipelines are laid at a rate of about 30 km per day across country (manual) or 60-75 km per day (automatic), with mobile pumping stations every 14 or so km. Laying can thus keep up with the anticipated rates of advance. Moreover, each pipeline brigade can lay up to 1,600 km. Their capacity is sufficient to meet the most demanding operational requirements. In 24 hours, 800 tonnes of fuel can be passed through 100 mm pipe, or 2,000 tonnes through 150 mm pipe up to 250 km. To move fuel further forward, bowsers are normally used, often right up to forward sub-units. If necessary, however, it can be taken forward in pillow tanks by ordinary load carrying vehicles, to divisional or even regimental supply points, or in cans to the combat troops. A separate missile fuel battalion (with a capacity of 640 tonnes) supports army group and army missile brigades.

0730. **Consumption.** Genforce planners believe that each division will need around 200 tonnes of fuel per day to maintain itself in the field, with expenditure rising to 500-600 tonnes daily in the attack - ie, one quarter to one third of the weight of ammunition required. With 600 tonnes already in the vehicles and a further 1,200 carried in unit and divisional transport, each division has enough stocks for 3-5 days of combat. Thus, at divisional level, where resupply is most problematical, POL is much less of a problem than ammunition. At higher formation levels, the weights required in total are more nearly equal. Once combat has lessened in intensity as breakthrough gives way to manoeuvre, bowsers can be supplemented by using ordinary load carrying vehicles, fewer of which will be needed for ammunition, to carry fuel. They can transport POL in cans, drums or, greatly saving in labour for increased volume, in pillow tanks. Air resupply, using HOOK or CUB, can also be used to a limited extent, for instance to support forward or airborne detachments or, for short periods in emergency, even OMGs.

## SECTION 4 - MEDICAL, MAINTENANCE AND REPAIR

### EQUIPMENT MAINTENANCE, RECOVERY AND REPAIR

0731. **Importance.** Recovery and repair of damaged material plays a crucial part in the sustainability of Genforce formations. Rapid repair, rather than the provision of replacement equipments, is the basic means whereby combat strengths are maintained. Genforce expects about one third of all AFV "kills" to prove irreparable. Of the remainder, it expects to put up to two thirds back into action within 1-2 days.
0732. **Genforce Advantages.** Genforce expect to benefit from two major factors in keeping up equipment strengths when they are conducting offensive operations. These are:
- a. *Availability and Reliability.* Combat vehicles are little used in peacetime training. As a result Genforce can expect approaching 100% availability at the start of the war. They can also expect relatively few routine mechanical breakdowns during the course of a short operation.

- b. *Possession of the Battlefield.* In the advance, it is possible for Genforce to recover and repair both combat and non-battle casualties. By the same token, the enemy will be denied this ability.

0733. **The System.** The system is based on the accomplishment of repair as far forward as possible with repair facilities being moved to the scene of combat rather than waiting for damaged equipment to be evacuated to them. Priority is given to light repairs taking a maximum of three hours. After all these are completed, medium repairs requiring replacement or overhaul of at least two major assemblies and taking nine hours maximum are tackled. Capital repairs are unlikely to be undertaken during the course of an operation.

- a. *Regiment.* The regimental maintenance company recovers casualties to a damaged vehicle collection point. The regimental repair shop, located nearby, then classifies them and does as many light repairs as it can before following the combat elements to their next area of battle.
- b. *Division.* The divisional maintenance battalion moves forward to an area conveniently located near the scene of the heaviest fighting and sets up repair points for AFVs and artillery and for other vehicles. It will tackle the light repairs left undone by regiment, and in the unlikely event that these are completed before the battalion moves on, it will begin on medium repairs. Even divisional assets will, however, expect to move two or even three times in a day if the advance is very swift.
- c. *Army.* Assets are limited to a single maintenance battalion each for armoured vehicles, wheeled vehicles and artillery. In addition, there is one recovery and one repair battalion for tanks and one vehicle recovery company (and repair units for special equipments). Working in the army's area, there will, however, be substantial army group assets, the numbers depending on the importance of the axis and the severity of the fighting that is anticipated. These will deploy to points convenient for the various damaged vehicle collection points established by the divisions and will carry out as many repairs as possible before the momentum of the advance demands their forward displacement. They try not to fall back more than 40-60 km from the line of contact.
- d. *Army Group* will have up to five battalions each for armoured and wheeled vehicles and for artillery maintenance. There will be 3-4 battalions each for tank and wheeled vehicle recovery and 6-10 repair battalions. These are the resources (together with others for specialized equipments) which deploy forward, either in the army rear or in the army group mobile base. A further 6 or more workshops will be at work in the army group rear base.
- e. *Spare.* Divisions have parts to deal with the results of three days of average intensity combat, and cannibalization from equipments needing capital repairs will provide more. Army and army group have sufficient replacement parts to cover the demands of their respective operations. With each



repair battalion dealing with approximately 10 tank or 27 motor vehicle medium repairs per day, or twice those numbers of light repairs, Genforce forces expect to return well over half their equipment losses to units within 2-3 days. These will go to restore the strength of units withdrawn from the first echelon into reserve or possibly to augment fresh formations arriving from the operational depth. Combat strengths will thus be maintained at acceptable levels (operationally speaking) until the end of an operation: ie, a army group will conclude its operation with, for instance, about 60% of its tanks.

0734. **Anticipated Loss and Repair Rates.** In conventional operations, armies anticipate a loss rate of 10-15% per day in tanks and about one third of that for APCs and wheeled vehicles. These figures (already double those of past wars) will increase by about 50% where the enemy employs significant quantities of high accuracy conventional weaponry.

## MEDICAL

0735. **General.** The medical system is designed to return as many soldiers as quickly as possible to duty, and, apart from emergency life saving treatment, priority is given to those men who can be put back into action.
0736. **The System.** Medical units move forward with the troops they are supporting, setting up facilities in areas where heavy fighting is taking place.
- a. **Regiment.** At battalion, casualties merely receive first aid. The regiment's medical company can undertake emergency operations, but treatment is kept to a minimum. For the most part, casualties are assessed and documented and left to division or, in the most serious cases, earmarked to go straight to army. Light casualties are retained until fit to return to action.
  - b. **Division.** The medical battalion can handle up to 500 casualties in 24 hours. Serious cases are sent on to army or direct to army group after any necessary stabilizing treatment. Serious surgery and extended care are practised only at the level of army or above. Casualties likely to recover in 10-15 days are held at division, which has facilities for up to 500. These men can then be returned to units of the division needing replacements. It is not anticipated that the divisional medical battalion will be able to handle the heavy casualty load involved in a breakthrough. Indeed, it will be overstretched by the first day's fighting and will be unable to move even after two days. Thus, each first echelon division will be augmented by 1-2 separate medical detachments from army group (each organized like a divisional medical battalion). These medical units will leapfrog forward, moving every two days on average.
  - c. **Army.** Army resources are deployed to support the axis likely to see the most casualties. Independent medical detachments reinforce forward divisions, supplementing their effort and easing the problem created by fre-

quent moves by the divisional battalion. A further 2-4 separate medical detachments are kept as a medical reserve to deal with the sudden influx of mass casualties which will result if the enemy resorts to the use of weapons of mass destruction. Also operating in the army rear, 40-50 km from the line of contact (at least initially) will be mobile base hospitals from army group. One is deployed in support of every 2-3 divisions in contact. A mobile base hospital comprises up to 6,500 beds in all, deployed in 1-3 locations. There are two triage hospitals (each of 500 beds), four multi-purpose hospitals (each 300 beds), nine field surgical hospitals (each 200 beds), three mobile internal hospitals (for diseases, each 200 beds), two field mobile psychiatric and two field epidemic hospitals (each 200 beds) and one for especially contagious diseases. There is a 1,000 bed hospital for the lightly wounded, where patients expected to recover in 15-30 days are held pending return to combat units, and minor units such as blood banks, mobile oxygen and X-ray stations etc.

- d. *Army Group.* In addition to the 4-6 mobile base hospitals supporting army operations, there will be 2-3 rear base hospitals established in the army group rear base. These comprise the same elements as mobile base hospitals (though with three triage hospitals) and in addition 15 evacuation hospitals (each 400-500 beds), and six hospitals for the lightly wounded (each 1,000 beds). These base hospitals are deployed at or near railheads in 2-3 locations. The mobile elements can be used as medical reserves or to set up new mobile base hospitals if the interval between those operating in the army rear and the army group rear base becomes too large.
- e. *Evacuation.* At each level, it is the responsibility of the higher echelon to collect casualties from the lower. Ambulance facilities are limited, with divisional companies moving 80 casualties and army group and army battalions being able to carry only 300 casualties each in one lift (and the separate air ambulance regiment transporting 180). Thus most wounded, especially when being evacuated back to army, can expect to be backloaded in empty load carrying vehicles returning from ammunition runs. From army backwards, ambulances and rail transport will be more common. Of course, as with ammunition and POL supply, skip-echelon evacuation will be practised whenever possible.

