

COMBAT OPERATIONS

ARMY DOCTRINE PUBLICATION II - PART-B
COMBAT OPERATIONS AGAINST A REGULAR ENEMY FORCE



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Royal Netherlands Army

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COMBAT OPERATIONS.

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COMBAT OPERATIONS AGAINST A REGULAR ENEMY FORCE

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PART C

COMBAT OPERATIONS AGAINST AN ENEMY FORCE CONDUCTING IRREGULAR OPERATIONS

Fundamentals of regular combat operations

Section 1 - General

0901. Combat operations against a regular enemy force take place in the context of a major operation conducted by land forces. This major operation is designed to achieve an operational objective and comprises a number of **battles (or, below division level, engagements)**. These battles are usually connected in time and space, but can also be conducted independently of each other.

A battle is conducted by a formation and consists of a number of **combat actions** linked in time and space; it is conducted under unity of command and with a common objective.

0902. The **battlefield** is the area in which the battles take place; it is three-dimensional, since it also consists of the airspace above the area. This airspace forms part of the battlefield in as far as the land forces need it for their operations; apart from that, it is the domain of the air forces. The electromagnetic spectrum also forms part of the battlefield.

Section 2 - Characteristics of regular combat operations

0903. Regular combat operations have **common characteristics** determined by the time and the circumstances under which these operations are conducted. They cannot be listed exhaustively, nor do they automatically apply at all times.

0904. The most important characteristic is **friction**. In principle, operations consist of a large number of different, often simple actions. These actions are performed by individuals and weapon systems operating in a dispersed formation. However, in the harsh reality of fatigue, stress and life-threatening situations, even the simple tasks are often difficult to accomplish. Chance occurrences also play a role in this respect. Local disruptions and minor delays thus occur all the time. The effects mount up and can cause structural friction which is so serious that it can affect the course of the operation. Friction is a concept that indicates the essential difference between operational theory and practice.

0905. Besides friction, there are several other characteristics which may be apparent in regular operations:

- **Uncertainty.** It is hardly ever possible to get a complete and reliable picture of the enemy. The situation in adjacent units, even those of one's own troops, will often be unclear, be it because of a lack or indeed a surplus of information.
- **Integration of means.** Technological advances impose heavy demands on the interaction of combat, combat support and combat service support units. Coordination between these units takes place in the planning phase. In the execution phase, this coordination is monitored by means of constant assessment of the situation and adjusted where necessary. This requires extensive professional knowledge of all assets on the part of commanders and their staffs.
- **Large areas of operations.** Relatively small forces operate in large areas. These forces have large areas of responsibility and interest, without being able to physically control the entire area. Unoccupied areas and open flanks are thus inevitable and must be consciously accepted.
- **Continuous operations of high intensity.** More and more often, battles are conducted regardless of the available daylight or the weather conditions and in a tempo that differs according to time and place. The situation can thus change rapidly. Concentration and dispersal, the type of combat and the order of battle change frequently.
- **Lethality.** Because of the greater accuracy of weapon systems and the increased impact of ammunition, the battles are characterised by a high degree of lethality. This is also becoming increasingly true for the depth of the battlefield.
- **Mobile battles and unlimited duration of the combat actions.** Because of advances in technology and because of flexible command and control support and combat service support, battles can be sustained over greater distances and for prolonged periods.
- **Use of the third dimension.** Mobility is enhanced by the increased possibilities of using the airspace. Thus the battle can also be conducted over an increased depth. With (attack) helicopters and transport aircraft, combat power can be deployed quickly and unexpectedly in the depth of the battlefield, thus restricting the enemy's freedom of action. Air forces, UAVs and satellites can gather information over great distances. Air forces and long-range missile systems can engage targets at a considerable distance. An effective and flexible air defence and airspace control system is needed to maintain freedom of action.
- **Use of the electromagnetic spectrum.** Both command and control and weapon systems depend to a great extent on electronic means.

The unrestricted use of the electromagnetic spectrum is essential for both parties. The spectrum itself has thus become a battlefield. On the one hand, each party tries to deny the other unrestricted use, temporarily and locally. On the other hand, they try to ensure that they can use it themselves. It is also possible to use this spectrum as a source of information. The knowledge that this occurs imposes further restrictions on its use.

0906. The presence of nuclear, biological and chemical weapons means that one must constantly be prepared for their use. If these weapons are deployed, the battle undergoes a fundamental change. It is virtually impossible to predict how an operation will proceed under NBC conditions. Typical features of operations under NBC conditions are:

- increased psychological and physical stress because of the intangible threat and the need to conduct combat actions over a prolonged period with NBC protection measures
- greater personnel losses
- interrupted communications
- combat actions which are dominated by sudden and unexpected events and which are often isolated in nature
- greater dispersal and thus a growing need for space
- complex medical care
- limited or more complex use of all equipment
- extended duration of all operations because of the effect of NBC protection measures and any necessary decontamination procedures

Section 3 - Manoeuvre warfare

0907. The aim of combat operations is always to **impose one's will** on the enemy. Each commander must also realise that his operation must contribute to the intent of the higher commander and, albeit indirectly at the tactical level, also to the desired politico-strategic end state. His own objective as well as his contribution to that of the higher levels must at all times be clear in his mind. Not until he has achieved his own objective and helped to realise the intent of the higher commander can an operation at his level be considered successful.

0908. The main concepts of the doctrine are:

- taking and retaining the initiative
- winning freedom of action
- mental agility and aggressiveness

These are mainly determined by the **attitude of the commander** of a unit. His attitude is a condition for his unit or formation to conduct its

operations with the optimal level of mobility. To that end, he must satisfy a number of conditions.

- He must be (or become) familiar with the enemy's doctrine, or at least have intelligence regarding enemy operations, in order to be able to anticipate the latter's actions and to be able to apply his own doctrine successfully. In this respect, the battle for information plays an important role at every level.
- A commander must look for ways in which to influence the enemy mentally and physically to his own advantage. A cunning plan, deception, a display of high morale, psychological warfare and in particular good timing all help in this respect.
- With his combat power, the commander must selectively neutralise and in some cases actually destroy enemy personnel and equipment. By doing so, he will indirectly affect the morale of the enemy troops to his own advantage.
- The commander must break the cohesion between the operations of the various enemy units by, on the one hand, neutralising the leadership and, on the other, destroying selective elements of the enemy unit, including its command and control system.

0909. Depending on the situation, the **physical destruction of enemy forces** will have a higher or lower priority in the plan. However, the physical destruction of all enemy forces is seldom, if ever, the objective. After all, the idea is to defeat the enemy by using a combination of manoeuvre and fire power to break the cohesion in his operations in such a way that he is no longer willing or able to carry on fighting. This does not alter the fact that friendly troops will almost always have to use force against selected military targets, since there is often no other way of eliminating them. This means that the commander needs insight into the enemy's capabilities and limitations and an understanding of the way in which the enemy commanders think. Only then can he strike the enemy at his most vulnerable point. The commander must bear in mind that the enemy will also be trying to do the same thing.

0910. Deception, psychological warfare, stratagems and the selective use of force undermine the **enemy's willingness to fight**. As a result, the physical destruction of all enemy forces is unnecessary. In this way, even a stronger enemy can be defeated. There are a number of options that can be used, either separately or in combination, in order to break the enemy's will to fight.

- In a **pre-emptive strike**, the enemy is attacked at the first opportunity and before he is able to launch an attack himself.
- If the enemy is **outmanoeuvred**, he is prevented from using his com-

Physical destruction

Photograph: Media Centre

RNLA



bat power effectively. If possible, he must be convinced beforehand that his combat power, no matter how strong, will no longer have any effect.

- In the case of **disruption**, the enemy is attacked selectively, vital elements of his combat power are separated from each other and confusion is created in those elements that are essential for the cohesion of his combat power.

0911. The greater the ability of friendly troops to **break the cohesion between the elements of the enemy's military potential**, the greater the effect of targeted, selective, physical destruction of enemy combat power. The cohesion in the enemy's operations is usually based on three pillars:

- a. consistent adherence by the enemy commander to his chosen objective
- b. concentration of all means on that objective
- c. maintaining the morale of the enemy troops

0912. These pillars of cohesion in the enemy's operations must be translated into concrete targets. These targets must then be attacked with all available means. In that way the cohesion in the enemy's operations is broken. This effect is even greater if the enemy commander is also faced with pre-emptive actions, feels outmanoeuvred and his troops disrupted. The following assets and methods can be used to break physical cohesion.

- **Manoeuvre** is the combined use in time and space of direct fire and movement, reinforced with indirect fire, in order to gain a favour-

able position in relation to the enemy so that the latter can be destroyed or threatened with destruction. The threat alone of deep and rapid penetration of enemy territory will be enough to affect his morale. Mobility is also important to enable a rapid build-up of a main effort at a decisive place and time. The 'manoeuvre' function plays a key role. A mobile operation - manoeuvre - is at its most effective if used to direct friendly power, often in the form of (the threat of) fire power, at the enemy's weak points. In this way, it is even possible in some cases to operate against a stronger enemy. Manoeuvre is designed to erode the operational cohesion and the morale of the enemy.

- **Fire power** destroys, neutralises, suppresses and demoralises enemy forces. Only fire power, with its violent, destructive force, can actually physically eliminate enemy troops.
- **Tempo** is the rhythm of the friendly operation in relation to that of the enemy. Tempo is the result of swift command and control, physical speed and flexibility. A unit can increase its tempo by applying mission command at all levels. Units at the lowest (technical) levels can also enhance their tempo by using combat drills. Varying the rhythm in an operation means that the enemy commander's picture of the situation changes constantly. He is confronted at an ever-changing pace with threats to which he has to respond. A high operational tempo makes it possible to gain and subsequently keep the initiative.
- **Simultaneous operations on different fronts and in different directions** overload the enemy commander with challenges. He is not given the opportunity to concentrate on one problem at a time or even to set priorities. The air arm in particular offers excellent possibilities for simultaneous operations over the entire depth of the enemy force.
- **Surprise** is a fundamental factor in breaking the cohesion in enemy operations. As in the case of 'tempo' and 'simultaneous actions', timing is the key. Not until the enemy feels the combined effects of tempo (uncertainty) and simultaneous actions (problem of choice) is the unexpected (achieved by surprise) effective.

0913. Even after the cohesion in the enemy operations has been successfully broken, the operation is not yet over. An enemy may consider allowing the remaining elements to continue fighting independently in an attempt to exhaust the other party. Once the cohesion has been broken, however, the enemy can no longer coordinate his operation. Actions by friendly troops aimed at the further destruction of the enemy's will and readiness to fight thus remain necessary.

0914. The close operation is designed to force a decision by means of manoeuvre and fire power. The close operation involves direct contact by fire, whereby the deployment of combat forces must lead to success. It is vitally important that units develop an operational tempo that is high enough to deny the enemy the opportunity to respond. This requires a fourfold division in the **combat forces' order of battle**. A fourfold division makes it possible to maintain a high tempo with successive units and to quickly establish or move a main effort, thereby keeping sufficient reserves at all times. After all, a high tempo increases the risk, which means that crisis situations may arise. And it is precisely for averting a potential crises that a reserve is required whose primary task is not to exploit success or regain the initiative.

0915. The high tempo needed in manoeuvre warfare is a product of physical and mental alacrity. The possession of knowledge and information is the key to mental alacrity. The acquisition of this knowledge and information using all appropriate collection units and processing it in the intelligence preparation of the battlefield as early as possible is vitally important. The information that is collected at an early stage can, after all, influence the course of the operation to a significant extent (reconnaissance pull).

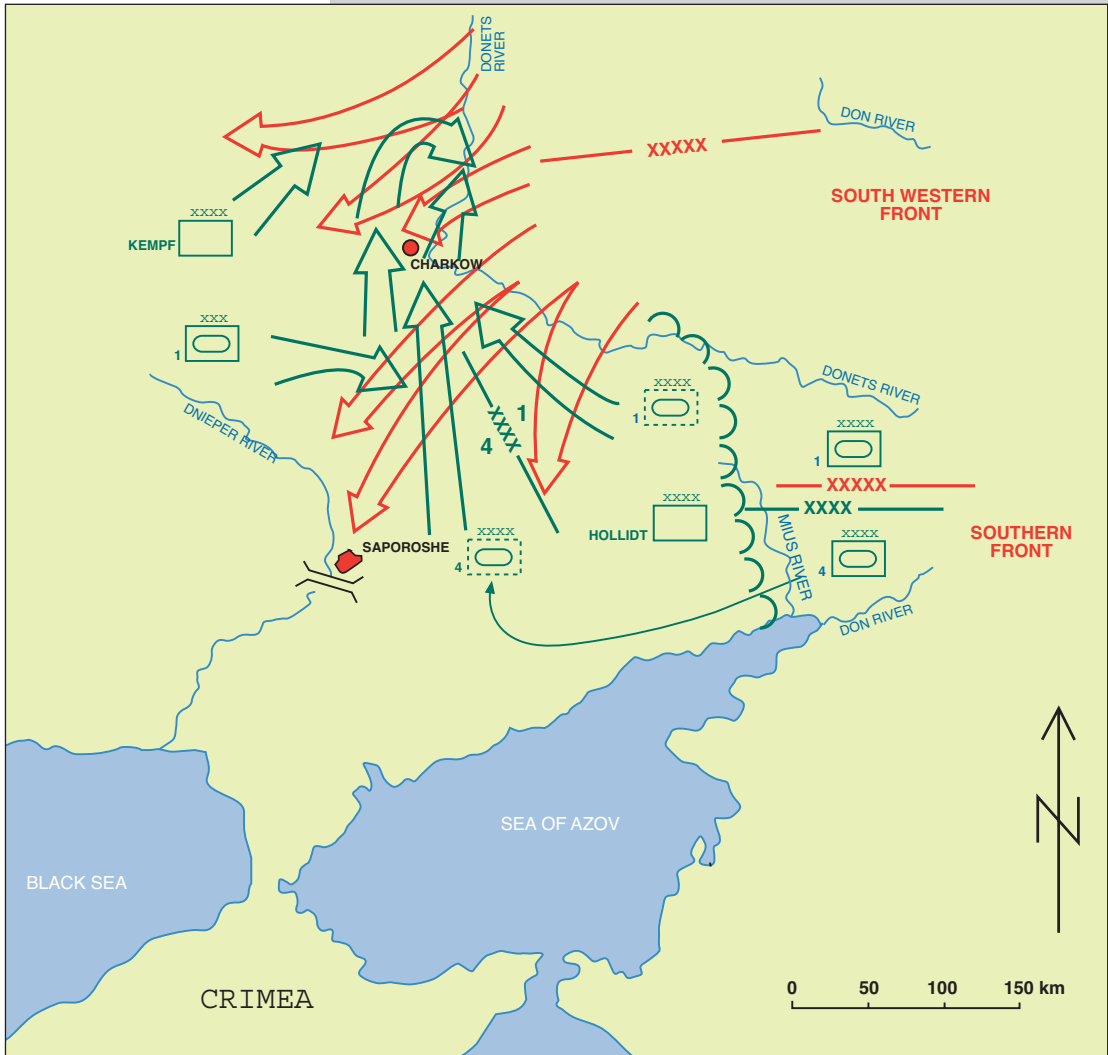
THE COUNTEROFFENSIVE ALONG THE RIVER DONETS IN THE SPRING OF 1943

In the winter of 1942-1943, the fortunes of war on the Eastern front changed once and for all. Near Stalingrad, the Red Army surrounded 6 German Army, which was forced to surrender at the end of January 1943. Soon after that, a second 'Stalingrad' was looming, this time of much greater proportions. The Red Army proceeded to carry out its own version of a *Blitzkrieg* on the south-eastern front. To the south of Voronezh, the Soviets opened the front over a breadth of 300 km. Their offensive was directed at the lower reaches of the River Dnieper and the Black Sea coast. Should this offensive succeed, the entire German Army Group South would be surrounded. A repeat of 'Dunkirk' - an escape via the Black Sea - appeared to be impossible because of the shortage of ships.

The remedy for the impending envelopment by the Red Army came from Marshall Von Manstein, the Commander of Army Group South. His operation plan was risky. Von Manstein wanted to use the depth of the vast plain between the rivers Donets and Dnieper as an asset. The operation plan contained a static and a mobile element. First of all, Von Manstein reduced the front line by bringing back the Germans' main defence line to the River Mius. The *Armee Abteilung Hollidt* had to hold the Mius line at all costs. The shortening of the front made 1 and 4 Panzer armies available for Von Manstein's manoeuvre, the 'castling'. 4 Panzer Army had to move like lightning from the right flank of Army Group South to the left flank, a displacement of about two

hundred kilometres, in a few days over a limited road network. From this position, 4 Panzer Army was able to launch the attack in a northerly direction on Charkov, supported on the right flank by 1 Panzer Army. 1 (SS) Panzer Corps was to carry out an attack from the west, thus creating a double envelopment. With these movements, Von Manstein brought about a sudden and substantial change in the balance of combat power on part of the southern front. Luck was also on Von Manstein's side. Initially, it did not look as if Hitler, uncompromising in his desire to hold on to every inch of ground, would approve the dynamic but risky operation plan. But at the precise moment that Hitler visited the headquarters in Saporoshe on the River Dnieper in the middle of February, Soviet tanks that had managed to breach the defences approached the town unexpectedly. An anxious Hitler gave Von Manstein complete freedom of action in order to stop the Soviet offensive.

The Russians entered Von Manstein's trap. The German marshal allowed the Red Army to advance virtually unhindered. Just at the point when the Soviet



offensive towards the Dnieper passed its culminating point, Von Manstein attacked. German panzer units cut through the stretched and poorly protected flanks of the Russian armies, which, because of the unexpectedly high tempo of their advance, also had major supply problems. The fact that the overconfident Russian commanders had not concentrated their offensive solely on the crossings of the River Dnieper simplified the execution of the German plan even further. The German panzer units were able to attack and destroy each of the fanned out and partly isolated Russian divisions separately.

Within two weeks, Von Manstein had regained control of the central reaches of the River Dnieper. On 14 March 1943, German forces recaptured Charkov. The Russian losses were considerably higher than those suffered by the Germans in terms of personnel and equipment at Stalingrad. Surprise and mobility were the factors that had determined the success of Von Manstein's 'castling' manoeuvre. He turned a retreat into an organised attack from three directions. On the southern front, the Red Army had a general superiority of six to one. Nonetheless, Von Manstein managed to build up the necessary local and temporary superiority. Ironically enough, Hitler quickly wiped out any gain. He still had no faith in Van Manstein's '*Schlagen aus der Nachhand*'. Once again, he ordered that not a single inch of ground was to be surrendered. This sort of uncompromising order was to frustrate the German commanders on many occasions until the end of the war. They were in fact fighting a double war: one on the battlefield and another in their own chains of command, always seeking as much freedom of action as possible.

Source: Günther Roth, '*Operatives Denken und Handeln in deutschen Streitkräften*', Part 2, Militärgeschichtliches Forschungsamt, Freiburg im Breisgau, 1989.

Section 4 - Types of combat

0916. At the **tactical level**, the directives from the operational level are translated into operation plans and operation orders, taking account of the given limitations. At the tactical level, combined arms combat is conducted in the form of offensive operations (Chapter 11), defensive operations (Chapter 12) or delaying operations (Chapter 13). An operation can also be switched from one form to another or to a movement. It is then a case of operating in transitional phases (Chapter 14).

0917. The types of combat at the tactical level are offensive, defensive and delaying operations. The **specific relationship** between the first two is essentially determined by the higher commander's intent.

The higher commander's intent, resulting in his orders for an offensive or defensive operation, is that the lower operational or tactical commander fights the decisive battle. This is achieved when the enemy in the allocated sector (of attack or defence) is defeated. This means that he has been driven by manoeuvre and inflicted losses to such a mental

and physical state that he is no longer willing and thus no longer able to continue his original operation. The envisaged result has thus been achieved.

0918. If the higher commander orders a **delaying operation**, a decisive battle is exactly what he does not want. By means of the controlled surrender of terrain, he wants to create favourable conditions for a decisive offensive or defensive battle at a later stage and in another place. These can be promoted by winning preparation time and weakening the enemy by inflicting losses on him at this stage, without allowing the delaying unit to be definitively fixed. So this type of combat in some ways resembles an operation in a transitional situation and never, therefore, has an objective in itself.

The decision, fought out with a successful offensive or defensive action, has a much more **temporary and local character** at the tactical level than at the operational level. This is because the enemy usually still has sufficient means at the higher (tactical and operational) levels within the theatre of operations but outside the allocated sector. So he can, if necessary, use these to reinforce his combat power in the sector and resume his original operation in a relatively short space of time.

The aim of a **defensive operation** is to ward off a potential attack. This type of combat is thus characterised by waiting, at least initially, until the enemy actually launches that attack. The defender has inherent control of the sector which he occupies and through which the enemy attack will take place. And this is how he wants the situation to stay, because in this way he can cause the enemy attack to fail.

The aim of an **offensive operation** is to turn the existing situation to one's own advantage. The attacker contests the defender's ground and seeks to gain control of this in order to complete his attack. To this end, he also takes the initiative by attacking the enemy defence sector and pushing through into the depth. His intention is thus to gain complete control of the disputed territory.

0919. The **conserving objective of the defender** is easier to achieve than the **dynamic objective of the attacker**, as the latter seeks to change the existing situation. The defensive type of combat is thus in itself stronger than the offensive form. Were this not the case, there would no longer be any reason for ever using the defensive. It has, after all, a less far-reaching objective, namely to maintain the existing situation. It is, therefore, logical that the attacker can in principle only achieve his more radical objective with relatively greater effort and usually correspond-

ingly greater losses. This means that when the degree of effort and other circumstances are equal, it is easier to conduct a defensive operation than an offensive one.

Although the results of a successful offensive have greater implications than those of a successful defensive, this does not mean that the defensive cannot be called decisive. After all, that depends on the intent of the higher commander. If his intent is to preserve the status quo in his sector or theatre of operations, then in accordance with the principle of economy of effort, a defensive is the only option. A similar argument applies to defensive actions in a secondary sector.

0920. The **factors of time and space** each have a specific significance in the defensive and the offensive. While the space of the defender's sector is contested by the attacker, time proceeds at the same rate for both parties during the battle. However, this passage of time has an opposite effect on each party. After all, time works in the favour of the defender. His all-important task is thus to postpone the decisive moment as long as possible. As long as the time passes without the attacker being able to force a decision, the defender reaps the benefit. It is after all in the nature of an offensive that its tempo is constantly reduced by many different factors.

That reduction in tempo stems primarily from the fact that the physical movement of armed forces to and within the zone of attack costs time, regardless of the method. But fighting and manoeuvring at the same time against a defender who is using the terrain features to his advantage costs disproportionately more time. It also causes losses on both sides, but these will in any event serve to reduce the tempo of the attack and ultimately lead to complete stagnation. Should the attacker fail to force a decision before that point is reached, he has no option but to halt the offensive and himself switch to defensive action. It is at this point, therefore, that the defender can expect to gain the most benefit from a decisive counterattack.

0921. The decisive defeat of the enemy by physically and psychologically denying him the opportunity to sustain his operation is the **key factor for success**. One cannot, after all, conduct a more or less passive defence that concentrates solely on holding ground. A defensive can, if one has been able to keep troops available according to plan, develop into a decisive counterattack. This is launched as soon as the enemy attack appears to have lost its momentum.

The defender must in any event be aware that the choice to seek a decision by means of a counterattack such as this cannot be seen in isolation. Betting everything you have on one horse in this way means that, in the event of failure, there would be grave consequences with regard to sustaining the defence, as long as the higher commander deems this necessary. Even after a successful action, it may prove difficult to resume the defence. After all, it may prove necessary to do so if the enemy moves reinforcements up quickly from outside the sector. Seeking a decision by means of a counterattack must, therefore, be in line with the higher commander's intent and the operational concept designed to achieve it.

Depending on his plan, the defender will also deploy means for carrying out local counterattacks. This benefits the continuation of the defensive, particularly by inflicting losses on the attacker. Ultimately, engaging enemy troops in the depth of the defence zone using surprise and all-out fire effect is also an active element in the defence. At every level and in every phase of the fighting, offensive elements are thus incorporated into the defence concept. It should not be forgotten, however, that a counterattack, even though it is an essential element of every defence, has the characteristics and thus also the advantages and disadvantages of an offensive.

0922. The **advantages of attack or defence** are not merely mirror images of each other. An important and decisive factor in the attacker's favour stems from the fact that he takes the initiative and is in principle free in his choice of location, direction and timing of his (main) attack. He thus creates superior combat power at the decisive place, both in terms of quantity and particularly quality. By contrast, the defender can initially do nothing but wait. As soon as the attack and particularly its main effort become clear, the defender must try to reduce the tempo of the attack and gradually take the initiative.

In order to maintain tempo and superiority in combat power, the attacker's manoeuvres must be as concentrated as possible. The defender, on the other hand, is initially forced to disperse his troops over the sector. At the same time, this is the second inherent advantage for the attacker. Apart from that, this relatively dispersed deployment, which every defender is to a certain extent simply forced to adopt, will provide him with opportunities in the long term. He will get the opportunity to attack the attacker's concentrated troops from different directions in the depth of the sector.

The main advantages for the defender are:

- he himself chooses the area in his allocated sector in which he actually wants to conduct the decisive battle
- he can deploy his troops beforehand in that area in accordance with his plans

He can also perform the necessary on-site preparatory activities, such as reconnaissance, terrain conditioning, protective measures and a logistic build-up. The logistic preparations in particular, together with the possibility of using local resources and infrastructure, offer the defender a relative advantage.

The attacker's initial task is after all to reach the sector chosen by the defender and then to penetrate its depth. For this, he must have enough lines of communications to his base of operations. However, the further the fighting progresses and the deeper in the enemy's defence zone the offensive is conducted, the longer and more vulnerable the attacker's lines of communications become.

0923. Combat actions can also have a specific character as a result of the means with which and/or the environment in which they are conducted. Operations carried out in **exceptional weather and/or terrain conditions** and **special operations** fall into this category. Examples of these are:

- airborne operations (Chapter 16)
- airmobile operations (Chapter 17)
- air-mechanised operations (Chapter 18)
- amphibious operations (Chapter 19)

0924. Ultimately, battles can only be successful if **combat cohesion** is maintained. Cohesion exists if:

- key terrain is in friendly hands
- the unit is able to conduct combat with most of its means
- it is possible to support and be supported by adjacent units

0925. The **main effort** is focused at the point at which a decision is sought or expected. Deciding factors for this choice are the commander's intent, the state of the enemy and the terrain. The main effort will sometimes have to be formed on the basis of uncertainties. In the course of the operation, it may be necessary to shift the main effort or to reinforce it, thereby ensuring success.

The main effort is formed mainly by a concentration of means and fire. Some of the aspects which contribute to its formation are:

- the deployment of reserves
- air and artillery support
- obstacles
- the allocation of a narrower sector
- priority in combat support
- priority in combat service support
- priority in the command and control support

However, modern systems enable the enemy to respond quickly to the formation of a main effort. A concentration of means should, therefore, be as brief as possible.



Reserves are often the key to success.

Photograph: Media Centre

RNLA

0926. **Reserves** are often the key to success. They should ideally be deployed to force a decision or to shift the main effort; they can also avert crisis situations if necessary. They are often the last means of influencing an operation decisively. The deployment of reserves must, therefore, be considered carefully.

Rapidly progressing operations in large areas require armoured or air-mobile reserves. Under certain conditions, it may be necessary to keep several local reserves which can be deployed independently of each other.

The place of the reserves is mainly determined by the main effort and the mobility of the reserves. They must not in any event be prematurely fixed or be restricted in their movements too soon by enemy fire.

Reserves are usually deployed in concentrated groups. Partial deployment does not usually lead directly to failure, but to a non-decisive use of the reserve. Combined with other factors, this can lead to failure. There must be special coordination of the deployment of reserves and air support. Simultaneous and coordinated deployment of reserves from more than one level produces a real chance of success.

As soon as the reserve has been deployed, the commander must create a new reserve immediately. To do so, he may receive reinforcements from his higher commander or he may assign uncommitted elements of his own assets. In any given phase, a commander may be forced by circumstances to dispense with the availability of a reserve.

With regard to the combat service support, reserves in supply items can be created by increasing the supply or by rationing.

Section 5 - Effects of weather and terrain

0927. **Weather** and **terrain** affect every military operation. Extreme temperatures and terrain which is difficult to negotiate can impose a considerable burden on the troops. Potential areas of operation differ significantly in terms of terrain and climate. The commander must assess the effects of weather and terrain and draw conclusions regarding the capabilities and limitations.

0928. In this publication, the effects of **forests, built-up areas and limited visibility** are covered in this chapter and in the chapters about the different types of combat. After all, these terrain and weather conditions are always present in most potential areas of operation and their effects can almost always be felt. The effect of extreme or exceptional terrain and weather conditions (extreme cold, desert areas, jungles, mountains and polderland) is described in Chapter 15.

0929. Determining the effects of weather and terrain is part of the **intelligence preparation of the battlefield**. In the evaluation of the area of operations, meteorological data, observation zones, fields of fire, concealment and cover are used to draw conclusions regarding obstacles, key terrain and avenues of approach.

Forests

0930. The collective term of **wooded areas** refers to an area of terrain that consists mostly or completely of forests and of which the obstacle value is such that dispersed mounted operations are barely possible, if at

all. Wooded areas affect the operation because of their location, size, density, structure, soil composition and available roads. The structure of wooded areas is seldom alike. As well as a variation in structure, there may also be scattered clearings.

Operating in wooded areas is extremely demanding for commanders and troops. Normal practice is to deploy infantry in these areas. They mainly conduct close combat. After a prolonged period of drought, one must take account of the possibility of forest fires as a result of fire support.

Operating in forests is extremely demanding for commanders and troops.

Photograph: Defence Organisation for Recruitment and Selection, Ministry of Defence



0931. Typical **characteristics** of operations in wooded areas are:

- short observation zones and fields of fire
- good concealment, but limited fire cover
- slow-moving combat actions, because movement mainly takes place on roads, paths and in clearings, and these movements can be seriously impeded by just a few obstacles
- the effects of artillery and mortar fire on unprotected personnel are increased by the fragmentation effect on tree branches
- the deployment of fire support is restricted if fire is delivered a short distance ahead of friendly troops
- problems with orientation, observation, reconnaissance and communication

0932. The **infantry**, supported by engineers and where possible by armoured vehicles and tanks, is the **bearer of the battle**. The emphasis is on close combat, conducted on a decentralised basis by units of company and platoon strength, who operate more or less autonomously in

the separate sectors. The through-roads and paths often form the key terrain where the battles are initially fought. The ground between them, particularly the lateral routes, can be used for flanking (counter)attacks and other offensive actions carried out by means of infiltration. In operations with mechanised infantry, it is the traversibility of the forests and the density of the roads and paths that determine whether operations must be mounted, dismounted or carried out on foot. In the last, most unfavourable case, weapons and necessary ammunition are adapted. The crews staying behind with the vehicles are kept to a minimum.

0933. In the event of operations in wooded areas, **plans** will have to be **adapted**. Some of the necessary adjustments are:

- more security measures at all levels to eliminate surprise
- strict movement control and allocation of routes
- decentralisation of armoured assets and of combat support
- small reserves which are kept ready just behind the forward units

0934. If NBC **weapons** are used in wooded areas, the following effects must be borne in mind.

- Trees will be brought down by the air pressure of nuclear weapons, thus impeding movement even further.
- The effect of heat radiation from nuclear weapons is substantially reduced; the risk of forest fires, however, is considerable.
- If chemical weapons are used, the size of the contaminated area is relatively small in comparison to other types of terrain. The period of contamination, however, is longer.

Built-up areas

0935. The collective term **built-up areas** refers to towns, villages, hamlets, industrial areas and the associated infrastructure. The extent of their influence on operations depends on structure, density and size. Built-up areas are normally at road intersections and often form political, cultural and industrial concentrations. Furthermore, the largest part of the population usually lives in built-up areas. Their presence has a direct effect on operations. In their operations, commanders must prevent civilian losses and damage to the infrastructure which is vital to the civilian population. The presence of nuclear power stations, large quantities of chemicals and oil supplies carries risks of unpredictable proportions during combat actions. The protection of important cultural items is particularly significant. The Geneva Conventions can play a vital role in this respect, something which places demands on the civil-military coordination.

Operating in built-up areas has a delaying effect on the tempo ... dismounted close combat conducted on foot will be the deciding factor.

*Photograph: Media Centre
RNLA*



0936. Operations in built-up areas have the following **characteristics**:

- short observation zones and fields of fire
- good concealment and possibilities for protecting troops and equipment
- limited manoeuvre possibilities for mechanised units, but good opportunities for infiltration and turning movements by the infantry
- close combat and greater vulnerability of vehicles
- restrictions because of the presence of civilians
- limitations in command and control and communications
- more limited effect of artillery and mortar ammunition
- short observation zones and fields of fire restricted by smoke from fires
- high consumption rate of ammunition and fortification materials
- extremely demanding, both physically and mentally

0937. **Urbanised areas** are agglomerations of built-up areas with their associated traffic infrastructure, in which the characteristics of operations in built-up areas are accentuated. These areas should be avoided if possible. Account must be taken of the consequences for friendly troops, local population and the environment as a result of damage to or destruction of industrial complexes.

0938. Operating in built-up areas has a **delaying effect** on the tempo; only limited mechanised operations are possible. Dismounted combat and close combat conducted on foot will be the deciding factor. This is

physically and mentally exhausting and takes place not only at surface level, but also at levels above and below the surface. The presence of high-rise buildings adds an extra dimension to an operation in a built-up area. They are ideal for setting up observation posts and firing positions. With their extensive cover and limited observation possibilities, buildings offer ideal opportunities for infiltration on foot, especially in limited visibility.

0939. The **infantry**, supported by engineers and, where possible, by tanks, artillery and air support, is the bearer of the battle in built-up areas. Many troops are needed for this, for both defence and attack. Fighting in built-up areas is very time-consuming.

The fighting usually consists of a series of combat actions, mainly at company level. The result depends greatly on the initiative, the aggressiveness and the leadership of the commanders at the lower levels. The battalion and formation level has only limited influence on the course of the battle. Priority at these levels is given to coordination and support in order to create the most favourable conditions.

When operating on foot, the weapons and ammunition have to be adapted. Only a minimum strength stays behind with the non-deployed (combat) vehicles.

Limited visibility

0940. Although the available equipment makes it possible to operate around the clock, the visibility conditions can have a **major impact** on the operation. Reduced visibility as a result of bad weather (rain, fog) or darkness limits observation capabilities, the effectiveness of fire and movements. Limited visibility can, on the other hand, be used in combination with the element of surprise to retain or even regain the initiative.

0941. **Characteristics** of operations in limited visibility are:

- reduced individual performance because of heightened physical and mental stress
- reduced view of the battlefield because of the limited capabilities of the observation assets and thus limited target acquisition
- delay in displacements, whereby the reduced visibility does, however, mask the movements
- more time needed for many individual tasks

Visibility can have a major effect on operations.
Photograph: Defence Organisation for Recruitment and Selection, Ministry of Defence



0942. Modern equipment and thorough training make it possible to conduct combat in limited visibility almost as effectively as in normal visibility. As a result of these developments, operations can be carried out round the clock, whereby heavy demands are placed on the physical and mental stamina and the combat service support. There are, therefore, clear **limits to sustained round-the-clock operations**. Troops may be forced to carry out an operation of this sort, certainly in the event of enemy superiority.

If a round-the-clock operation is carried out by choice, efforts must be made to deploy only part of the unit at any one time in order to avoid a situation in which excessive demands are made. If possible, the combat organisation is adapted for combat by smaller units.

0943. Combat in limited visibility often requires intensive **reconnaissance activities**, which are time-consuming. The use of **battlefield illumination** can provide local and temporary relief from the limitations imposed by darkness. However, the use of battlefield illumination requires a carefully coordinated and detailed plan.

The transition from daylight to darkness and vice versa is a period which is ideal for taking or regaining the initiative. This requires maximum **combat-readiness in twilight**.

10

Operational framework

Section 1 - Introduction

1001. This chapter describes the **operational framework** of combat operations. It focuses particularly on the deep operation and the rear operation in all types of combat. The close operation is described in the chapters about the types of operation and operating in transitional phases. Where necessary in those chapters, additional points are made about deep and rear operations.

1002. The operational framework is a means for the commander to visualise his operation. He can thus improve the **synchronisation** of all activities. It helps the commander to relate not only the actions of friendly units to each other but also to those of the enemy. This is done in terms of targets translated into space, time and assets. The operational framework is the instrument for good mutual coordination of these elements by a commander, both during the assessment of the situation and in the preparation and conduct of an operation.

1003. Making a distinction between a deep, close and rear operation serves to indicate their **relation to each other**. In the first place, it is a functional distinction that indicates **what** the various operations are designed to achieve. Then there is a geographical distinction to indicate **where** that is to be achieved. The three operations must at all times be seen in their combined context and also be conducted as a single entity at formation level. This requires constant and meticulous **synchronisation**. Ideally, the three operations should be conducted simultaneously because of the influence they have on each other.

1004. **Each formation level** has its own operational framework; the frameworks of the various levels affect each other. The division's close operation thus comprises the deep, close and rear operation of the brigades. In order to bring about a concentration of assets, the main effort can only be made in one operation at any one time. The rear operation will support the whole formation and thus ensure that the freedom of action is maintained. Below brigade level, however, the geo-

graphical space and assets are so limited that this distinction is not worthwhile.

1005. The aim of the **close operation** is to destroy or at least neutralise the enemy's combat power by engaging him in the form of a delaying, defensive or offensive operation. As opposed to the deep operation, the close operation is conducted at relatively short range and is of the shortest possible duration. Ideally, the commander will conduct the close operation at the same time as the deep operation, whereby both operations can then share the same scarce resources. He must set priorities in this respect, such as the deployment of target acquisition means, fire support, air support, (attack) helicopters and airmobile or airborne units.

A further description of the close operation is given in Chapter 11 (Offensive operations), Chapter 12 (Defensive operations), Chapter 13 (Delaying operations) and Chapter 14 (Transitional phases during operations). In these chapters, the emphasis is on the close operation, as this determines the distinction between the types of combat. It is for this reason that this chapter will not look at the close operation in further detail.

Section 2 - Deep operation

General

1006. The **objective** of the deep operation is to deny the enemy his freedom of action as quickly as possible. The deep operation thus creates the conditions for the forthcoming close operation by finding, fixing and, if possible, striking the enemy. The deep operation is, therefore, primarily designed to find the enemy, then to fix him by means of interdiction, deception, special operations, psychological operations and possibly even by deploying combat forces. If the appropriate means are available, a deep operation may also focus on striking the enemy.

1007. The deep operation can take place throughout the area of responsibility of a formation. It comprises coordinated combat actions, which are conducted on the enemy side of the areas of responsibility of the subordinate commanders.

Characteristics

1008. The deep operation concentrates partly on the enemy assets that have not yet been deployed against the close operation by the same

level. The deep operation is particularly effective if it concentrates on the most vulnerable and scarce elements of the enemy's combat power, such as command and control installations and air defence radars. It is executed offensively and, compared to the close and rear operation, usually takes place at longer range and over a longer period. The dimension of time is particularly significant in the deep operation: on the one hand, the deep operation has a direct effect on the enemy's military potential and, on the other, creates the framework for the forthcoming close operation.

1009. The extended range and effect of modern weapon systems, combined with accurate and rapid-response target acquisition and communications assets, enhance the possibilities for the use of fire power. Although fire power forms the most important factor of the deep operation, the integrated use of fire power and manoeuvre is the most effective here as well. Because fire power loses effectiveness if the enemy takes protective measures, the combination with manoeuvre is essential, especially since the enemy is forced to expose himself when he responds to our manoeuvre. This manoeuvre may, for example, consist of the deployment of airmobile or airborne units, in combination with electronic warfare.

Assets

1010. **Armoured units** are capable of carrying out deep manoeuvres to a limited extent. They are particularly effective if, with the necessary combat support, they manage to penetrate a deep flank or rear of the enemy or a designated target quickly and/or without being detected. An operation of this sort in particular has a major psychological effect on the enemy. Conditions for the success of such a combat operation are a high degree of surprise, support by air forces and combat support units, logistic self-sufficiency and suitable terrain.

1011. **Airmobile units** can use the element of surprise to win and hold areas of ground. The deployment of these units in the vertical turning movement forms an exponent of deep manoeuvre. This applies particularly before the deployment phase; once a unit has landed, the possibilities for manoeuvre become virtually non-existent.

1012. **Attack helicopter units** are ideal for carrying out deep manoeuvres. They are able to acquire targets independently, have a high degree of mobility and substantial lethal effect. Their deployment for deep manoeuvre is particularly effective if they can be resupplied as close as possible to the engagement area. For this purpose, a forward arming and

refuelling point (FARP) can even be established in enemy territory. This requires physical protection by ground-based units.

1013. **Reconnaissance units** can operate as collection units. Because of their physical presence at the scene, they are able to track down targets which cannot be detected by other means.

1014. **Special forces** can also act as collection units and have the added capability of eliminating specific targets independently, subject to their nature and size.

1015. **Artillery**, because of its capacity for rapid response, concentration of fire and constant availability, is ideal for the deep operation. It can, to a certain extent independently, acquire and engage targets in the depth and is thus an important element in providing deep fire power. Artillery can usually only support the deep manoeuvre in the depth from friendly territory. Close support can be given to combat forces conducting a deep manoeuvre by assigning artillery units to these forces. Artillery units can also play an important role in the engagement of targets for the purpose of suppressing the enemy air defence, thus making the execution of air operations easier.

1016. With regard to offensive air support, **air forces** play an important role in the deep operation. Battlefield air interdiction can achieve the objective of the deep operation directly or indirectly (for instance, by means of isolation). Close air support may also form part of the support of units conducting deep manoeuvres. The effectiveness of air forces for the deep operation is restricted by enemy air defence. Suppression of this air defence for this type of operation is, therefore, inextricably linked with offensive air support.

1017. **Electronic warfare units** can carry out jamming operations. This is important for the effective suppression of the enemy air defence and enemy command and control as part of command and control warfare.

Activities

1018. The deep operation comprises three activities:

- a. deception
- b. information collection and target acquisition
- c. interdiction

Reconnaissance units can operate as collection units.
Photograph: Media Centre RNLA



Although every effort must be made to include these core activities in every deep operation, information collection, target acquisition and interdiction play a major role in any deep operation.

Deception

1019. **Deception** is intended to cause the enemy to follow an operational concept that is unfavourable for him. It provides friendly troops with the necessary freedom of action and makes it possible to achieve the element of surprise.

Deception in the deep operation will mainly be accomplished by carrying out electronic support measures in the framework of electronic warfare. The effect of fire support assets in the depth following a particular pattern and over a prolonged period can also conjure up the required picture for the enemy.

Information collection and target acquisition

1020. **Intelligence and military information** form the basis for the deep operation. They represent the point of departure in the planning,

engagement and damage analysis. The deployment of collection units is set out in the collection plan and the damage analysis plan.

1021. **Target acquisition assets** gather information, some of which can be used immediately as target information, while the information from other assets must be processed before it can be used.

Interdiction

1022. Once the targets for the deep operation have been identified, two forms of engagement are possible: **deep manoeuvre** or **deep fire power**. In his decision-making, the commander must consider which form is appropriate for the situation at the time. His deliberations are based on the most economic allocation of means between the deep, close and rear operation. Thus a deep manoeuvre would, for example, make sense if it could be exploited in the follow-up to the operation. Deep fire power may be the answer if the physical destruction of the target is required.

Planning

1023. The **size of the area of operations** in which the deep and close operations have to be conducted depends on the capabilities and limitations of the weapon systems (organic as well as supporting) which are available to a commander and on the available intelligence and target acquisition systems. This is because the commander must be able to influence the enemy from anywhere in his area of operations. Each level must also be able to create conditions for the immediately subordinate units. This is why the size of the area of operations differs for each mission and can be defined further during the development of the operation plan.

With the current organically assigned assets, the following distances serve as a guideline for the deep operation:

- brigade up to approximately 15 km
- division up to approximately 40 km
- army corps up to approximately 100 km

It is possible to extend these distances by assigning additional means. For example, by reinforcing an independently operating formation with MLRS, electronic warfare equipment and special forces, the effective area of the deep operation can be substantially increased.

1024. The deep operation requires **constant synchronisation** of the deployment of the available means. The increased dimensions of time

and space play an especially important role in this respect. At the operational level, the synchronisation is particularly directed at the coordination of our own operation plans with those of other Services and allies. Constant coordination between levels (vertical) and between units (horizontal) is crucial in this respect.

1025. Only with correct, accurate and timely **intelligence** can the commander achieve the well-synchronised deployment of his assets in terms of time and space. This means that the necessary information is collected in good time, processed to form intelligence and distributed. The commander must also strive to impair the enemy's information system by means of engagement and deception.

1026. Each level (army corps, division and brigade) will try to ensure that its own command and control cycle functions more quickly than that of the direct opponent. This enables the commander to **respond more rapidly to a situation** and **gain the initiative**; he can then seek the decision in the combat operation at a time of his choosing. To be able to do this, he needs good intelligence, rapid and effective command and control and a high degree of mobility. At the same time, he must try to delay the enemy command and control cycle. This can be achieved by, for example, physical engagement in order to disrupt the command and control system and to impair mobility or by deception.

1027. The commander will try to use the **space** in the theatre of operations to his advantage. Firstly, he will try to create the space he needs for his operation. Secondly, he will try to deny the enemy the use of space as much as possible. This can be done by physically occupying an area (deep manoeuvre), but also by fire without a (permanent) physical presence.

Functions in military operations

1028. **Command and control.** On the basis of the analysis of his mission and of the operational framework, the commander will issue guidelines for the execution of his deep operation. As well as procedural guidelines, he must in any event indicate as clearly as possible what the envisaged objective is in relation to his close operation. The following considerations play a part in the formulation of his plan.

- Although it is possible to describe the plan for the deep operation in a separate annex, it forms an **integral part** of the whole operation plan. Planning and execution of the deep operation form part of the synchronised whole of the rear, close and deep operation.
- The commander's mission must be translated into **missions** for the

relevant subordinate commanders. These missions are integrated in the order.

- **Coordination measures** are used to accomplish harmonisation in the operations of the unit in the operational framework of the rear, close and deep operation. These measures also serve to tailor the deep operations of the various levels and adjacent units to each other. Coordination measures must in any event be taken to demarcate the various responsibilities for deep operations in geographical terms.

1029. **Deep manoeuvre** consists of operations in enemy territory in which combat power is manoeuvred in order to gain an advantageous position to engage the target of the deep operation. A constant and dynamic threat is posed by this form of deep operation. The enemy thus finds himself faced with a dilemma and is forced to make choices regarding the distribution of his assets. Airmobile and airborne units are particularly suitable for carrying out deep manoeuvres.

1030. **Deep fire power** is deployed from friendly territory, whereby precisely detected and established targets are engaged by delivery means which, if possible, have been designated in advance. This fire power is directed against the target of the deep operation and is designed to destroy selected elements and unbalance the enemy. Deep fire power must not be confused with deep manoeuvre fire support.

1031. Units involved in conducting the deep operation in enemy territory can only be **protected** by strict emission control (in respect of communications and non-communications equipment), by cover, by using surprise, by dispersal during movements and a concentrated deployment. Other deployment methods may also play a role in this respect. If a well-organised deception plan also misleads the enemy, there is a real possibility of success. Once units have been detected or the mission has been accomplished, it is often necessary to avoid the enemy and return to friendly troops. Diversionary actions can help in this respect.

1032. It is important that the **operational logistics** take extra measures for **combat service support** to units conducting the combat operations in the context of deep manoeuvre. For this, logistic self-sufficiency must be increased and the combat service support units must be highly mobile. With regard to maintenance, battle damage repair plays an important role. In respect of medical support, helicopters must be kept available on standby for the evacuation of casualties. Personnel replacement is not possible; prisoners of war can only be accommodated temporarily.



Providing combat service support.

Photograph: Media Centre

RNLA

Section 3 - Rear operation

General

1033. The **objective** of the rear operation is to **ensure the freedom of action of friendly forces**. The rear operation entails maintaining security, providing combat service support and ensuring freedom of manoeuvre for friendly reserves. The rear operation is a real and integral element needed to sustain the operation successfully, also in the long term. The commander conducts the rear operation throughout the duration of a conflict. A well-executed rear operation guarantees a commander the availability of assets to support and conduct the operation.

1034. The rear operation comprises more than just logistic activities. First of all, the commander is responsible for **setting up** the rear area: area planning. As well as that, it is important to **protect** the units, reserves, logistic installations, lines of communications and vital civil installations present in the area. The detection and elimination of

enemy units that try to disrupt this operation form part of that. Lastly, the commander must take steps to limit the damage in the event of calamities in the rear area.

1035. **Security** and **protection** are important elements of the rear operation. After all, the enemy will, just like ourselves, direct his deep operation against our rear area in order to deny us the freedom of action. The commander must find the balance between active and passive security and protection measures in the rear area. Active measures include the neutralisation and elimination of enemy units and assets operating in the rear area. This also means that a commander must reserve assets for this and establish an effective command and control structure. Passive measures include the use of camouflage, dispersal and deception. The rear area for which a commander is responsible is the area stretching from the rear border assigned to him to the rear border assigned by him in respect of the area of responsibility of his subordinate commander. This area is normally used for providing support and accommodating reserve and recuperating units. The size of the rear area depends on the type of operation being conducted.

Rear area security

1036. The tactical commander may be restricted in the **protection** of his rear area by directives issued by the host nation. He must ensure that the security of the rear area is coordinated with the local civil and military authorities. Good liaison with these authorities is therefore essential. The staff officer or section in charge of civil-military operations plays an important role in this respect.

1037. The **objective of rear area security** is to protect friendly units or objects against enemy actions on land or from the air. These friendly units or objects may consist of non-deployed reserves, logistic or other installations, the lines of communications, uncommitted friendly units and any important areas or vital civil objects. These are, after all, potential targets of the enemy's deep operation. The size of the rear area and the available assets usually make it impossible to provide physical protection for the entire area. Priorities must therefore be set. As a rule, these will lie in command and control facilities, key logistic installations, reserves and vital infrastructure. Outside these priorities, the rear area will often be 'empty' in military terms; normal civil structures, however, may well be present and available.

1038. **Principles** for the rear area security are as follows.

- **Coordination.** All plans and operations for rear area security must be developed, prepared, coordinated and executed in close cooperation with the local civil and military authorities as well as with adjacent and higher units. It is also advisable to coordinate in the decision-making phase with units based in the rear area.
- **Area planning.** The locations that are actually going to be occupied by parts of the unit and support units in the rear area and the cross-boundary support to and from the rear area must be carefully coordinated.
- **Single command.** Within a formation, the authority for planning, coordinating and executing all aspects of rear area security must, if possible, be assigned to a single commander, namely the commander of the rear area. He may be supported in his task by host nation units, which may take on responsibilities and tasks set out in agreements.
- **Local security.** Each unit and sub-unit in the rear area is responsible for its own all arms (air) defence and the security and protection of military and civil installations. Units must have had training to enable them to defend themselves against sabotage actions and small-scale attacks. In order to increase the capacity for this, the formation of clusters of neighbouring units in rear areas is required. There should also be unity of command in this case. Clusters may be formed not only for areas, but also for activities, such as logistic transport.
- **Response.** The commander of the rear area and all subordinate commanders in that area must be able to interdict an enemy action and, if possible, eliminate the enemy in order to ensure that the freedom of action of friendly forces is preserved. The commander must also be constantly aware in his decision-making of the effect of his actions on the local population.
- **Transient units.** Units which are moving through the rear area of another unit or which need to stay there temporarily are included in the security plans of the commander of that rear area.

1039. Because of their relatively large expanse and the presence of mainly 'soft' units, rear areas are **vulnerable to attack**, both from the air and over land. Because of their very nature, the units based there form the target of the enemy's deep operation. The commander of the rear area will have to analyse the threat posed to his rear area. This can be divided into the following levels.

- **Air threat.** The deployment of air defence units and the associated command and control structure must be carefully established and

coordinated to ensure that the right priorities can be maintained with regard to air defence.

- **Covert threat.** This refers to the threat posed by subversive actions. Individual units must guard and protect themselves and their installations against actions by enemy saboteurs, partisans or special forces. Additional measures may be taken by territorial units of the host nation or the civil police.
- **Limited attacks.** Units must guard and defend themselves in clusters against small-scale attacks by enemy patrols and/or units. They must be able to do this with their own assets initially.
- **Large-scale attacks.** The task of answering this threat, for instance by airborne units, is the province of combat forces specifically intended for conducting security operations in the rear area. All clusters and units must guard, protect and defend themselves and their installations until they are relieved. If possible, local units fix the enemy until the rear area security forces are deployed.
- **Major enemy incursion.** Responding to this threat is in principle a task for the reserve units. The combat forces in charge of protecting the rear area fix the enemy until the reserves can be deployed.

1040. In the **planning of rear area security**, the following aspects are important:

- command and control relations and allocation of area responsibility
- coordination, cooperation and liaison with units under foreign command, other Services, civil authorities and adjacent units
- availability of effective communications
- reliability of warning and alarm systems
- responsibilities for surveillance and patrols
- necessary measures to counter enemy threats
- availability of reinforcements from a higher level, if required
- presence and availability of air defence, as well as air defence priorities
- necessary measures and available means for active detection and destruction of enemy elements
- NBC warning system and assets for countermeasures and decontamination

1041. Depending on the expected or identified threat and the available means, the commander can take steps to act against a potential enemy threat in the rear area. Active and preventive area security can reduce an enemy threat or help to ascertain the enemy's intentions at an early stage. In this way, it is possible to prevent serious damage to and disruption of the close operation.

1042. **Damage limitation measures** in the rear area must be taken before, during and after a hostile act, the intention being to limit the scale of the damage and minimise the effect. All units and sub-units present, as well as transient units, can be deployed to carry out damage limitation measures.

Functions in military operations

Command and control

1043. Depending on the size of the rear area and the location in respect of the sectors of the forward units, the commander may need to designate a separate commander to whom he assigns full responsibility for the rear operation. This rear area commander must in that case have sufficient staff capacity and the right communications equipment. He has a functional command relationship with the units based in the rear area with regard to security, movement control and area planning. If no separate rear area commander has been designated, the staff coordinates the rear operation with the commanders of the (sub-)units which are permanently based in the rear area.

Intelligence and military information

1044. For a clear picture of the enemy, the commander depends to a great extent on external information and intelligence from higher and adjacent units. Accurate and timely reports from all units, friendly patrols and civil organisations, such as police and fire departments, can create a clear picture of the actual situation in the rear area. Intelligence from higher staffs regarding enemy intentions can give an indication as to the expected threat to the rear area.

Manoeuvre

1045. The commander normally has only limited means for protecting the rear area. If no specific unit has been designated for this task, the rear area commander can create a reserve from the units present in the rear area, with the exception of the higher commander's reserve and transient units. The reserve in the rear area must be capable of responding to a threat with sufficient combat power to gain control of the situation. This reserve may be given an active or a passive task. It may also be required to prepare (part of) a contingency plan.

If a reserve is formed from parts of various units, a commander must be designated. In this capacity, he will fall directly under the commander of the rear area (OPCOM). The assembled reserve must, if possible, be

given time and space to train in order to prepare for its task. The reserve may be concentrated at a central location in the rear area, or be formed as and when required. This depends partly on the response times set by the commander and the size of the rear area.

1046. Engineer units must concentrate on **keeping clear the routes** and any **areas that have been prepared for a counterattack** in order to enable the reserve to respond quickly. If necessary, obstacles are set up at weak points, such as relatively open approaches from the flank. Unused routes can be blocked with temporary barricades. In the event of a calamity, however, it must be possible to clear them again quickly.

Fire support

1047. **Artillery or mortar units** capable of providing close support are usually only present on a limited scale in the rear area. The planning should anticipate how close support can be made available to the area commander if it is needed. Any deployment of close air support must be painstakingly prepared, all the more because it will be conducted in an area in which friendly troops are located.

Protection

1048. Protection in the rear area is necessary to preserve the already limited combat power, to guarantee the safety of the combat support and combat service support units and ensure that they can perform their task undisturbed. The correct use of the terrain is extremely important in this respect. **Passive protection** is achieved by means of good camouflage, protective shelters, emission control, traffic control and dispersal. **Active protection** through good local protection and the correct application of other security procedures supplements this. Mutual support increases the flexibility needed to deal with the threat and eliminate it. All units must prepare perimeter protection in case they are by-passed or encircled by the enemy. If a unit is attacked, rapid support is crucial. This can be provided by attacking the enemy in the rear or on the flank. Watchfulness and a rapid response will substantially reduce the risk of surprise.

1049. Engineer units can make **protective shelters** for command posts, personnel and important equipment. Sufficient engineer capacity must remain available to keep the lines of communications and the reserve's routes clear. Apart from that, engineer units can also be deployed to set up dummy positions and shelters in order to mislead the enemy.

1050. The preparation for possible NBC **decontamination of installations and units** in the rear area is a complex affair. A plan setting out priorities can lead to an acceptable situation. Special attention must be paid to the NBC defence measures and NBC decontamination procedures for medical installations.

1051. Air defence units present in the area carry out their own operations on the basis of the priorities set by the commander. An effective passive and possibly also active **all arms air defence** provides the necessary additional support. Good coordination and adequate communications must ensure the correct implementation of airspace control measures and arms control measures.

Air defence units present in the area; equipment includes the 40L70 gun. Photograph: R. van Bakel, Directorate of Information, Ministry of Defence



Service support

1052. The size of the rear area and the degree of dispersion of units located there often force combat service support units into a relationship with the units they are supporting on a **regional basis**. This creates a system that covers the entire (rear) area. However, matters are complicated by the fact that units in the rear area are often on the move.

ANNEX A TO CHAPTER 10

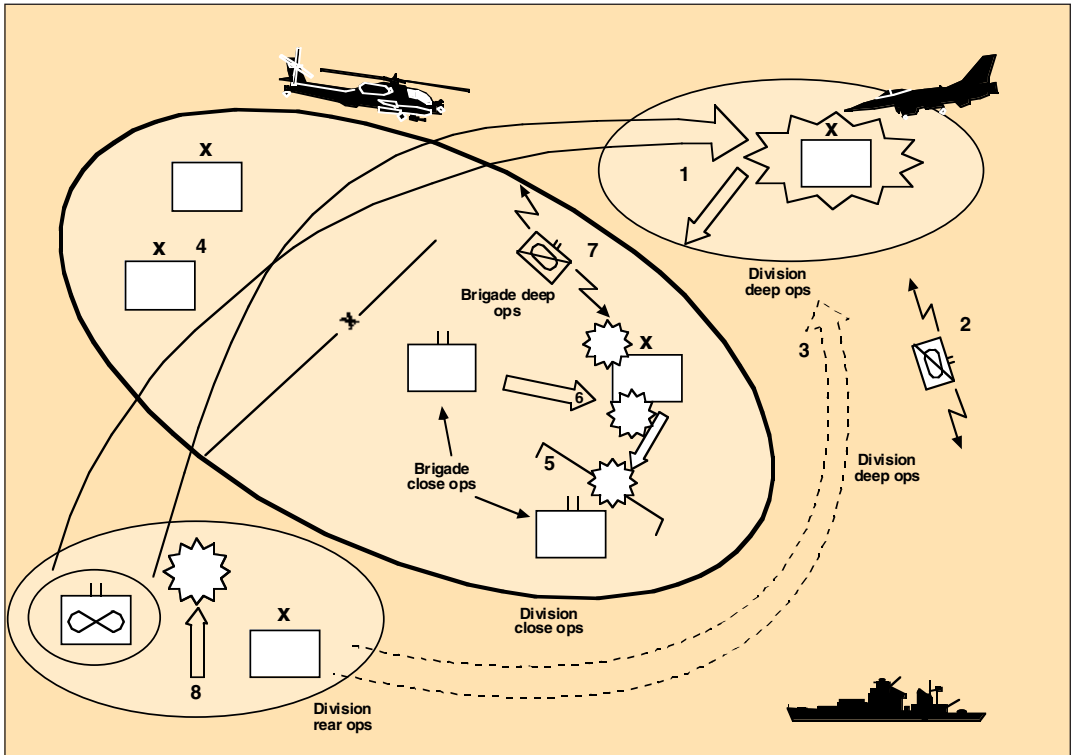
Summary

Deep operation			
Objective	Characteristics	Activities	Remarks
To restrict the enemy's freedom of action in order to create favourable conditions for the close operation. (Find and possibly fix and strike.)	Usually conducted at long range and over a prolonged period against enemy units not yet engaged in combat contact. Offensive in nature.	Three basic activities: <ul style="list-style-type: none"> • deception • collection of information or intelligence and target acquisition • interdiction 	Means to restrict the enemy's freedom of manoeuvre by concentrating on weak points so that the enemy is incapable of developing or deploying combat power. The enemy is delayed and diverted from his own main effort and parts of his combat power are destroyed.

Close operation			
Objective	Characteristics	Activities	Remarks
To strike the enemy with the aim of destroying or neutralising (a selected part of) his combat power.	Usually conducted at short range and over a relatively short period. Concentrates on winning the current battle by units that are in direct combat contact.	The integrated deployment of combat, combat support and combat service support units. Activities in respect of the close operation require timely and precise coordination.	The deep and close operations, or parts of them, are conducted simultaneously. Both make use of the same scarce resources. The commander sets priorities. Initially, these may lie with the deep operation as the successful outcome affects the starting point of the close operation.

Rear operation			
Objective	Characteristics	Activities	Remarks
<p>To ensure own freedom of action, including the freedom of manoeuvre of uncommitted units, such as reserves.</p>	<p>Increases the overall depth of the operation and guarantees the availability of means to support and conduct the operation.</p>	<p>Typical activities are:</p> <ul style="list-style-type: none"> • assembling, moving and protecting units • renewed deployment of units without direct combat contact • host nation support • establishing and protecting logistic installations • setting up and protecting lines of communications • supporting and protecting non-combatants and civil installations • detecting and destroying units wishing to disrupt the operation <p>The rear operation also involves the supply of reinforcements, relief and the reconstitution and regeneration of units.</p>	<p>Protecting the rear operation against the enemy's deep operation is extremely important. The rear operation must also focus on achieving the commander's intent.</p>

Example



10B01. Deep operation. The division deep operation (1) to fix the enemy reserve brigade is at the same time a close operation for the armed helicopter squadron conducting this mission. Meanwhile, the deployment of a reconnaissance battalion to secure the right flank is also a division deep operation (2). If the division reserve has to conduct the attack, planned within the framework of the division deep operation, the objective of this deployment is not just to monitor the flank, but also to protect it (3). Also, the reconnaissance battalion (7) conducts a brigade deep operation which protects that flank and fixes elements of the attacking enemy brigade.

10B02. Close operation. The situation in the area of operations (4) of the left-hand defending forward brigade is stable. The operation of the right-hand brigade is part of the division close operation. This brigade mounts a counterattack whereby one battalion fixes the enemy (5), while two other battalions conduct a counterattack to strike the enemy (6).

10B03. The **rear operation**, intended to ensure freedom of action of the friendly forces, includes a close operation (8) by the division reserve to counter an enemy deep operation. This reserve protects uncommitted reserve units, logistic units and the division's lines of communications.

10B04. **Air operations** are an integral part of the division's operational framework. For example, a commander may use battlefield air interdiction to assist the division deep operation. Close air support could be used to support both the right-hand brigade's close operation and the division's rear operation. Deployment of division air defence units is vitally important in this respect. Support from the sea can help a commander with his deep, close and rear operation. In this case, naval gunfire assists him in stopping the enemy attack.

11

Offensive operations

Section 1 - General

11001. An offensive operation is a type of combat in which enemy forces are defeated and/or territory is won.

The enemy forces are defeated by using targeted force, not only on the forward elements of the enemy but also in the depth. Manoeuvre in the depth creates a real and permanent threat to which the enemy is forced to respond and is unable to take the initiative.

11002. If the aim of the offensive operation is to defeat the enemy, then this can be achieved more easily by **breaking the physical and mental cohesion** on which his military potential is based than by purely inflicting losses. The will to fight is broken by attacking the enemy's cohesion and fragmenting and isolating his combat power, as a result of which the mental component, too, will ultimately be affected.

11003. An offensive operation can also have the following **objectives**:

- to deny the enemy the use of certain means
- to deceive the enemy about or divert him from the location of the main effort
- to fix the enemy so that he is unable to regroup
- to disrupt an enemy offensive operation or the preparations for an offensive operation
- to relieve the pressure on friendly troops in combat
- to gather intelligence about the enemy

11004. An offensive operation can also be conducted as **part of** a defensive or delaying operation. An offensive operation may be preceded by an advance to contact. An offensive operation may also ensue from a meeting engagement. Counterattacks can be mounted by defending troops, for instance if there is an opportunity to inflict significant losses on the enemy. Once an offensive operation has been carried out, the operation may switch to a defensive mode or be followed with a pursuit.

Section 2 - Characteristics

11005. At least initially, the attacker holds the **initiative** and has freedom of action. This provides the attacker with the important advantage of:

- choosing the time of the offensive operation
- choosing the direction and the objective(s), as well as the location of the main effort

11006. The attacker must gain and maintain **momentum** until the objectives are captured. He does so by exploiting success and the advantage gained. The enemy is thus forced to respond and has neither the time nor the space to regain the initiative. This is achieved by exploiting the effects of the combination of manoeuvre, fire power, tempo, simultaneous actions and surprise over the entire depth of the zone of attack. In this way, the initiative is also held during the course of the offensive operation.

11007. The **enemy**, against whom an offensive operation is conducted, has:

- carried out little or no preparation for a defence
- had enough time to set up an area for defence with sufficient assets

In the assessment of the enemy situation, the possible locations, strength and composition of the reserves must also be taken into account, as well as the way in which they can affect the operation.

The organisation of the enemy's defence and the related deployment of his units are, after all, important elements to be considered when establishing the use of time and space, at least for the first part of the offensive operation.

11008. **Friction** will inevitably affect the way in which the operation proceeds. It will never be possible to predict the course of the offensive operation in detail, certainly after the breach phase.

11009. Major operations are normally conducted with **air superiority** and with support from air forces.

11010. The further an offensive operation progresses, the more the assault forces can be faced with **open flanks**. The lines of communications also lengthen in the course of an offensive operation.

11011. There are **different types** of offensive operation, according to:

- the preparation time
- the objective

Each type of attack has characteristics of both categories.

11012. Types of offensive operation according to **preparation time**:

- hasty attack
- deliberate attack

11013. A **hasty attack** is an attack in which speed is all-important in order to exploit a favourable opportunity. In order to maintain the momentum or to regain the initiative, only a minimum amount of time is spent on preparation. Only those troops which are immediately available are deployed. Hasty attacks should, if possible, be conducted from an unexpected direction and be supported by every available weapon system. Commanders should give brief orders and position themselves at a point at which they can respond quickly to developments in the course of the attack. A rapid execution must make use of a qualitatively inferior enemy defence before the enemy has had chance to improve his defence. If the momentum is lost, a deliberate attack may be necessary.

11014. A **deliberate attack** is an attack in which the enemy is engaged with a well-prepared and coordinated deployment of manoeuvre and fire support. If the enemy has a well-prepared defence, extensive preparations are necessary. The emphasis then rests on the concentration of combat power at the expense of time.

11015. Types of offensive operation according to **objective**:

- a. attack in the main effort of the offensive operation or attack of the next higher level
- b. feint
- c. demonstration
- d. counterattack
- e. spoiling attack
- f. reconnaissance in force
- g. raid

11016. An **attack to defeat the enemy and/or win ground**. This is an attack as part of the offensive operation or attack by the next higher level. This attack can thus have one of the specific objectives described in paragraphs 11017 to 11022.

11017. The aim of a **feint** is to distract the attention of the enemy by engaging him outside the chosen main effort. Troops conducting a feint must have the right strength and order of battle to provoke the desired reaction from the enemy. This attack is most effective if:

- it corresponds to enemy expectations
- it comes across as an actual threat to the enemy plan
- the enemy has a large reserve that can be fixed at an early stage
- the attacker has more than one option

Thus a brigade can conduct a feint as part of the corps or division plan. It is ordered and executed as an attack as described in paragraph 11016.

11018. The aim of a **demonstration** is to divert the attention of the enemy from the chosen main effort without engaging him. A demonstration involves the use of fire, movement of combat forces, smoke, EW assets, etc., to implement the deception plan. A demonstration is only feasible temporarily, given that the absence of actual engagement means that the plan for the attack will become clear to the enemy.

11019. A **counterattack** is an attack conducted by some or all of the defending or delaying troops against attacking enemy units. The specific objective may be to recapture lost territory or to cut off or destroy enemy units in order to prevent the enemy from achieving his objective.

11020. A **spoiling attack** is a tactical manoeuvre with the aim of causing severe disruption to an enemy attack by attacking while the enemy is still occupied with his preparations or deployment. Like a counterattack, the spoiling attack is directed at offensive enemy actions, only in this case with the limited intent of disruption. This attack aims to strike the enemy when he is at his most vulnerable. If the situation allows, success in a spoiling attack can be exploited in the same way as in any other type of offensive operation.

11021. The aim of **reconnaissance in force** is to draw the enemy into divulging his location, strength, order of battle and intention by getting him to respond to an offensive action. This response may cause him to reveal weak points in his defence or the location of his reserves. Reconnaissance in force can also be conducted during mobile operations to keep the enemy under pressure. Any success must be exploited.

A formation can carry out reconnaissance in force at its own initiative or by order of the higher level. It must be powerful enough to force the enemy to respond, although restrictions may be imposed in order to prevent it turning into a decisive battle.

11022. The aim of a **raid** is to destroy an essential enemy element or take possession of a piece of ground in order to disrupt the enemy. The raid is based on detailed reconnaissance and entails a movement to and within enemy territory. As a rule, raids are conducted in limited time and space dimensions, at battalion level and lower.

Section 3 - Planning

Operational framework

11023. The operational framework in an offensive operation will **shift** in a forward direction in the course of the operation. The further the operation progresses, the greater the risk that the distinction between the

Synchronisation and coordination of objectives of the deep and close operations.

*Photograph: Media Centre
RNLA*



deep and the close operation will become blurred. During the execution, there must therefore be constant coordination in respect of the synchronisation and coordination of the objectives of the deep and close operations. The greatest effect is achieved by attacking the enemy simultaneously over the full depth of the battlefield.