0737. ***Anticipated Loss Rates.*** Loss rates vary sharply with organization levels and according to the type of fighting involved. Genforce anticipates an average daily loss rate of about 0.9-1.8% for armies, 4.5-9% for divisions and 15-25% for regiments, these figures being 50% higher than those of past wars. These averages conceal important variations. In breakthroughs and city fighting, for instance, daily loss rates double or treble, while they can fall to half or less during pursuit. About one quarter of all casualties are expected to be killed or missing. Of the wounded, up to one quarter are expected to be severe, about 50% "medium" and about 35% light. The medium and light cases provide the manpower reserve for replenishing losses.

## SECTION 5 - ROUTE REPAIR, MAINTENANCE AND MANAGEMENT

### RAILWAYS

0738. **Repair and Maintenance.** Each army group probably has two or more railway construction brigades, with a mixture of railway and railway bridge construction battalions: there is no standard allocation as the requirements of army groups will vary. In addition, there is a separate railway bridge construction regiment for the repair or construction of large bridges. These units are used to repair and keep open the rail lines needed by the army group within its boundaries, advancing them steadily during the course of an offensive. With two brigades, 40-50 km of track may be restored per day if damage is light: total destruction is reckoned to halve the rate of repair. In addition, as an offensive proceeds, 1-2 railheads will be established to increase the turn round of trains by up to 30 per day (and the rear services will create 2-3 distribution stations per army, with two reserve ones as well).
0739. **Running Rail Communications.** A railway exploitation regiment provides the skilled personnel to run the railways within the operational rear.

### MILITARY ROADS

0740. **Repair and Maintenance.** An army group will have 2-4 road construction and Commandant's Service brigades (each usually with three construction and traffic control battalions, a separate construction battalion and a separate bridge construction battalion) and a separate bridge construction regiment (with up to six battalions) for work on large bridges over major rivers: as with railway troops, the allocation and grouping varies according to need. Each road construction and Commandant's service brigade can run sectors totalling 900 km of road, repairing up to 90 km, constructing underwater bridges up to 110 m long (bearing 16 tonnes) and establishing up to 160 traffic control posts. Bridging regiments deal with large bridges linking military roads. Each army will be supported by at least one military road capable of taking a traffic volume of 10,000 vehicles per 24 hours.
0741. **Traffic Control.** Both at army and army group level, the Commandant's Service provides a large and efficient traffic control organization. It is seen as essential to provide for timely and concealed movement, concentration and deployment of troops and supplies. The Commandant's Service regulates the movement of troops on routes, water crossings and passages through natural or engineering obstacles, monitors progress and the observation of established procedures (including camouflage and concealment measures), marks routes and concentration areas, provides security against reconnaissance efforts and maintains order in the civil population. After a thorough prior reconnaissance of routes, crossings and assembly areas to be used, a Commandant's Service is set up. It may be reinforced by engineering assets, recovery vehicles and helicopters, and a reserve will be kept to react to enemy actions (eg, by setting up bypasses). Numbers, already substantial, will be swollen in wartime by the

addition of troops from the Military Vehicles Inspectorate (ie, garrison traffic police), and the Service enjoys a high proportion of carefully selected and trained officers.

## SECTION 6 - REAR AREA SECURITY

### THE THREAT

0742. **Historical.** In past wars, many armies have made effective use of partisan and guerilla movements to support their operations, both offensive and defensive. Often, these have been augmented by the use of regular forces to create a front in the enemy's rear. Such actions have often given returns disproportionate to the level of effort involved. Rear area security is thus seen to be a problem of significant dimensions.
0743. **Future War.** Genforce undoubtedly expect any enemy to make a considerable effort to conduct reconnaissance, espionage and diversionary action in its operational rear. These will be particularly effective, it is supposed, in areas where the local population is not sympathetic to the Genforce cause. In addition to these threats, Genforce anticipates attacks on their rear areas by airborne and heliborne forces, as well as larger scale problems caused by enemy operational manoeuvre forces and/or bypassed groupings. The more operations are characterized by fluidity and manoeuvre, and the less dense the forces deployed on either side, the greater the threat is perceived to be.

### MEASURES TO MEET THE CHALLENGE

0744. **Dedicated Security Forces.** Each army group deploys a considerable counter-intelligence effort. Each also possess a whole division for security tasks. This may well be an Interior Troops' formation, equipped and trained for conventional as well as unconventional warfare. Each army may well deploy a regiment as well. Moreover, as the threat of air and sea landings grows, there is an increasing stress on deploying anti-landing reserves (probably including, or even based on air-mobile units) to provide a rapid reaction.
0745. **Other Measures.** All logistics and communications units are supposed to be capable of self-defence. (Repair units will have an augmented ability to protect themselves, as the crews of damaged equipments usually remain with their equipments while they undergo repair. Similarly, the convalescent sick and wounded provide a reserve of manpower.) Wherever possible, added security is also achieved by deploying rear support elements near refurbishing or second echelon forces.

## CHAPTER 8

### COMMAND, CONTROL AND COMMUNICATIONS

#### SECTION 1 - THE DEMANDS OF THE CONTEMPORARY BATTLEFIELD

##### PROBLEMS

0801. ***The Problems.*** Modern warfare, in the Genforce view, poses the following problems for command and control:
- a. ***Time.*** Several operations in the past failed through lack of adequate preparation, a lesson of which Genforce is uneasily aware. The problem cannot be resolved, however, by giving commanders and staffs more time to prepare. In modern war, victory is likely to go to him who reacts fastest (not least, of course, in meeting engagements, the typical form of combat foreseen in future war). The overriding need for speed makes it difficult to conduct thorough reconnaissance and to produce and disseminate timely intelligence. There has also been a massive increase in the work load imposed on commanders and staffs and a simultaneous (and drastic) reduction in the time available for decision making and the issue and implementation of orders.
  - b. ***Space.*** The need for dispersion and wide and deep ranging manoeuvre and the replacement of concentration in terms of space by concentration in terms of time reduces the commander's ability personally to oversee much of his subordinates' work and forces him to rely on fallible communications means and on his subordinates' initiative. Moreover, the operational and tactical situation will be liable to sudden and radical changes, and the results of combat are seen as likely to be more decisive than in the past.
  - c. ***Coordination.*** As warfare has become more complex and deadly, the need for well integrated all arms groupings (including airpower) has grown. Such interaction often proved difficult to organize in the past and less time is available for this today. Moreover modern command, control and communications systems are under greater threat of electronic and physical attack.
  - d. ***Sustainability.*** The enemy must not only be defeated quickly, but at a cost which does not compromise Genforce capacity for further combat. Overwhelming weight of numbers will not be available to absorb excessive casualties. This was held to be true even in the seventies. Such a consideration will be even more pressing in a post-reductions era.

##### SOLUTIONS

0802. ***Some Answers.*** Genforce theoreticians have contemplated several potential solutions. These included:

- a. *Staff Training and Procedures.* Improvements in the professional training of commanders and staffs and in their working procedures obviously offer some possibilities for saving time and increasing efficiency. Progress has been made in both areas. For instance, the consecutive planning method, whereby each headquarters would only commence work on receipt of a complete set of orders from its superior has for the most part been replaced by parallel planning, in which all levels (and operations and logistics staffs) work concurrently. This change has cut planning times by 20-30% or more. Further time has been saved by extending the use of preprepared calculations, nomograms (ie, graphs reflecting the relationship of elements in one or more calculations), and proformae, and by cutting drastically the volume of paperwork. The extensive employment of standardized tables, graphs etc deals with about half the information used in the planning process. It also has an additional advantage apart from saving time. When commanders and staffs are tired, possibly frightened, and under great pressure, constructive, even rational thought becomes an early casualty. By reducing their work as far as possible to mechanical processes, in which they can be drilled, their ability to cope is enhanced. There are, however, obvious limits, not least psychological ones, to the extent that such efforts will save time and increase efficiency.
- b. *Expansion of Staffs.* Genforce has accepted the need for some increase in staff size to cope with the growing complexity of modern warfare. They have created a series of deputy commanders who each command a component of the total effort and thus relieve the commander and staff of much of the demand that would otherwise be placed upon them. They have, however, set themselves firmly against the flowering of military bureaucracies in fighting formations. Increasing the size of staffs is seen to complicate, and thus slow down rather than speed up, information handling. There has been a rationalization within logistic staffs, though, which has left clearer delineation of functions and a more efficient system of control.
- c. *Reduction in the Number of Command Levels* within the chain of command has been mooted, but so far rejected. Such a move would certainly streamline the system, but at the price of increasing the span of control beyond the five to seven major subordinate headquarters that a given command and control organ can manage effectively. Moreover, it would dramatically increase the damage done to operational efficiency by the neutralization of key command nodes.

0803. ***Answers for the Future.*** During the 1970s, Genforce decided that old troop control methods could not be sufficiently adapted to cope with the demands of future war. Qualitatively new and therefore radically different solutions had to be found. Genforce is currently going down two roads, automation and decentralization. There is, however, intense debate about how far each trend should be allowed to progress and what should be the inter-relation between them.