Deep operation

11024. The deep operation is mainly designed to find and fix the enemy. Every opportunity should also be taken to strike him. Typical deep operations for offensive combat are:

- deep manoeuvres in front with air-mechanised or airmobile units or possibly combat forces
- special operations designed to take possession of certain vital objects which would benefit the progress of the attack

The assets for the deep operation may also be needed for the close operation. The execution must be closely coordinated by setting priorities and by integrating the available intelligence collection units, so that the necessary intelligence is available for decision-making.

Close operation

11025. The close operation is designed to bring about a decisive defeat of the enemy. It is conducted by combat forces supported by combat support, combat service support and command and control support units.

11026. In the close operation, the **assets** are **divided** between:

- the main attack, designed to achieve the objective of the attack
- any secondary attacks in support of the main attack
- reconnaissance and security
- reserve(s) or following echelon

11027. The attack requires the deployment of **as much combat power as possible** at the decisive place. Superiority in terms of assets must at least be built up locally and temporarily. This concentration must be brought about quickly in order to limit the enemy's chance to respond. Afterwards, the effect of this superiority must be exploited quickly.

The required concentration of means takes shape in the main attack. The main attack should in any event be numerically superior in terms of assets. In support of the main attack, one or more secondary attacks with a more limited objective may take place. These secondary attacks usually take the form of a feint or demonstration.

The threat posed by enemy aircraft, attack helicopters, artillery and NBC weapons requires the dispersal of friendly assets during the approach to the enemy defence and after it has been passed. It is for this reason that assets are dispersed and concentrated alternately throughout the attack.

11028. **Surprise** has a positive effect on combat power ratios. Modern technology makes it increasingly difficult to move and concentrate assets covertly. Surprise, therefore, will often have to be achieved in other ways. Possibilities include choosing a less obvious method of operating (for instance in unfavourable terrain), changing the main effort during the attack or deceiving the enemy. Surprise normally has only a temporary effect. A longer-lasting effect can be achieved by quickly and vigorously exploiting the original impact and preparing new surprises.

11029. **Mobility** adds extra strength to the attack. Speed exploits the impact of surprise and the temporary superiority in terms of combat power, keeps the enemy off balance and protects friendly troops because the enemy is unable to take adequate countermeasures. It is usually necessary to send reserves in later and deploy them at the right time and place, certainly given the depth over which troops must operate.

11030. **Armoured units** are particularly suitable for the decisive combat actions in an offensive operation. They are capable of conducting rapid offensive actions over great distances, even in poor visibility.

Depending on the strength and position of the enemy and on the terrain, tanks or mechanised infantry can operate alternately at the front during the attack. They can also conduct integrated operations, particularly in terrain with limited fields of observation or in conditions of poor visibility.

In relatively flat and open terrain, the striking power of tanks is at its most effective. They should, if possible, be deployed for the breach as well as for the exploitation. For this, it may be necessary to make changes in the combat organisation during the attack.

With flat fire and indirect fire weapons, mechanised infantry operates primarily against enemy infantry and its (armoured) vehicles. As a result, it makes a vital contribution, together with the tanks, in maintaining the movement in the attack. In particular the capacity to conduct combat in changing terrain forms the basis for the success of the combination of tanks and mechanised infantry.

11031. **Light infantry** is particularly suitable for an attack in intersected or covered terrain. However, an attack in this kind of terrain costs a great deal of time. Wherever possible, non-mechanised infantry must infiltrate the enemy flank and rear through unoccupied and dead space. Conditions can thus be created for the attack by armoured units.

11032. **Airmobile units** are especially suitable for overcoming obstacles, capturing key terrain, carrying out preparatory combat actions and operating as a reserve that can be deployed at short notice. However, their sustainability in the area of operations is limited. After deployment, they need to be reinforced or relieved quickly.

11033. In the close operation, **attack helicopters** conduct the combat independently or in direct cohesion with other combat forces:

- to protect the approach march of the assault forces

- by forming a main effort in the breach
- to guard unoccupied areas and flanks
- to engage enemy reserves
- to engage enemy tanks
- to engage enemy helicopters

For the coordination with ground troops, they may be assigned engagement areas.

11034. The **formation** in the manoeuvre depends on the mission, the enemy situation, the terrain, visibility and friendly assets. This formation can range from narrow and deep on the one hand to broad and shallow on the other.

11035. With a **narrow and deep formation**, it is possible to:

- change the direction and main effort quickly
- continue the attack quickly in the depth
- protect vulnerable flanks

This formation provides the greatest freedom of action during the battle. However, the disadvantages are that:

- initially only part of the striking power can be brought to bear
- it increases vulnerability to enemy fire
- there is an increased danger that following units will be blocked and the assault forces partially defeated

11036. A **broad and shallow formation**

- brings a great deal of fire from forward combat forces to bear at the same time
- fixes large sections of the enemy
- initially masks the main effort
- enables weak and unoccupied points in the enemy defence to be found and exploited quickly

However, in this formation:

- the majority of friendly assets are committed at an early stage
- it is difficult to shift the main effort
- the size of the reserve is reduced

This order of battle limits freedom of action.

11037. If the approach has to take place over a great distance or if there is little intelligence available regarding the enemy, it is a good idea to use a narrow and deep formation to advance behind broad reconnaissance. In the event of an approach over a short distance or if there is precise information about the enemy's situation, troops will disperse earlier.

Rear operation

11038. The rear operation creates part of the **freedom of action** needed to maintain the momentum in the offensive operation. The rear operation is initially intended to guarantee the logistic function. The threat then consists of interdiction in the framework of the enemy's deep operation. As the offensive operation progresses, however, the threat posed by straggling enemy units increases. These units may have been deliberately bypassed or may find themselves in areas which friendly troops have not physically used for the attack. If these straggling units have maintained their combat power, they pose a threat to the freedom of action. This requires the deployment of combat forces, for which permanent coordination with the close operation is necessary.

With regard to the **shift** of the operational framework, the rear boundaries should ideally be moved at such a time as to give the units enough room to incorporate reserves and logistic installations on the one hand and, on the other, ensure that a minimum of effort is required to protect their rear area.

Forms of manoeuvre

11039. The following **forms of manoeuvre** are possible in the close operation:

- frontal attack
- penetration
- envelopment
- turning movement

11040. Within each of these forms of manoeuvre, there are a number of variations. A multiple penetration is thus a **variation** of penetration. A double envelopment and double turning movement are variations of the envelopment and the turning movement. The units executing the turning movement or envelopment can be transported by air. We then refer to a vertical envelopment or turning movement. If some are transported by sea, it is known as an amphibious turning movement.

11041. A **frontal attack** is an offensive manoeuvre, whereby the main attack is directed at the enemy front over virtually the full width. It is used to destroy or fix the enemy in their positions.

11042. A **penetration** is an attack whereby the defence is breached and the enemy defence system is disrupted. In this case, objectives are ultimately taken in the depth in order to break the cohesion in the enemy

defence. The main attack is concentrated on a narrow front. It requires superiority of assets at the point at which the enemy defence is to be penetrated.

11043. An **envelopment** is an offensive operation in which the main attack is directed at one or both of the following points:

- a. the enemy flank
- b. the enemy rear

The enemy is more vulnerable on the flank than at the front. If surprise can be achieved in this attack, even limited combat power can be effective. The enemy is most vulnerable in the rear. An attack in the rear forces him to engage at a location which is the least favourable for him.

During the first stages of the envelopment, the attacker moves along the flank of the enemy's main effort. If that is impossible, the envelopment starts with a penetration of a relatively weak part of the defence.

With a secondary attack, the enemy can be misled about the location of the main attack. A high degree of mobility and surprise is required for success. For an envelopment, the enemy must have flanks along which troops can move without being engaged in a decisive battle.

Friendly assets should be grouped in the depth and special measures need to be taken with regard to the open flanks.

11044. In the **turning movement**, the main attack is directed at objectives in the depth, so that the enemy is forced to abandon his defence in his main effort. The enemy's main effort is thus avoided. He may be drawn into engagement in combat at locations which are not to his advantage.

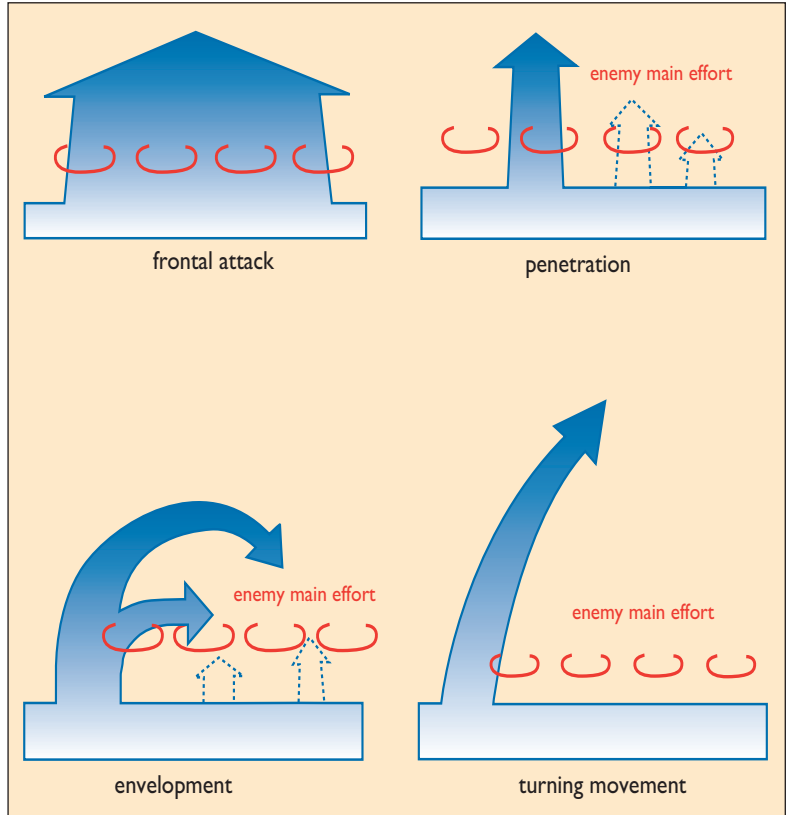
The turning movement differs from the envelopment in that:

- it is not intended to destroy the enemy in his position
- it concentrates more on capturing areas in the depth to prevent evasion by or reinforcement of the enemy. In this way, the enemy is outmanoeuvred.

As a rule, the turning movement is also carried out with a main attack directed at the depth and with one or more secondary attacks intended to fix and deceive.

11045. When **selecting the forms of manoeuvre**, the objective, the terrain and the enemy situation are the deciding factors. The advantage of the turning movement is that the attacker determines his target selectively at the enemy's weakest point. Secrecy and deception are vital in

Figure 1: Diagram showing forms of manoeuvre in offensive operations.



this respect. It is important that there are few obstacles, unless there are sufficient means to overcome them quickly and to achieve the required high operational speed.

The advantage of the 'envelopment' manoeuvre is that the enemy is attacked on the flank(s) and/or the rear; during the breach, contact with the strongest section is thus avoided. Secrecy and a high operational speed are also important here to ensure that the enemy does not have the opportunity to take countermeasures.

The 'penetration' manoeuvre is chosen if it is impossible to carry out the envelopment or the turning movement. If possible, the attack is directed against weak parts of the enemy defence.

The 'frontal attack' is used if there is no other possibility of achieving the higher commander's intent.

Within the various forms of manoeuvre, a lower formation may in turn use its own form of manoeuvre. This lower formation may, however, be

restricted in this respect by the terrain, the enemy, the form of manoeuvre by the higher formation and the task assigned to the lower unit within it.

11046. In all forms of manoeuvre it may be necessary, either planned or not, to use a system of **phasing**. However, this causes a local and temporary interruption and thus a reduction in tempo in the offensive operation. For this reason, phasing should be avoided wherever possible.

11047. Possible reasons for phasing are:

- changes in the order of battle by designating another unit as a forward unit because of excessive attrition or a different type of terrain
- formation changes because of changes in the number of forward units
- changes in the axis of advance
- crossing or breaching of obstacles for which special equipment is required
- guarantee of combat support and combat service support

11048. In an offensive operation, a **reserve** is in principle kept and deployed to maintain and, if necessary, restore the tempo of the main attack. The freedom of action is thus preserved, for instance to shift the location and direction of the main attack. In the phasing process, a new reserve may be designated. The reserve is designated for:

- exploiting success (by reinforcing the successful forward unit or passing the lines to take over the combat, or by deployment as an adjacent unit)
- regaining the initiative (for example by continuing the attack in another direction)
- eliminating straggling enemy units
- reinforcing flank security

The deployment of the reserve may mean a change in the original plan. This is the case if the reserve is no longer available for the intended deployment as a forward unit in a subsequent phase.

The size of a reserve is mainly determined by the available information about the enemy and the combat power of the enemy reserve. The distance to the objective is another factor which determines the size of the reserve. Reserves need to be located in a position that allows them to be deployed quickly in any direction without being fixed prematurely.

An airmobile reserve can be kept to exploit success in respect of a pursuit or a flank operation.

11049. **Infiltration** is a technique whereby troops move covertly through the enemy defence area. It can be used in any form of manoeuvre. Movement generally takes place in small groups which then concentrate deep in enemy territory and carry out an attack or a raid. Infiltration can be used to attack enemy positions in the flank or rear, to capture key areas in support of the main attack, to gather intelligence or to disrupt the enemy rear operation. After the accomplishment of the mission, evasive actions may be necessary to get troops back to friendly territory.

Section 4 - Execution

11050. The attack is made up of three overlapping **phases**:

- advance to contact
- breach
- exploitation

The attack is generally preceded by a movement. The attack normally begins with the passage of the line of departure, followed by an advance to contact. If the line of departure is close to the enemy positions, there will be no advance to contact. An attack may, as an independent phase, be preceded by a preparatory combat action. Advance to contact and breach may be conducted repeatedly against an enemy grouped in the depth.

11051. An attack must be **prepared** in order to ensure that the required striking power can be concentrated. The extent of the preparations depends on the time available. All commanders must know as soon as possible how much preparation time is available.

11052. If **other troops are engaged in combat** with the enemy, their knowledge of the enemy and the terrain, as well as their assets and installations, must be used for the preparation and support of the attack.

11053. The preparations for the attack must be protected. The extent of this protection depends on the course of the preceding battles and the distance to friendly troops already engaged in combat.

11054. During the **movement to the line of departure**, all available routes are used and the units ultimately take up formations for the advance to contact. This displacement should if possible be done in one

continuous movement. The assault troops must reach the line of departure outside the enemy's field of observation.

11055. During the **advance to contact**, friendly indirect fire should be used to win ground as quickly as possible and avoid enemy fire in one continuous movement following the displacement. Advanced enemy positions must also be eliminated and the enemy artillery neutralised. At the end, troops take up the assault formation.

11056. It is not until the **breach** that the combat forces are concentrated. The enemy is neutralised by preparatory fire. Threats from the depth or flanks must be eliminated. The breach must be fast and powerful. The enemy must not be given any opportunity to put up an organised defence. The breach sector will sometimes need to be widened to create more room for manoeuvre. This may be necessary in order to hold the captured ground or to allow other units to follow. While the forward elements are quickly pushing through into the depth, following units can eliminate straggling enemy resistance. If the enemy carries out counterstrokes, these must be blocked immediately. At the same time, the bulk of the assault troops continues the attack.

If the breach is carried out by armoured units, it is generally necessary to deploy tanks together with mechanised infantry.
Photograph: Physics and Electronics Laboratory, Netherlands Organisation for Applied Scientific Research (FEL/TNO)



11057. If the breach is carried out by armoured units, it is generally necessary to deploy **tanks together with mechanised infantry**. If possible, attack helicopters are also involved. A breach with (dismounted) infantry requires a great deal of fire support and is time-consuming.

11058. The purpose of **continuing the attack** is to capture the objective or (further) damage the opponent's cohesion, whereby troops must not get caught up in time-consuming and costly combat actions. An enemy which cannot be bypassed must be attacked with as much fire as possible. Straggling resistance may mean that the support traffic has to be escorted.

If obstacles are encountered, particularly minefields and contaminated areas, vulnerable concentrations must not be allowed to occur.

Continuing the attack also increases the risk for the flanks. This should be borne in mind at all times.

11059. In any attack, **crisis situations** may occur. If such a situation is identified, a commander must not be tempted to deploy his reserves too early. He must at all times have assets which provide him with freedom of action and thus a chance of success, even at the height of a crisis. How a crisis is overcome often depends on the example set by commanders.

11060. If an attack falters, a commander must do everything he can to restore the **forward movement** with fire. If this fails, he must continue the attack at another location. If there is insufficient combat power, the higher commander decides whether to deploy his reserves or to abort the attack and switch to a defensive.

11061. During the course of the battle, the enemy may decide to carry out **counterattacks**, particularly on the flanks, in order to restore the cohesion in his defence. It is vital that these counterattacks be recognised as early as possible and that the counterattack forces be neutralised before they strike friendly troops. If this fails, the troops under attack must revert temporarily to a defensive; to do so, they should be reinforced if necessary. If there are enough reserves, the most effective method is to let them block the counterattacks and use the bulk of the assets to continue the attack.

11062. If the enemy resistance diminishes or if the enemy pulls back, the manoeuvre to the objective should be completed quickly and powerfully.

11063. **Reserves** are essential for keeping up the momentum of the attack. Deployment in places where troops have been successful is preferable to deployment in places where the attack has had little or no success. This reinforces the freedom of action.

OPERATION GAZELLE IN THE SINAI IN JUNE 1967

During the Six Day War (5-10 June 1967), three Israeli divisions defeated almost eighty percent of the Egyptian army. This happened in a lightning offensive with armour-heavy units which cost the Egyptians 15,000 men and virtually all their equipment. The Israelis lost no more than three hundred men. The Israeli air force struck first, with great success. Within a few hours in the morning of 5 June, Israeli pilots put 309 of the 340 Egyptian fighter planes out of action. Two hours after the first air strike, the ground offensive began. Surprise, initiative and momentum were the main ingredients of the Israeli plan of attack. After they had broken into what was in theory a strong Egyptian defence zone along the border between the two countries, the Israeli divisions switched immediately to combat in the depth. With their mechanised task forces, they advanced to the Suez Canal and occupied the entire Sinai Peninsula within a few days. The Egyptians had no time to deploy their operational reserves, which were positioned just behind the front line, to fall



back to new lines in the depth or to move up reinforcements from the area around the Suez Canal. The planning for the first phase of the offensive - the breach - had been extremely detailed. The Israeli commander of the Sinai front, General Gavish, had, however, only given brief orders for the continuation of the attack through the Sinai. This approach reflected Israeli military doctrine, which always kept plans 'fluid' and demanded a great deal of initiative from commanders.

The execution of the plan of attack was virtually flawless, partly because of the disruption and indecisiveness which paralysed the Egyptian high command. The Egyptians also fell for their opponent's plan of deception. Several Israeli tank columns conducted highly visible manoeuvres in the southern sector, near Kuntilla, in order to draw the attention of the Egyptian high command. It worked. The Egyptian Commander in Chief moved part of his operational reserves to the south. In the north, the Israeli 7 Armoured Division, reinforced by a parachute brigade and under the command of Brigadier General Israel Tal, advanced rapidly along the Mediterranean coast. The Israeli tanks (modernised AMX-13s, Centurions and Super Shermans) proved to be superior to the Egyptian T-34s and T-54/55s. In the central front sector, Division Commander Sharon managed to surround the main Egyptian force in the Abu Ageila bastion. Sharon now controlled all key roads to and along the Egyptian defence area. Between the advance routes of the two Israeli divisions lay a strip of the Sinai which the Egyptians had considered impassable and which they had thus only guarded rather than defended. The commander of the Israeli 3 Division, Brigadier General Yoffe, punished that miscalculation by advancing sixty kilometres through the 'inaccessible' terrain within twelve hours. Yoffe's division was thus able to block all transverse movements between the bypassed Egyptian front-line units.

On the second day of the offensive, 6 June, the three Israeli divisions kept up their momentum. The demoralised, even panic-stricken Egyptian high command already regarded the Sinai as lost. The rapid fall of Abu Ageila in particular had been a deciding factor in this respect. The remaining Egyptian units that were still deployable were ordered to withdraw to the west bank of the Suez Canal. That resulted in a chaotic race to the Canal by individual Egyptian units, in some cases preceded by their commanders. Tal and Yoffe also maintained their tempo in the pursuit. In a combined attack, their divisions captured the last important Egyptian stronghold, Gebel Libri. That same day, the Israelis concentrated on blocking the only road junctions through which the remnants of the Egyptian army could still retreat: Nakhl and the Mitla Pass. This was successful on 7 June, the third day of the offensive. A few Egyptian mechanised brigades that had crossed the Suez Canal to cover the retreat arrived too late. On 8 June, the Israelis captured the bridges over the Suez Canal, whereby, after four days of heavy fighting, the Egyptian army in the Sinai ceased to exist.

Source: George W. Gawrych, *Key to the Sinai: The Battles for Abu Ageila in the 1956 and 1967 Arab-Israeli Wars*, Fort Leavenworth, 1990.

11064. Even before the assault troops have captured their objective, the higher commander must give **follow-up orders** in respect of:

- exploitation
- proceeding to the pursuit in order to take advantage of the success of the attack

- terminating the attack and switching to the defence of the captured objective
- disengagement and return

11065. After the objective has been captured, **consolidation** must take place in accordance with the commander's intent. This should be started immediately and completed as quickly as possible in order to ensure that the assault troops are able to repel enemy counterattacks.

11066. It will often be necessary to **reorganise** at the objective in order to carry out follow-up orders. Delays must be avoided as much as possible.

Once the objective has been captured, contact with the enemy must not be lost. Reconnaissance units must scout the terrain at the front and collect information about enemy follow-up operations.

Section 5 - Functions in military operations

Command and control

11067. A **high tempo** is required in an offensive operation to maintain the momentum. This momentum can only be achieved by applying mission command at all levels. To win time, warning orders should be used as much as possible. Detailed orders can only be given for the first foreseeable part. For subsequent parts, the commander will often have to make do with an operational concept and supplement this in the course of the operation with fragmentary orders. The chance of success will become increasingly dependent on the initiative taken at the lower levels.

11068. **Command posts** will be placed as far forward as possible before the start of the attack so that command and control is guaranteed during the first critical phase.

11069. The **place of the commander** depends on the location at which he has the best insight and can best be supported by his staff. This is generally at his command post. At critical moments, when it is vital for him to act faster than the enemy, he may decide to exercise command from a tactical command post.

11070. **Coordination measures** must be taken in respect of the following:

- the time of the start of the attack

- line or point of departure
- zone of attack or axis of advance
- objective

Coordination measures may also be taken for the following:

- intermediate objectives
- phase lines and checkpoints
- points of contact and directions for liaison
- assembly and waiting areas
- forming-up places

11071. The **start of the attack** should surprise the enemy. The time at which the attack begins (H-hour) is determined by:

- the time at which the objective must have been taken
- the possibility of exploiting weaknesses in the enemy defence
- the required preparation time
- weather conditions and visibility

H-hour is set by the most senior commander involved in the attack.

11072. The higher commander sets the **objective**, which can be either terrain or enemy-oriented. The objective is at a limited range if the attack has only a limited aim, for instance to:

- quickly exploit a favourable situation in a meeting engagement
- ascertain enemy strength and location
- fix or deceive the enemy

Also in preparatory combat actions and attacks in poor visibility, the objective is usually at short range.

11073. Each unit or formation is given one **objective** only. If the attack is to be continued afterwards, orders will be given to this effect in good time. Cooperation with the air forces requires the earliest possible coordination in this respect.

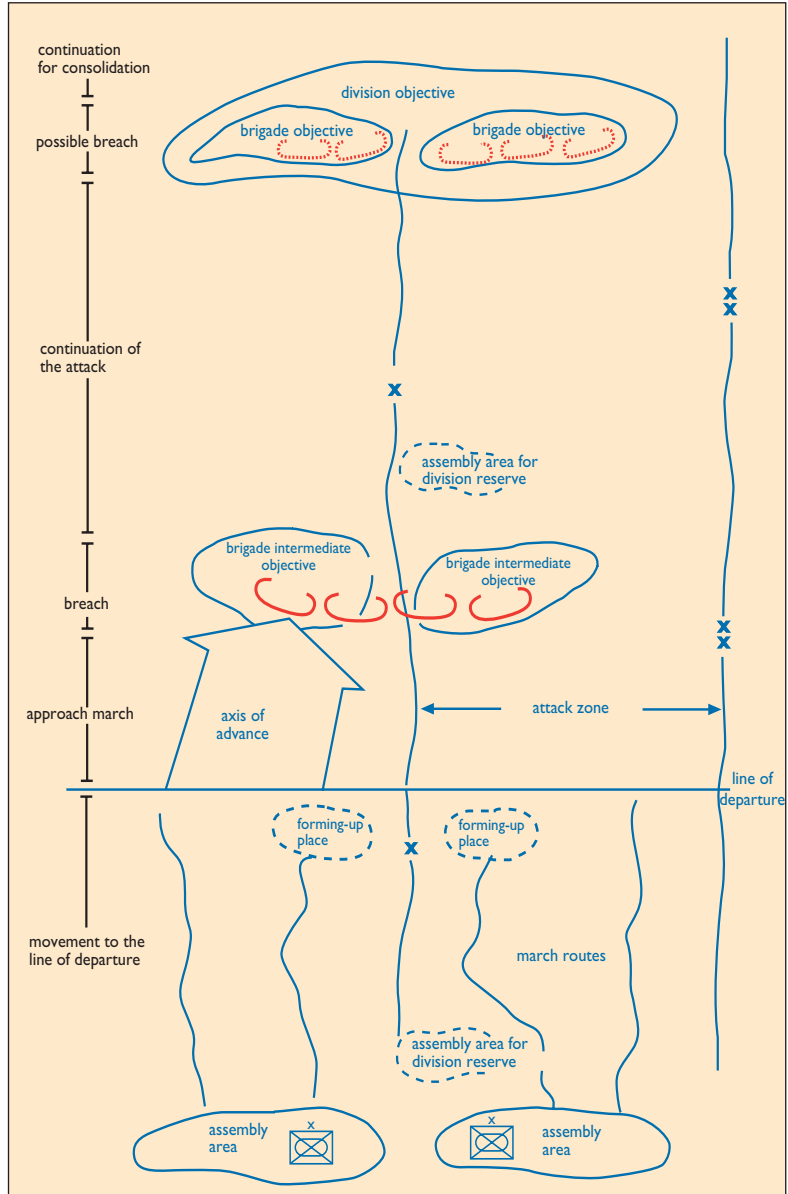
11074. Assault troops need **freedom of movement across the width** in order to overcome obstacles, to circumvent fierce resistance and especially to be able to use the most advantageous place for the breach.

The average guidelines for the sector width in an offensive operation are:

- | | |
|--|-------|
| • brigade | 18 km |
| • tank and mechanised infantry battalion | 6 km |
| • light infantry battalion | 3 km |

The units do not have to attack over the full width. The stronger the enemy resistance, the greater the need to concentrate within the sector.

Figure 2: Diagram of the offensive operation.



11075. The way to an objective is determined by a **zone of attack** or an **axis of advance**. In some cases, it may be enough to assign only the objective to the assault troops. The coordination method used depends on the extent of freedom that is given.

A zone of attack is established by means of sector boundaries. The sector boundaries must be drawn as far beyond the objective as is necessary for the exploitation or consolidation. Shifting sector boundaries during

an attack must be avoided as much as possible.

An axis of advance indicates a specific direction or geographical course to which the manoeuvre must adhere.

11076. A **line of departure** is established to synchronise the separate movements in the manoeuvre and to effect coordination with the fire support.

11077. The location of **intermediate objectives** is determined by the terrain and/or the enemy situation. They help to coordinate the manoeuvre and the combat support and combat service support. They always lead to the phasing of the attack. Intermediate objectives are usually objectives for sub-units.

11078. **Assembly areas** are designated to accommodate the reserve. Their location is such that rapid deployment for the most likely option is guaranteed.

11079. A **forming-up place** is an area on the friendly side of the line of departure in which the assault forces can make their final preparations for the attack. These preparations may comprise resupplying, additional reconnaissance or assembling into the right formation. The use of a forming-up place should, however, be avoided if possible, given that it interrupts the advance and renders the assault troops vulnerable to enemy countermeasures.

11080. The **coordination in time and space** can only be established in as far as the course of the attack can be predicted. The command and control and coordination for the further progress of the attack can only be set out in broad terms in order to at least achieve unity of effort without the danger of the freedom of action being restricted by an unexpected turn of events.

Intelligence

11081. Timely and accurate intelligence is essential for success in offensive operations. The intelligence requirement will focus mainly on the enemy strength, positions, capabilities and intentions. There will also be a requirement for other intelligence in an offensive operation, for example about the terrain, particularly in the chosen approaches and the objective. Intelligence about the local population may form part of this. In offensive operations, the intelligence effort will concentrate particularly on the choice of the main effort.

Most of the intelligence requirement will be established during the **intelligence preparation of the battlefield**, including the most likely enemy capabilities and weaknesses. Decisive points and important targets are also set out, thereby contributing to the concentration of combat power.

11082. The intelligence requirement covers an **area of interest**, which, in offensive operations, is considerably larger than the area of responsibility. Requests will have to be made to higher and adjacent units in order to meet this requirement.

11083. Ground and air reconnaissance prior to and during an offensive operation must be coordinated. The deployment of **reconnaissance units** must follow on directly from the decision-making process and must focus on finding possibilities to conduct the advance to contact and the exploitation through areas with the least resistance. The manoeuvre plan should then be flexible enough to allow this information to be exploited. This process must also be continued during the execution ('recce pull').

Manoeuvre

11084. The manoeuvre is described in Section 3 (Planning) and Section 4 (Execution).

Fire support

11085. Strict coordination of fire from all weapons is necessary for the smooth progress of the offensive operation. This fire is concentrated on the point at which the decision is sought. The **fire from combat forces and fire support units** must be constantly coordinated by the formation commander. It is partly due to this that the momentum in the offensive operation can be achieved and maintained.

11086. If surprise is the main element, fire support is not needed until troops actually encounter resistance. The formation commander should decide whether to use **preparation fire**. This is usually needed if the defence is strong and well prepared, but it reduces the effect of surprise.

11087. The right use of fire support is vital to the success of an offensive operation. **Fire support units** can be deployed forward during the preparations for the attack. As soon as the attack begins, the fire support units must follow so that the close operation can be supported constantly.

11088. The **fire support tasks** in offensive operations include:

- acquiring targets, in the depth and later also on the flanks
- preventing the enemy from affecting the preparations, the movement to the line of departure or the advance to contact by the assault forces
- delivering preparation fire on the orders of the formation commander
- destroying or neutralising enemy ground-based weapon systems
- neutralising the enemy's long-range anti-tank weapons
- destroying the enemy at the breach location or in the enemy main effort
- delaying movements by enemy reserves
- destroying enemy reserves in the depth
- repelling enemy counterattacks
- covering flanks or regrouping of assault forces

If a forward passage of lines is carried out, the artillery of the unit to be passed covers the preparations and the displacement of the assault troops. The unit to be passed reinforces the assault troops' fire as long as possible from its positions.

11089. **Air support** forms a vital part of the fire support in offensive operations. Battlefield air interdiction can prevent the enemy from reinforcing his forward troops and improving his defence. Enemy ground-based weapon systems can also be engaged.

Close air support is particularly necessary if the attack runs up against or is jeopardised by an enemy counterattack. Close air support will only be effective if it is available immediately. Its deployment requires extremely close coordination with the fire and manoeuvre of the ground forces.

During the attack, the priority shifts from air defence to the protection of the assault troops.

Photograph: Defence Organisation for Recruitment and Selection, Ministry of Defence



Protection

11090. In an offensive operation, the enemy can reduce the momentum with air strikes. He will use them to try to stop the assault forces and to disrupt the movement of following units. The scale of the threat depends partly on the extent to which the enemy is capable of gaining air superiority. Certainly his deep operation is only possible if he is able to maintain local air superiority over a prolonged period. Even if friendly air forces have achieved air superiority, enemy air strikes at low and extremely low altitude and deployment of enemy attack helicopters in the close operation remain possible.

11091. During the preparations, the **air defence** will be focused on the protection of:

- assembly areas
- movements
- any forming-up places
- assets vital for the deep operation

During the attack, the priority shifts in the first instance to the protection of the assault troops. As the attack progresses, however, the protection of reserves and lines of communications will become increasingly important.

11092. If the attack is conducted under an **NBC threat**, NBC reconnaissance must be carried out in order to be able to avoid any contaminated areas. NBC decontamination units must be standing by so that they can decontaminate the assault troops in the event of a surprise NBC deployment by the enemy. The formation commander determines the order of priority for the decontamination of units.

11093. During an offensive operation, **engineer support** is necessary to maintain the momentum of the attack. Mobility support is thus the core task of the engineers. Their tasks are mainly to cross or breach obstacles and to keep routes clear. Engineer units are assigned to the assault troops. Armoured engineers are particularly suitable for providing support for armoured units.

As well as mobility support, engineer units can also provide counter-mobility support during the offensive operation in respect of flank protection. If necessary, they may, together with a combat unit, form part of a task force.

Engineer support is necessary to keep up the momentum of the attack.
 Photograph: Media Centre
 RNLA



11094. The ability to carry out engineer tasks depends greatly on the possibilities for conducting engineer reconnaissance, the availability of engineer assets and the right order of battle of engineer units in the assault troops.

Service support

11095. Combat service support in the offensive operation is designed to enable the formations to maintain the **momentum** and exploit success.

11096. The planning and execution of combat service support for offensive operations are significantly affected by the factors of time and space. This applies to the available preparation time, the time required for the execution of the tactical orders and to the turn-around distance between user units and service support units.

11097. The following considerations apply to the **planning**.

- Special measures to ensure service support during the offensive operation (for example, increasing the logistic self-sufficiency of user units) are only necessary if great distances arise between the user units and the service support units over a prolonged period or if the continuity of combat service support is jeopardised by enemy operations.

- When choosing the location of service support installations and assets, the elements necessary for providing direct support for the offensive operation must be deployed as far forward as possible. This ensures optimal effectiveness of these installations and keeps turn-around distances to a minimum. This means that combat service support units must often set up their logistic installations in areas which are not certain to be free of enemy activity. The protection of these units, therefore, requires special attention. Elements which do not directly support combat can be located further from the front.
- Routes that can be used freely are essential for uninterrupted combat service support. The use of these routes by combat units, combat support units and combat service support units requires special coordination. If these routes run through areas that are not completely cleared of enemy elements, combat power must be deployed to protect them.

11098. **Supply.** In the preparatory phase, the supplies that are vital to the logistic self-sufficiency of the assault troops are fully replenished. In this phase, account must be taken of moving up extra assets needed in the initial phase of the offensive operation. During the offensive operation itself, the emphasis is on the supply of fuel and ammunition. Detailed, flexible plans must be drawn up in order to make optimal use of the limited availability of routes and transport assets and in order to be able to deal with a changing situation. This may lead, for example, to the use of advanced elements of service support installations. Supplies from forward-deployed service support installations must remain as mobile as possible. The availability of palletised loading systems allows supplies to be dumped. Given the mobile nature of the offensive operation, however, this too will only be possible to a limited extent.

11099. **Maintenance.** In order to achieve maximum operational readiness before the attack is carried out, priority must be given in the preparatory phase to the assault troops. During the execution, everything is focused on the combat readiness of the equipment of combat and combat support units. Maintenance will, therefore, be carried out as close as possible to the point of breakdown. This means that the user units' scarce recovery capacity becomes available again quickly.