0804. **Centralization Versus Decentralization.** To centralize control is an instinctive Genforce reaction. The Army has traditionally worked on the dictum that the order of the superior commander is law for the subordinate: such an order was beyond question or criticism, and had to be obeyed precisely, unconditionally, and within the prescribed time. Generally, orders were very detailed, defining the precise course of actions to be followed by subordinates, and variations could only emanate from higher headquarters and not from the executors. Arguably, in organizing a deliberate defence or a breakthrough, this was essential. If a huge military machine is to work with machine-like precision, cogs must behave as cogs and not display any sort of independence in their actions. Centralization of control also had several advantages. It made possible flexibility in the employment of resources to meet the overall goal of an operation. It ensured a unity of views on the management of forces. It is also crucially important in the management of air and air defence operations and in the employment of long range, high precision weaponry. Progressive Genforce theorists have, however, increasingly come to doubt the applicability of centralized, one might argue, overcontrol on the battlefield of the future. They maintain that fluid and deep operations require much looser, directive control. On the future manoeuvre-dominated, fast changing battlefield of vastly increased spatial scope and where time is critical, the detailed planning or even control of tactical actions cannot be accomplished by operational level headquarters.

0805. **Centralized Operational Control and Decentralized Battle Management.** There is general agreement that, at the operational level, centralized control continues to be essential to the maintenance of the aim and the efficient management of resources, force packaging, etc that is necessary to achieving the aim. On the other hand, the detailed implementation of the operational plan must be left much more to the executors. Timely reaction to rapidly developing and changing situations requires that considerable freedom of action be allowed, within the framework of the overall plan, to army, divisional, regimental, and even in a growing number of cases, battalion commanders. This will be especially true on the battlefield on which communications, and even the very survivability of higher headquarters, are called into question by enemy EW activity and deep strikes. There is thus growing interest in task-orientated control, where the mission is stated in broad terms and accompanied by the essential elements of the superior's plan which is contained in his concept of operations. Thus, in the event of circumstances changing, a subordinate who is familiar with his superior's concept can adapt his efforts to ensure a worthwhile contribution to the overall goal. In other words, what a subordinate has to be told is what he is supposed to accomplish rather than how it should be done. This, of course, means thrusting a demand for initiative onto lower formation, unit and even sub-unit commanders. Initiative and a creative approach are now described as the main criteria of tactical maturity in a commander. Initiative is not, however, used in the British sense of the word: Genforce thinkers deride what they see as a reliance on "native wit" in place of foresight and a sound plan. To a Genforce commander, initiative consists of intelligent anticipation, or at least correct interpretation, of the higher intent, and effective implementation of it without detailed guidance: it is also the ability, and the far-sighted, flexible organization, of the combined arms grouping to react speedily,

without waiting for direction, to meet unexpected changes in the operational/tactical situation.

0806. ***Automating the Command and Control Process: Promise and Pitfalls.***

The other solution to the problems of time and control on the battlefield of the future is sought in the computerization of command and control. Automation is seen as offering many benefits. It speeds up information handling by one, perhaps several, orders of magnitude. It greatly aids the process of parallel planning and makes possible rapid, last minute adjustments to plans by subordinate headquarters as a result of changes by their superiors. It enables headquarters to handle the growing volume and complexity of work without a possibly counter-productive growth in size. Above all, perhaps, it frees commanders and staffs from much routine drudgery and allows them time for the more creative aspects of their work. It makes possible a fruitful fusion between scientific calculation and foresight and the artistry which commanders are supposed to display, all within an acceptable (and very short) timescale: it makes initiative possible by providing commanders with adequate information on which to base their decisions. In theory, a degree of automation of the command and control process allows adaptive flexibility down to low levels of command. It can also be used, however, to strengthen centralized control. Higher headquarters can, in the future, have (at least theoretically) almost as comprehensive a picture of a subordinate's situation as the latter itself. This, combined with skip echelon communications (eg, direct from army group to division) could easily lead to a reinforcement of the natural tendency to centralization, or, to be more controversial, to over-involvement in detail which would dissipate the theoretical advantages to be gained from automation. Less than enthusiastic Genforce commentators also point out that reliance on computers in decision-making will lead to stereotyped and therefore predictable decisions, a disastrous outcome once enemy computers have succeeded in replicating the decision making process. Moreover, undue dependence on automation will lead to a massive failure of command and control if enemy physical and/or electronic attack shuts down the computers.

0807. ***Progress in Automation.*** Whatever the misgivings of the traditionalists, the overriding need to save time has made a substantial degree of automation inevitable. Starting, naturally enough, in the air defence world, it has spread steadily downwards in the Ground Forces to such an extent that manoeuvre regiments and artillery battalions now have a variant of a field automatic system for troop control and programmable calculators have become common in sub-units. The result has been a reduction of reaction times to approximately one fifth of those common in the pre-computer era. There are also signs that a proper balance is being found in the man-machine mix. Computers are not to replace traditional military skills or override competent staff work, far less take the man out of the decision making loop altogether. Rather, they are used to streamline procedures and aid decision making. Thus, for instance, a commander will have his computer set out for him, in a matter of minutes, the possible variants that are available to him in making his decision, together with their logistic requirements and forecast outcomes. The commander will con-



sider all the plus and minus points of each option presented to him and make his decision accordingly. He is not obliged to follow computer advice or heed its forecasts, but if he subsequently fails, he will have some difficulty explaining to his superiors. Having enthusiastically adopted the computer, Genforce is still aware of the dangers of total dependence on it. In true Genforce "belt and braces" style, the Army has worked considerable redundancy into the system and prepared as best it can for a reversion to a non-automated system in the event of failure.

## SECTION 2 - CALCULATING THE BATTLEFIELD

### NORMS

0808. **General.** Military Art is aptly named, for creativity is required in understanding and applying the objective laws of war and the scientific realities that govern military operations. A thorough grasp of these scientific certainties is, in the Genforce view, the first essential step, without which artistry has no firm foundation. Genforce believes that almost all aspects of war fighting can be reduced to mathematical calculation. This of course, is one of the reasons why computers have been so readily accepted by commanders and why they fit so peculiarly well into the Genforce system of troop control.
0809. **Definition.** Norms are believed to be scientifically arrived at measures of material expenditure for a given result or measure of achievement that can and should be reached. Military norms are defined as follows:
- a. **Operational-Tactical.** Numerical quantities used to characterize space and time factors for operational or tactical activities of forces and the areas in which they take place. Space factors include: depths of objectives, widths of sectors, dimensions for combat formations etc. Time factors include: the time to fulfil every mission, complete marches or manoeuvres, etc. These are developed based on the make up of Genforce formations, their capabilities, enemy capabilities, combat and exercise experience, level of training, results of special research studies, terrain, weather and the time of day. The basic operational-tactical norms are reflected in regulations and directives.
  - b. **Timeliness, and Quantitative and Qualitative.** Factors for fulfilment by personnel and small units of specified tasks, methods of application of weapons or technology in the course of combat preparation. Norms ensure a uniform and objective approach to the determination of times for the fulfilment of combat actions and for the evaluation of the level of training of personnel and units.
0810. **The Use of Norms.** The use of norms is all pervasive in the military, as the numerous examples scattered throughout this volume will testify. There are norms for everything, from the time required to change the fan belt on a GAZ-66 truck to the number of 152 mm artillery rounds required to destroy a tactical missile launcher at a range of 15 kms. Norms are used both as a basis for staff

calculations and as measures against which troops and units may be tested and assessed. There are three principal methods used to do calculations using norms: their direct application in mathematical formulae and tables derived from them; relating them to other variables in nomograms; their use in the critical path method. All three methods can be greatly accelerated by the use of computers or the programmable calculators that are now on issue on a wide scale. The use of norms, calculations and nomograms in two key related operational decision making areas will be illustrated in the following sub-section by way of example of the Genforce approach.

0811. **Norms as a Guide.** Until the late eighties, operational and tactical norms were seen as absolutes that had to be adhered to come what may! Now, however, a more realistic view prevails. It is suggested that they should be seen as averages rather than absolutes, as guides in planning rather than figures to be adhered to rigidly in all circumstances.

### CALCULATIONS: TWO EXAMPLES

0812. **Example 1: The Creation of Shock Groupings.** It is critically important to create a decisive superiority in a shock grouping which is to break through the enemy defence. The passive sectors, however, must not be so weak that the enemy can attack through them to attain the flank or rear of the shock grouping or shift forces from them to meet the main attack. Several variants may be used to determine the mutual connection between the overall correlation of forces along the entire front (C), the correlation of forces required on the main axis (Cb), between the overall width of the whole attack frontage (W) and the width of the breakthrough zone (Wb) and between the minimum allowable correlation of forces which must be achieved on other axes (Cs).

- a. *Determine the Width of the Breakthrough Sector.* The formula used is:

$$Wb = W \times \frac{C - Cs}{Cb} \quad Cs$$

Thus, where,

Overall attack frontage W = 120km

Overall correlation of forces C = 1 (ie, 1:1)

Planned correlation of forces on breakthrough sector Cb = 3 (ie, 3:1)

Planned correlation of forces on secondary sectors Cs = 0.5 (ie, 1:2), then

$$Wb = 120 \times \frac{1 - 0.5}{3 - 0.5} = 24 \text{ km}$$

(i.e., the other 96 km must be passive sectors)

- b. *Determine the Superiority That Can Be Created on a Breakthrough Sector* on condition that the correlation elsewhere does not fall below an acceptable minimum. The formula used is

$$C_b = \frac{W}{W_b} \times (C - C_s) + C_s$$

Thus, where,

Overall width of front  $W = 400$  km

Overall correlation of forces  $C = 0.8$  (ie, the enemy is stronger)

Width of shock grouping's front  $W_b = 120$  km

On remaining front, correlation of forces must not fall below  $C_s = 0.5$ , then

$$C_b = \frac{400}{120} \times (0.8 - 0.5) + 0.5 = 1.5$$

This means that on a 120 km frontage, there can be created no more than a superiority.

- c. *Increasing the Superiority Enjoyed By a Shock Grouping.* If the superiority created using calculation (b) is insufficient, there are four ways of creating a greater superiority: by allowing an even greater enemy superiority on passive sectors; by decreasing the width of the shock grouping's front; by bringing up additional forces; by weakening the enemy grouping through fire strikes.

- (1) To achieve a two fold superiority on the main sector, the remainder of the front must be weakened to the correlation:

$$C_s = \frac{W \times C - W_b \times C_b}{W - W_b} \quad \text{or} \quad C_s = \frac{400 \times 0.8 - 120 \times 2}{400 - 120} = 0.3$$

This means that, on passive sectors, the enemy would have a 3:1 superiority, which is inadmissible.

- (2) Reducing the width of the shock grouping's breakthrough sector does not proportionately increase the correlation of forces (eg, halving the attack front from 120 to 60 km does not increase the correlation of forces from 1.5 to 3:1, as the formula in sub paragraph (b) shows:

$$C_b = \frac{400}{60} \times (0.8 - 0.5) + 0.5 = 2.5$$

To achieve a 3:1 superiority on the shock grouping's front, it must be reduced as follows:

$$Wb = W \times \frac{C - Cs}{Cb - Cs}, \text{ or } 400 \times \frac{0.8 - 0.5}{3 - 0.5} = 48 \text{ km}$$

- (3) Bringing in more forces will chiefly influence the correlation of forces along the entire front, that is W. To determine the new overall correlation of forces (Cn) that is required to achieve a 3:1 superiority on the shock grouping's front, the formula used is:

$$Cn = \frac{Wb}{W} \times (Cb - Cs) + Cs, \text{ or } Cn = \frac{120}{400} \times (3 - 0.5) + 0.5 = 1.25$$

- (4) Weakening the enemy through fire strikes depends on calculating the minimal degree of destruction of the enemy which would enable the achievement of the necessary correlation of forces, at least on the shock grouping's front. The enemy, however, will retaliate against strikes to alter the force correlation, and one's own losses must be taken into account too. The formula to calculate the necessary degree of fire destruction is:

$$M = 100 - \frac{Wb}{Cn} \times (100 - F),$$

where

M = The necessary destruction of the enemy, as a percentage

Ci = The initial correlation of forces

Cn = The necessary correlation of forces

F = The forecast of percentage losses to own forces.

By way of example, assume that the secret regrouping of forces from other areas onto the breakthrough sector has created a correlation Ci of 2 (ie, 2:1). It is deemed necessary, however, to create a correlation Cn of 4. The necessary amount of damage to the enemy on the breakthrough sector for the attack to succeed must be (assuming own forces will take 30% losses),

$$M = 100 - \frac{2}{4} \times (100 - 30) = 65\%$$

For a quick calculation of both the necessary degree of damage and the effects of enemy resistance on force correlations, the nomogram in Diagram 8-1 can be used.

- d. *Other Variables.* Absolute norms for the necessary correlation of forces on the attack and breakthrough sectors are difficult to establish as a multitude of other factors, objective or subjective, and varying widely, will influence the correlations. These include missile and air strikes from the depth; actions by mobile groups and air and sea landings in the operational depth; the electronic struggle; the effectiveness of command and control. These and other factors outside the direct confrontation of forces on the line of contact in the main sector complicate the calculation of the true total combat potential of the sides.

See Diagram 8-1.

0813. **Example 2: Rate of Advance as a Function of Superiority.** Despite the problem of establishing definite norms, empirical evidence shows a correlation between the rate of advance (R, in kms per day) and the coefficient of the influence of the correlation of forces (Ci), using the formula  $R = 140 \times C_i$ . The quantity 140 represents the maximum possible speed of advance in normal terrain (in kms per hour) and Ci represents the coefficient of the correlation of forces. Using the formula and the nomogram in Diagram 8-1A, it is possible to evaluate approximately the necessary correlation of forces to achieve a planned rate of advance, or to determine the likely rate of advance with a given correlation. eg:

See Diagram 8-1a.

- a. An average rate of advance of 40 km per day is planned on a shock grouping's sector. The superiority necessary is found as follows:

$$C_i = \frac{R}{140} \text{ or } C_i = \frac{40}{140} = 0.29$$

The quantity 0.29 is entered on the nomogram and it follows that a correlation of 3.4:1 is necessary on the shock grouping's sector.

- b. On a shock grouping's sector, a 2.5:1 superiority has been created. The rate of advance will be determined as follows: from the nomogram, it is clear that  $C_i = 0.13$  corresponds to a superiority of 2.5. According to the formula  $R = 140 \times 0.13 = 18.2$  km per day is the average rate of advance.

0814. **Comment on the Calculations.** These formulae facilitate the comparative evaluation of different variants of a plan. They do not, of course, exclude the need for further and more detailed calculations and mathematical modelling at the stage of adopting a decision and planning troop actions.

## SECTION 3 - COMMANDERS AND STAFFS

### THE COMMANDER

0815. **Responsibility.** At the tactical level, the commander's responsibility derives from the Genforce principle of "one man command". It is the fundamental concept of command in the Genforce. It makes the commander personally responsible for the morale, discipline, and training and combat activity of his command. Only the commander can make decisions and he, individually, will be held to account in the event of failure, even on the part of his subordinates. The penalty for failure is traditionally severe - eg, posting to a punishment battalion. This helps to explain the persistent tendency to over-control and interference with work which should really be left to subordinates' own devices. Initiative does not thrive in such conditions. There is a persistent tendency for commanders to wait on orders from above before acting, rather than to accept responsibility for acting independently. At the operational level, the situation is somewhat different. Orders are issued over the signatures of the members of the army or army group military council, ie, the commander, the chief of staff, and others co-opted as necessary. This change reflects an acceptance of the fact that the complexity of the control process and the sharp rise in the level of responsibility is really beyond the capabilities of a single individual to cope. This sharing of responsibility and risk may well be a contributory factor in explaining the much greater display of initiative that characterizes command at the operational level.
0816. **Duties.** The commander is responsible for the combat capability of subordinate formations, the organization of combat operations, the maintenance of uninterrupted troop control and the successful conduct of combat missions. He clarifies the mission he has received (ie, determines his formation's place in the senior commander's concept of operations). This may be done alone or jointly with the chief of staff and political deputy. He then gives instructions to the chief of staff on preparing the troops and staff for combat and gives out his instructions about the timing of preparations. The commander makes his own intelligence appreciation from the data supplied by the chief of intelligence and, with advice from the chiefs of combat and combat support arms and the rear, makes an assessment of his own forces. After discussing his deductions and proposals with the chief of staff, the commander reaches a decision, issues combat missions to subordinates and gives instructions about planning the operation. He then organizes coordination within his formation and with adjacent forces and other elements operating in his area of responsibility. During the course of operations, the commander is obliged constantly to evaluate the changing situation, to predict likely developments and to issue new combat missions in accordance with his forecast. He must also keep his superiors informed as to the situation and character of friendly and enemy actions and his current decisions.
0817. **The Commander's Decision.** The Genforce commander does not make an appreciation and prepare a plan. He is trained to assess the situation and

make a decision. At the higher formation level, it will be based on his assigned mission, his knowledge of the senior commander's concept of operations, on his knowledge of the general situation and on scrutiny of a series of options presented by his chief of staff. At the tactical level, it is normally based on personal observation of the battlefield and consists of selecting one of a number of "off the peg" solutions to standard tactical problems. The decision will include the concept, organization for combat, axes of advance, battle tasks for major units, and command and control organization. It is conveyed to the chief of staff, who, with his subordinates, fleshes out its bare bones with detailed planning tailored to the circumstances of the battle and the terrain. Detailed, precise orders are issued for the initial phase of an operation/battle only, as enough hard data will not be available to allow an accurate forecast of the development of the situation. The plan will include intelligence, the commander's decision, boundaries, the missions of flanking units, the missions of combat and service support elements, the air defence plan, coordinating instructions, and the deployment of CPs. Table 8-1 sets out the process through which the decision is reached, and Diagram 8-2 illustrates it graphically. It will be noted that there are important differences, compared with the British appreciation, in the sequence of thought and the weight given to individual factors.