In the first instance, maintenance will be confined to restoring mobility and fire power. Damaged equipment that cannot be repaired on the spot must be recovered as soon as possible and taken away to the maintenance installations located further towards the rear.

III00. **Medical support.** The increasing turn-around distances impose special demands on the medical evacuation organisation. The selective evacuation of casualties by helicopter can provide a solution in this respect. In principle, medical support is provided according to regional responsibility. The assault troops should, therefore, fall back as long as possible on deployed medical installations of units that are not taking part in the attack.

Medical installations can only follow a rapidly progressing offensive operation to a limited extent. The effectiveness of the installations is tied to the minimum standing time (setting up period, active period and clearing/dismantling period). First-echelon medical support for combat forces is unit-linked and should follow the movement of the operation. If necessary, extra capacity can be assigned locally and temporarily. Second-echelon medical capacity must be able to follow the battle with the forward brigades. If necessary, support can be provided from the higher level during the battle, in order to increase the mobility. Third-echelon medical care is only mobile to a limited extent and will only be moved forward at a late stage.

If the standards of treatment are jeopardised in the meantime, immediate use is made of mobile operating theatre systems which are deployed further forward. The use of helicopters makes it possible to respond flexibly to anticipated peaks without losing anything in terms of the speed of the attack or the quality of treatment. Wounded prisoners of war can have an adverse effect on the medical support system.

III01. **Operational personnel support.** The number of prisoners of war is expected to be greater in an offensive operation than in any other form of combat. Looking after prisoners of war will require a considerable effort, which may mean that priorities have to be set in respect of the tasks for service support units. Engineer support may also be necessary when setting up POW camps. In principle, personnel replacement only takes place before and after the offensive operation has been conducted.

Section 6 - Offensive operations in forests, built-up areas and limited visibility

Attack in forests

III02. An attack through forests should be **avoided**. A turning movement around the enemy is preferable, as the enemy is thus outmanoeuvred.

vred. The enemy may, however, organise his defence in such a way that the attack must be conducted through forests.

11103. The preparations for an attack in forests cost a great deal of **time**. Reconnaissance in advance, including air reconnaissance, generally yields little information. **Simplicity** is the key element when formulating the plan. Subsequent phases are prepared in broad outlines and refined on the basis of combat reconnaissance and the course of the battle. The axes of advance are largely determined by the available roads and paths. One must bear in mind that the enemy defence only starts deep inside the forest.

11104. The attack is primarily determined by the **intent of the higher commander**. This is used to decide whether it is necessary to rid the entire forest of the enemy or whether it is enough to take control of one or more corridors in order to break out at the other side. Other aspects of the attack (order of battle, formation, main effort) are to a great extent determined by the **size and density of the forest**. In dense forests, (mechanised) infantry is the most suitable option. Support must always be provided in the form of armoured assets, even if these are confined to the roads and paths. Armoured units are used to attack in forests wherever movement is possible (limited density, open areas of land).

11105. Capturing a **forest with limited depth** or a corridor through forests is done by pushing through with infantry to the exits from the area without phasing. Battalions are usually assigned relatively narrow sectors, each having, if possible, two through-roads as approach possibilities. A simultaneous airmobile operation may be considered in order to attack the defender via the rear exits and to cut him off from his service support.

In **deep forests**, the attack is conducted in phases with intermediate objectives at short range in order to ensure cohesion in the operation. Broadly grouped reconnaissance should also be used, behind which the grouping of combat power should be narrow and deep. In this way, weak points in the enemy defence can be exploited immediately.

11106. The attack within the forest commences from intermediate objectives which have provided a firm foothold in the forest. The forward elements should avoid roads and paths, as these are easy for the enemy to control with obstacles and fire. If possible, enemy positions are located by combat reconnaissance, bypassed by most of the unit and attacked from the rear.

It must be possible to shift the main effort quickly, as the way the enemy defence is organised only becomes clear once the battle is underway. Not all assets should, therefore, be committed prematurely. Reserves generally follow close behind the forward units, preferably in their (armoured) vehicles, so that they can quickly take advantage of any success.

III07. **Maintaining the tempo** of the attack is usually only possible by passing forward units that have got stuck or by carrying out a forward passage of lines. If dusk sets in before the objective is reached, the action continues unchanged. Infiltrations and flanking attacks can also be applied in these conditions. To continue the attack in darkness is ultimately a problem and can only be done if thorough preparations have been made for operating in such circumstances.

III08. If it is necessary to **mop up** the enemy in the whole forest, this is done on both sides of the original axes of advance by following units, for instance by parts of the brigade or division reserve. They mop up the entire area systematically. Timely preparations must be made for breaking out of the forest. The required order of battle is established while troops are still in the area to enable a fast, mounted break-out. If necessary, mechanised units are brought up in good time.

THE ATTACK ON SCHMIDT BETWEEN 6 AND 16 OCTOBER 1944

After the landings in Normandy and the continuation of the Allied offensive towards the north, the front had stabilised in the West Wall area at the beginning of October. This West Wall was a line with fortified positions on Germany's western border.

In October 1944, 9 (US) Infantry Division was one of the units to receive orders to penetrate this West Wall to the south-east of Aachen. The objective of 9 (US) Infantry division was the small town of Schmidt, situated on the crest of a hill just east of the West Wall. The attack was to be mounted by two infantry regiments, each with three infantry battalions, alongside each other on a front some fifteen kilometres wide. Should the attack be successful, the Americans would be in a position to threaten part of the West Wall near Schmidt from behind. 9 (US) Infantry Division's approach march ran through the Huertgen Forest, part of the northern foothills of the Eifel mountains. An American staff study later described the terrain aptly as 'a seemingly impenetrable mass, a vast, undulating, blackish-green ocean stretching as far as the eye can see'.

The men of 9 (US) Infantry Division were never to reach their objective, Schmidt. The attack foundered halfway through the gloomy forest. After ten days of grim fighting (6-16 October 1944), the worn-out division was relieved at the site. Nonetheless, at the beginning of the offensive on Schmidt, the Americans appeared to hold the best cards. In this sector, the West Wall con-

American combat power could not be brought to bear. Command and control was particularly troublesome. It turned out to be virtually impossible to get a clear picture of how the attack was progressing. Companies and platoons soon had to rely on their own initiative and there were regular fire fights at extremely close range. With counterattacks and counterstrokes by infantry - usually flanking by way of adjacent sectors of forest - and aggressive patrolling, the Germans caused a great deal of confusion. The Americans were seldom successful in disposing of the German defences. They were barely able to attack the German positions with flat fire because of the closely set trees and the dense undergrowth. From the air, too, the German positions were barely visible. The American artillery had just as little effect on the well-entrenched Germans, who themselves were able to inflict heavy losses on the unprotected American infantry as they advanced through the forest. Particularly the fragmentation of the scarce artillery often proved fatal. Without being fired upon with hand-held weapons, one American battalion lost more than a hundred men because of grenade explosions in the crowns of the trees. The lack of suitable roads was also a major obstacle for the attack. Only a few dirt tracks cut through the forest. The uncompromising Germans were able to block these paths and firebreaks easily by using mines and felled trees. American engineers worked constantly to clear forest tracks and firebreaks for the mechanised assets, but it was not until the fourth day that the first Sherman tanks actually managed to provide support for the attack. Supplies had to be brought in on foot and the American lines of communications turned out to be exceptionally vulnerable to German anti-personnel mines, snipers and aggressive patrols.

In October 1944, the soldiers of 9 (US) Infantry Division learned many more practical lessons about operating in forests. The infantry men soon found out that they had to cover their combat shelters with tree trunks and earth for protection against the grenade explosions in the treetops. They also realised quickly that it was better not to lie on the ground when they were under artillery fire: by doing so, they exposed more of the body to shrapnel than if they stayed on their feet or their knees! Moving along the front in darkness was tantamount to suicide. Visual observation of grenade strikes proved impossible. Any shift or concentration of fire had to be based on sound. Apart from that, orientation in the dense forest was a problem in itself. If the men had a good ordnance map of the Huertgen Forest, the best method of orientation was to use the numbered poles at the corners of the forest sectors. But there was usually no such ordnance map available. That meant relying on the compass.

In the space of ten days, 9 (US) Infantry Division advanced some three thousand metres through the Huertgen Forest. It cost the Germans 1,500 dead and wounded and almost as many POWs. But the objective, Schmidt, still lay more than three kilometres ahead, hidden behind the forest, when the exhausted 9 (US) Infantry Division was relieved. The division paid a high price of 4,500 casualties for this territorial victory. As the staff study referred to earlier put it: 'The victor thus far was the Huertgen Forest'. Despite a highly favourable ratio of combat power for the assault troops, the terrain supplied the defender with a decisive advantage. Counterstrokes and aggressive patrolling in such an area served to reinforce this even further.

Source: Charles B. MacDonald, '*The Siegfried Line Campaign*', US Army in World War II series, Washington D.C., 1963.

Attacks in built-up areas

11109. Attacks in built-up and urbanised areas are **avoided wherever possible**. It is advisable to bypass such areas. An enemy may, however, have deployed his defence in such a way that built-up or urbanised areas cannot be bypassed and must be incorporated in the plan of attack.

An attack in a built-up area usually gives rise to prolonged combat actions with heavy losses. As much combat support as possible must be provided. Freedom of action is limited by the need to spare the civilian population and objects of cultural value.

11110. The following **considerations** apply when planning offensive operations in a built-up area.

- The enemy will usually have set up all-round protection. His fortified positions which are grouped in the depth and can be reinforced with tanks and guns. He will not always be able to defend urbanised areas cohesively.
- The higher commander's intent should be used to decide whether the entire built-up area must be cleared of the enemy or whether just one or more corridors should be taken and cleared in order to break out at the other side of the area.
- The size, structure and location of the built-up area have a major influence on the plan of attack. It may be more efficient to merely isolate the built-up area rather than attack it directly. Phasing is not used in areas that are widely scattered. In a dense built-up area, the operation should be conducted in phases with short-range objectives. In large built-up areas and urbanised districts, troops must push through to the depth in order to break the enemy cohesion.
- Although operations in built-up areas require thorough preparation, the plan should be kept simple. The plan of attack should be detailed for the first part of the attack; detailed planning far in advance is not normally useful. Follow-up plans are made on the basis of combat reconnaissance.
- The momentum should be kept up around the clock, as any brief interruption enables the enemy to regroup and regain the initiative locally. The plan of attack must, therefore, make provisions for quickly taking over the fighting from forward units, positioning the reserve close behind the forward units and a permanent supply of ammunition.

IIII. The attack on a built-up area consists of three **phases**:

- isolation of the area
- attack on and in the built-up area
- clearing the area of enemy elements (if necessary)

IIII2. Before an attack is mounted inside and through the built-up area, the area itself will have to be isolated. The axis of advance to and in the built-up area is such that a rapid drive into the depth is possible. A flanking attack whereby the exits from the built-up area are cut off is advisable. If necessary, security units operating outside the built-up area are eliminated first. In this phase, the built-up area is **cut off** from its surroundings, which makes it difficult for enemy reserves to intervene. An airmobile operation may be conducted to attack the enemy from the rear and cut off his service support.

IIII3. The attack **on the outskirts** of the built-up area is mounted from a surprise direction, ideally by armoured units. The defence in the outskirts of the built-up area needs to be neutralised by means of fire support, particularly smoke. The first (intermediate) objectives are selected to provide a foothold in the outskirts. A brief reorganisation will then be necessary, which will lead to phasing. If a mounted attack on the outskirts of the built-up area proves impossible, (mechanised) infantry should be deployed immediately. **The built-up area is captured** by pushing through with the infantry grouped in the depth to the exits from the area as quickly as possible. This attack is characterised by a decentralised method of operating by companies and platoons supported by engineer assets, such as tank dozers and demolition teams for creating openings or corridors. Tanks and armoured vehicles can provide local support, which means that mixed teams need to be assembled. Guns can be assigned if necessary to open up gaps with direct fire. Engineer units must first have made the roads passable and cleared minefield barriers.

If it is necessary to **clear a built-up area of enemy elements**, this is done by the following units on each side of the original axes of advance. The entire area must be cleared systematically, whereby priority is given to securing the through-roads and their intersections, bridges and viaducts. If the attack is to be continued beyond the built-up area, reorganisation must take place in the built-up area itself.

Attack in limited visibility

IIII4. An offensive operation in limited visibility is in principle **no different** to one conducted under normal circumstances. Although the

preparation and deployment of the assault troops are better protected against enemy observation, these conditions complicate the control and coordination of the operation. Target acquisition for fire support is also more difficult. The opportunities for surprise actions, on the other hand, increase. Combat is generally conducted at closer range than is the case in good visibility.

IIII5. Deployment will, therefore, remain limited for longer periods; certainly at low level, troops stay in **column formation as long as possible**. If surprise is essential in the initial phase of the operation, deception activities must also be undertaken. Fire support planning takes place for the entire operation, but no (illumination) fire is delivered until it is required for the exploitation of the attack.

IIII6. Reduced visibility has a positive effect on **infiltration**. Navigation is difficult, movements are carried out more slowly and are more confined to the roads and paths in order to maintain as much direction and cohesion as possible. The availability of navigation equipment largely compensates for this disadvantage. During both the movement to the line of departure and the approach march, maximum use must be made of guides/guide signs and protection. Deployment should ideally take place as late as possible. Although an attack on the flank or in the rear is preferable, the manoeuvre should be kept simple. Frontal attacks, provided they are launched at the last possible moment, pose less of a risk than they do in good visibility.

Section 7 - Pursuit

IIII7. A pursuit is an **offensive combat action** designed to attack the fleeing main enemy force directly and put it out of action completely.

IIII8. The pursuit is normally carried out after a successful attack and forms the **closing phase** of the attack. Favourable circumstances for an action such as this are the disintegration of demoralised enemy units as a result of the constant pressure of the attack or the loss of the ability to operate effectively and cohesively.

Planning

IIII9. The success of the pursuit depends primarily on speed and the ability to **outmanoeuvre** the enemy. The pursuit should be followed by exploitation or another type of combat.

The success of the pursuit depends primarily on speed.

*Photograph: Media Centre
RNLA*



11120. The commander incorporates the transition from the attack to the pursuit in his plan and indicates under which circumstances he will switch to the pursuit. The decision about the time and direction of the pursuit must be made quickly. Ideally, he will deploy units which have not yet been deployed in order to create speed, unless the forward units are still able to take on the task. In practice, this often means that the combat organisation for the attack is maintained and that forward units mount a pursuit as quickly as possible along the original axis of advance, while reserve units carry out turning movements or envelopments.

11121. Determining the right moment at which the pursuit is commenced is a decision which is not left to the lower levels. In principle, the **brigade** is the lowest command level which can decide on a pursuit. The forward units at the lower command levels can collect information for a potential pursuit. There may be indications even before the assigned objectives are captured. In that case, the pursuit must be launched immediately and thus unexpectedly early.

11122. **Indications** for switching to a pursuit are:

- a rapid reduction in the enemy defence against the friendly main effort
- taking an exceptionally large number of POWs, without any significant resistance
- the capture of a relatively large amount of equipment and supplies which can still be used
- the absence of counterattacks

III23. In the **operational framework**, the deep operation in the pursuit focuses on finding objects or areas in the depth, past or through which the enemy must retreat. By destroying or occupying these, the enemy can be stopped. The close operation focuses on fixing and striking the retreating enemy on his front and flanks. The friendly rear operation concentrates mainly on mopping up the occupied area, rounding up bypassed enemy elements and protecting the friendly rear and flanks.

Execution

III24. The pursuit consists of a series of **offensive operations and combat actions**, combined with the advance to contact. The enemy is fixed frontally, which allows flanking attacks to be carried out. A vertical turning movement can be used at the same time to overtake and block the retreating enemy in the depth by occupying key passages or crossing points. The combat power of a formation which carries out a pursuit is divided between an enveloping section and a frontal section. The enveloping section has the task of cutting off the main enemy force and preventing any escape.

III25. The **frontal section** keeps the enemy under constant pressure over a wide front to prevent the main enemy force from getting the time or the opportunity to set up a defence. This section hampers the restoration of cohesion in the enemy operation by maintaining combat contact. All available roads are used and smaller enemy units (covering troops and rear guards) are bypassed.

III26. The aim of the **enveloping section** is to enter the enemy's rear area and occupy key areas, thus cutting off the lines of retreat. This section moves over land or in the air, along one or more axes, more or less parallel with the enemy's movements and occupies defiles, road intersections, bridges in the depth and other critical points in the rear of the main enemy force. The occupied areas are prepared for defence on all sides. The distance over which these enveloping units move in respect of the original front line depends partly on the terrain and the strength of the assets to be deployed. On the one hand, the cohesion in the operation must be guaranteed; on the other, risks must be taken to drive as deep as possible before directly attacking the retreating enemy formations.

III27. The enveloping section must have extensive **reconnaissance capacity**. Troops must ensure that the flanks and the rear of this section are protected in order to avoid being cut off. It is advisable to assign

airmobile or airborne units supported by air forces and attack helicopters.

11128. The planning should take account of where and under what circumstances the **pursuit will be terminated**. Timely warning orders and follow-up orders must be given about this. The onset of darkness must not be a reason for halting the pursuit. It is precisely in periods of darkness or poor visibility that the pursuit can be successful. The pursuit may end in the following ways:

- by order of the higher commander
- when the main enemy force has been put out of action or when the enemy commander surrenders
- when friendly troops are no longer physically able to sustain this action, or when the combat service support can no longer support the operation
- if the pursuing formation encounters an enemy defence that is too strong, fresh and organised

Functions in military operations

Command and control

11129. Command is only exercised during the pursuit by means of radio communications. Radio links must, therefore, be reliable. The commander must pay particular attention to maintaining cohesion. Because of the increased speed in the operation, there is a considerable risk of fratricide and of becoming isolated from friendly troops.

11130. The pursuing units are assigned (march) objectives in the depth of the sector. These must in the first instance be reached by the forward units. The progress in the depth is coordinated with march objectives; this is done across the width by means of phase lines.

Intelligence

11131. During the pursuit, there is always a possibility that the enemy may thwart the friendly operation. The deployment of collection units must be designed to identify these possibilities. Reconnaissance units must establish where there is the least enemy resistance. Further deployment of reconnaissance units should aim to prevent enemy deception.

Manoeuvre

III32. The enemy will attempt to block the pursuit by using artillery-delivered and scatterable mines and other obstacles. Armoured engineers need to be assigned to forward units in order to maintain speed. Attack helicopters are a good means for attacking the retreating enemy in the depth, possibly in coordination with the enveloping element, cutting him off, canalising or stopping him.

Fire support

III33. Continuous fire support is needed in the pursuit for the enveloping section as well as the frontal section. Given that it is a surprise action rather than one that has been planned in detail, a great deal of attention must be paid to fire support coordination measures. The planned close air support and battlefield air interdiction missions must be adapted to the pursuit.

Protection

III34. The units that pose the greatest threat to the enemy - the enveloping section - risk being attacked by his air forces. Sufficient air defence assets must, therefore, be assigned to this section.

Service support

III35. Tempo is essential during the pursuit; the combat service support must create the conditions for this. This means that the combat service support must meet the needs of the user units quickly as they arise during the pursuit. During the pursuit, there may be a higher incidence of casualties. Helicopters will be deployed if possible to cope with this. After the operation, the main task will be to replenish all the supplies that have been used.

12

Defensive operations

Section 1 - General

12001. The defensive operation is a form of combat in which an enemy attack within the allocated area is halted while at the same time such losses are inflicted on the enemy that he is unable to continue his offensive operations.

This creates the conditions for a possible offensive operation to be conducted later and/or elsewhere, in so far as such an operation results from or is at least in keeping with the defensive mission. This offensive element is important because the defensive operation, if at all possible, must entail more than merely responding to enemy initiatives. This does not mean that a defensive operation must by definition lead to the execution of one or more counterattacks.

A defensive operation can have the following **objectives**:

- to impair the offensive capacity of the enemy and cause his attack to fail
- to hold ground
- to win time
- to create an opportunity to build up a concentration of assets at another location
- to force the enemy to concentrate his means so that he becomes vulnerable

Section 2 - Characteristics

12002. A characteristic of overriding importance is that the attacker has the **initiative** and superiority in terms of combat power. He will usually be able to reinforce his attack with units moved up from the depth and to replace his degraded units with new ones, while the defender normally has a limited reserve capacity.

12003. The attacker determines the time, place, direction and strength of the attack. His actual intentions will only become clear to the

defender during the battle. The defender's plan will, therefore, be based on **assumptions** about the enemy operation, including the point of main effort of the attack.

12004. The defensive operation is not generally limited in terms of **time**. Nonetheless, time limits may be imposed by the indication of a time or a situation to be achieved, after which the defence is stopped. The termination of the defence can only be ordered by the commander who ordered the defensive operation.

12005. The defender can plan and execute his operation within his allocated area in such a way that the terrain is put to maximum use. The **terrain** can be used as a strengthening factor because:

- the defender knows the terrain
- the defender, within the confines of his mission, can determine where to commence and conduct the battle
- the defender, within the confines of time and means, can prepare the terrain for his own battle

12006. The terrain in the allocated sector which offers the last opportunity for a defence is known as **vital ground**. Keeping possession of this or at least continuing to control the area with fire is of vital importance to the success of the defence and thus for the success of the mission.

12007. Only in a carefully and comprehensively prepared defence can combat power be fully brought to bear. The coordination and in particular the conditioning of the terrain is very time-consuming. The defender generally has this **preparation time**. Sometimes this time can be created by delaying the approaching enemy in front of the defence zone.

12008. The preparations for the defence will seldom remain unnoticed. This means that it is hardly possible to **surprise** the enemy initially. In the area chosen by the attacker, the defender is faced with a fully deployed enemy formation with maximum fire support.

12009. The attacker will try to capture his objective in a **rapid, continuous movement**. To do so, he will use mainly armoured units and attack helicopters, because of their striking power and speed, supported by artillery and air forces. Airborne landings in the rear and on the flanks of the defender can support his attack. Account should be taken at all times of the fact that the attacker will attempt to use the element of surprise. He can do so by conducting demonstrations and deception attacks and by mounting his attack in darkness or in poor visibility and

in unfavourable terrain. As a rule, the enemy will launch his attack with at least temporary and local air superiority above his chosen area.

Section 3 - Planning

Operational framework

12010. The operational framework in a defensive operation must not lead to strict geographical demarcation of the deep, close and rear operation. The distinction is determined by the nature of the target and the way in which it is engaged. The three operations share the same scarce resources. Priorities must, therefore, be set.

Deep operation

12011. The deep operation begins long before the first battles commence in the defence area. The deep operation must prevent the enemy from deploying sufficient combat power at the right time and in the right place in the close operation. This can be achieved by eliminating his artillery and command posts, breaking his lines of communications and hampering an organised approach of assault units and reserves by weakening them before they encounter the defence. Once the close operation has started, the deep operation also targets the sustainability of the enemy combat power, such as logistic installations and lines of communications.

Close operation

12012. The close operation is conducted **in front of and inside the defence area**. The close operation is designed to engage the attacking enemy directly in order to destroy or neutralise vital elements of his combat power.

The **main effort** in the close operation is located at the point at which the defender wishes to cause the enemy's main attack to fail. The full effect of direct and indirect fire and of obstacles must be felt at that point. It must be possible to deploy reserves quickly in the main effort. If, during the fighting, it turns out that the defender's main effort is in the wrong place, it must be adjusted quickly. This must also be done if it turns out that the enemy has shifted his own main effort. The greater the preparation for this, the greater the chance of success. The emphasis is not, therefore, on the physical occupation of the whole defence area, but on a method of operation whereby the manoeuvre and the terrain are fully exploited.

12013. Expectations about the **enemy operation**, such as the location of the enemy's point of main effort, are determined on the basis of terrain, characteristics, properties and doctrine of the enemy and up-to-date intelligence. Analysis of the terrain produces insight into the course and value of natural obstacles and into the nature of the avenues of approach to and through the defence sector.

12014. **Depth** is also necessary in the close operation in order to maintain freedom of action, to gain response time and to take the momentum out of the enemy attack. Depth is gained by:

- deploying guard units
- making mobile use of positions and obstacles further into the depth
- delivering concentrated fire support in the whole sector
- grouping and moving reserves

12015. **Mobile operations** mean that:

- the enemy can be brought under fire from constantly changing directions
- the main effort can be shifted quickly
- friendly units can avoid the effects of enemy fire
- freedom of action can be enhanced
- the enemy can be denied the initiative

12016. The close operation is an **integrated whole of fire, movement and obstacles**, whereby combat forces bring their fire power to bear in a mobile operation. When choosing and preparing the terrain, the defender must match up the assets with the terrain in order to achieve the desired effect on the enemy.

The close operation is designed to engage the attacking enemy directly in order to destroy or neutralise vital elements of his combat power.

Photograph: Physics and Electronics Laboratory, Netherlands Organisation for Applied Scientific Research (FEL/TNO)



12017. The choice of **terrain** for the close operation must be such that the own opportunities for fire and mobility, obstacles, cover and camouflage are as favourable as possible. At the same time, the terrain must limit the enemy's observation and manoeuvre capabilities as much as possible.

Predominantly open and fairly even terrain is relatively easy to oversee and control with fire. Terrain such as this offers little cover and provides the enemy with the opportunity to push through quickly with armoured units. A defensive operation in this terrain will thus in the first instance be a mobile battle against enemy tanks and attack helicopters, which requires the coordinated deployment of anti-tank weapons, tanks and attack helicopters.

Covered and very hilly terrain has a high obstacle value and favours the deployment of (mechanised) infantry. However, it limits observation capabilities and the coordinated delivery of fire, which means that during close combat there will be more emphasis on dismounted and small-scale operations.

12018. **Armoured units**, because of their fire power, armour and mobility, are highly suitable for operating against what is presumed to be the main effort of the enemy attack. The enormous power of **tanks** lies in their ability to operate with mobility and to conduct counterattacks, even in poor visibility. There must, however, be sufficient space for their deployment. Tanks are extremely effective in a surprise deployment on the flanks or in the rear of the enemy, especially if the latter is unbalanced by a combination of fire and obstacles. Mechanised infantry is



suitable for deployment in more covered terrain. Moreover, these units can quickly occupy various positions in this terrain and carry out small-scale counterattacks and counterstrokes.

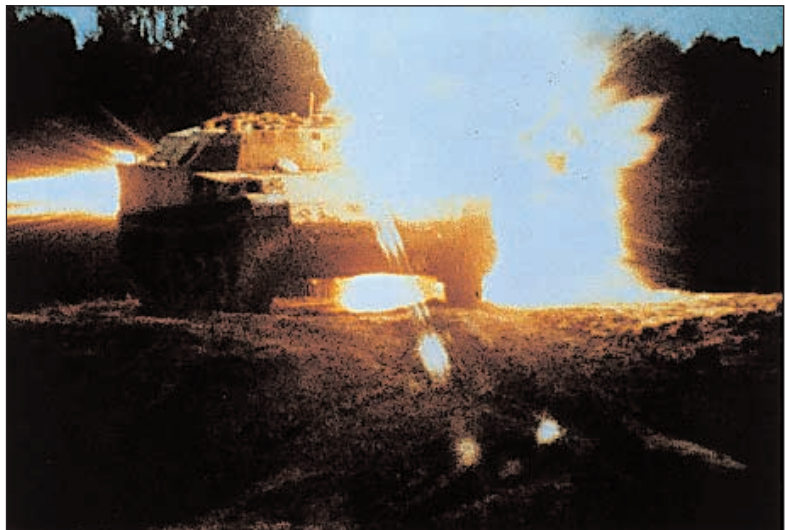
12019. **Reconnaissance units** are suitable for guarding relatively large areas in the front and/or on the flanks. They can perform security tasks on a limited scale in part of the area. They can also maintain contact with the forward enemy units and perform reconnaissance tasks further in the depth, concentrating, for example, on the enemy reserves.

12020. **Light infantry** is able to put up an effective defence from well-prepared positions. This requires a relatively long preparation period. The positions are located where fire power can be fully deployed, as far as possible in combination with natural and man-made obstacles.

12021. **Attack helicopter units** can respond quickly to changing circumstances. This makes them ideal for conducting counterattacks and for operating against enemy threats to the flanks. They can also play a key role in the main effort. This requires close coordination with the forward battalions.

12022. **Airmobile units** are ideal for performing tasks as reserves in defensive operations. These units are particularly suitable for stopping the enemy temporarily in an area in which enemy operations were not originally foreseen.

12023. Good command and control can ensure that full use is made of the available **preparation time** for:



- setting up the allocated sector for the purpose of defence
- coordinating plans to ensure an efficient and cohesive operation
- preparing and coordinating alternative plans in order to respond to enemy actions that deviate from the original assumptions
- getting units ready, implementing logistic measures and providing communications
- rehearsing the mobile operation

Rear operation

12024. The rear area contains not only logistic installations but also any counterattack force and the reserve. This places heavy demands on the terrain management and movement control in the area. The rear operation is vital for maintaining the necessary **freedom of action**. The enemy will conduct his deep operation to fix the defender's reserves and to disrupt his command and control system. The rear operation must, therefore, concentrate on maintaining the freedom of manoeuvre for friendly reserves and any counterattack force and on ensuring the safety of and supplies for friendly troops.

Security in the front

12025. The security for the defence is usually provided by units operating in front of the forward edge of the battle area (FEBA). These could be (border) surveillance units. The defensive troops can also provide their own **forward protection** by:

- sending out a covering force
- deploying parts of units that conduct the combat in the defence area



from forward positions far ahead of the FEBA

- setting up protection by the battalions which conduct the defensive operation in the defence area

Counter reconnaissance measures form an essential part of the security in the front.

12026. If a **covering force** is established, it will normally conduct a delaying operation. Although the deployment of a covering force requires a great deal of effort and a large number of assets, it can serve to gain preparation time for the defence and damage the enemy's operation. By using suitable areas of ground, a covering force can canalise the enemy to the area where the actual defence is to be conducted and may even be able to force him to reveal his intentions. The enemy can also be deceived about the location of the FEBA. The covering force can finally gather intelligence which provides definitive information about the avenues of approach used by the enemy and the location of his main effort. The formation commander who sets up a covering force designates a delaying zone where he deploys units that are not needed for the initial defence. These units conduct the delaying operation independently.

12027. The brigade commander can protect his operation with **forward positions**. From there, he conducts a temporary defence. Especially if there is no covering force, the enemy can thus be kept in a prolonged state of uncertainty regarding the precise location of the defence area. Units in these forward positions need anti-armour weapons in particular. Field artillery observers should also be assigned in order to be able to fire on the enemy from the greatest possible distance.



12028. Forward battalions can arrange their protection by means of a **security line**. Protective elements are deployed there to warn the units in the defence area and give them chance to take the necessary measures. This is particularly relevant if there is no other form of protection.

12029. Forward positions and positions in a security line are not independent, but are supported from the FEBA. Units operating from forward positions or a security line allow a weak enemy to approach and then use surprise to defeat him. If the enemy is clearly stronger, long-range fire is delivered. On command, these units return to the FEBA; they either withdraw while maintaining combat contact or disengage and fall back in a single movement.

12030. The enemy must be kept guessing as to the defender's intentions. Units setting up for defence must make full use of the **cover** offered by the terrain and conditions of limited visibility. They are responsible for their own **local protection** and must ensure that they have combat-ready elements at all times during the preparatory activities.

12031. The defensive operation conducted in **limited visibility** requires appropriately modified protection. Furthermore, it is often necessary to change the combat organisation, position reserves at shorter range or reinforce the forward units.

Counter-reconnaissance

12032. During the defensive operation, it is important that enemy reconnaissance be countered as much as possible. The aim is to prevent



the enemy from using reconnaissance to collect intelligence about defensive positions, the location of reserves and preparations for offensive actions. Counter-reconnaissance measures can be both active and passive:

- setting up a covering force, forward positions or a security line
- camouflage and deception
- engaging enemy reconnaissance elements

Setting up a covering force, forward positions or a security line can keep the enemy guessing as to the exact location of the positions in the defence area. Good camouflage and an effective deception plan are important in case the enemy reconnaissance gets past the friendly security. If enemy reconnaissance elements are actively engaged, indirect fire must be used as much as possible. This will prevent the identification of friendly positions.

Emplacements, counterattacks and reserves

12033. An **emplacement** is a connected system of firing positions and is situated in such a way that it is possible to deliver coordinated fire and/or keep possession of a certain piece of ground. The value of an emplacement can be enhanced by fortifying the terrain. To keep possession of terrain, the battle is conducted from emplacements. Combat units need room to conduct the battle from changing emplacements. The precise location of emplacements must remain hidden from enemy reconnaissance as long as possible. There are two special types of emplacement: the strong point and the blocking position.

- a. A **strong point** is a prepared and fortified position, which is designed to enable troops to keep possession of terrain and from which they can observe and, if necessary, fire in any direction.
- b. A **blocking position** is a position, prepared to face one direction, designed to obstruct the enemy's advance in a given direction.

Emplacements may not be **released** before permission has been given by the commander who ordered them. He will only make that decision if the position is no longer important for the cohesion in the defence or if he can continue the combat somewhere else under more favourable conditions. The commander's permission to release a position may also be given in advance, stating the conditions under which this may occur.

12034. **Counterattacks** are generally foreseen in the plan and require preparation. They are carried out by reserves or the counterattack force and must be coordinated with the operations of defensive units, combat support units and combat service support units. A counterattack

The value of an emplacement can be enhanced by fortifying the terrain.

*Photograph: Media Centre
RNLA*



may be planned in phases, so that a decision can be made in each phase as to whether to continue the counterattack. A quick and surprise execution holds the best promise of success.

A counterattack is designed to exploit a favourable opportunity to defeat the enemy at a decisive moment and in a decisive place. The most suitable **moment** to mount a counterattack is usually short-lived; that is why the unit or formation responsible for conducting it must be well prepared, both mentally and physically. As the combat develops, the planning of the counterattack must be adjusted if necessary. Once a commander has made the decision to proceed with a counterattack, he will have to launch it with all the assets necessary to ensure a successful execution.

Counterattacks can be **effective** for exploiting favourable circumstances during the course of the operation. Examples are:

- to destroy an enemy who has been halted at an obstacle before he can be reinforced and again bring his full fire power to bear
- to partially defeat an enemy who has managed to get his forward units past an obstacle before his entire main force has passed that obstacle
- to attack the enemy, once he has penetrated, on the flank or in the rear and/or cut off his lines of communications

A counterattack is **necessary** if:

- the enemy has driven deep into the defence zone and there is no other way to maintain or restore the cohesion in the defence
- lost ground has to be recaptured
- isolated friendly troops have to be relieved

Counterattacks **should not take place** if the expected losses are not in proportion to the desired result.

12035. **Counterstrokes** are actions that are performed by lower tactical levels on their own initiative if the opportunity arises to defeat or repel the enemy locally. Speed and surprise are the key elements in this respect. Counterstrokes cannot normally be foreseen in the plan and are conducted by units who are in combat contact. The deployment of reserves for a counterattack must not be restricted by the execution of counterstrokes.

12036. **Reserves** provide freedom of action in foreseen and unforeseen situations. They create flexibility for the defence. Deployment of the reserve can balance the ratio of combat power locally or turn it to the advantage of friendly forces. The less favourable the ratio of combat power or the less is known about the enemy, the more important reserves become.