**TABLE 8-1: THE GENFORCE PROCESS OF ASSESSING THE SITUATION AND REACHING A DECISION**

Function	Main Issues Considered	Deductions by Commander and Influence on his Plan
1. Clarify the Senior Comd's Mission	<p>Senior Comd's Concept of Battle:</p> <p>From Senior Comd's orders identify:</p> <p>(a) Which enemy he plans to attack and how. What percentage of destruction will be wreaked on the enemy.</p> <p>(b) His sector of main effort and breakthrough sector.</p> <p>(c) Main targets for artillery and air strikes.</p> <p>(d) Combat formation and nature of manoeuvre.</p> <p>(e) Own mission: incl aim, immediate and subsequent missions and timings, reinforcing or supporting assets, boundaries, breakthrough sector, routes and deployment times.</p>	<p>Deductions</p> <p>(a) Own unit's role in Senior Comd's plan.</p> <p>(b) Where to attack and required rate of advance.</p> <p>(c) What percentage of losses will be suffered.</p> <p>These deductions guide the comd in planning:</p> <p>(a) His own sector of main effort and breakthrough sector.</p> <p>(b) His combat formation and manoeuvre plan.</p> <p>(c) Outline missions for subordinates.</p> <p>(d) Priorities in planning battle.</p>

Function	Main Issues Considered	Deductions by Commander and Influence on his Plan
<p>2. Assess the situation</p> <p>(a) Assess the enemy</p> <p>(b) Assess own forces</p> <p>(c) Assess</p> <p>Function</p>	<p>Major elements in assess-include:</p> <p>(a) Composition of enemy force and combat capability. (b) Density of enemy forces to depth of immediate and subsequent missions.</p> <p>(c) Defence lay-out, incl fire and obstacle plans. (d) Boundaries, HQs, comcens, logistic sites. (e) Morale of troops and personal qualities of comd. (f) Enemy options during battle, incl sector of main effort, counter-attack plans, air strikes.</p> <p>Headings include:</p> <p>(a) Effective fighting strength, incl morale. (b) Combat capabilities, classified by arm of service.</p> <p>Assess their position, nature of operations, missions, incl tempo of attack. Includes assessment of 2nd echelon lines of deployment and axes.</p> <p>Main Issues Considered</p>	<p>Deductions</p> <p>(a) Main enemy groupings. (b) Strong and weak points of defence. (c) Probable enemy concept of operations.</p> <p>These deductions guide the comd to plan:</p> <p>(a) Outline plan, incl sector of main thrust, and combat formation. (b) Subordinates' missions. (c) Combat support plan (incl final recce plan).</p> <p>Deductions</p> <p>(a) General condition of own force. (b) Any requirement for re-grouping.</p> <p>These provide guidance in:</p> <p>Selecting sector of main thrust, combat formation, sub-unit missions, plan for deployment.</p> <p>Deductions</p> <p>(a) Influence of flanking units on air operations. (b) Priorities of cooperation with flanks.</p> <p>Deductions by Commander and Influence on his Plan</p>



Function	Main Issues Considered	Deductions by Commander and Influence on his Plan
(d) Assess	<p>Terrain is assessed in the sequence:</p> <ul style="list-style-type: none"> <li>(a) In the assembly area.</li> <li>(b) From line of departure to line of contact.</li> <li>(c) In depth of enemy position and under the main headings:</li> </ul> <p>General nature of terrain; effects on observation, fire and camouflage and concealment; possibility;</p> <p>A guide to Genforce classification is found at Note (a)</p>	<p>These provide guidance in planning:</p> <ul style="list-style-type: none"> <li>(a) Sector of main thrust (to link with flanking units).</li> <li>(b) Measures to coordinate with flanks.</li> </ul> <p>These provide guidance in planning:</p> <ul style="list-style-type: none"> <li>(a) Sector of main thrust (to link with flanking units).</li> <li>(b) Measures to coordinate with flanking units.</li> </ul> <p>Deductions</p> <ul style="list-style-type: none"> <li>(a) Effect of terrain on accomplishment of mission.</li> <li>(b) Most favourable axes for operations. These provide guidance in planning:</li> </ul> <ul style="list-style-type: none"> <li>(a) Sector of main effect and breakthrough sector.</li> <li>(b) Routes, deployment lines, objectives, 2nd echelon committal line, river crossing sectors.</li> </ul>
(e) Assess Hydrography, Meteorology, times of year and day	<ul style="list-style-type: none"> <li>(a) Water barrier conditions.</li> <li>(b) Weather, incl temperature, winds, clouds, fog, visibility.</li> <li>(c) Hours of light and darkness and timings.</li> </ul>	<p>Deductions</p> <p>Effect on operations and on employment of various weapons by either side.</p> <p>Used as guidance in planning:</p> <ul style="list-style-type: none"> <li>(a) Sector of main thrust, combat formation.</li> <li>(b) Measures to anticipate changes in conditions, eg, floods, snow storms etc.</li> </ul>

Function	Main Issues Considered	Deductions by Commander and Influence on his Plan
<p>(f) Assess Economic/Social and Political Conditions in Combat Zone</p> <p>3. Selection and Formulation of the Most Appropriate Decision</p> <p>Function</p>	<p>(a) Possibilities of using local resources, incl repair facilities, medical facilities and communications.</p> <p>(b) Mood and attitude to war and our troops of local population.</p> <p>The comd proceeds to select the most appropriate decision which is outlined under the following headings.</p> <p>Main Issues Considered</p> <p>1. Concept of Operations</p> <p>(a) Which enemy to rout and how including the percentage of destruction to be achieved.</p> <p>(b) Main targets to be hit.</p> <p>(c) Axis of main effort, combat formation, manoeuvre plan.</p> <p>2. Missions of sub-units, incl groupings, objectives, axes, timings and the percentage of losses that is acceptable in own forces.</p> <p>3. Cooperation</p> <p>How to coordinate operations in terms of objectives, place and time.</p>	<p>Deductions</p> <p>Effect on combat operations and measures to exploit local resources.</p> <p>Deductions by Commander and Influence on his Plan</p>

Function	Main Issues Considered	Deductions by Commander and Influence on his Plan
	<p>4. Support</p> <p>Political work, combat support, command and control.</p> <p>The decision, once approved by the Senior Comd, is passed to the staff and forms the basis of the plan which they produce.</p>	

Note: (a) Examples of Genforce Terrain Classification

(1) RELIEF

Type	Height above Sea Level (metres)
Plain	up to 300
Hilly	300-500
Low Mountains	500-1000
Medium Mountains	1000-2000
High Mountains	over 2000

- (2) QUANTITY OF NATURAL OBSTACLES. Measures the area of ravines, gullies, rivers, lakes and other natural obstacles as a percentage of total area. Eg, A lightly-obstructed area has less than 10% covered by natural obstacles. A heavily-obstructed area has more than 30% covered by natural obstacles.
- (3) CAMOUFLAGE CONDITIONS. Defined as: open, semi-covered, covered. Measured in terms of the numbers of battalion-sized units that can be concealed in the area, allowing that a standard battalion required 0.4 sq km of wood, a village of at least 75 houses, or a ravine 1 km long to hide in and battalions must be 2-3 km apart.
- (4) DENSITY OF ROAD NETWORK. Assessed in terms of length of roads found in a 100 sq km area. Eg, A dense road network has more than 40 km per 100 sq km. A sparse road network has less than 10 km per 100 sq km. The figure should include both hard surface roads and dirt tracks.
- (5) SETTLEMENT. A densely populated area has more than 15 settlements per 100 sq km, with an average distance between settlements of up to 3 km. A sparsely populated area has less than 3 settlements per 100 sq km, with an average distance between them of more than 7 km.

See Diagram 8-2.

0818. **Personal Control.** At all levels, though particularly at the tactical level, Genforce commanders believe that personal contact with subordinates is of great importance. Commanders usually move well forward in the advance with a small command group. Even at divisional level, they will try whenever possible to achieve personal observation of the battlefield (ie, carry out a commander's reconnaissance) to gain a feel for the battle. They like to issue orders to subordinates face to face to ensure that they are thoroughly conversant with the concept, and to be on hand to supervise the execution of their decisions. Tactical commanders are supposed to lead from the front, setting an example to the subordinates. Operational commanders, on the other hand, are less likely to be seen by the fighting troops. Continuous troop control of large formations cannot be exercised from the front line, and it is the task of the army and army group commander to turn tactical into operational success and not to supervise the achievement of the former. On the other hand, operational commanders will descend on the CPs of main axis subordinate formations from their nearby forward CPs to check on work or issue fresh instructions.
0819. **Temporary Commanders.** It is quite possible that a commander will use one of his trusted staff officers or a senior line officer to take over temporary command of a particularly important subordinate force fulfilling a mission of vital operational importance. This is a task commonly allotted to the deputy commander.

## THE STAFF

0820. **Function.** The staff release the commander from having to solve administrative and technical problems, thereby allowing him to concentrate on the battle. It translates his decisions into plans and helps him to control the actions of his subordinates. The staff is also responsible for keeping the commander informed of developments and for the provision of advice as required. Diagram 8-3 lays out, by way of example, the composition of an army group's staff.
0821. **The Chief of Staff.** The chief of staff is also the first deputy of the commander. As such, he is the only officer eligible to issue orders and instructions on behalf of the commander to formations and the chiefs of combat, supporting and rear services. He runs the main CP and controls the battle during the commander's absences. It is thus vital that he understands not merely the commander's specific instructions but also his general concept and train of thought. His duties are: to direct and oversee all the work done by the staff (preparing some key documents personally); to brief the deputy commander, chiefs of staff departments and chiefs of combat, combat support and rear services about their missions and give instructions about issuing warning orders, calendar plans and calculations for the decision making process; and then to lead the planning process; to coordinate the operation of all organs of control. The chief of staff is constantly obliged to be abreast of the situation and to predict likely changes. He is prepared to report on the situation, status and character of friendly and enemy operations, deductions from the estimate of the situation and proposed

decisions and on measures for the organization of troop control and coordination.

0822. **The Chief of Operations** prepares warning orders, calendar plans, and, sometimes personally writing them out, combat directives. He also prepares some of the calculations required for the commander to make his decision and he plays a key role in planning the operation. During the course of the operation, the chief of operations is responsible for: collecting and analyzing situation information; reporting to higher headquarters and disseminating to subordinate and adjacent formations; organizing and maintaining continuous coordination; organizing the deployment and relocation of command posts; organizing signal communications; controlling the accomplishment of combat missions by subordinates.
0823. **The Chief of Reconnaissance** is responsible for: preparing the reconnaissance plan, allocating forces to achieve the set aims and issuing missions to the reconnaissance department staff (after the plan is signed by the chief of staff and approved by the commander); coordinating all the efforts of different reconnaissance means in terms of missions and objectives; organizing continuous communications with reconnaissance forces and with subordinate headquarters; receiving and analyzing reconnaissance information and disseminating it with the headquarters and to superior, subordinate and flanking headquarters.
0824. **The Chiefs of Combat and Combat Support Arms** have the following duties: reporting to the commander information on enemy capabilities in their specialist fields and on their own capabilities; advising on the employment of their respective troops; preparing calculations for the commander's decision; planning the combat employment of subordinate troops and issuing missions to them (based on the commander's instruction and with his approval); organizing coordination and supervising the timely accomplishment of missions.
0825. **The Deputy Commander for Rear Services** is not only a staff officer but the commander of logistic assets. His duties are: the preparation of initial data for the logistic plan; the issue of missions to rear service elements; the supply of all necessary material and its transport to the troops; the preparation and maintenance of supply routes and traffic control; the collection, evacuation and repair of damaged vehicles and equipment; the provision of medical services; the preparation of mobile technical bases and fuel depots for missile units; the organization of defence and security and the maintenance of order in the rear; the exploitation of the local economy and captured stocks; the movement of rear service elements to keep pace with operations.

See Diagram 8-3.

0826. **Staff Procedures.** It is emphasized that planning and the issue of orders must be accomplished at a speed appropriate to fast-changing situations. Time con-

straints are severe, and to cope with this problem, parallel planning methods, networks and automation are used. By drastically cutting the time taken in making and communicating decisions, adequate provision is made for preparation time for the combat units. The essence of this method is that lower echelons do not wait for higher HQs to complete the full operational plan before embarking on their own planning. Subordinate formations/units are thus kept continuously in the picture by the staff and they are given a warning order as soon as the commander has received his from above. The commander will follow this with a preliminary decision, enabling detailed planning to be done. Should developments affect the initial concept in any way, this will be reflected in the final decision, and planning will be tailored accordingly.

0827. **Control.** Genforce commanders recognize that the issue of orders does not automatically ensure their execution, or even that they will be correctly understood. They thus place great emphasis on supervision after an order is issued. The chief of staff checks on the work of the staff, and each staff section checks that the orders which it has prepared are properly understood, any problems being resolved by the chief of staff. Supervision of formations/units is ideally accomplished by personal visits by the commander or appropriate staff representatives, possibly after observation of their actions from the ground or air. Genforce also makes extensive use of special representatives. These officers are thoroughly familiar with the commander's concept. They monitor the actions of the grouping to which they are attached and inform its commander if his orders seem to conflict with it; any disagreement is referred upwards before the subordinate commander executes his plan. During the development of an action, subordinate commanders are expected to use their initiative and react aggressively to any changes in the situation. They are also required to keep the commander and chief of staff fully informed of their decisions.

## SECTION 4 - COMMAND POSTS

### TYPES OF COMMAND POST

0828. **General.** Command and control is exercised through a series of command posts (CPs), their numbers and size depending on the level of command. Security of CPs is considered very important and is ensured by a number of measures.
- a. *Siting.* CPs are well dispersed and camouflaged and communications facilities are removed to lessen the chance of the actual command element being located as a result of enemy DF.
  - b. *Defence.* CPs are a high priority for air defence. ideally, they are also placed near second echelon/reserve units to gain protection from ground attack, though circumstances will often dictate that they provide for their own local defence. Engineer support is normally arranged to dig in and camouflage key elements.

0829. **Types of CP.** There are seven different types of CP.

- a. *Main CP.* At all levels from regiment upwards, this is the principal focus of control. At army and army group levels, it will generally also be the main focus of command as commanders at these levels tend to remain at their HQs to keep a firm grip on developments across their wide frontages. The main CP is run by the chief of staff, who directs the formation/unit staff in translating the commander's decision into plans and orders. Main coordinates the movement and deployment of units/formations and monitors their combat effectiveness (including supply states).
- b. *Forward CP.* Regimental and divisional commanders in particular like to move with their first echelon on the main axis in offensive operations to obtain personal observation of key sectors and contact with their sub-unit/unit commanders. They are accompanied by a small group of principal advisers, eg, the chiefs of the operations, intelligence and signals staff sections, the chiefs of artillery and perhaps engineers, an air force representative and a small signals back-up. When formed, and when the commander is present, the forward CP is the main focus of command, though the chief of staff is empowered to issue orders in the commander's absence.
- c. *Alternate CP.* This is established laterally from the main CP, usually commanded by the deputy commander and with reduced manning levels. It is not a step-up, but a reserve CP, available to assume control if main is destroyed. If an alternate CP is not formed, a subordinate HQ will be designated to perform its function. While it is usual to create an alternate CP in defence, it may well be less common during the offensive, at least at divisional level.
- d. *Airborne CP.* These may be established by commanders of army groups (in fixed wing aircraft), armies (in HOOK) or divisions (in HIP). They are needed when operations become very fluid and spread over a wide area, and to maintain continuity of control when other CPs are displacing.
- e. *Rear Control Point.* From this CP, the Chief of the Rear organizes logistic support for the concept of operations he receives from main. He monitors supply states and reports them to main.
- f. *Command and Observation Post (COP).* The only sort of CP formed below regiment, COPs will often be formed by regimental and sometimes by divisional commanders also, as personal observation of the battlefield is all but mandatory at the tactical level. This enables commanders to make decisions based on their own observations. Such CPs are kept very small; they consist only of the commander, his most important advisers, and the necessary communications vehicles.

0830. **Operations Groups.** It is quite common for armies or army groups to form temporary operations groups to assume control over part of the formation,

either because geographical separation or the fact that the grouping in question is operating on a different axis from the main body makes control from the main headquarters problematical. Operations groups with a high powered commander and a team of specialists can also be set up to plan and control special operations, eg, a sea landing.

0831. **The Management of CPs.** Because Genforce does not employ an alternating main and step-up system, work patterns perforce differ from those in a British headquarters. Diagram .... sets out the organization of shifts and of the working day.

### LOCATION AND MOVEMENT OF CPS

0832. **Location.** All Genforce CPs are fully mobile, and divisional and regimental forward CPs are contained in armoured vehicles. CPs will be sited well dispersed in areas affording good concealment and with a good road net access, either on or just off the main axis. Higher HQs dictate the locations of their immediate subordinates' main and rear CPs. Table 8-2 shows the approximate location of CPs relative to the line of contact. These distances will, however, increase as the momentum of operations quickens. Similarly, the frequency of movement will be dictated by the speed of advance, the stability of defence or the rate of withdrawal.

See Diagram 8-4.

0833. **Movement.** During the movement of a main CP, continuity of control is maintained either by handing over to the forward or airborne CP, or, more rarely, to the alternate CP. Often key staffs will be moved to the new location by helicopter to reduce the time spent away from their posts.