12037. Reserves must be capable of deployment within a short **reaction time**. This reaction time is made up of the degree of readiness, the required displacement time and the time needed to deploy. In terrain in which observation is limited and in which the going is rough, several **small reserves** can be kept at a relatively short distance. However, it must remain possible to (re-)concentrate these reserves. In open terrain, it is more effective to keep a **concentrated reserve** further in the depth. In limited visibility, it may be useful to position the reserves further forward or even use them to reinforce the forward units in advance.

Reserves must be capable of performing the following tasks at short notice:

- conducting counterattacks
- reinforcing forward units
- blocking and eliminating an enemy that has penetrated in the depth
- operating against a threat in the depth or on the flanks
- taking over the task of the forward units

12038. The commander determines the **order of priority** in which missions should be prepared. The actual deployment depends on how the

combat proceeds. Constant assessment of the situation may lead to a change in the order of priority, dropping or changing tasks or changing the planned execution.

12039. A commander who has sufficient reserves can order his subordinate commanders to deploy all assets and **not to keep a reserve** at their level. If, on the other hand, he does not have sufficient reserves, he may lay **claim** to (part of) the reserves of one or more subordinate commanders. However, both measures restrict the subordinate commanders' freedom of action and should, therefore, be used with restraint.

Forms of manoeuvre

12040. Whether the defensive operation concentrates primarily on manoeuvre or attrition depends on the mission, the enemy, the availability of friendly (manoeuvre) assets and the terrain. The commander is capable of making this assessment at his own level; he, after all, determines where he will engage, in which part of the terrain he wishes to halt the enemy attack and where and how he will face an advancing enemy. He also determines which areas of ground must in any event be in friendly hands after the operation.

12041. In the close operation of a defensive operation, two **forms of manoeuvre** can be distinguished:

- a. mobile defence
- b. area defence

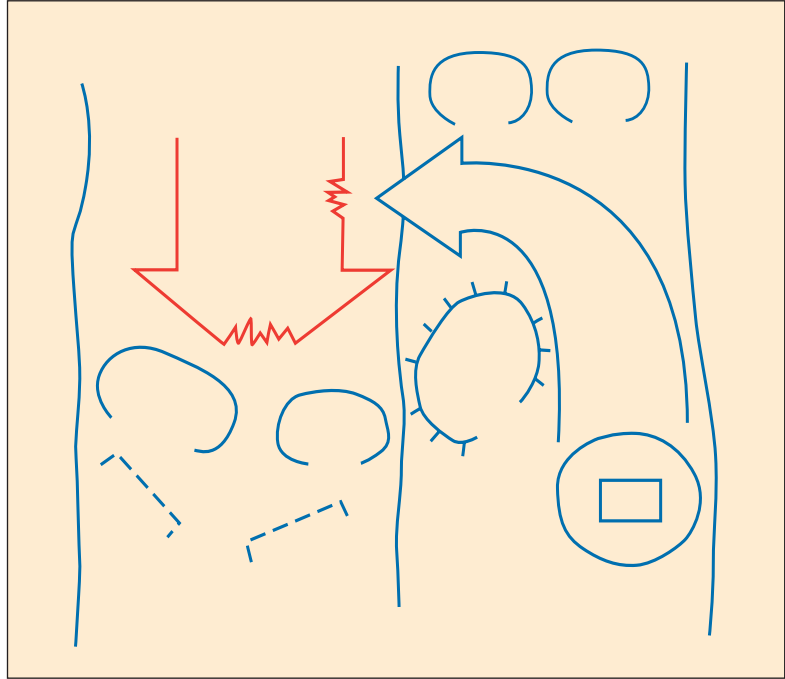
The **choice** of one type of manoeuvre is not absolute. Both forms contain elements that focus on manoeuvre and on attrition. So it is more of a variable scale with the forms of manoeuvre representing the 'ideal' at each end. In the defensive operation, therefore, elements from both forms can be used, depending on the outcome of the operational decision-making process, also during the course of the operation. The choice can be influenced by the certainty regarding the location of the enemy's main effort, the availability of assets at the right time, the preparation time and the terrain.

Mobile defence

12042. The starting point of this form of manoeuvre is to defeat the attacker with a **strong counterattack force** in a single battle, after he has initially penetrated the defence area (which may be up to 100 km deep at division level). The emphasis here lies more on eliminating the

Figure 3.

Diagram of mobile defence. In this example, the units on the left conduct the delaying operation and the area defence. The right-hand unit on the shoulder also conducts area defence. The fourth unit is the counterattack force. The level commanding these four units conducts the mobile defence.



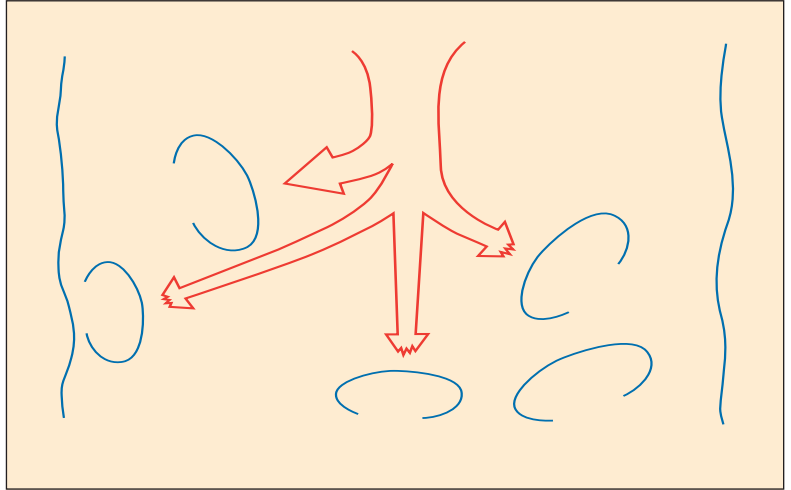
enemy's combat power than on holding or recapturing ground. However, vital ground must not be lost in the process. Typical features of this form of defence are a strong counterattack force and a small reserve.

The counterattack is conducted with a relatively large counterattack force, designated as such from the outset. In the preceding defensive phase, other units must have used manoeuvre, fire power and obstacles in combination with defensive and delaying actions to canalise the enemy in such a way that he is ultimately **halted** in an area in the depth. That area will have been prepared for this defence and may or may not be occupied.

Once the enemy has been halted, he is vulnerable because of his open flanks in the depth and his long lines of communications, which force him to deploy protective elements, while at the same time he needs a large number of units to complete his penetration. The counterattack is carried out with all available assets deep in the area taken by the enemy. A number of **conditions** must be met for the successful execution of this form of defence, the most important being that:

- there must be temporary and local air superiority
- the defence zone must be deep enough: there must be appropriate manoeuvre possibilities for the counterattack
- there must be suitable sites for defensive positions in the depth

Figure 4.
Diagram of area defence.



Area defence

12043. In this form of manoeuvre, the combat power of the penetrating attacker is shattered in a defence area with a network of defensive positions grouped in the width and the depth in order to subsequently defeat him from there with counterattacks in combination with fire support. The emphasis here is on attrition of the enemy by inflicting cumulative losses in terms of time. The result is that the enemy is no longer able to continue his attack and, in this way, the decision is gradually brought about.

The depth of an area defence can vary considerably, depending on the mission, the assets and the terrain. This form of manoeuvre is thus possible in the event of limited depth, easily defensible terrain and/or the need to hold a particular part of the sector over a long period, for instance as part of the mobile defence of a higher commander. **Favourable factors** for this form of defence are a relatively large number of natural transverse obstacles, good possibilities for defensive positions and sufficient preparation time.

12044. The fundamental **difference** between the two forms of defensive operation is that in the case of mobile defence, the objective - to halt the enemy - is achieved by a manoeuvre in a single battle, while in the case of area defence, this is brought about by gradual, cumulative attrition.

The physical destruction of enemy combat power in mobile defence occurs primarily in the decisive counterattack phase; in the case of area defence, this is a gradual process which takes place from the outset.

12045. Within a mobile defence by a corps, a division can be used as a counterattack force or can conduct a mobile or area defence with its own assets. A defending brigade in its turn opts for a mobile or area defence, depending on the circumstances. A choice for mobile defence may lead to **restrictions** for the lower level.

Mobile defence	Area defence
Emphasis is on the enemy (destroy or defeat). The enemy is canalised to a position in which he can be destroyed by counterattack.	Emphasis is on the terrain (namely denying the enemy certain areas for a particular period).
Defeating the enemy by means of a single action/operation at the unit's own level. The attack by the counterattack force must be decisive.	Defeating the enemy by means of gradual attrition; battles at the next lower level must bring about the decision.
Large counterattack force at one level, which does not form part of the reserve.	Small mobile reserves for local counterattacks at all levels.

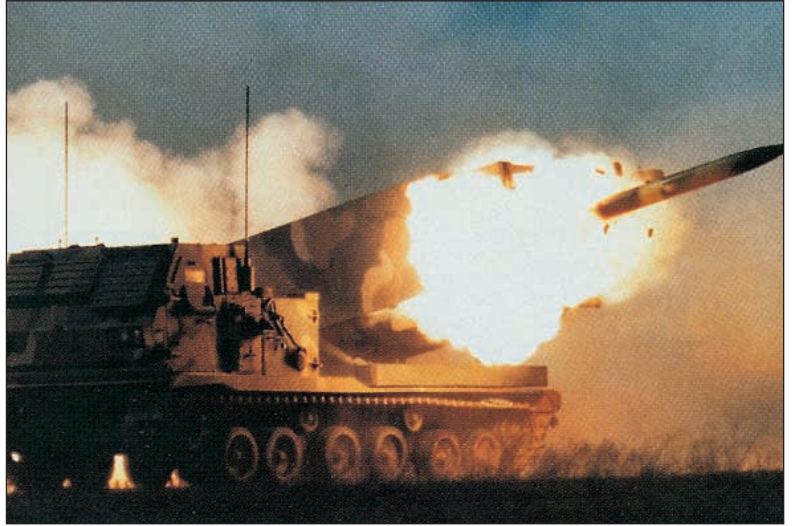
Section 4 - Execution

12046. As the **covering force** approaches the defence area, the fire support from the defence area needs to be intensified in order to give the covering force the chance to disengage from the enemy. The passage of the covering force through the forward defensive positions must be carefully prepared and coordinated and must take place as quickly as possible. The covering force must disengage from the enemy in front of the FEBA in order to prevent confusion on the part of the defensive units in the FEBA in this crucial phase.

12047. In the defensive operation the deployment of **reconnaissance units** should guide the execution. So in the depth, too, reconnaissance units establish which advance routes the enemy reserve is using, the location of high-value targets for engagement, where the enemy's strong and weak points are, where he may be setting up his main effort and where he will not mount any attacks but merely protect the front. This intelligence helps to determine when and where there will be opportunities to take the initiative and where the friendly main effort needs to be located.

It is vitally important to open fire at long range from the beginning of the operation.

Photograph: US Embassy, Defense Section



12048. From the **beginning of the combat**, it is highly important that fire be opened even at long range, particularly on identified positions of combat and artillery units. It is also important to at least establish where the enemy has deployed his armoured units, how he has assigned his artillery and where he will have units follow in the depth. The choice of targets for his artillery and air forces, together with the location of following units in the depth, are often indications which may reveal the enemy's intentions and the choice of location for his main effort.

12049. Friendly fire must become increasingly closer and more intensive as the enemy approaches the defence area, so that the attack can if possible be **halted in front of the friendly positions**. Straggling enemy elements must in that case be defeated with an offensive action at the defending unit's level or higher.

12050. The enemy will try to find weak points in the defence and will then make use of this to penetrate those places to get deep into the sector. This may take several attempts. The defender will have to do all he can to prevent this by blocking any **imminent penetration** and destroying as quickly as possible any enemy elements that have broken through.

12051. The enemy will launch his **main attack** as soon as he has enough intelligence. He will form a main effort by concentrating on particular areas and using intensive artillery fire and air strikes. His main attack may be supported by other operations, which may consist of, for example, an airborne or airmobile action between or behind the defensive units.

12052. To prevent premature detection of friendly positions and to reduce the vulnerability to preparation fire, the defending units can occupy **assembly areas**. This is only possible if friendly forces are superior in the air, since the movement to the defensive positions offers rewarding targets for enemy air strikes. Much will also depend on good synchronisation to take up the defensive positions at the moment the enemy starts his ground attack. The further the attack develops, the more the enemy's progress will be delayed, as he will be canalised by fire and obstacles. This will make him vulnerable to the fire of the defensive units and offensive air support. Defensive units must, therefore, be able to bring the full might of their fire power to bear during this phase of the operation.

12053. **Reinforcement** provides units engaged in combat with extra combat power. This combat power may come from units or formations designated for the purpose, or from units who are not engaged in combat at that time. The commander who orders the reinforcement determines whether the reinforcing units will remain under his command and be allocated their own sector between the forward units, or whether they will be placed under the command of the local commander. He will also need to indicate how the order of battle is to be adjusted and the way in which the coordination and combat support between units is to take place.

12054. **Blocking** is the deployment, systematic or otherwise, of one or more units to prevent enemy elements that have broken through from gaining access to a particular area and thus halt their progress. The synchronisation depends on the enemy action, in particular the strength, speed and direction of his advance. Once they have been analysed, these factors must be seen in relation to the strength, position, reaction time and necessary preparation time of the blocking units. Blocking is often the only way to win the time required for a subsequent counterattack.

12055. If the enemy manages to force his way through the defence and no units are immediately available to block this breach physically or conduct a counterattack, the enemy must be blocked with fire support and obstacles. In that case, all available assets are deployed in the area most suitable for the purpose. To restore **cohesion in the defence**, it may be necessary to bring back forward units, as long as they have no role to play in counterattacks which are yet to be carried out.

12056. When conducting **counterattacks**, the defender must ascertain whether it is possible to engage a target at longer range or whether he must confine himself to a short-range target. Whether or not he has

(local) air superiority may be a deciding factor in this respect. In poor visibility, only short-range targets will normally be feasible.

The units in the defensive positions may be ordered to maintain their position in order to support the counterattack with fire from there. They may also be ordered to take part in the counterattack in another way. If so, there must be clear coordination and the orders must be unambiguous.

The commander must indicate in good time how he wishes the defence to continue after a counterattack. In this respect, he will take account of the need to designate reserves and, if necessary, make them available.

12057. If, in the course of the battle, it becomes clear that the cohesion in the defence can no longer be maintained and there is a danger of penetration, the formation commander may conduct the defence further **in the depth** of his allocated area. The next higher commander may decide to deploy assets for the purposes of reinforcement, blocking actions or a counterattack.

A decision to have units fall back must involve the situation in the adjacent sectors. A new FEBA may only be specified by the commander who ordered the defence.

12058. **Outside the enemy's main effort**, unoccupied areas between positions are acceptable. However, these areas must be kept under observation, covered with indirect fire and, if possible, made inaccessible by setting up obstacles.

12059. If there is cause to do so, units must, even during a brief lull in the battle, be **reorganised**, resupplied and brought up to strength. Any damage to positions, obstacles and routes must be repaired. If the enemy has been defeated, the cohesion with the adjacent units must be restored.

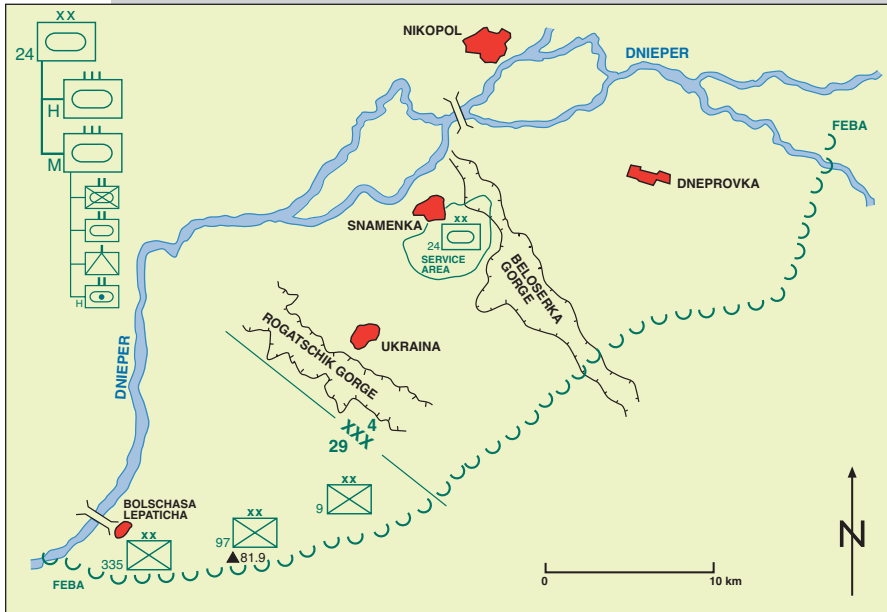
THE COUNTERATTACK AT NIKOPOL IN NOVEMBER 1943

The situation in the Nikopol bridgehead in November and December 1943:

In the sector of Army Group South, a strong bridgehead had existed since October 1943 on the eastern bank of the River Dnieper for the purpose of holding the manganese ore mines at Nikopol. The bridgehead was occupied by two army corps (4 Corps on the left and 29 Corps on the right), who together formed the *Gruppe Schorner*.

The situation in the divisions was poor. Most of the heavy weapons had been lost during the delaying operations in the summer. The battalions had an average strength of 200 men and all divisions were deployed at the front. Neither of the army corps had any armoured reserves left. Only the *Gruppe Schorner* had 24 Panzer Division, recently fully recuperated. It had a central position in the bridgehead and was grouped in task forces, which were led by regimental commanders.

24 Armoured Division had been ordered to engage the enemy elements breaking into the bridgehead, destroy them and restore the original FEBA with a counterattack. After being relieved by infantry divisions, it was to be kept on standby for renewed counterattacks.



In November 1943, 4 Ukrainian Front received orders to destroy the Nikopol bridgehead and capture the ore mine complex. The front comprised three armies with a total of seven army corps, each consisting of 2-5 infantry divisions. Although these infantry divisions were at full strength, they were badly instructed and trained. 4 Guards Corps and 19 Panzer Corps with a total strength of 600 tanks (T34 and KV1) were available as a front reserve. These tanks were superior to the German tanks, but mobile deployment was hindered by the limited amount of radio communications equipment; that was

...the armoured infantry advanced quickly in a deep and narrow formation....

Photograph: Military History Section RNLA



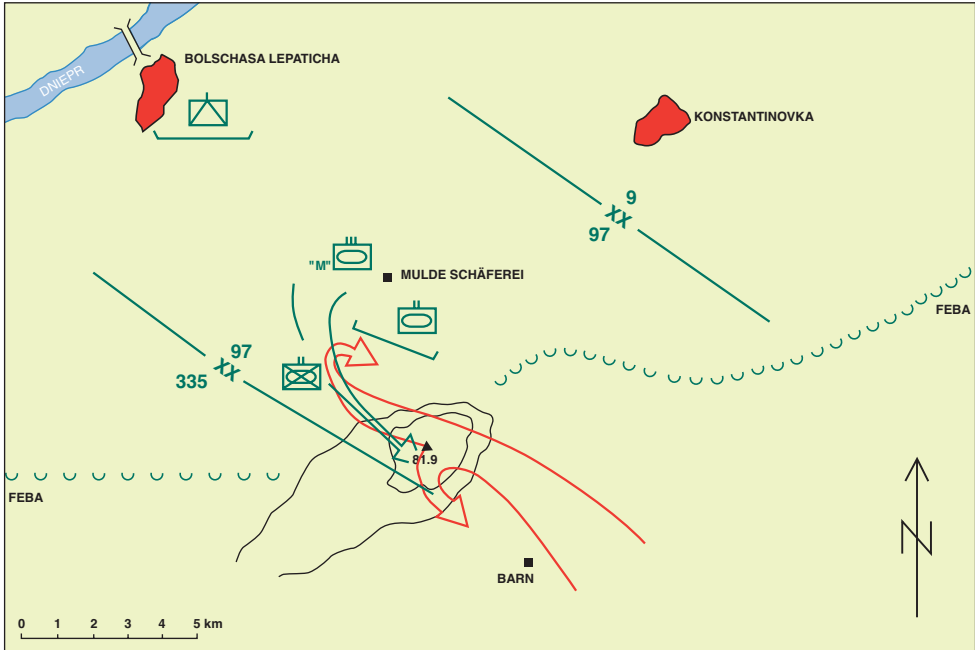
only available at squadron level. The fire power of the Russian artillery was enormous.

The terrain was part of the Dnieper basin. When it rained the soil turned to mud which was unable to support heavy loads. For tracked vehicles the going became difficult and for wheeled vehicles impossible. The bridgehead was split into three by two deep gullies which ran southeast to northwest and which limited the transverse movements of reserves considerably. Only two pontoon bridges at Nikopol and Bolschaja Lepaticha crossed the Dnieper, which is some five kilometres wide at that point.

Since 24 November, 97 Infantry Division had been waging a fierce defensive battle against an attacker whose objective was the 'Mulde Schäfererei' area with a view to continuing the attack in the bridgehead. The FEBA had to be pulled back two kilometres by 97 Infantry Division. Only the right flank had up to then escaped attack, which meant that height 81.9 was still under friendly control. The loss of this height would have provided the enemy with an observation capability as far as the Dnieper and allowed him to penetrate 335 Infantry Division's sector. This would have caused the collapse of 29 Corps' right flank and the entire *Gruppe Schorner*.

The counterattack by Task Force M in 97 Infantry Division's sector on 28 November 1943:

Shortly before darkness fell on 27 November, a reconnaissance plane reported a strong enemy presence two kilometres southeast of the 'barn'. On 25 November, the Corps had already requested reserves, as a result of which Task Force M arrived in an assembly area near Konstantinovka during the night of 26-27 November and was placed under the command of 97 Infantry division. At 23.00 hrs on 27 November, the commander of Task Force M received the



following order from the commander of 97 Infantry division: 'Enemy attack expected via height 81.9 on Bolschasa Lepaticha. Repel attack and hold height 81.9. Situation around height 81.9 unclear. No more contact with units in positions. Act on own initiative.'

A full decision-making process was impossible at that time. Much depended on the question of whether height 81.9 would still be under friendly control the next morning. However, the enemy was expected to take control of this height with a preparatory combat action. The commander of Task Force M dispatched an officers patrol with orders to make contact with the battalion in positions on the right-hand division's sector boundary and to clarify the situation there. At 01.00 hrs on 28 November, the patrol reported as follows: 'Height 81.9 in enemy hands, battalion defeated, what is left is 2 km northwest of height 81.9. No more contact with adjacent units. Sound of tanks on the other side of the elevation. Own infantry protecting themselves in direction of elevation.' On the basis of this, the commander of Task Force M made the following decision: 'Task Force M will attack the enemy at height 81.9 with the mechanised infantry battalion supported by as much fire support as possible and will take this height; also, destroy penetrating enemy tanks from the flank by the tank battalion and through a frontal attack by the air defence battery. This will prevent the enemy from getting through to the bridge at Bolschasa Lepaticha.'

The course of the battle

Half an hour before dawn, the enemy started to deliver harassing fire. Observation capabilities were at that moment limited by fog. The commander of the mechanised infantry battalion was afraid that the Russian 19 Armoured Corps would launch the attack before dawn. However, the elevation had to be recaptured under any circumstances. So he gave orders to attack immediately. The mechanised infantry battalion advanced quickly in a deep and narrow for-

mation. 800 metres in front of the enemy positions, the infantry dismounted and, with two companies, simultaneously penetrated the emplacement. In a brief engagement, the enemy was put out of action and the battalion consolidated its position.

An hour after dawn, the Russian attack began with heavy preparation fire. Because of the lack of target acquisition assets, it was not possible to engage the Russian artillery. Task Force M did, however, manage to separate the enemy tanks from the infantry (the infantry were riding on the tanks) with concentrated fire and thus inflict such heavy losses that the remaining troops were no longer capable of breaking in and had to stay in front of Task Force M's positions at height 81.9. A number of enemy tanks did succeed in getting through the mechanised infantry battalion's positions, but were destroyed in the depth with flanking fire near the Schäferei. A few tanks which were not destroyed - mainly the KV85s - were eliminated in a frontal engagement by the 88 mm air defence guns of the air defence battery at the entrance to the town of Bolschasa.

In the course of the afternoon, Task Force M was relieved in its consolidation by infantry that had been drawn from other parts of the front. Because of Task Force M's counterattack, it was once again possible to continue the defence at the most favourable location and to hold the bridgehead for the time being.

Between the end of November 1943 and the middle of January 1944, 4 Ukrainian Front attacked the bridgehead eight times without success. All attacks were repelled by counterattacks by 24 Panzer Division, whereby 300 Russian tanks were destroyed with only limited losses among German troops. When 24 Panzer Division was moved to another part of the front, the bridgehead was lost immediately.

Source: Dr. F. von Senger und Etterlin, *Die 24. Panzer-Division, vormals 1. Kavallerie-Division 1939-1945*, Kurt Vowinkel-Verlag, Neckargemund, 1962.

Section 5 - Functions in military operations

Command and control

12060. In the defensive operation, command and control units can operate more statically than in other types of combat. The necessary attention can thus be given to **accommodating** these assets in hard shelters or protective positions. The ability to move quickly must not, however, be restricted.

12061. Good **communications and liaison** are also conditions for a successful defence. Before contact is made with the enemy, electromagnetic emissions must be kept to a minimum. With the exception of any covering units engaged in combat, electromagnetic silence must be maintained by all units.

12062. **Coordination measures must** be implemented in respect of:

- sector boundaries
- forward edge of the battle area (FEBA)
- coordinating points

Further coordination measures **may** be taken in respect of the following:

- barrier restricted areas
- hand-over lines
- security lines

12063. The course of **sector boundaries** is tailored to the number and nature of enemy avenues of approach. When determining the sector boundaries, account is taken of any natural divisions. The form of defence and the space needed for the deployment and accommodation of all units in the rear area are important factors in establishing rear boundaries. Depending on the chosen form of defence, further planning in the depth of the sector may be necessary. In the planning, the following sector widths and depths can be used as a guide in average conditions:

	width	depth
mechanised brigade	20 km	30 km
tank and mechanised infantry battalion	6 km	8 km
infantry battalion	4 km	5 km

These **indicative sector widths** apply in a continuous defence which is conducted as part of the operation of a higher command level. Larger sectors may be assigned. In that case, a commander will be obliged to maintain a larger reserve, prepare various contingency plans and to deploy only when the location of the enemy main effort has been identified.

12064. The **forward edge of the battle area (FEBA)** is for the purpose of coordination of the manoeuvre and is indicated approximately by means of coordinating points on the sector boundaries by the commander who gave the order for the defensive operation. The exact course is ultimately determined by the choice of positions. The positions on this edge do not need to be occupied continuously, nor do they need to remain in friendly hands whatever the cost.

12065. **Coordination points** are for the coordination with adjacent and other units with which the operation is to be conducted cohesively. They are in any event controlled with fire and released when the cohe-

sion is no longer required. The use of coordination points, in contrast to the use of lines, provides the subordinate commanders with freedom of action.

12066. **Barrier restricted areas** are areas in which the placing of obstacles is subject to restrictions in terms of time, place or type. This restriction is a coordination measure to allow for mobile operations in a later phase.

12067. **Security lines** indicate the outermost limit of security with posts and patrols by the (forward) battalions. Adjacent units must coordinate this action among themselves.

Intelligence

12068. The situation assessment begins with the **intelligence preparation of the battlefield**. Even at an early stage, thorough reconnaissance is indispensable. All collection units must, therefore, be deployed as much as possible in the depth of the enemy area. Commanders at all levels must have a good knowledge of the terrain in both their own sector and that of their higher commanders.

Before the defensive operation commences, the intelligence preparation of the battlefield will focus particularly on the enemy main effort and the availability of special equipment with which to overcome obstacles.

Manoeuvre

12069. The manoeuvre is described in sections 3 (Planning) and 4 (Execution).

Fire support

12070. The effectiveness of the defence depends on a carefully integrated and coordinated deployment of **fire support and manoeuvre**. The planning must incorporate the flexibility to concentrate the allocated fire support wherever it is needed. By concentrating, there is an accepted risk that less or even no fire support is available elsewhere. Flexible fire support requires the optimum use of the available target acquisition assets.

12071. The following considerations are important in the **fire support planning**:

- detailed coordination of the plan for the fire support with the plan for the manoeuvre and the obstacle plan
- engaging the enemy at the earliest possible stage in order to:
 - break the cohesion in his attack
 - reduce his capacity for intelligence collection
 - prevent him from concentrating his combat power
- support for friendly movements
- engaging enemy elements that have broken through
- distributing the fire support by setting priorities over the deep, close and rear operation

12072. Regardless of the type of manoeuvre, the fire support in the close operation is concentrated on the support of the main effort of the manoeuvre.

Protection

12073. To avoid detection and destruction by the enemy, **frequent movement** and rapid entrenchment are required. The chance of survival on the battlefield can be enhanced further by camouflage, deception, dispersal and field fortifications. Engineer units can support other units in this respect.

12074. **Deception** is designed to put the attacking enemy on the wrong track with regard to the friendly situation. By using dummy positions, dummy obstacles and electronic warfare, a false image can be created. The enemy must thus deploy a significant number of his assets against relatively limited combat power. Friendly troops are thus able to achieve a favourable position to inflict maximum damage on the attacking enemy.

12075. **Counter mobility** is the key for the defence, regardless of the form of manoeuvre. Meticulous preparation is necessary to preserve sufficient manoeuvre capability for the defending troops (such as a counterattack force or a reserve) on the one hand and, on the other, to limit the enemy's mobility in order to canalise him to areas which have been prepared for defence.

12076. A commander seldom has sufficient **engineer assets** to be able to implement all the necessary measures in respect of the defence plan in time. He must, therefore, set priorities regarding the various engineer tasks within his plan.

12077. Activities in respect of countermobility must be coordinated with direct and indirect fire. In this way, the enemy is denied the room he needs to manoeuvre and losses can be inflicted upon him. A rapid deployment of the counterattack force and/or the reserve must remain possible.

12078. The **maximum effect of obstacles** is achieved if they are part of a cohesive network and are permanently under observation and (in)direct fire. The obstacle plan is an integral part of the plan for the defence, which must be constantly adapted to the actual situation. Improvements and additions to the existing obstacles must be carried out in the course of the operation. Barrier restricted areas are established by the commander in advance, because he expects his offensive actions to take place there. The restrictions in these areas may relate to time, place or type of obstacle. Scatterable or artillery-delivered mines are vitally important for use in front of the attacking enemy to impede his progress at the last possible moment.

12079. Demolitions form an essential part of the barrier plan. It is usually structural works, such as bridges, which form **passages through barriers** and which must be destroyed as the enemy approaches. The enemy will try to capture these objects early, thus enabling a rapid continuation of the attack. Protection by a demolition guard and the demolition of such objects require many manoeuvre and engineer units. The number of reserved demolitions must be kept to a minimum.

12080. **Mobility-promoting tasks** in the preparations for the defensive operation focus on improving and opening the routes necessary for the conduct of the defence, including counterattack and logistic routes. Routes that have been damaged by enemy air and artillery attacks must be repaired, which may result in the use of engineer bridges, matting and heavy engineer equipment almost up to the front line. Making **corridors** through minefields requires close coordination to ensure that they are available or closed at exactly the right time. Lastly, offensive actions must be supported in order to breach barriers set up by the enemy.

12081. Depending on the enemy threat, measures must be taken in relation to NBC **defence**. Possible indications of enemy deployment of such assets include the termination of the attack or the withdrawal of units already deployed in the front. As regards the combat forces, a decision must be made as to whether they should continue their defence, release the positions locally and take evasive action or disengage from enemy. If units are affected by NBC weapons, the formation commander decides

what rescue and recovery measures are to be taken. All units that are still combat ready will attempt to prevent the enemy from gaining any further advantage from the deployment of NBC weapons.

12082. The assumption is that the enemy at least has local and temporary air superiority. The employment of **air defence** in the defensive operation must be geared towards the protection of the defending units. On the front line, the enemy will carry out air attacks at low and extremely low altitude. Priorities for air defence are the defending units, the reserves, any counterattack force and the routes along which movements take place. Multi-layered air defence is used for this, consisting of a combination of short-range weapon systems which can follow the manoeuvre and longer-range weapon systems to cover the depth. The other air defence assets must be in keeping with this and offer protection further in the depth against air attacks from higher altitudes. Command posts and logistic installations in particular must be given priority in this respect. Suitable areas for airmobile or airborne operations may also be included in the air defence.

In the front line, the enemy will carry out air strikes at low and extremely low altitude.

Photograph: Media Centre

RNLA



Service support

12083. Combat service support must create conditions for as mobile an operation as possible. The commander's intent must also be clear to the subordinate commanders and staff officials responsible for the service support. All service support operations must be designed to enable the operational units to achieve this intent.

12084. The following **considerations** apply in respect of combat service support.

- **Protection** of the service support installations is important, as the relatively static nature of the defensive operation makes them vulnerable. Service support activities take place on a large scale in the preparatory phase and represent a risk to operations security. Traffic movements in particular can give the enemy a good indication of the deployment of friendly units. The service support activities will, therefore, usually be performed at night. These activities may also, however, play a part in the deception plan.
- The **mobile defence** has only a very limited reaction time to adapt the service support organisation to a new situation. The combat service support must, therefore, be extremely flexible. During the deployment of the counterattack force, friendly units are confronted with time and space factors which are similar to those in the offensive operation. Thus the service support considerations and specific areas of attention of these types of combat also apply to the counterattack force. If the attack is conducted over a great depth, it is usually essential to set up intermediate or advanced service support installations.
- In the case of **area defence**, many service support assets can be concentrated in the front (either mobile or static). This may, however, result in the loss of these assets if troops have to fall back earlier than was expected.
- **Contingency planning** for a situation in which the enemy deep and/or close operation threatens the functioning of the service support system in the friendly rear area or via the flanks must form part of the plan.

12085. **Supply.** In the preparations for the defence, the storing of goods in **dumps** in the front of the deployment area is a realistic option. This way, the scarce transport capacity can be redeployed. The commander must be aware, however, that the task of concealing, camouflaging and protecting these stocks is time-consuming. In the mobile defence, dumping is not an option for the counterattack force. The necessary supplies will have to be kept with the user units or follow these units at

a short distance. In both cases, the stocks will have to remain mobile. During the preparatory phase, there is a considerable need for field fortification equipment, mines and explosives. These goods will usually be moved up to their destination by transport units (direct delivery). During the implementation phase, the emphasis will be on the supply of ammunition, particularly anti-armour, artillery and mortar ammunition. Most of this will be supplied during periods of lower combat intensity, as a result of which the requirement for transport means will increase temporarily.

12086. **Maintenance.** All maintenance activities are focused on making and keeping available as much essential equipment as possible. During the preparatory phase, priority is given to making essential equipment ready-available.

During the implementation phase, damaged or defective equipment will be repaired as close as possible to the point of breakdown, usually involving battle damage repair.

Armoured recovery means must be used to remove damaged and repairable equipment before it is captured by the enemy. If it is not possible to do so in time, this equipment must be rendered unusable.

12087. **Medical support.** The relatively static situation of the defensive operation provides a good basis for medical support. The medical installations can be set up fairly near the front and are generally operational before the flow of casualties begins. Highly mobile medical facilities can be set up in the main effort of the enemy attack.