**TABLE 8-2: COMMAND POST DEPLOYMENTS IN THE ADVANCE**

Command Post	Distance from line of contact (km)			Frequency of Displacement (a)
	Tactical March Formation	Pre-Battle March Formation	Battle Formation	
Army Group Forward	80-150	80-150	25-40	1-3 per day
Army Group Main/Alternate	150-250	150-250	100-150	1 per 2-3 days
Army Group Rear	250-350	250-350	150-250	1 per 2-3 days
Army Forward	20-40	20-40	10-20	Constantly moving
Army Main/Alternate	75-100	75-150	25-40	1 per day
Army Rear	150-200	150-200	60-100	1 per day



Command Post	Distance from line of contact (km)			Frequency of Displacement (a)
	Tactical March Formation	Pre-Battle March Formation	Battle Formation	
Division Forward	10-20	2-5	2-5	Constantly moving
Div Main/Alternate	50-75	10-20	10-20	2-3 per day
Division Rear	75-100	40-80	30-40	2-3 per day

Command Post	Dimensions of CPs (kms sq) (b)		Separation of Con and Sp Gps (km) (c)	Remarks
	Control Group	Support Group		
Army Group Forward	2.25-4	0.75-2	1	Moves with first echelon armies
Army Group Main/Alternate	16-25	8-15	2-3	Moves behind first echelon armies
Army Group Rear	16-25	8-15	2-3	Usually collocated with rear service elements, probably near a railhead
Army Forward	1-2.25	0.5-0.75	0.5-1	Moves with first echelon divisions
Army Main/Alternate	4-9	3-4.5	1.5-2	Moves behind first echelon divisions
Army Rear	4-9	3-4.5	1.5-2	Usually collocated with rear service elements
Division Forward	0.06-0.16	0.04-0.08	0.2-0.3	Moves with first echelon regiments
Div/Main Alternate	1-2.25	0.5-0.75	0.5-1	Moves behind first echelon regiments
Division Rear	2-2.25	0.5-0.75	0.5-1	Usually collocated with rear service elements

Notes: (a) The frequency of displacement will obviously depend partly on the tempo of the operation. Figures here assume a rate of advance of 40-60 km per day. Even given a slower rate of advance, it is, however, likely that moves would be made with the same frequency to avoid detection and destruction.

(b) The control group comprises the commander and staff, and the support group, the transport and signals.

(c) Signal centres are remoted 3-4 km from the support group, and HF transmitters may be remoted as much as 15-20 km.

(d) Before any move, the new location is carefully reconnoitred and marked out by the Commandant's service. Engineer preparation will also be carried out to give protection and concealment.

0834. **Co-Location of CPs.** During some particularly difficult phases of an operation/battle, where close cooperation between formations/units is deemed essential, the forward CP of one may be co-located with the forward or main of another. Examples are the committal of an OMG or the passing of a second echelon through the first.

## SECTION 5 - COMMUNICATIONS

### RESOURCES

0835. **Army Group.** Each army group has considerable satellite radio, radio-relay, land line and mobile communications resources. A high level of redundancy and reliable, multi-channel, automated systems ensure that long interruptions to communications through physical or electronic attack will be hard to achieve. The maintenance of continuity in troop control is seen to be even more essential than in other armies, where the degree of operational level centralization is less and reliance on lower level initiative greater.
- a. **Radio.** One signals regiment of three battalions provides the command nets, ie, one each for main, forward and alternate CPs. The signals regiment for rear services establishes links to lower echelons with its two battalions. The signals battalion for auxiliary signals centres can set up six such centres. Communications within CPs are the responsibility of the cable and line battalion with its 500 km of line.
  - b. **Radio-Relay and Line.** Two radio-relay battalions are used to set up the army group radio-relay axes, each being able to work up to 1,000 km. Two further battalions, working up to 480 km each, provide lateral communications. Two cable battalions establish permanent land lines, each with 420 km of cable, 100 of which can be rigged as overhanging (ie, suspended) line. Further line battalions, the numbers depending on the number of armies in the army group, exist to establish up to 400 km of line to each army. A missile brigade line battalion exists to establish communications with each subordinate SSM brigade, each laying up to 280 km.
  - c. **Mobile Communications Means.** Mail stations and a combined signals-aviation regiment is used to deliver classified documents and to transport staff officers and the commander's representatives. As well as vehicles

such as the BRDM, there are at least eighteen helicopters and twelve fixed wing aircraft.

- d. *Security.* A radio control centre monitors radio and radio-relay communications security.

0836. **Army.** The assets available to army mirror those existing at army group level, though on a smaller scale as befits the more restricted geographical spread of army operations. Thus, there are signals regiments to provide communications for forward, main and alternate CPs and for the Rear services. Two radio-relay and cable battalions establish radio-relay links up to 600 km in total and up to 240 km of line. Separate line companies provide communications to the missile brigades, and there is a field mail centre and aviation squadron with twelve aircraft.

### NON-RADIO COMMUNICATIONS

0837. **General.** Genforce is well aware that radio DF and intercept is considered by likely enemies to be the main source of combat intelligence. Thus, while radio must remain the primary means of communication during combat, Genforce stresses the use of alternate means wherever possible. These become particularly important when EW disrupts radio communications, and when radio silence is being maintained, for instance on the march or in a waiting area, in order to obtain both security and surprise. At all levels, the custom of outlining the commander's concept makes it possible for subordinates to act within the spirit of the commander's intentions, even if communications fail. At the tactical level, the use of simple battle drills also helps to reduce reliance on radio somewhat.

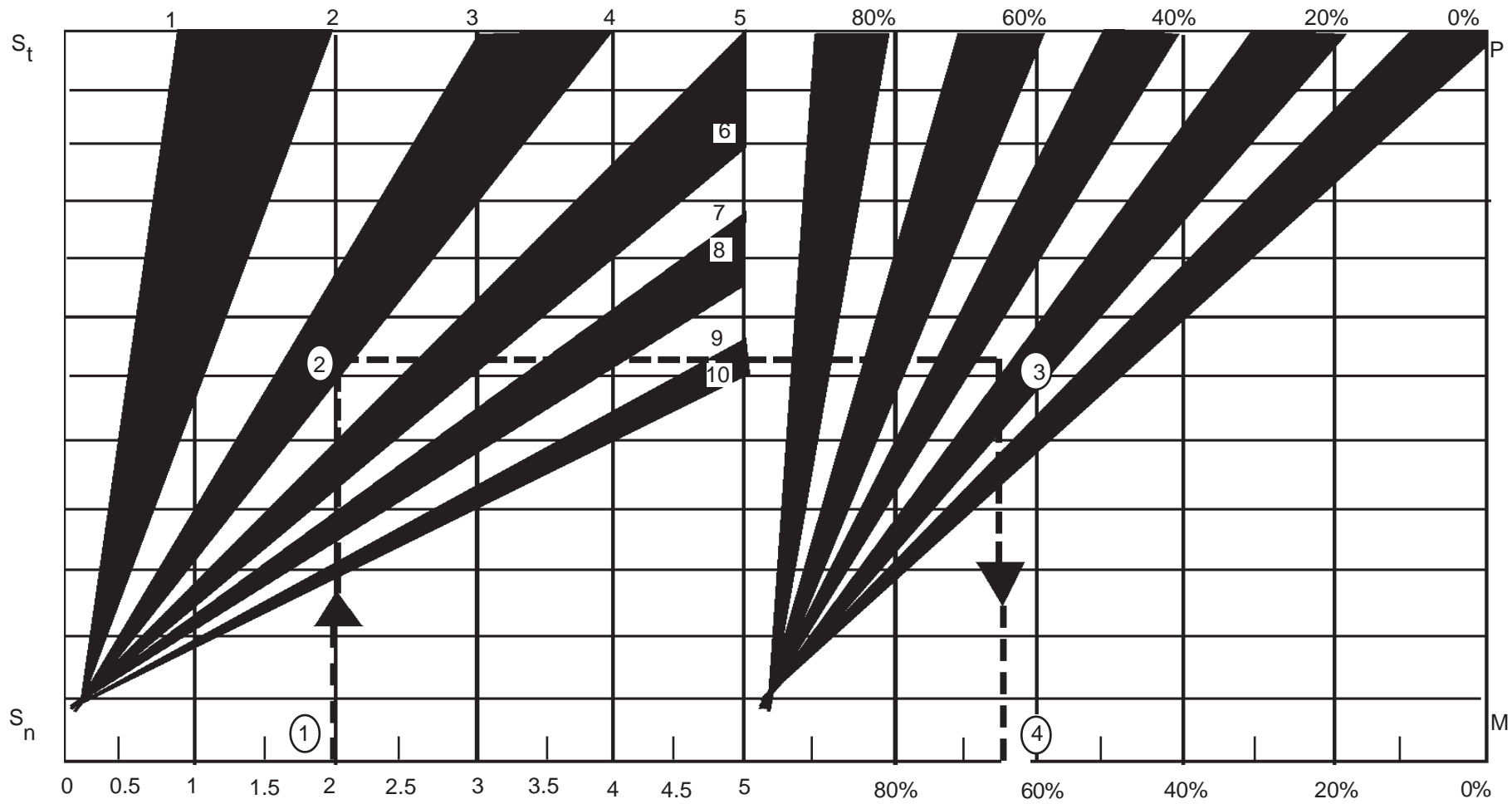
0838. **Means.** The following alternatives to radio are widely employed.

- a. *Mobile.* Messages and orders are frequently passed by LOs in aircraft, or vehicles such as the BRDM. LOs will usually be used to disseminate higher formation operation orders, especially those looking far ahead. Obsessed as they are with security and a true understanding of missions, personal contact between commanders (or their representatives) and subordinates is heavily emphasised whenever possible as a means of dissemination.
- b. *Line.* Genforce still make extensive use of line in defence, in waiting areas, along march routes and wherever possible in the offensive.
- c. *Visual and Audio.* At unit and sub-unit level, flag, flare and vehicle horn signals are used to transmit simple instructions or warnings.

## RADIO

0839. **Responsibility for Establishing Communications.** This rests with the superior HQ to its subordinates; at the tactical level, it is from supporting to supported unit. Lateral communications must also be established, from left to right. Should the responsible HQ fail to establish communications, however, its subordinates/neighbour must do so.
0840. **Uninterrupted Troop Control.** Genforce communications reflect the desire of commanders to exert tight, centralized control, and their concern to ensure that that control is uninterrupted despite what are expected to be determined enemy efforts to that end. The principal control nets can be reconfigured, albeit at the expense of time, to cope with attacks on the system. Skip echelon working is widely employed (ie, enabling an HQ to talk “two down”, for example from army direct to regiment or division direct to a battalion operating as a forward or raiding detachment). In emergencies, traffic can be switched through the special staff nets. Considerable redundancy makes this possible.
0841. **Communications Systems.** Genforce signal troops are well supplied with sophisticated equipments. Formations operate trunk communications systems similar to those of Western armies, with outstations down to regiment. These systems use three different means to ensure continuity: landline as far forward as possible; multi-channel radio-relay; troposcatter and satellite links down to army level (and below, for instance in the case of OMGs). All communications from regiment rearward are encrypted, and great stress is laid on ECCM.
0842. **Radio Nets.** Genforce establishes several different nets at formation level:
- a. *Command.* This net links the commander to his major subordinate formations/units, including supporting units. Provision is often made before the start of an operation/battle for skip echelon working to key subordinate formations/units. In the event of an intermediate level being destroyed, communications could be reorganized, albeit with some delay, to allow the higher HQ to take control of the otherwise undirected subordinates.
  - b. Staff
    - (1) THE CHIEF OF STAFF. When the commander is working from a forward or airborne CP, the command net is duplicated so that the chief of staff as well as the commander is in touch with all major subordinate HQs. This enables both to keep fully in touch with the battle/operational situation and enables the former to issue detailed orders implementing the latter’s decision, and it ensures coordination. There is also a back-up net enabling the alternate CP to stay on listening watch and to assume control without delay if the main CP is disrupted or destroyed.

- (2) **STAFF.** Certain principal staff officers have their own dedicated nets to ensure the uninterrupted receipt of information and the issue of orders necessary to fulfil their function in timely fashion. At higher formation level, these are the Chief of Rocket Troops and Artillery, and Chief of Reconnaissance, the Chief of the Rear, the Chief of Air Defence Troops, the Chief of Engineers, the Deputy Commander for Aviation. Should the command net fail for any reason, staff nets provide alternative channels of communication. Principal amongst these is the artillery net.
- c. *Coordination.* Nets are established to ensure coordination with flanking formations and between main and rear CPs. Liaison nets will also be established between formations/units operating in close cooperation, eg, between first and second echelons/OMGs to ensure coordination at the critical time of committal.
- d. *Warning.* A net devoted purely to air warning and to the passage of meteorological information is established at all levels. Warning messages are not acknowledged in order to maintain security.
- e. *Special Purpose.* A special purpose link is established to communicate with units and formations executing special missions (eg, from army group to an army OMG) and with airborne or air assault groupings operating beyond the line of contact.



$S_n$	Initial correlation of forces of the sides .....	2	①	$P$	Forecast of enemy counter action (expected level 30%)	③
$S_t$	Required correlation of forces of the sides .....	4	②	$M$	Required level of Destruction as a percentage	65% ④

**Diagram 8-1: Required level of Destruction**

ANNEX A TO  
GENFORCE OPERATIONAL ART:  
CHEMICAL WARFARE

## CHEMICAL WEAPONS

1. The Genforce operational art described assumes that Genforce will abide by international commitments not to research, develop, produce or store chemical weapons. Should users wish to play a chemical scenario, this annex describes Genforce's use of chemical weapons.
2. ***Initial and Subsequent Employment.*** Whenever the use of chemical weapons is initiated, Genforce will aim to maximise the casualty-producing value of chemical surprise by launching a massive, in-depth strike. Thereafter, formation commanders will be allowed to use chemical weapons within boundaries as they see fit, but only after clearing any proposed strike with their superior headquarters to ensure that its after effects (contamination or downwind hazard) will not interfere with the plans of the senior commander or of flanking formations. It is, however, unlikely that chemical weapons will be used routinely as a component of artillery fire plans. When on the offensive too little special ammunition is thought to be readily available, and the conduct of deep battle and deep operations will limit usage to avoid endangering friendly troops or restricting their manoeuvre. On the defensive, greater use may well be made against the enemy's depth, especially during mobile defence.
3. ***Munitions and Delivery Means.*** The chemical capability of field forces is very much a matter of conjecture. All artillery over 100 mm calibre is suitable for the delivery of chemical rounds, though the higher the calibre, the more efficient the weapon in building up an effective concentration in the shortest possible time. Given the immense expenditure of ordinary ammunition called for by Genforce tactics, however, and bearing in mind the considerable problems involved in field filling and handling chemical ammunition, it is questionable whether all weapons could be supplied with significant quantities of chemical rounds. Possibly, chemical will be concentrated in formation level fire units, perhaps only for weapons of 152 mm calibre and above and especially in multiple rocket launcher and SSM units. Aircraft provide particularly suitable delivery means, both because munitions re-supply is easier and because both forward and depth targets can be attacked with large payloads in a single mission, possibly with the added advantage of surprise in the case of off-target spray attacks. Decontamination vehicles can be filled with persistent agents and used to create widespread ground contamination.
4. ***Targets for Chemical Weapons.*** Chemical agents are particularly suitable for engaging targets where maximum personnel casualties and disruption, but minimum terrain damage, are required.
  - a. ***Non-Persistent Agents.*** Non-persistent agents are suitable for use against targets on those axes which Genforce commanders wish to exploit. While they may be used against depth targets, they are best suited to preparing the way for an assault by manoeuvre units or by heliborne or airborne troops

especially when enemy positions are not known in detail. Likely targets are:

- (1) Strong points which have to be attacked, and supporting positions to the flanks: the latter could be subjected to a semi-persistent nerve agent, such as GB (Sarin), so as to degrade performance and inhibit manoeuvre temporarily, but not deny the area to eventual manoeuvre by Genforce troops.
  - (2) Dropping or landing zones before an airborne or heliborne assault, and air defence units on the fly-in route.
  - (3) For harassing purposes on headquarters, communications centres, defence or demolition preparations, reserves, artillery gun positions, and administrative areas on important axes of attack. If the whole enemy grouping can be forced into full protective clothing and respirators through selective strikes, Genforce could attack through a relatively "clean" environment against an enemy whose performance would be significantly degraded.
  - (4) In defence, enemy routes of advance, especially through defiles, assembly areas and FUPs to cause disruption. Such use may be preceded or accompanied by remote mining.
  - (5) Enemy dropping or landing zones of airborne or heliborne forces. Such use may be preceded or accompanied by remote mining.
  - (6) Civilian population centres, to create panic, causing an exodus of refugees which will hamper defence preparations and the manoeuvre of reserves or units trying to manoeuvre from the flanks.
- b. *Persistent Agents.* Persistent agents can be used against targets which are too large to be destroyed by conventional means, those which Genforce may wish to capture intact at a later stage or which are located with insufficient accuracy to be attacked by other than an area weapon. Their great value lies in the fact that their effects are not transient. As well as producing casualties initially, they will produce a steady, if lower, rate of attrition and greatly sap morale. They will seriously degrade the performance of personnel working in full protective clothing, or impose a loss of time and of continuity of work if the decision is taken to decontaminate rather than carry on. They restrict the movement of contaminated units or, alternately, force them to spread their contamination, and they also have some capacity to deny ground. Likely targets are:
- (1) Key weapons systems (especially precision weapons) and their associated command and control and logistics back up.
  - (2) Airfields and helicopter forward operating sites.



- (3) Ports, bases and rear area installations.
- (4) Operational and operational-strategic reserves.
- (5) Headquarters and communications centres.
- (6) Artillery and air defence units, if possible in combination with conventional attack, to hamper the restoration of combat effectiveness.
- (7) Defiles, to restrict enemy manoeuvre or impose penalties for their use.
- (8) Possible concentration areas for enemy counter-attacks into the flanks of advancing formations or for enemy formations on the offensive.
- (9) Bypassed units.
- (10) Civilian and infrastructure targets to prevent demolition so that they can be taken intact.
- (11) Swathes of ground, either to provide flank protection in the advance or to create barriers which the enemy will have to negotiate when advancing. Such use is likely to be preceded by conventional or remote mining: the agent will hamper mine recce and clearance and lane marking.