The provision of medical support during the counterattack in the **mobile defence** requires special measures. Because turn-around distances can increase quickly and because medical installations are limited in their ability to follow a mobile operation, the use of helicopters for transporting casualties by air can be a great advantage.

Medical support is carried out **under regional responsibility**. Attacking units should, therefore, fall back as long as they can on previously deployed medical installations of units not participating in the attack.

Section 6 - Defensive operations in forests, built-up areas and limited visibility

Defensive operations in forests

12088. Forests favour defensive operations, certainly if the necessary preparations have been made. Defending in forests is only useful if the attacker, given the mission and the possibilities offered by the terrain, **cannot execute a turning movement** and has to capture the area in order to proceed. Making full use of the obstacle value of forests results in a **manoeuvre grouped over the full depth**. The preparations for defensive operations, particularly the reconnaissance and the selection and setting up of the positions, are normally very time-consuming.

12089. The defence commences in the **forward edge** of the forest. However, the fringe of the forest draws a great deal of direct and indirect enemy fire. Tanks and long and medium-range anti-tank weapons are flanked as much as possible or positioned in front of the edges. The (mechanised) infantry establishes its positions so **deep in the forest** that the enemy cannot attack them directly with armoured units, nor is he able to observe indirect fire. From **forward positions** on or in front of the forest edge, troops can combat the enemy approach. If this is not possible - because of the limited depth of the forest, for example - positions can be prepared on the edge and not used until later. The units for these positions are kept ready in assembly areas deeper inside or behind the forest. Good security and fire support must provide enough time to take up these positions in good time.

12090. If the enemy has gained a foothold in the forward edge, friendly troops fall back to positions deeper in the area. The **manoeuvre in the depth** of the forest is based on the (temporary) defence of positions which control the through-roads and paths. Positions in the forest must be located in such a way that:

- roads, paths and clearings are controlled
- the units can support each other
- all-round protection is possible

It is virtually impossible to control the entire area between the positions. Intensive patrolling, observation posts and unmanned sensors provide time and space to be able to respond in this area. The laying of artificial obstacles in this area costs a great deal of time and resources, while the effect against troops operating on foot is often limited.

12091. In **clearings** in the forest, armoured units are deployed to prevent the enemy from turning around forest sectors. These units are also deployed if, in the event of a successful enemy attack, friendly troops have to disengage to leave the area under cover. Tanks and anti-tank weapons of long and medium range are deployed at places with sufficient fields of fire, usually on and along paths and roads, in support of the infantry's operation from their positions. Tanks can also be deployed at a low level for anti-armour defence at locations under threat.

12092. If the enemy penetrates positions, he must be attacked with fire and counterstrokes. Immediate counterstrokes by **small, local reserves** are usually more effective than counterattacks started later. Counterattacks by armoured units are confined to clearings which offer sufficient space to carry them out.

If the enemy manages to penetrate deep into the defence area, uncommitted elements should be concentrated as quickly as possible to block the breach. Elements which still occupy their original positions conduct attacks on the enemy flanks.

When positions are released and troops move on to a delaying operation, the contact with adjacent units may be lost. In a forest, this quickly leads to the loss of cohesion in the higher level's defence.

12093. If there is a **limited number of friendly troops available**, the same unit will be forced to operate over the entire depth. In such a situation, the preferred option is a mobile operation with ambushes and raids, whereby the unit ultimately falls back to positions at or behind the exits from the forest, where a prolonged defence is possible.

Defensive operations in built-up areas

12094. Depending on their size and location, built-up areas can represent key terrain. The **obstacle value** and the concealment and cover make built-up areas an ideal backbone for a defensive operation. The defence of a built-up area is useful if the attacker cannot circumvent it. Urbanised areas are only involved in the defence if they are to remain inaccessible to the enemy and it is impossible to conduct or continue a defensive operation in front of these areas.

12095. Ideally, built-up areas are **not incorporated in the defence** if:

- there is insufficient combat power available for the defence
- holding the built-up area does not contribute to the overall defence plan

- certain buildings or areas (such as historical buildings or hospitals) make it impossible to conduct an effective defence within the built-up area
- the built-up area is dominated by an area situated at a higher level, from where more effective fire is possible
- it has been declared an 'open city' for humanitarian or political reasons

12096. Setting up a defence in a built-up area requires thorough reconnaissance. A great deal is also required in the way of field fortification equipment, some of which is available in the built-up area itself. Underground structures should also be involved in the defence, such as sewage systems, underground transport systems, cellars and garages.

12097. Even after a built-up area has been surrounded, it can still be held for a while provided that appropriate preparations have been made. In the **long term**, a defence can only be sustained if the built-up areas are part of a larger-scale, cohesive defence.

Defensive operations in built-up areas have a particular requirement for **(mechanised) infantry** and engineers. Most of the armoured units are kept on standby outside the built-up area to avoid being closed in. Urbanised areas are defended on the fringes and in the clearings in between. The main traffic arteries constitute the key terrain in these areas.

12098. The defensive operation starts **in front of the fringes** and focuses on mounted approach routes and on the enemy who is attempting to cut off the built-up area. Because enemy fire support will primarily be directed at this outer edge, armoured assets will be deployed on the flanks or in front of the built-up area. If this is not possible because of terrain conditions or the availability of assets, the forward positions should be located in the built-up area. Armoured units can prepare their positions on the fringe and take them up if necessary from assembly areas.

12099. Within the built-up area, the limited fields of observation and fire mean that not only **narrower sectors** are necessary, but also that personnel need to be concentrated. Positions should be prepared for all-round protection. The main priority is to hold positions; only then can the cohesion in the defence be maintained. The operation quickly turns into a large number of **smaller-scale combat actions**, during which the (mechanised) infantry conducts the battle in and around houses and

other buildings. Reserves must be kept ready locally and close behind the front line.

12100. The main effort should be established at the point which offers the enemy the best opportunity to penetrate deep into the defence area by means of wide roads or through non-urbanised terrain. In this terrain, the defence must be grouped in the depth and reinforced with anti-tank weapons.

12101. **Armoured units** are not normally deployed in concentrated formations in built-up areas. They have to work closely with the infantry and are thus mixed as far as team level. Assets must be kept ready at all times, however, to reinforce the anti-armour defence at threatened points.

12102. The **area between the positions** is integrated in the defence plan. As far as possible, this area is covered with fire, supplied with obstacles and secured by patrols and posts. This results in a cohesive defence, which prevents enemy penetration of the defence area if he has gained a foothold in the forward edge of the built-up area.

12103. The sector boundaries are chosen in such a way that entire streets, including the buildings on both sides, fall under the responsibility of

Defensive operations in limited visibility require intensive battlefield surveillance.

Photograph: Media Centre

RNLA



one unit. If a unit has to give up a **position**, another unit must have occupied a deeper position in order to take over the battle. This overlapping method of operating is recommended. The necessary rearward passage of lines must have been prepared. The plan for the manoeuvre must also have been drawn up in such a way as to ensure that the loss of a single position does not lead to the loss of cohesion.

12104. If possible, the enemy is halted in front of the positions by means of fire from different directions. If the enemy manages to penetrate the defence area, he should be engaged immediately by **local reserves**. Counterattacks are carried out before the enemy is able to consolidate. A rapid counterstroke at low level has more chance of success than a counterattack after the necessary preparation.

If there are no assets available for a counterattack, a built-up area offers countless possibilities for continuing the defence from deep positions. Where necessary, demolitions can be carried out in order to deny the enemy unrestricted use of the built-up area.

Defensive operations in limited visibility

12105. Defensive operations in limited visibility require intensive **battlefield surveillance** and sometimes adjustments in the order of battle of the combat forces. Technological equipment can help to prevent surprise.

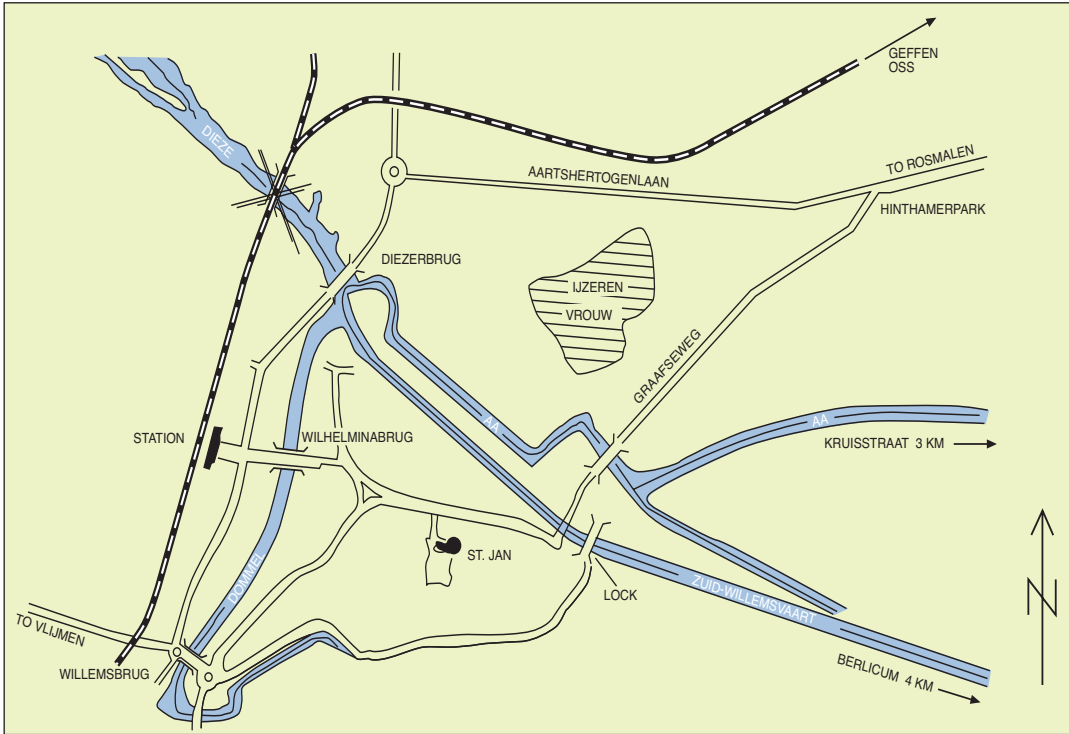
It may be efficient to bring the **reserves** up closer behind the front line or even reinforce the units in position from the outset. Counterattacks can only be carried out over a short distance. The objective should be at short range under these circumstances.

Limited visibility favours the release of positions.

Twilight demands full combat-readiness on the part of the troops in position, as this is a time when the attacker will take the initiative.

THE BATTLES FOR 'S HERTOGENBOSCH IN 1944

After Operation *Market Garden* in September 1944, a corridor from Valkenswaard to Grave in eastern Noord-Brabant had fallen into Allied hands. Given that the Allies had simultaneously reached the Dutch-Belgian border area over the full width, 15 (GE) Army was in danger of getting stuck in northern Noord-Brabant. The commander of that army, General Von Zangen, was particularly afraid of an Allied advance from the corridor, directly south of and parallel to the River Maas, over the axis from 's Hertogenbosch to the Moerdijk bridges. In that case, his



army would be cut off from any possibility of withdrawing northwards, behind the major rivers.

On 20 October 1944, Montgomery gave the order to clear Noord-Brabant, south of the major rivers of all German troops. Not until they had control of the whole of Noord-Brabant would the Allies be able to make unrestricted use of the connections with Antwerp which were so important for the logistic support of the subsequent operations. Montgomery had 1(CA) Army, under Lieutenant General Crerar, which was to advance from the south, and 2(UK) Army, under Lieutenant General Dempsey, which was to attack westwards from the corridor. In all, seven weakened German divisions faced nine Allied divisions and five Allied armoured brigades.

To Von Zangen's surprise, Montgomery's opening gambit consisted of an attack by 2 (CA) Corps in the southwest of Noord-Brabant. The Germans had first expected an attack on 's Hertogenbosch. This city was defended by 712 Infantry Division of 88 (GE) Corps, commanded respectively by Lieutenant General Neumann and General Reinhard. 712 Infantry Division was a coastal defence division and was thus neither trained nor equipped for mobile infantry combat. For that reason, the division was supplemented with parachute battalions. The division ultimately consisted of six infantry battalions, a reconnaissance battalion, an anti-tank company, an artillery regiment and an anti-aircraft battery.

On 22 October, 2(UK) Army finally went into action near 's Hertogenbosch. 53 Infantry Division, under the command of Major General Ross, launched the attack on the Brabant capital from the corridor at Geffen, under the code name 'Alan'. Two brigades moved parallel to the railway line from Oss to 's Hertogenbosch. Their southern flank was protected by 7 Armoured Division

(Desert Rats). This division drove the Germans out of Middelrode and Berlicum and, from there, approached 's Hertogenbosch on the road alongside the Zuid-Willemsvaart canal. After moving up reinforcements, the Germans managed to set up a blocking position on the Kruisstraat-Berlicum line during the night of 22-23 October. However, Allied superiority forced them to retreat in the course of 23 October. The resistance was nonetheless fiercer than Ross had expected. In the afternoon of 23 October, he made a new plan of attack: a night shelling of the city, followed by an attack by 158 Infantry Brigade over two routes, two regiments via the railway and one via the Graafseweg. It was particularly important to gain control as soon as possible of the crossings over three waterways that cut through 's Hertogenbosch (the Aa, the Zuid-Willemsvaart and the Dommel).

Via the northern route along the railway, one of the regiments reached the important Diezer bridge, over the point at which the Aa joins the Zuid-Willemsvaart. With the help of a local resistance group, this bridge fell into British hands on 24 October. The surprisingly rapid advance through the northeastern part of the city forced Neumann to evacuate his headquarters in Hintamer Park under enemy fire. Nonetheless, the German defence of the city centre remained intact. In the afternoon of 24 October, the Germans even managed to blow up the Diezer bridge in a counterstroke, in which assault guns were used. The Allies did manage to cross the Aa that day, but the front line stabilised along the Zuid-Willemsvaart that evening. The second bridge over this canal, Lock o, was blown up shortly after the first British tanks had driven over the Aa. Only by way of a footpath across the lock gates were a few infantrymen still able to establish a small bridgehead in the city centre.

Up to that point, Neumann had lost more than a thousand men. Reinhard asked Von Zangen for reinforcements in order to prolong the defence of the Brabant capital, but he did not get them. Meanwhile, the Allies had launched an attack over the entire width of the front in Noord-Brabant and the Germans had to deploy all assets to delay the attack so that 15 (GE) Army could still be deployed north of the major rivers later.

On 25 October, Ross ordered 158 Infantry Brigade to mount the attack on the Brabant city centre. 160 Infantry Brigade protected the northern flank. In the

..there was heavy urban fighting in the inner city that day...

Photograph: Imperial War Museum



command post of 158 Infantry Brigade, Ross set out his plan to his superiors, Corps Commander Ritchie and Army Commander Dempsey. From the small bridgehead at Lock 0, enemy elements were to be mopped up from the streets of the inner city. Anti-tank guns were to put the assault guns out of action. There was heavy urban fighting in the inner city that day. Germans had entrenched themselves in a few large buildings, which made things particularly difficult for the British. However, Ross foresaw that once the city had been taken, the biggest problem was yet to come. The Germans had destroyed the bridges over the Dommel in time, which meant that 158 Infantry Brigade would have trouble getting out of the city again on the western side.

In the evening of 25 October, Neumann reported that Hitler had personally ordered that 's Hertogenbosch be held "to the last man". However, the Germans were limited in what they could do. There were still 450 men available, split into two battalions. The only reinforcement that had arrived consisted of a few pieces of assault weaponry. On 26 October, the British attacked the part of the city to the east of the Dommel. The first breach of the German defences was down to an infantry unit which, under cover of a smoke screen, forced its way into the city near the station over the heavily damaged Wilhelmina bridge. There was an immediate counterstroke with the assault guns, as a result of which the British attack, which had in the meantime been reinforced with tank destroyers (M10), was brought to a halt on the Stationsplein. Help came from the south. After heavy preparation fire on the district on the other side, the British crossed the Willemsbrug in the southern district of the city with flame-thrower tanks. It still took half a day for this regiment to cross the few hundred metres to the station. At the station, the Germans stood their ground. Neumann had in the meantime heard that the German divisions to the south of 's Hertogenbosch had withdrawn; on 27 October, he nonetheless decided to carry out another counterattack. In the morning, eight pieces of assault weaponry moved from Vlijmen to the city. This attack was a fiasco. The assault guns were spotted so quickly by the British that four were promptly put out of action. This was the end of the attack. What was left of 712 Infantry Division returned to Vlijmen. To the surprise of Neumann and Von Zangen, the British did not continue the attack to the west. The attack on the Moerdijk bridges only got underway days later; even then, it was not from the east but from the south. The Allies thus gave the Germans an unexpected opportunity to get equipment and troops across the major rivers to safety. In the last few days of October, 712 Infantry Division crossed the River Maas and arrived in the Betuwe.

's Hertogenbosch was the only city in Brabant in which the Germans conducted a defence in a built-up area. The German operation was prompted by the importance of the city's location for the safe retreat of 15(GE) Army. The aim of the operation was to win time, but there were in fact too few assets available to achieve this. The Allies' lull in the battle did, however, lend a helping hand. At the tactical level, the Germans tried, once the defences at the edge of the city had been breached, to make use of the way the inner city was intersected. Water obstacles and small streets offered various possibilities for delaying the Allied advance. The Germans carried out counterstrokes on a number of occasions. Assault weapons and infantry turned out to be an effective combination for the defence of a town.

Sources:

- L. van Gent, *'Oktober 1944 - Den Bosch bevochten en bevrijd'*, 1989
 J. Didden and M. Swarts, *'Brabant bevrijd'*, 1994

Section 7 - Operations by encircled forces

12106. **Encirclement** is a situation in which the enemy controls the land lines of communications and supply to a unit. Brigades and certainly smaller units can be encircled in a mobile operation. The greatest danger of this occurring is in defensive or delaying operations in which an open flank exists.

12107. In the defensive and delaying operations, encirclement can be **deliberately accepted over a prolonged period**. This may be the case if key terrain has to be held in order to continue the operation. In any event, an encircled unit generally fixes a substantial enemy force.

Characteristics

12108. Encirclement has the following **characteristics**:

- attacks can be carried out from all directions at the same time
- any external combat service support can only be provided by air, as a result of which the level of combat availability will decrease rapidly and morale may be affected
- encircled units are vulnerable to artillery fire and attacks by air forces, as their positions are known and their manoeuvre space is limited
- it becomes more and more difficult for encircled units themselves to obtain timely and accurate information, so they become dependent on the higher commander in this respect

Planning

12109. If a unit is encircled, it should set itself up primarily for **all-round protection**. The following steps are taken in this respect.

- Firstly, the command and control must be organised unambiguously. There should in any event be a single command, which also extends to combat support and combat service support.
- The encirclement area is established. Within it, sectors are allocated to sub-units; the all-round protection is thus organised quickly.
- A reserve is formed and kept centrally in order to deal with unexpected situations and put enemy elements that penetrate the encirclement area out of action.
- Measures are taken for combat service support so that the encircled unit is able to conduct the operation for some time. These include the redistribution of supplies, rationing and possibly the preparations for receiving supplies by air.

12110. The higher commander determines how long the encircled unit can continue the operation. He then decides whether:

- the encircled unit will continue its defence until it is **relieved by other troops**
- the encircled unit will **break out** independently (possibly in combination with another attack by the higher commander to reduce enemy pressure on the unit breaking out)

In the absence of a decision by the higher commander, the commander of the encircled unit acts in the spirit of the higher commander's operational concept. In all cases, the perimeter protection must create the necessary time and space. The commander of an encircled unit may only decide to break out if this is in keeping with the higher commander's operational concept or if destruction of the encircled unit is imminent and there has been no communication with the higher commander for some time.

Defence by an encircled unit

12111. The defence is conducted according to the principle of the **defensive operation**. First the area to be defended (encirclement area) and the combat organisation are established. It will often be necessary to deploy assets quickly at the places most at risk, in order to avoid a split in the encirclement area. Areas which are less at risk should initially be secured until a cohesive defence is possible. It is essential to hold areas which are important for the defence and for making contact with friendly troops.

For the defence, it is on the one hand necessary to have sufficient fire and combat power simultaneously in all directions to prevent penetration by the enemy. On the other hand, it is seldom possible to ascertain the enemy's main effort in advance, so assets have to be taken from the units to form a strong reserve and prepare several main efforts in terms of fire support.

12112. The defence can only be successful if **cohesion** is maintained. Reserves are indispensable for blocking and conducting offensive actions. The commander continually forms new reserves, even if this means that the defending troops are weakened. He then maintains his defence by putting the units in positions in the depth of the area and thus shortening the front line. He must, incidentally, ensure that no ground is given up without an actual attack by the enemy. Lastly, it is important when making adjustments to take account of the follow-up operation.

12113. Ideally, **armoured units** are deployed in concentrated formations. However, the units will normally conduct the operation in a decentralised manner. In that case, preparations must be made for possible concentration. If there are no armoured units available as reserves, only small, local reserves are maintained.

Relief of encircled troops

12114. **Relief** from outside means that an attack by other troops is used to liberate the encircled troops. An encircled unit must ultimately be relieved if the cohesion of the entire operation is jeopardised or if the encircled unit can no longer liberate itself.

12115. The **plan of attack** requires extremely careful preparation and must be closely coordinated with the encircled unit. The plan of attack is based on the enemy situation, the distance to the encirclement area and the intent:

- to restore cohesion in the entire operation
- to enable the evacuation of the encirclement area

The attack should if possible take place in limited visibility. The encircled unit supports the relief action with fire and, if possible, with offensive actions. The attack is normally carried out on a narrow front in order to progress as quickly as possible. Once contact has been made with friendly troops, the encirclement area can be evacuated.

12116. The commander of the encircled unit determines the **order of priority** for evacuation. The support units in the centre go first, followed by the combat forces, by way of the corridor that has been cleared by the assault troops. They move to locations assigned by the higher commander.

Break-out by encircled troops

12117. The initial period after troops have been encircled is the **most favourable** for conducting a break-out because:

- the enemy has not yet brought the encirclement up to full strength and is not yet prepared for blocking a break-out
- friendly combat power is still up to the required standard
- the distance to friendly troops is still short

12118. The break-out should **surprise** the enemy. This requires preparation, whereby the principles of the offensive operation apply. The combat organisation of the encircled troops will have to be adjusted. The all-round protection should be maintained until the attack commences.

12119. The location and direction of the break-out must be chosen so that use is made of areas that are less densely occupied by the enemy, even if this is not the shortest route or if the route passes through unfavourable terrain. If successful, the break-out is continued as a retreat. A break-out in more than one direction fragments friendly combat power. This option is only considered if a concentrated break-out offers no chance of success and encircled troops have to exfiltrate in small units to friendly territory.

A break-out in limited visibility restricts the enemy's insight into the intentions and hampers his countermeasures.

12120. The **task organisation** should be selected in such a way that armoured units carry out the attack. The commander of the encircled unit determines the order of the units and designates the rear guard. The reorganisation, including the release of the positions, takes place as close as possible to the time of the attack. Combat service support units are placed under the OPCON of the combat units.

12121. During the break-out, non-combat units follow closely behind the combat units that are conducting the attack. Flanks are protected. If the encircled troops consist mainly of non-armoured units, the attack should be carried out in phases. The release of the positions in the encirclement area and the actions by the rear guard must be closely coordinated with the progress of the attack.

12122. The higher commander should, if possible, **mislead** the enemy about the location and direction of the break-out. Preparations must be made for **making contact** with friendly troops and the forward passage of lines of the troops breaking out.

12123. A break-out can be **combined** with a relief action. This requires close coordination by the higher commander.

Functions in military operations

Command and control

12124. Permanent communications between the encircled units and the higher commander and other units outside the encirclement area are indispensable. Only then can the operations be coordinated. If no radio or satellite connections are available, it may be possible to use local civilian communications. These can, however, be intercepted.

Intelligence

12125. Intelligence collection is extremely important for an encircled unit. The higher commander will have to go to great lengths in this respect, given that the commander in the encirclement area is restricted in his freedom of action. The latter will himself have to collect information with reconnaissance patrols.

Manoeuvre

12126. See paragraphs 12106 to 12123.

Fire support

12127. The fire support units must be able to provide close support at all times. It must be possible to deliver all-round fire from the position areas. Fire support units on the outside can provide supplementary fire support. If the distance to friendly troops is too great, close air support is the only option.

Fire support for the relief action or the break-out is similar to that for an attack or advance to contact. The available air support should ideally be employed against enemy reserves that may attack the relief troops or those that are breaking out.

Protection

12128. During the defence, the emphasis is on countermobility and protection. A large part of the engineer capacity can also be kept in reserve for deployment in the event of unexpected enemy threats. During the relief action or break-out, the emphasis is on mobility. Engineer support will have to provide for making passages through enemy and possibly friendly obstacles. For the break-out, the rear guard should also include engineers with a countermobility task.

Service support

12129. Centralized control and rationing of all supply categories is essential in the encirclement area. The higher commander continues to be responsible for the combat service support for the encircled unit. An encircled unit can usually only receive support by air. The combat service support is normally limited and sporadic. Medical support in the encirclement area should also be centrally managed.

13

Delaying operations

Section 1 - General

1301. The delaying operation is a form of combat whereby terrain is surrendered under enemy pressure. This is to reduce the enemy momentum and inflict maximum losses on the enemy, while maintaining one's own freedom of action. To this end, the delaying operation may have one or more of the following **objectives**:

- to win time
- to canalise the enemy to areas where he is vulnerable to (counter)attacks
- to avoid decisive combat contact under unfavourable conditions
- to ascertain enemy intentions and his main effort

A delaying operation creates the conditions for a **follow-up operation**. What was initially the delaying unit may also take part in this, as long as the losses incurred have remained limited.

Section 2 - Characteristics

1302. The delaying operation is generally conducted in the context of an extremely unfavourable **combat power ratio**, in which the enemy will normally have air superiority. The operation is conducted in sectors that are so wide and deep that they cannot be controlled at all points. More than in the other types of combat, commanders are forced to take risks in a delaying operation. On top of that, the enemy superiority poses a threat to the friendly mental component. Giving up terrain, seeing only limited enemy losses and being under constant pressure can be extremely damaging to the morale and discipline of delaying units.

1303. The unfavourable combat power ratio results in limited options in the decision-making process. This ultimately imposes restrictions on **mission command**. More than in other types of combat, commanders should delegate as much freedom of action as possible in delaying operations.

1304. The opponent is delayed most by being forced to deploy repeatedly. The use of (natural) obstacles produces a considerable advantage in this respect.

The mobility in the delaying operation is determined not only by friendly assets but also by the **terrain**. The terrain can be regarded as favourable for delaying operations if:

- it causes maximum obstruction to the enemy because of natural obstacles
- it allows an alternation of positions, temporary defence, offensive actions and the use of obstacles in the course of the friendly operation

Certain areas are more suitable for a mobile operation, while others favour a static method of operating. The delaying operation thus constantly alternates between mobile and static operations.

Extremely open terrain with few obstacles results in a highly mobile form of delaying operation, in which the issue of maintaining cohesion is a complicating factor.

Extremely open terrain with few obstacles results in a highly mobile form of delaying operation.

Photograph: Media Centre RNLA



Densely covered and intersected terrain produces a more static form of delaying operation. The deployment of reserves is thereby limited because of the lack of room for manoeuvre. There is also a greater risk of being bypassed in such terrain.

1305. The **enemy operation** will concentrate heavily on maintaining speed and driving deep into the sector. His deep operation will focus on

determining the most suitable avenues of approach and on the early occupation of those areas which will benefit his progress. Account must, therefore, always be taken of actions by advanced task forces, possibly combined with airmobile actions, focusing on key terrain, river crossings, defiles, etc. In the close operation, the emphasis will be on moving up troops as fast as possible in march formation. The enemy will make as much use as possible of through-roads in column formation. He will not attack until he is forced to do so. The enemy operation's main effort is initially difficult to ascertain. The aim is more to achieve progress with the greatest possible speed than to capture parts of the terrain or put the opponent out of action.

1306. The main problem in the delaying operation is the preservation of the **freedom of action**. A condition for this is that most of the unit avoids being fixed. A unit is fixed if it can no longer free itself with its own assets. The temporary fixing of (parts of) the unit is, however, often inevitable. The freedom of action can be restored by giving up terrain or by conducting offensive actions.

1307. Delaying operations can be conducted under the following **circumstances**:

- in the defensive, in which troops situated in the depth in a defence area are given an opportunity to prepare the defensive operation
- in respect of canalising and fixing in the mobile defence, in order to create the conditions for a counterattack
- to fix or contain an attacking enemy in an area in which initially no enemy action was expected
- in the context of a retreat, whereby the primary objective is the protection of the rearward movement of the main force
- as a deception operation, prior to a counterattack
- after an advance to contact in which there is an unexpected encounter with a considerably stronger enemy and an offensive or defensive operation offers no prospect of success

The delaying operation can focus on winning time or on attrition. The commander who orders the delaying operation indicates his intent in terms of gaining time or inflicting losses.

Section 3 - Planning

Operational framework

1308. The **operational framework** in the delaying operation is characterised by a geographical shift from the deep, close and rear operation to the depth of the allocated area. This geographical shift makes the

coordination and synchronisation between the operations highly complex. Although it is possible in the planning phase to draw up a satisfactory plan based on the time that has to be won, during the implementation some areas will turn out to stay under friendly control longer, while others will by contrast fall into enemy hands more quickly.

Deep operation

1309. The opponent will operate as much as possible in non-deployed formations over **through-roads** which offer him the greatest possible speed. The deep operation helps towards the aim of the delaying operation if it focuses on vulnerable objects on these routes, such as river crossings and defiles, and on enemy concentrations awaiting movements.

1310. The deep operation will concentrate primarily on the **main enemy force**, the idea being to intercept it before it engages in combat in the close operation. This activity should be sustained over the full depth of the delaying operation.

1311. It is precisely the deep operation that offers the possibility of attacking the **mental component** of the enemy. The right concentration in the deep operation can force the enemy to make unforeseen decisions. This costs him a great deal of time, which always helps, directly or indirectly, to achieve the objective of the delaying operation.

1312. Units may be ordered to allow themselves to be **passed** by the enemy so that they can then carry out reconnaissance in the depth, disrupt the enemy's operation in the depth and, lastly, return to friendly troops.

1313. The deep operation in the delaying operation will be closely related to the deep operation of the formation carrying out the **follow-up operation**. In the preparatory phase and during the execution, this must be constantly coordinated.

Close operation

1314. A typical characteristic of the delaying operation is a lack of assets. A **concentration of assets** at the right time and in the right place is thus a decisive factor for a successful delaying operation. To achieve this, a constant supply of accurate intelligence is essential. By identifying the enemy as early as possible and keeping him under observation, he can

be attacked effectively at long range by a concentration of manoeuvre and fire power.

1315. The broad and deep sectors and the concentration of assets at a particular location and time result in a situation in which there is only limited combat power available for other parts of the sector. Constant surveillance must be provided for these areas, and the commander will have to keep a reserve to operate there if necessary.

It is also important to have control of **critical points**, such as defiles and bridges on the return routes. Although the delaying units are themselves responsible for the security, other units may be assigned for this purpose.

1316. Although the initiative lies with the opponent, the delaying formation must use every opportunity **to operate offensively**. This may be done by conducting counterattacks at lower levels. These offensive actions may also unbalance the enemy's mental component in the close operation.

1317. The **freedom of action** can be benefited by grouping assets in the depth and by creating flexibility in the combat support. Other aspects which benefit the freedom of action are:

- adequate allocation of time and space
- sufficient means and capabilities to intervene, such as mobile reserves and combat support
- good coordination between the levels and with adjacent units
- reconnaissance and sufficient protection to prevent surprise being used by the enemy

The following aspects are also important at lower levels:

- opening fire at as long a range as possible and availability of obstacles (which can be set up quickly), combined with fire
- restricting enemy observation and fire and masking friendly movements (for example by using smoke)
- offensive actions

1318. In the close operation, there is particular emphasis on **operations against enemy advance guards**. These advance guards must be repeatedly engaged at the maximum range of the available weapons systems over as short a period as possible and at a surprise time and location. In this way, friendly troops maintain their freedom of action. There may also be opportunities at the lower levels to attack advance guards from positions on the flanks. Fire is then opened at less than the maximum

range. Special measures also need to be taken for the release of these positions. It is precisely this repeated pressure on the enemy to change from a march formation to a deployed formation that leads to gains in time.

1319. Predominantly **open terrain with few intersections** is favourable for tank (heavy) units and attack helicopter units. In this terrain in particular, the enemy advance guards can be engaged at long range, after which positions can be re-occupied in the depth or on an enemy flank.

1320. **Covered and heavily intersected terrain**, forests, built-up areas and mountainous terrain require (mechanised) infantry. In these types of terrain, the enemy advance guard should repeatedly encounter positions and be forced to prepare for an attack. The operation is conducted from successive, prepared positions. The (mechanised) infantry releases its positions covertly in order to take up new positions in the depth in one continuous movement.

The light infantry's lack of protection means that the release and subsequent movement have to be meticulously planned. Mobile actions can also be conducted against enemy infantry on foot. Good security is absolutely essential in such terrain. Offensive actions here usually take the form of ambushes.

1321. **Airmobile units** can be deployed in the delaying operation, whereby in principle the restrictions of non-armoured units apply. Particularly as a reserve, they are able to move and deploy quickly and thus concentrate combat power at critical points.

1322. **Attack helicopters** are particularly suitable for:

- conducting independent combat actions in the main effort of the delaying operation
- controlling large areas
- obtaining freedom of action in critical situations by carrying out offensive actions

1323. **Offensive actions** can be carried out if enemy elements can be put out of action with minimum losses to friendly troops. Such an opportunity mainly arises if enemy elements have become isolated, if the enemy is barely using his momentum if at all or if he can be surprised.

1324. In terrain which enables combat cohesion to be maintained or restored and/or which offers the possibility of inflicting substantial losses on the enemy by means of a temporary defence, **delay lines** can be

Offensive actions can be carried out

Photograph: Media Centre RNLA



established. These represent a means of coordination for static operations.

Ideally, the delaying operation begins with a phase of temporary defence, whereby the start of the delaying operation can be coordinated. By dividing it into phases, a commander is able to conduct and influence the operation in a coordinated way.

These defensive operations and combat actions, which are limited in time, are conducted from relatively wide and shallow sectors. The preferable choice of positions is behind (natural) obstacles. For the release of these positions, there should be possibilities for covered rearward movement. The temporary defence must be conducted in such a way that:

- the main avenues of enemy approach are controlled
- the enemy advance guard is stopped with anti-tank weapons, in combination with (natural) obstacles, while inflicting the heaviest possible losses

Apart from that, a delay line must also be chosen and set up in such a way that it enables troops to hold out longer if advantage can thus be taken of success elsewhere in the sector.

1325. The **mobile delaying operation** consists of a succession of coordinated defensive and offensive actions, combined with rearward movements. Its execution is decentralised at battalion level and lower. Constant access to good retreat routes is highly important. The offensive combat actions will often consist of counterattacks with a limited objective or of counterstrokes.

1326. During the mobile delaying operation, **reserves at lower levels** are deployed for offensive actions or to take over combat contact from units that are disengaging. This is to preserve cohesion in the operation. The reserves may also have the task of blocking and destroying an opponent in an area which was originally controlled with limited means.

1327. If an **extremely wide sector** is allocated, it is highly important that a main effort is formed and reserves are kept. There should be local and temporary concentration in order to defeat as many enemy elements as possible. Disengagement should follow, so that a new concentration can be set up elsewhere. In parts of the sector which are occupied with limited assets, the enemy should be fixed until reserves are in a position to defeat him.

1328. The **main effort** is established during the decision-making process. This is situated opposite the enemy's likely main effort. In the course of the operation, this assumption may prove incorrect or the enemy may shift his main effort. The plan should be flexible enough to allow an adequate response to such a change in the enemy main effort. After all, if the enemy is delayed or even halted in his main effort, his plan will be disrupted.

1329. The **combat organisation** is largely determined by the need for the concentration of assets at the most likely avenues of enemy approach. However, this gives rise to unoccupied or sparsely occupied areas. Combat units need to be assigned for the surveillance of these areas. Large areas which are difficult to oversee may necessitate the formation of battalion task forces which can conduct combat independently.

Rear operation

1330. The enemy deep operation is designed to increase his tempo through the use of deep fires, airmobile actions and advance task forces. The rear operation is thus mainly directed against the operations of enemy airmobile units and advance task forces. The security of the rear area will in the first place have to be achieved with passive measures; in particular the choice of location of non-combat units must contribute towards surveillance, which should give as much area coverage as possible. Reserves must also be available for the rear operation. Units located in the depth to take over the combat at a later stage can be temporarily designated as reserves. The deployment of these units in the rear operation, however, results in the disruption of the original plan.

1331. Specific to the delaying operation is the fact that at the beginning the allocated area of responsibility will have **great depth**; it will be deeper than is necessary for friendly manoeuvre and the accommodation of non-combat units. Ideally, the higher commander will move the rear boundary of the delaying formation forward temporarily or assign the protection of the area in the depth to another unit.

Forms of manoeuvre

1332. Two **forms of manoeuvre** can be used in the delaying operation:

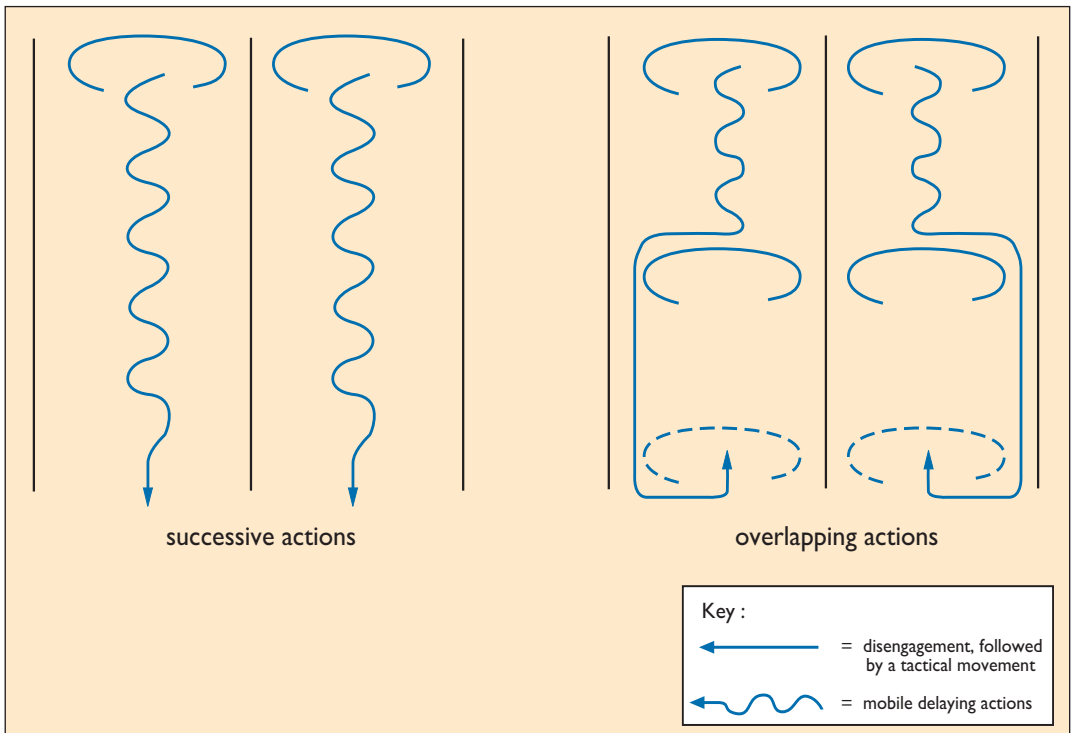
- successive actions
- overlapping actions

Combinations of the two forms are possible.

1333. In the case of **successive actions**, a unit is deployed over the full depth of the allocated delaying sector. A typical feature of this form of manoeuvre is maximum decentralisation and thus also the limited capacity of the higher commander to made adjustments. The advantage is that any passage of lines is avoided.

Figure 5.
Diagram of the forms of manoeuvre in the delaying operation.

1334. In the case of **overlapping actions**, the delaying operation in the depth of the allocated sector is transferred from one unit to another.



Typical of this form of manoeuvre is that the commander can influence the course of his delaying operation by transferring combat contact. The higher commander can thus adjust the manoeuvre. The advantage is that the enemy can be engaged again in the depth by units that have not been deployed previously.

Mental component

1335. The considerable enemy superiority in the delaying operation poses a threat to the mental component of friendly forces. In this form of manoeuvre, therefore, close attention must be paid to the cohesion and discipline within the delaying formation. In the planning, the commander can **promote morale and cohesion** by taking the following steps.

- Drawing up a sound plan, in which all available assets are used and which provides all levels with opportunities for offensive actions.
- Selecting a form of manoeuvre in which units periodically have a prolonged period without combat contact.
- Explaining to all personnel what is happening and why. Certainly in these circumstances, a lack of understanding of the commander's intent will result in rumours and disquiet, particularly in the rear area. This may be intensified by an air strike or subversive activity in this area.
- Setting up a reliable logistic system and maintaining it, particularly with regard to medical evacuation. Helicopters can play a key role in this respect.
- Establishing an effective tactical movement control system.

Section 4 - Execution

1336. The delaying unit needs timely and reliable **intelligence**. To obtain it, the formation needs to deploy reconnaissance elements with sufficient strength. At the beginning of the combat actions, these units can operate as collection units in order to provide the most accurate information possible about enemy activities. As the operation progresses, these reconnaissance elements can also conduct surveillance of flanks and areas outside the main effort.

1337. At the **earliest possible moment**, the delaying units engage the enemy, whereby maximum fire is used to inflict as many losses as possible. Opportunities for offensive actions arise when the enemy has passed an obstacle or when his forward units are temporarily separated from the following units.

1338. A formation may only **disengage** if this is in keeping with the higher commander's intent or if explicit orders are given to this effect. This is the only way in which the higher commander is able to maintain cohesion in his operation.

1339. If it is impossible to ascertain the location of the enemy's main effort in advance, a strong **reserve** is maintained. Once the main effort has been identified, the sector width, the combat organisation or the form of manoeuvre is adjusted during a temporary defence phase. As a rule, during the mobile delaying phase only reinforcing occurs.

1340. **Possible ways** for commanders to **intervene** during the execution are:

- deploying reserves for reinforcement or offensive actions
- allocating extra fire support
- deploying armed helicopters in combination with fire support
- adjusting the time scale
- making adjustments of the sectors, the combat organisation and/or the form of manoeuvre

1341. Within the delaying operation, **combat contact** can be **broken off** by:

- withdrawing via a position occupied by another unit
- disengaging when the enemy has been unbalanced (by offensive actions and/or shelling) and is thus unable to follow immediately

....whereby mutual fire support is possible.

Photograph: Media Centre

RNLA



The most important decision is that regarding the right moment for the release of a position. This must not happen too soon, as it could result in the failure to achieve the maximum delay. Neither must it take place

too late, as this would increase the risk of being fixed and incurring heavy losses, thus losing the freedom of action. Counterattacks may be necessary to free fixed units.

1342. The rapidly changing situation during the delaying operation means that **close coordination** between adjacent units is essential, whereby:

- the location and manoeuvre of friendly troops is known and fratricide prevented
- mutual fire support is possible
- the enemy situation and his intentions become clear

1343. The manoeuvre of a delaying formation to an area in which another formation takes over the responsibility, the **rearward passage of lines**, is a critical moment. For this reason, the units involved agree upon a hand-over line, which follows easily identified terrain features. The higher commander identifies this. The hand-over line also serves as the rear boundary of the unit passing the lines.

1344. If the delaying operation is followed by a defensive operation, elements of the defensive formation will be deployed up to the **hand-over line**. The enemy must be kept in the dark as long as possible with regard to the place and time of the hand-over of combat contact. The defensive formation's movement through the defence area must be prepared and planned in detail.

THE BATTLES IN THE GOLAN HEIGHTS BETWEEN 6 AND 9 OCTOBER 1973

Since the 3rd Arab-Israeli war of 1967, the Golan had been in Israeli hands. This territorial victory meant that, for the first time, the Israelis had some, albeit limited, strategic depth and thus manoeuvre possibilities in any subsequent war with Syria. The Israeli operations in the Golan from 7 to 9 October 1973, when the war indeed came with a great deal of strategic surprise, were characterised by canalising and fixing a superior attack with the objective of winning time and creating conditions for a counteroffensive. The Israeli army had to react quickly in an area of limited strategic depth and against an opponent that was superior in terms of equipment. To give an impression of the Israeli operation, the delaying action on the southern part of the Golan front, where the Syrian attack was most successful, is described at various levels.

On Saturday 6 October 1973, Yom Kippur, there were two Israeli brigades on the Syrian border in the Golan Heights. The northern boundary sector, from Mount Hermon to Kuneitra, was occupied by Colonel Gal's 7 Armoured Brigade, which consisted of three battalions and was equipped with Sherman tanks. In the south as far as the settlement of Ramat Magshimim was Colonel

Shoham's 188 Armoured 'Barak' Brigade with Centurion tanks. Together, the brigades had 177 tanks supported by eleven artillery batteries. Both brigades belonged to 36 Armoured Infantry Division under the command of Brigadier General Eitan, whose command post was based some ten kilometres behind this line in Nafekh. The division structure in peacetime only existed on paper and was only activated in wartime. The high command of the northern front was in the hands of Major General Hofi. During the fighting, Eitan and Hofi, both of whom had a parachutist background, were in Nafekh. The Israeli plan was to conduct a temporary defence from the seventeen bunker complexes on the demarcation line, followed by a mobile delaying action, supported by the air force. The time gained was to give reserve units the chance to move to the front. As long as there was enough warning time, the Israeli high command believed they would be able to withstand a force three times greater than their own.

From the point of view of the delaying operation, the actions of 188 Armoured Brigade against the attack by 9 and 5 Syrian Infantry Divisions were particularly important. These divisions managed to make the deepest penetrations of the Israeli lines and were eventually driven out of the Golan Heights by Israeli counterattacks. A Syrian infantry division consisted organically of two infantry brigades, a mechanised brigade and an artillery brigade. In this case, 9 and 5 Infantry Divisions had each been assigned an independent tank brigade. 5 Infantry Division was under the command of Brigadier General Ali Aslan and 9 Division under the command of Colonel Tourkmani. In the north of the Golan front, another attack was launched by 7 Infantry Division. The three divisions had orders to penetrate the Israeli front as a forward division. 3 and 1 Syrian Armoured Divisions would then pass through the infantry divisions and continue the attack in the depth, across the Jordan bridges.

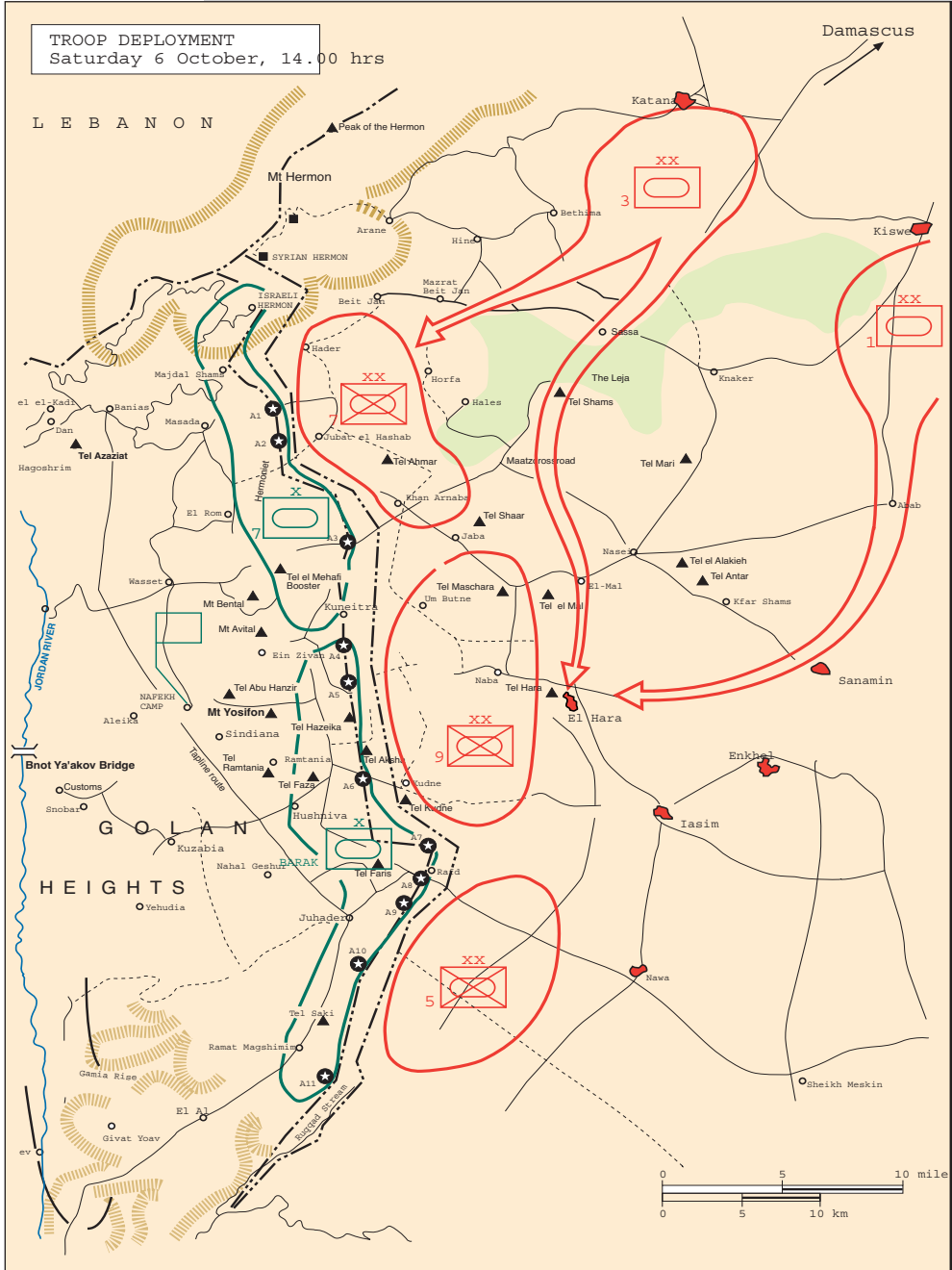
There were several distinct phases in the first two days of the Israeli defensive in the Golan:

- resistance from the fortified positions on the outer edge of the demarcation line
- counterstrokes against the first Syrian breaches
- taking up positions in the context of the mobile delaying operation
- moving up reserve units, which immediately took up blocking positions on the Syrian approaches
- offensive phase

Hofi was aware that an attack on the Golan would be highly dangerous for Israel. He focused particular attention on the northern sector with the town of Kuneitra and the road to the Bnot Ya'akov bridge. It was there that he would be best able to counter the Syrian attack. The southern sector contained relatively weak units who were less familiar with the terrain; the most critical situations would, therefore, arise in that area.

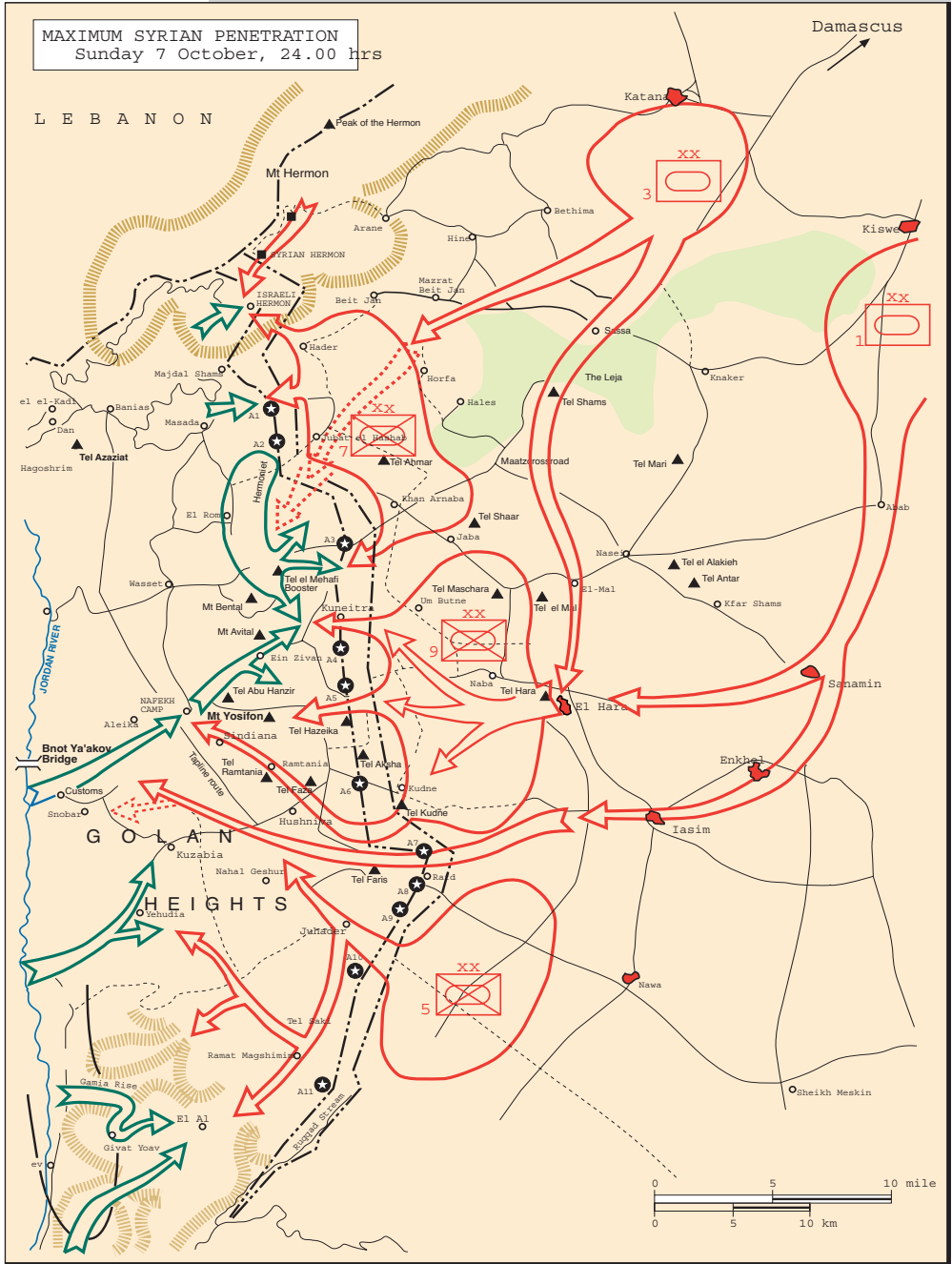
In the early afternoon of 6 October 1973, the battle for the Golan commenced. By the time darkness fell, the first Syrian units had broken through the forward Israeli lines. A dangerous breach was carried out at the level of Hushniya (Kudne Gap) by the tank battalion which was operating as the advance guard of 9 Syrian Division. The Syrians found themselves among retreating and isolated Israeli units. The Israeli artillery also drew back. Shoham lacked the reserves to organise counterattacks of any significance, while the Syrian advance guard veered to the northeast after the breach in order to push through via Nafekh to the Jordan bridge at Bnot Ya'akov. It was only by using

tanks in concealed positions, which opened fire from an ambush on the column of Syrians, that the Israelis managed to bring the attack to a temporary halt at around 22.00 hrs. Another threat was posed by 5 Syrian Division, which was approaching Juhader by way of the Rafid Gap, which was open and could be easily negotiated by tanks. Hofi realised at about 16.30 hrs that the breach of the sector of the southern 188 Armoured Brigade was the most dangerous



DELAYING OPERATIONS

and that the front near the northern 7 Armoured Brigade was more stable. However, the arrival of the first reserve units gave the Israeli commanders some leeway. Units were assembled on an ad hoc basis to stop the Syrian penetration. Eitan gave orders to halt the Syrians in the Tel Hazeika - Yosifon - Kuzabia - El Al line. That was to be achieved with a number of linked blocking positions on the most likely avenues of Syrian approach to the Jordan bridges.



At the same time, the commander of 9 Syrian Infantry Division, Tourkmani, attempted to expand his breach. He noticed that the north-bound road to Kuneitra, following the ambush at 22.00 hrs, was no longer closed and decided to proceed in that direction. Given that Shoham had no more troops available, Eitan ordered a tank battalion of 7 Armoured Brigade to close this gap. This battalion, under the command of Captain Zamir, laid an ambush in which 25 Syrian tanks from 9 Infantry Division's mechanised brigade were destroyed. The Israelis were nonetheless unable to prevent Tourkmani from gaining control of two key points during the night of 6-7 October: the town of Hushniya and an intersection on the Petroleum Road, the road alongside the Trans-Arabian Pipeline (from the Persian Gulf to the Lebanon), which linked Nafekh with Shoham's command post in Juhader. The southernmost Syrian attack (5 Infantry Division) had now reached Ramat Magshimim.

In the early morning of 7 October, the second day of fighting, the Israelis assessed the situation in the Golan as follows. In 7 Armoured Brigade's sector, where the main effort had been established in the preparation, the situation was the most stable. No breach had (yet) occurred there. In the far south, 188 Armoured Brigade had had to yield ground on its right flank to 5 Syrian Infantry Division, even though no breach had yet occurred. The most dangerous was the situation in the centre, on 188 Armoured Brigade's left flank. There, the enemy breach was more or less complete and, if continued, the command post in Nafekh would be at risk. If the Syrians had any further success here and reached the bridges over the River Jordan, 7 Armoured Brigade would be cut off.

For Tourkmani, the favourable situation had paradoxical aspects. His 9 Infantry Division was the weakest of the three Syrian forward divisions, but it was his flanks that actually lay open because 7 and 5 Infantry Division to his left and right stayed behind. His own reconnaissance units did not encounter any resistance and got the impression that they were operating in an 'empty' area. He decided to continue the advance, but early in the morning of 7 October, his forward units came face to face with the unprepared Israeli blocking positions which, because of the influx of mobilised reservists, were gradually getting stronger. The confrontations there were characteristic of the Israeli operation in the next phase of the fighting.

Shortly after 05.00 hrs, Task Force Sarig, under the command of Colonel Sarig, launched an attack from the Arik Bridge on the road to Kuzabia and Hushniya against one of the forward units of 9 Division, which had approached to within ten kilometres of this important bridge. This was considerably nearer than Eitan suspected. Near Kuzabia, Sarig destroyed 15 Syrian tanks and put an end to this threat. The next threat was an attack on Nafekh by another forward unit. In the vicinity of Sindiana, Task Force Baruch was waiting. This task force consisted of only a few tanks under the command of Major Baruch Lenshner. The tanks were positioned in a dry river bed and made use of the cover offered by the terrain. They faced a Syrian force ten times more powerful. After they had destroyed a number of Syrian tanks, the main Syrian force moved around the Israeli position. However, Lenshner gave orders for a new blocking position to be taken up and, after he had further weakened the Syrians there, their attack came to a virtual standstill. Lenshner still had two tanks left at that point.

At 03.00 hrs, 1 and 3 Syrian Armoured Divisions, equipped with T-55s and T-62s, received orders to exploit the territorial gains by 9 Division. The first tanks reached Hushniya at 09.00 hrs, despite Israeli air attacks. Two hours later, they reached the area in front of Nafekh. In the meantime, Shoham had formed two columns from the reserves that had arrived there - one for the Petroleum Road, which he led himself, and one for the road via Sindiana to Hushniya under the command of Major Dan Pesach: both, thus, in the direction of the Syrian penetration sector. Meanwhile, Eitan assembled all remaining infantry to set up perimeter protection around Nafekh. The two Israeli tank columns failed to stop the Syrian advance. After engagements lasting several hours, they were forced to report at 13.30 hrs that Syrian tanks had driven through their positions and were posing a direct threat to Nafekh. The El Al - Kuzabia - Mt Yosifon - Tel Hazeika line turned out to be untenable. Shoham received orders from Eitan to disengage and return to reinforce the perimeter protection of Nafekh. Shoham was killed during this action. Eitan moved his headquarters a few kilometres northwards. The Syrians turned Hushniya into a service support area for 1 Armoured Division and 5 Infantry Division.

In the meantime, the blocking positions to the north and east of Nafekh were taking shape. Here, the fighting was mainly for control of Kuneitra. Parts of 679 Armoured Brigade under Colonel Uri Orr arrived and the tank units already present in this area were placed under his command. This meant that Orr had 22 Centurion tanks. This build-up took place under constant pressure from one of Tourkmani's units, which was preparing a drive northwards to Kuneitra. Orr's unit gradually built up its combat power, but occasionally tanks that were on their way to him were first sent to Nafekh to reinforce Shoham. Orr knew nothing about this.

The crisis on the Israeli side reached a climax when Eitan decided that he would surrender Nafekh if necessary. Only a rapid movement of all Orr's units from Ein Zivan (southwest of Kuneitra) to Nafekh was able to prevent this. Orr left three tanks behind to guard the road to Kuneitra and moved quickly with the other fifteen to Nafekh, which he approached at approximately 16.00 hrs. There, the staunch Israeli defence had taken the momentum out of the Syrian attack. Minefields had also helped. After fierce fighting, Orr managed to save the command post. After the situation had stabilised, he sent eight tanks back to Kuneitra to block the Syrian advance. This was also a success.

In the course of 7 October, the Israeli defence took shape and gained cohesion with the arrival of more reserve units. This was a setback for the Syrians, whose plan was based on capturing the Golan so rapidly that a counterattack would no longer be possible. That counterattack was now imminent. In the light of that, first the command relationships were re-established. The southern part of the Golan fell under the responsibility of Major General Laner, so that Eitan could concentrate on the northern sector. Laner had the blocking positions extended, using 14, 17 and 19 Reserve Brigade and what was left of the units that had fought in the area. Without a staff, he directed units, who often reached the Golan in platoons via the Arik bridge, to their positions. He even regrouped units that were already present in the Golan. Task Force Sarig was assigned tanks from various units and received orders to recapture the Kuzabia-Hushniya route. By 13.00 hrs on 7 October, Laner had thus succeeded in getting enough troops to set up positions on the crucial avenues of approach. With the arrival of Colonel Porat's 9 Armoured Infantry Brigade (reserve), which had been assigned a battalion of Sherman tanks, it even became possible to launch the first significant counterattack. Immediately

upon arrival in the Golan, this unit was deployed in the Ramat Magshimim - El Al area. The units of 5 Syrian Infantry Division that were there were forced to disengage. Israeli units from 188 Armoured Brigade, which had become isolated near Tel Saki and Tel Faris behind the Syrian lines, were now able to fall back on Porat's unit. Further to the north of the sector, seven Israeli tanks managed to stop the Syrian attack on Kuneitra. Another Syrian advance, intended to support the northern attack by 7 Infantry Division, was forced to change direction at Nafekh on 8 October. The Syrians used six attack helicopters against Nafekh, but the attack was repelled. The rest of the day was taken up by a battle of attrition around Nafekh, in Orr's sector, a battle which was eventually won by the Israeli tanks, supported by the air force. In the late afternoon of 8 October, the Israelis regained possession of Sindiana.

The last Syrian attack was carried out by 1 Armoured Division's mechanised brigade on 8 October and was directed at the Arik bridge. Task Force Sarig had set up a blocking position there. Task Force Sarig came under heavy pressure when Colonel Sarig was wounded and evacuated. Laner sent his deputy to the unit and Laner's deputy immediately appointed the officer he considered the most suitable as commander. Shortly afterwards, the new commander was also wounded, which meant that a third officer took over the command in the space of one day. He executed a turning movement around the main Syrian force and took out thirteen Syrian tanks in the process. The situation was now stable.

At that point, 36 hours after the Syrian invasion, Hofi felt that the time had come to use mobilised units to force the Syrians back to the 1967 demarcation line and the delaying operation came to an end. So many reserve units had by then been mobilised that the combat power ratio allowed a transition to the offensive phase. The objective of the delaying operation had been reached. By yielding some 20 km of ground, a preparation time of 36 hours had been won. This delaying operation had thus formed part of a mobile defence on the Golan Heights.

Sources:

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Ch. Herzog, *The war of atonement*, London, 1975

Section 5 - Functions in military operations

Command and control

1345. Despite the conflicting characteristics of the delaying operation and the initial enemy initiative, the commander must focus particularly on the **intent** of the higher commander. The degree of risk in the delaying operation is reduced by establishing as much cohesion as possible. This requires permanent leadership in order to cope with critical situations and to be able to take the initiative. Centralised planning is essential.

1346. The mobile nature of the delaying operation can easily lead to **complex situations** at locations a considerable distance from each other. Centralised command and control during the execution carries the risk of insufficient reaction time, which leads to the loss of freedom of action. The execution must, therefore, be **decentralised**. Because changes in the time frame may prove necessary during the delaying operation, decisions at lower levels constantly have to be made in uncertainty, more so than in other types of combat.

1347. Delay lines with specified times indicating the earliest moment of release reflect the **expected course** of the operation. During the delaying operation more detailed decisions can be taken as to how long the enemy must be prevented from passing the delay line. The release time may thus be earlier or later than was originally envisaged in the time plan.

1348. Enemy superiority and the dimension of the areas will often give rise to the need to deviate from the original plan. Subordinate commanders should report this in plenty of time, if possible in advance. In the event of **unexpected or sudden developments**, commanders at lower levels in particular must have been delegated the power to act on their own authority. A clear intent and plan on the part of the higher commander provides them with the rough outline with the margins within which they can find a solution.

1349. The area in which the delaying operation is conducted is the **delay sector**. Its sides are demarcated by sector boundaries, the front by a delay line and the depth by a rear boundary or a hand-over line. The width of a delay sector depends on the mission, the terrain, the enemy and the available means. Average guidelines for the sector widths in the delaying operation are:

- | | |
|---|-------------|
| • brigade | up to 40 km |
| • tank and mechanised infantry battalion | up to 8 km |
| • tank and mechanised infantry battalion as an independent task force | up to 10 km |
| • infantry battalion | up to 4 km |

1350. When planning the delaying operation, the following **coordination measures** are used:

- delay lines
- time plan (the expected course in time and space dimensions)
- (possible) hand-over line
- rear boundaries

- sector boundaries
- points of contact and instructions for liaison
- tactical movement control measures
- directions for the use of obstacles

A delay line is related to the possibility of a temporary defence. Ideally, the line is only designated by indicating a coordinating point on each sector boundary. The first delay line is normally designated by the higher commander.

Rear boundaries must be chosen in such a way that the next delay line is in the sector of another subordinate commander. In the case of successive operations, therefore, the boundary lies behind the next delay line and in overlapping operations in front of it.

If deep combat is to be transferred to another formation, a hand-over line must also be established. It may also be linked to a specific time.

Intelligence and military information

1351. The situation can change quickly and often in the delaying operation. It is often difficult to get a clear picture of the situation in these circumstances. The execution of the delaying operation thus depends heavily on accurate and timely intelligence. Particular attention is given to the enemy's main effort, the rate of advance and the axis or axes of advance or the advance routes. The majority of the collection units should, therefore, be deployed in the front. During mobile delaying actions, too, reconnaissance units should ideally be deployed as collection units.

Manoeuvre

1352. The manoeuvre is described in Section 3 (Planning) and Section 4 (Execution).

Fire support

1353. The fire in the deep operation will ultimately contribute to a limitation of friendly losses and is thus given high priority. Fire support is also necessary to enable combat units to disengage as soon as the enemy has deployed. This means that fire support systems need to be highly flexible, as it is often impossible to predict how the operation will proceed. Specific targeting (both selection and allocation) helps consider-

ably in this respect. No-fire lines and fire coordination lines should be established for the coordination of fire and movement.

1354. The artillery should be grouped in such a way that they can provide constant fire support throughout the delaying operation. The mobile nature means that positions have to be changed frequently. Mechanised artillery and mortars are the most suitable in this case. Position areas should lie relatively far forward so that they can support both the close and the deep operation.

Manoeuvre units are vulnerable when delay lines and positions are released. For this reason, maximum fire support must be available for this manoeuvre.

1355. If the delaying operation ends with a rearward passage of lines, the unit being passed should reinforce the fire support of the passing unit. The returning fire support units can then support the unit that has been passed. Separate arrangements need to be made for this.

1356. Air support in the deep operation takes the form of battlefield air interdiction, which is used to attack reserves and other non-combat units. Close air support can be used to create favourable conditions for friendly offensive actions. It can also be used to support units when they release positions if there is heavy enemy pressure. Air support will, however, mainly be used in places where ground-based units cannot operate effectively.

Protection

1357. The **engineer preparations** in the context of the delaying operation are normally very time-consuming as a result of the dimensions of the delay zone. Given the constant pressure of time, priorities have to be set. The fortification of natural obstacles in delay lines is generally more effective than setting up field fortifications for the mobile delaying operation.

1358. If there is a possibility of an NBC **threat**, the use of these assets should be taken into account in the planning. The most effective planning method is to draw up a contingency plan, which incorporates deviations from the initial plan.

1359. In the delaying operation, the enemy will attempt to support his attack with air strikes, airmobile operations and air landings. With aircraft and attack helicopters, he will try to prevent the reinforcement of

*If there is a potential NBC
hreat....*

Photograph: Media Centre

RNLA



forward units or improvements to the setting up of delay lines. His primary targets will be those which could disrupt his tempo.

Friendly **air defence** concentrates on the protection of the forward units, artillery positions and reserves. Other priorities may be command and control elements, key terrain, logistic assets and other scarce resources.

Service support

1360. In the delaying operation, the aim of the combat service support is to create conditions for the commander which enable him to conduct a mobile operation over a great depth. This requires meticulous planning, detailed preparation and the greatest possible degree of decentralisation of authority and assets for the combat service support in the implementation phase. The planning is mainly based on assumptions, which means that a high level of flexibility is required.

1361. The following considerations apply in the planning:

- The time/space factors in the delaying operation mean that choices constantly have to be made. A choice has to be made for combat service support in front (whereby the service support installations will frequently have to move rearwards and which carries risks for the continuity) or for considerably greater turn-around distances (whereby the service support installations have to move less frequently).

- Rearward movements by service support units and service support elements must be coordinated in order to achieve maximum protection and to keep vulnerability to a minimum. The use of the road network must also be coordinated with the use by combat units and combat support units. Careful synchronisation of the combat service support and the combat is essential. Service support installations must in any event be working during the more static operation.
- The main effort in service support should be located with the operations in delay lines.
- During the rearward passage of lines, the service support installations will usually already have been deployed in the assembly area. The combat units and combat support units must, therefore, be supported by the service support installations of the units to be passed.

1362. The following factors are important in the **implementation** of combat service support:

a. **Supply.** In the preparation phase, the supply levels of the combat units need to be stocked to the level of logistic self-sufficiency that has been established for the operation. Supplies and supply units are located in the depth of the sector in places from which they can quickly supply the units they are supporting. During the implementation phase, the main effort in the supply will be in the phases of the delay lines. Given the limited time available, direct delivery will have to be used. The supplies are in principle kept mobile. Only after careful consideration can supplies be stored in dumps at locations planned in advance; artillery ammunition is particularly suitable for this. The levels of supplies in the deployment area must be limited to the quantity needed for the envisaged duration of the operation in a particular area.

During the execution of the delaying operation, the emphasis is on the supply of ammunition (artillery and anti-armour ammunition) and fuel.

b. **Maintenance.** In the preparation phase of the delaying operation, all the equipment that cannot be repaired in time has to be recovered. Static maintenance installations should be located deep in the sector. Defective equipment is repaired by mobile maintenance units in the immediate vicinity of delay lines. Equipment that cannot be repaired immediately has to be removed as quickly as possible. Recovery vehicles will be deployed to keep open critical points on routes. Equipment that is at risk of falling into enemy hands, even if it is defective, should be destroyed.

Equipment that cannot be repaired immediately must be removed as quickly as possible.

*Photograph: Media Centre
RNLA*



- c. **Medical support.** Medical support during the delaying operation is evacuation-oriented. Casualties must be evacuated as soon as possible to medical installations, which are deployed at locations where an effective 'standing time' can be guaranteed. The time and space factors in the delaying operation mean that substantial evacuation capacity is required; helicopters can be highly significant in this respect. Medical support is provided under regional responsibility. Delaying units should, therefore, rely as much as possible on previously deployed medical installations of units in the depth.

Section 6 - Delaying operations in forests, built-up areas and limited visibility

Delaying operations in forests and built-up areas

1363. Forests and built-up areas are **favourable** for the delaying operation. The more these areas dominate the terrain, the more the enemy operation can be influenced. In combination with additional artificial obstacles and a temporary defence, terrain such as this provides the opportunity to hold up the enemy advance repeatedly. This terrain allows ambushes and positions with surprise fire from constantly changing directions. There are considerable advantages in this terrain for the release of positions, disengagement and taking up new positions in the depth of the delay zone. Possibilities for opening fire at maximum range and thus forcing the enemy to deploy repeatedly are limited in this terrain.

1364. On his approach to this type of terrain, the enemy will concentrate his assets on the **through-roads** in order to push through quickly into the depth. If he encounters strong resistance on the way, he will be forced to use the area between the through-roads.

1365. The **combat organisation** is determined by the need to concentrate means in parts of the terrain which offer relatively good scope for mobility. This results in large unoccupied areas in which combat forces must also be deployed. The inability to oversee the terrain often necessitates the formation of battalion task forces which can conduct the operation more or less independently.

1366. In such terrain in which the view is obstructed, the distance between **delay lines** is shorter so that the cohesion of the operation can be maintained. As a rule, **reserves** are only kept at a low level and close behind the forward units. A larger reserve is formed to:

- intervene quickly in places at risk if the terrain allows
- conduct counterattacks
- act as a protective element when terminating the delaying operation

1367. The nature of the terrain limits the formation commander's ability to influence the delaying operation. In order to maintain cohesion, reports and the exchange of information should be more frequent.

In forests and built-up areas, (**mechanised**) **infantry** can also delay the enemy successfully. They can also operate with mobility and be reinforced with tanks. In forests and built-up areas, tanks are always dependent on (mechanised) infantry.

1368. The difficulties of maintaining **connections and contact** in the delaying operation are compounded in this terrain by tactical boundaries and the limited range of communications equipment. Liaison and points of contact are, therefore, extremely important. The use of helicopters increases the mobility of command and control.

Delaying operations in limited visibility

1369. Limited visibility increases the chances of **surprising** the enemy and **preserving friendly combat power**. It is also favourable for disengagement, although more planning and coordination is required in the rearward passage of lines. Obstacles are more effective, since they are more difficult to spot. They can delay the enemy longer than would be the case in good visibility. On the other hand, it is not always feasible to engage the enemy at the longest range possible. These conditions

favour the use of ambushes.

More effort is required in the surveillance of unoccupied areas between the delay positions. The enemy will try to go around the positions in order to disrupt the delaying operation and force a rapid retreat. For this reason, the delaying operation should **if possible be avoided** in poor visibility, the preferred option being to conduct a temporary defence. If that proves impossible, the majority of the unit must disengage and new positions must be set up in the depth, whereby relatively small but highly mobile units maintain contact with the enemy. Overlapping actions with these units along through roads and paths with small-scale resistance and ambushes are preferable. A deep operation with infantry or special forces units that have stayed behind can cause considerable delays to the main enemy force. After their actions, these units exfiltrate to return to friendly troops; transport helicopters may also be deployed for this purpose.

14

Transitional phases during operations

Section 1 - Introduction

14001. This chapter describes the way in which one form of combat can be switched to another or to a movement. An operation in a transitional phase is not an operation in itself, but **always lays the foundation for the next phase** of the operation. A smooth and rapid execution increases the tempo of the operation.

14002. Transitional phases during operations may occur for the following reasons:

- to enable a rapid and flexible transition from one form of combat to another or to bring about a transition from a movement to a form of combat or vice versa
- to create or exploit favourable conditions before or during combat or to respond effectively to an unfavourable development
- to allow combat contact to be transferred from one formation to another

Section 2 - Advance to contact

14003. The advance to contact is a **movement in the direction of the enemy** in order to bring about engagement and/or reach a march objective. The advance to contact aims to bring about engagement under the most favourable circumstances or to reach the march objective with sufficient combat power. It is carried out in preparation for a subsequent operation and ends as soon as the main force has been deployed or the march objective has been reached.

14004. The advance to contact has the following **characteristics**.

- It is conducted in the direction of the enemy; initially, there is no combat contact.
- To bring about combat contact under the most favourable circumstances, a high tempo is required. This in turn requires central planning and decentralised execution, whereby subordinate commanders largely determine the response to enemy resistance and obstacles.

- The advance to contact will result in open flanks, for which security measures have to be taken.

Planning

14005. In the **deep operation**, priority must be given to the enemy reserves, who are able to disrupt the advance to contact. The deep operation will, however, be mainly determined by the operation that is to follow. Coordination of the deep operation with the security elements in front of the main force is essential. Setting up a covering force may form part of this deep operation.

14006. In the **close operation**, the best option is for the main force to move over several parallel march routes. This formation benefits a rapid deployment, requires less movement time and offers more room for following combat service support units. The choice of the march routes is partly determined by their availability and/or the need for a quick deployment.

14007. The formation is tailored to the operation following the advance to contact. It is also determined by the enemy situation (likelihood of combat contact and strength). The formation can protect itself with:

- a covering force
- an advance guard
- a flank guard
- a rear guard

14008. A **covering force** consists of an independent task force of at least battalion size, which operates independently of the main force. It can be highly influential for the progress of the advance to contact. Its task is to gather intelligence and prevent delays for the main force. It must be able to put enemy reconnaissance elements out of action, breach obstacles, take and keep control of key terrain and fix enemy elements.

14009. The **advance guard** is a unit which operates ahead of the main force and which can be supported by the main force. It protects the main force in the front and maintains contact with a covering force. The advance guard is located far enough ahead of the main force to ensure that it has sufficient time and space for clearing or breaking through enemy resistance and/or obstacles. Should enemy resistance prove too strong for the advance guard, the latter will fix these enemy elements. In doing so, it takes up positions from which it can protect the main force or support an attack by (parts of) the main force.

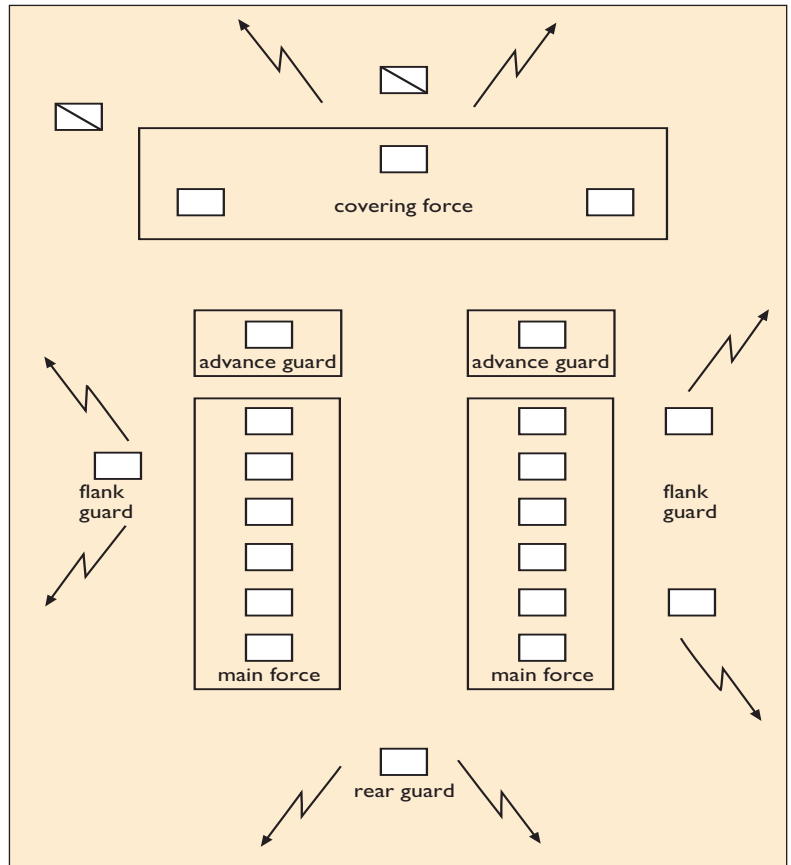
14010. A **flank guard** is deployed on the flank where adjacent units or the terrain provide insufficient protection. It is a unit which, with the support of indirect fire, is able to block enemy elements or delay a larger unit. The latter serves to give the main force commander the opportunity to react with (parts of) the main force.

14011. A **rear guard** is only deployed if there is an enemy threat to the rear. The strength, composition and task are usually similar to those of the flank guard.

14012. The **main force** contains most of the assets. The order of battle of the units in the main force is tailored to the operation after the advance to contact, but must nonetheless be flexible enough to allow immediate deployment if the enemy is engaged. The units in the main force must be able to:

- take over the tasks of the advance guard
- make use of alternative routes in order to pass the enemy or take advantage of better routes

Figure 6.
Diagram of the advance to contact.



14013. The commander indicates what the distance must be from the main force to the advance guard and/or the covering force. The **distance** should be great enough to ensure that freedom of action is maintained in the event that the advance guard or the covering force encounters resistance. On the other hand, the distance should be short enough to allow the required combat power to be deployed quickly. Constant observation and coordination with (air) reconnaissance units contribute to the protection of the main force. The main force's advance to contact can be executed by moving from one assembly area to another along a secured route, thus avoiding premature detection by the enemy.

14014. The more the advance to contact progresses, the more effort is required in the **rear operation**. The possibility that enemy elements have been passed by the main force increases the risk in the rear area.

Execution

14015. The **tempo** is determined by the enemy situation and the extent to which friendly command and control anticipates this. Aggressive actions must be combined with the preservation of cohesion so that troops can respond to any terrain condition and hostile reaction without any delay.

14016. Initially, the emphasis lies on **reconnaissance** in order to find the enemy before the main force has been committed. The advance to contact ends once combat contact has been made with enemy security units and/or the main enemy force and the main force has been deployed.

14017. The advance to contact is carried out over **march routes**. The advance guard is free to deviate from this march route as much as necessary in order to reach the march objective. However, the assigned march route or an alternative must be cleared for the main force.

Functions in military operations

Command and control

14108. Rapid movements and increasing distances complicate command and control, which means that a number of special measures have to be taken.

- In order to ensure that the displacement of the main force runs smoothly, it may be necessary to set up a movement control organisation. The infrastructure is the deciding factor in this respect. This movement control organisation is set up behind the advance guard.



... it may be necessary to set up a movement control organisation.

Photograph: Defence Organisation for Recruitment and Selection, Ministry of Defence

- The main force generally moves under electronic silence. This restricts the movement control, so extra measures have to be taken in this respect.
- Relay stations have to be used in order to guarantee communications with the covering units.

Intelligence

14019. The execution of the advance to contact requires detailed and up-to-date intelligence in order to identify the most favourable opportunity. The higher levels can gather intelligence from their sources; this can be used to avoid meeting engagements and to maintain the tempo. Conducting (air) reconnaissance and deploying UAVs can produce intelligence which affects the execution of the advance to contact in the short term. The covering force and/or the advance guard also supply information regarding the enemy and the march routes.

Manoeuvre

14020. Mobility may require the deployment of road repair assets in order to keep the march routes open. To maintain speed, the breaching of barriers by the covering force and/or the advance guard is also essential. Engineer scouts and special engineer equipment are thus always present in these forward units.

14021. **Airmobile or airborne units** may be deployed ahead of the covering force and/or the advance guard in order to capture critical areas such as bridges and defiles. With rapid and surprise actions, these units help to keep up the tempo. These actions should not, however, take place too far ahead of the main force or against too strong an enemy, as it would not then be possible to make contact in time.

Fire support

14022. Immediate and effective fire support makes it possible to engage the enemy and retain the freedom of action. A great amount of fire support limits the need to deploy in the event of premature contact with the enemy. On the other hand, a lack of intelligence restricts the concentration of fire support. The fire support assets must be capable of neutralising enemy positions so that an attack is possible.

14023. In order to maintain the tempo, fire support assets are given in direct support to the advance guard. The covering force will be given command of fire support assets. Because of the rapid progress, permanent fire support coordination is necessary. The commander bases his planning on potential subsequent targets. These targets arise in the context of the deep operation (enemy reserves and artillery positions) and in the context of close support (enemy positions which hinder the advance to contact).

14024. In principle, an advance to contact can only be conducted in the event of friendly air superiority, even if it is only temporary and local. It requires constant coordination with the units providing close air support and air support in the depth. The interdiction should focus particularly on enemy formations that are withdrawing or which can reinforce other formations.

Protection

14025. The protection during the advance to contact is primarily geared towards maintaining the combat power for the subsequent operation.

Although the advance to contact is normally conducted under conditions of air superiority, a multi-layered air defence should still be maintained during the entire advance.

If there are indications that the enemy is using NBC weapons, the advance guard and/or the covering force in particular should be capable

of conducting NBC reconnaissance. Preparations should then be made at formation level for decontamination.

Service support

14026. The combat service support must meet the immediate requirements of the user units during the advance to contact and, at the same time, be ready to support the subsequent mission. The combat service support is characterised by rapidly increasing turn-around distances.

14027. The supply system must continue to support the advance to contact as long as possible. If turn-around distances are expected to become too great or enemy activities are expected to cut off supply routes, supplementary measures are needed. These measures may consist of increasing the self-sufficiency of user units and bringing in supplies in protected convoys.

14028. In order to keep a formation combat-ready during the advance to contact, repairs must be carried out as near as possible to the point of breakdown. This relieves the pressure on the maintenance system and gets the combat units' equipment back into the operation as quickly as possible.

14029. Units responsible for providing medical support must be kept as mobile as possible. As soon as the enemy has been engaged, there must be sufficient capacity to cope with the expected flow of casualties. Given the increasing turn-around distances and the requirements for medical treatment, the use of helicopters for the evacuation of wounded personnel may offer a huge advantage. Arrangements also need to be made for moving prisoners of war and refugees. The movement control organisation plays an important role in this respect.

Section 3 - Meeting engagement

14030. A meeting engagement is an action that occurs when friendly troops that are not or incompletely combat-ready **unexpectedly engage** enemy troops that may or may not be on the move and may or may not be deployed.

Characteristics

14031. A meeting engagement will often occur when both enemy and friendly troops are carrying out their respective orders by means of offensive operations. The meeting engagement may occur during the

The meeting engagement: when troops that are incompletely deployed for battle unexpectedly engage the enemy.

Photograph: Physics and Electronics Laboratory, Netherlands Organisation for Applied Scientific Research (FEL/TNO)



advance to contact, whereupon it changes to a hasty attack. During offensive, defensive or delaying operations, the meeting engagement is an activity of which the outcome will determine the nature of subsequent activities. Even when the majority of a unit is defending, attacking or delaying, parts of that unit may find themselves in a situation which bears the hallmarks of a meeting engagement.

14032. Meeting engagements mainly occur **below division level**. The action will normally arise at company and battalion level. The brigade will then take it over if necessary for the speed of the execution of its mission.

14033. The element of surprise is usually the result of the **insufficient intelligence**. This lack of intelligence is also the reason for the fact that the required deployment has not been carried out in time. The enemy may, especially if he is on the move, also have insufficient intelligence and will thus also be surprised.

14034. The meeting engagement **ends** for a command level as soon as that level switches to one of the three types of combat or to disengagement.

Planning

14035. **Operational framework**. The operation preceding the meeting engagement determines the operational framework. The meeting engagement occurs primarily in the **close operation**. The framework

must, therefore, be adjusted as quickly as possible, whereby the deep operation must concentrate on collecting intelligence so that as much of the operation as possible can then be conducted in the depth of the enemy territory.

14036. Because of the surprise nature of the initial situation, there is **little time** available for command and control. The complexity of the situation and the lack of important intelligence are in this case the very reason for acting quickly. There is, after all, a possibility that the enemy will also be surprised by the sudden engagement. Success depends, therefore, on a rapid and aggressive response, as this will prevent the enemy from coordinating his actions. Heavy losses can thus be inflicted on the enemy, whereby a favourable position is created for the continuation of the engagement.

14037. Although the meeting engagement is not planned, it can be anticipated. The **intelligence preparation of the battlefield** provides indications as to where meeting engagements may occur on the basis of obstacles, avenues of approach and critical areas. One of the first sub-tasks in the event of a meeting engagement is to establish the enemy strength and order of battle. The situation on the flanks in particular must also be established. A combat-efficient order of battle and a flexible concept of operations are necessary conditions for taking the initiative.

14038. The decision-making by a commander who has become involved in a meeting engagement should ideally be based on a **personal assessment** of the situation. However, he must not waste time completing his picture of the enemy by collecting detailed intelligence. The commander must be aware that he is fighting his opponent for time and space.

Execution

14039. The most important aim is to **take the initiative** and thus preserve the freedom of action. An operation that is the most beneficial to the rapid and vigorous execution of the original mission is recommended. If the meeting engagement means that there is no choice but to deviate from this mission, albeit temporarily, this must be reported immediately.

14040. The unit in combat must at least try to gain and retain a **favourable starting position** for the deployment of the next higher unit by quickly occupying key terrain. This must not, however, result in the loss of combat contact. It is essential that the enemy be fixed and kept

under pressure. This will make it difficult for him to reorganise and will release information for the decision-making for the higher command level as well as that of the unit itself.

14041. The outcome of the meeting engagement is primarily determined by the capacity of the commander involved to bring his full combat power to bear quickly. As well as the immediate deployment of combat forces, the immediate availability of **combat support units**, particularly artillery and engineers, is also a deciding factor. The deployment of **attack helicopters** also helps considerably in gaining superiority. The commander who acts faster than his opponent has a major advantage in this respect. This reduces the enemy's chances of taking countermeasures and results in the preservation of the freedom of action.

Functions in military operations

Command and control

14042. Speed in the processing of information and making decisions, followed by clear fragmentary orders, means that the initiative can be taken and freedom of action can be preserved. Commanders will usually give these orders by radio, whereby personal contact between commanders increases the certainty that the overall plan and the sub-tasks are completely understood.

Intelligence

14043. With regard to anticipating a potential meeting engagement, the intelligence preparation of the battlefield should focus on predicting the possible time and place of the meeting engagement. The requirement for intelligence is derived from this. A constant flow of up-to-date information is needed in order to be able to take the initiative. For this reason, extra reconnaissance must be conducted immediately by various units (reconnaissance and attack helicopters, reconnaissance units, mechanised infantry, tanks and armoured engineers).

Manoeuvre

14044. Wherever possible, the enemy's mobility should be restricted as quickly as possible. Obstacles that can be set up quickly are an excellent aid in this respect.

Fire support

14045. In the meeting engagement, initial priority is given to close support in order to gain as much fire power superiority as possible. In the course of the operation, the importance of the deep operation increases so that enemy reserves and reinforcements can be delayed, particularly with a view to subsequent action. In the event of a meeting engagement during an advance to contact, there will not initially be much field artillery in position. Artillery must, therefore, take up positions quickly, so that superiority can be built up in the shortest possible space of time. The acquisition of extra close air support may be the deciding factor for the outcome of the meeting engagement.

Protection

14046. The speed of action required by the meeting engagement results in reduced protection. The commander must consider the extent to which this risk weighs against the desired end state.

Service support

14047. Speed of action is essential in a meeting engagement; the combat service support must create the necessary conditions in this respect. This means that the combat service support must be able to meet the needs of the user units quickly as they arise during the meeting engagement. Keeping up the required supply level is one of the ways to achieve this. During the meeting engagement, there will often be insufficient time to deploy medical installations. The emphasis must lie on the evacuation of casualties. After the engagement, the main task is to replenish the supplies that have been used.

Section 4 - Relief of troops in combat

14048. There are three types of transitional phase in which combat forces **transfer combat contact**.

- a. **Relief in place.** In this action, one combat unit is relieved by a new combat unit. The task and responsibilities of the unit to be replaced (the outgoing unit) are reassigned to the new unit (the incoming unit). The new unit continues the operation.
- b. **Relief by forward passage of lines.** In this case, a unit (the incoming unit) attacks through the positions of another unit (the outgoing unit), which is engaged in combat.
- c. **Relief by rearward passage of lines.** In this case, a unit (the outgoing unit) moves rearwards through the positions of another unit.

Contact with the enemy is thus broken and transferred to the unit in position (the incoming unit).

Characteristics

14049. A relief action is performed during an operation in order to maintain the desired level of combat power. The responsibility for conducting a mission is thereby transferred. This transfer of responsibility must be carried out in such a way that the operational effectiveness remains guaranteed during the relief action. The relief action may be performed if the unit to be relieved:

- is no longer able to continue its mission
- is needed for a mission in another area
- has accomplished its mission
- is eligible for rotation in order to prevent combat fatigue
- is no longer suitable for carrying out a new mission

14050. Each relief action is a complex operation and gives rise to a period in which, because of the temporary but **unavoidable** concentration of units, vulnerability is increased and there is a growing **risk of confusion**. There are, after all, two commanders in one area at the same time with two command systems and virtually the same mission. A clear transfer of responsibilities is essential to ensure that the relief action runs smoothly.

In the case of the forward and rearward passage of lines, the sector responsibility stays with the commander of the unit that is not moving. This responsibility involves aspects such as security, tactical movement control and area planning. The transfer of responsibility for conducting the operation is coordinated between the commanders themselves on the basis of the higher commander's guidelines.

In the case of relief in place, the responsibilities for the sector and for conducting combat are transferred simultaneously.

14051. A relief action might occur between formations of **different nationalities**. A number of special considerations apply in this case.

- A difference in organisational structure may lead to adjustments in the plan, particularly in the event of relief in place.
- Special liaison teams may be necessary for the implementation of fire and air support coordination measures.
- Communication and/or language problems at all levels require the use of interpreters, liaison teams, guides and supplementary communication measures and equipment.

- The possibilities for exchanging essential supplies (ammunition) and the connection between the logistic systems must be known in advance.

Planning and execution

14052. **Operational framework.** The outgoing commander will continue to conduct his deep operation according to plan until the responsibility for conducting combat is transferred. The incoming commander will then continue the deep operation according to his own plan. The outgoing commander conducts the close operation according to a plan which may have been adapted to the requirements of the incoming commander. The latter then continues the close operation according to his own plan. The rear operation concentrates on the smooth running of the relief action, looking after such aspects as additional security, mutual support and traffic control measures.

Relief in place

14053. In this action, **one unit is replaced by another**, usually keeping the same sector and, at least initially, with a similar deployment of the unit. If relief in place is carried out without combat contact, the emphasis lies on simplicity and speed.

14054. The **plan for relief in place** is formulated jointly, under the responsibility of the incoming commander. The plan contains detailed

*The plan for the relief
action*

*Photograph: Media Centre
RNLA*



arrangements for the following aspects:

- exchange of plans and liaison
- collocation of command and control support units
- order of relief of subordinate units
- times at which subsequent phases of the relief occur; in any event, conditions are defined for the beginning of a subsequent phase
- moment at which the responsibility is handed over from the outgoing commander to the incoming commander
- contingency planning
- tactical movement control, including guides/guide signs, assembly areas, waiting areas, identification, priority road use and the road repair organisation
- mutual fire support, combat support and combat service support, including the transfer of equipment, supplies and medical support
- safety of friendly troops, deception plan, plan for operations security and disguise of emissions
- frequency management, as well as the use of other internal, external and local communications
- transfer of the obstacle plan

14055. The **execution of the relief in place** depends on the time available and the local conditions. It can be effected over the entire width of the sector or phased in time and space. A simultaneous relief occurs swiftly, but it is temporarily less effective. There is also a greater risk that the enemy will notice the heightened movement activities. A phased relief takes longer, but it remains more effective and the movements are easier to mask.

Combat support units must not be relieved at the same time as the combat units.

Meticulous route planning and strict **movement control** are essential if traffic congestion is to be prevented. The movement control plan must be straightforward, but must contain enough details for execution under electronic silence. Movements in opposite directions are carried out over different routes and lateral movements are avoided. If possible, relief and relieved units use the same transport support. Combat service support units from the unit to be relieved move as early as possible. Supplies stored in dumps and barrier materials are normally taken over by the incoming unit.

The relief in place occurs in the front line, preferably **in limited visibility**. If possible, however, the incoming unit will conduct reconnaissance in daylight.

The **responsibility** for the relief rests with the commander of the outgoing troops. Until the responsibility is transferred, he has TACOM of the incoming unit. The commander of the incoming unit reports when his unit is able to perform its new task. The higher commander then determines the point at which the responsibility is transferred.

Relief by forward passage of lines

14056. In the forward passage of lines, the **order of battle** of the incoming unit will be such that it can carry out its task immediately after the passage of lines. The outgoing unit will make whatever adjustments are necessary to benefit the action and to provide optimal support.

14057. A relief by forward passage of lines is conducted in the following **situations**:

- if an attack is continued with other units in the same direction
- if the axis of attack changes or an extra approach is used for deploying the reserve
- if the attack is mounted at a stabilised part of the front
- if a (preparatory) counterattack is conducted
- if terrain ahead of the current positions has to be occupied in order to continue the operation under more favourable circumstances

14058. A forward passage of lines is planned in the same way as a relief in place. The **plan for the passage of lines** includes the following elements:

- detailed arrangements for reconnaissance by commanders of the incoming units, also at lower levels
- established approaches, attack positions, points of passage, signposting, use of guides and identification
- measures for area planning if parts of the incoming formation are to remain in the sector temporarily, such as reserves and fire support units, command and control units and combat service support units
- exchange of reporting officers and the timing and duration of the collocation of command posts
- keeping open and/or taking over reserved demolitions in front of the unit to be relieved
- priority for road use (movement control plan)

14059. In the **execution of the forward passage of lines**, the outgoing unit provides protection for the incoming unit during the deployment for the attack. The entire passage of lines must be carried out in a **single continuous movement**. The actual passage of lines is confined to the units who actually take over the engagement.

For its armoured units, a mechanised brigade needs two or three suitable routes with lateral connecting **routes**. One or two covered routes are also needed for the engineer and combat service support units.

The reconnaissance elements should pass the lines first, followed by combat and combat support elements. Regrouping **must not take place** in the area of the unit which is to be passed.

The **responsibility** for the operation is taken over by the assault troops at the moment the attack begins. The outgoing troops remain under TACOM as long as the combat units can provide support to the assault forces from their positions. The artillery and mortars of the outgoing troops should continue to support the assault troops as far as the maximum firing distance from the original positions.

PASSAGE OF LINES IN OPERATION LIGHTFOOT ON 24 OCTOBER 1942

Situation surrounding the German Africa Corps

The El Alamein line marked the easternmost boundary of the advance to contact of the Axis armies under the command of Field Marshal Rommel. Rommel's attempt to force a rapid breakthrough to Alexandria was thwarted by the British in the battle near Alam Haifa in the first weeks of September 1942. Because of fuel, food and ammunition shortages, Rommel was forced to set up a defence. He did this between the northern edge of the east-west Quattara depression and the coast and just to the west of El Alamein. This line represented one of the few opportunities for a defence without the possibility of a turning movement or envelopment. In this line, Rommel particularly wanted to win time for resupplying so that he could later undertake a definitive attack towards Cairo, before the Allies had grown too strong.

The El Alamein line was a static, infantry-strong defence over a width of 60 km with a depth of 8-13 km. The first strip of terrain was 1-2 km deep and contained outposts, sizeable anti-tank minefields and a network of trenches. The second strip was the main defence line and was also occupied by infantry units with anti-tank weapons; this, too, contained a large number of anti-tank mines. In all, more than half a million anti-tank mines were used. The third strip consisted of artillery, two Italian and two German armoured divisions. The armoured divisions were supposed to offset every penetration with a counterattack, but because of the chronic shortage of fuel, it was possible to deploy only the two German armoured divisions on just one occasion.

Situation surrounding 8 (BR) Army

The situation surrounding 8 (BR) Army under the command of General Montgomery improved by the day over the last weeks of September and the first weeks of October. The British managed to build up considerable superiority, as a result of which they were able to launch an offensive in mid-October 1942 designed to defeat the Axis powers in North Africa.

The offensive by 8 (BR) Army (Operation *Lightfoot*) involved a deception operation, in which 13 Corps and others in the south mounted an attack in order to draw the Germans into deploying their armoured divisions there. The main effort of the offensive lay in the north, where an attack by 30 Corps (with 1, 2, 9 and 51 Infantry Division) was to break into the El Alamein line before daybreak on 24 October. Afterwards, 10 Corps (with 1 and 10 Armoured Division) was to continue the attack deep into enemy territory that morning.

30 Corps focused on capturing its objectives and bringing up the most essential elements for the consolidation (anti-tank weapons, artillery and its own tanks). 10 Corps was to execute a forward passage of 30 Corps' lines via two corridors, each of which consisted of three lanes. 10 Corps' tanks were to push vigorously along these narrow lanes in columns in order to quickly take up positions beyond the objectives captured by 30 Corps' infantry divisions and thus be prepared to repel German counterattacks.

The plans of 30 Corps' infantry divisions did not cover the capture of areas beyond the assigned targets to favour the break-out by the tanks of 10 Corps. The plans were confined to making corridors, particularly for friendly tanks and support vehicles.

The course of Operation *Lightfoot*

(See also historical example in Chapter 5, Annex B)

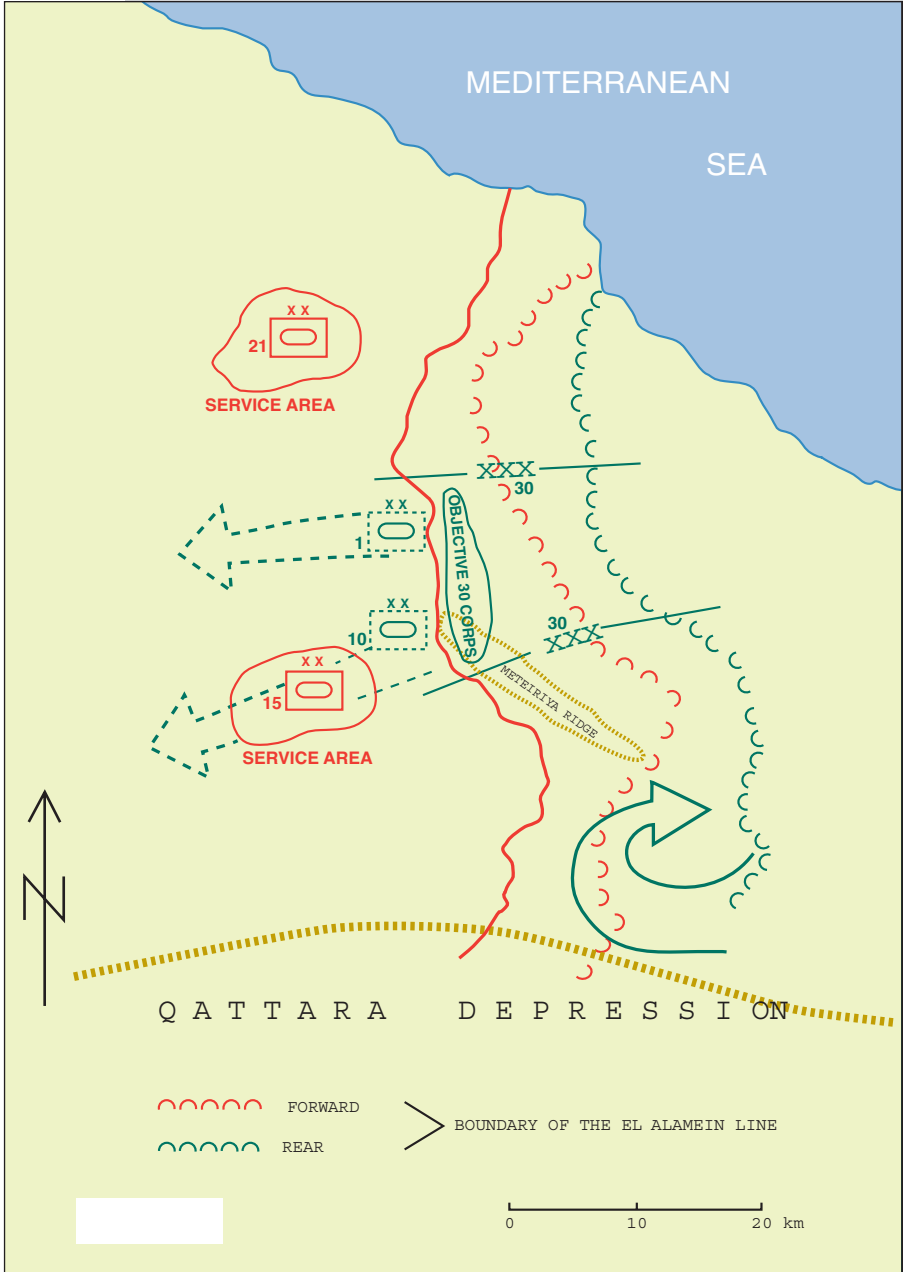
During the night of 23-24 October, the attack by 30 Corps did not meet with the same success everywhere. 2 and 9 Infantry Division had captured their objectives around midnight, but 1 and 51 Infantry Division had not managed to reach their objectives by the time day broke. In all infantry divisions, the tanks and supporting vehicles suffered delays because of mine clearance actions, straggling resistance and confusing command and control relations.

These delays had major repercussions for the units of 10 Corps. 1 Armoured Division left its assembly area at 19.30 hrs and the advance guards passed 30 Corps' line of departure at around midnight. Although 9 Infantry Division already had a corridor ready at 01.00 hrs, the advance guard of 1 Armoured Division was delayed there until 04.00 hrs by enemy fire and mines that had not been cleared. At dawn, the advance guard reached the objectives that had been captured by 9 Infantry Division. 1 Armoured Division was, however, unable to pass the lines, as they were prevented from doing so by effective German fire.

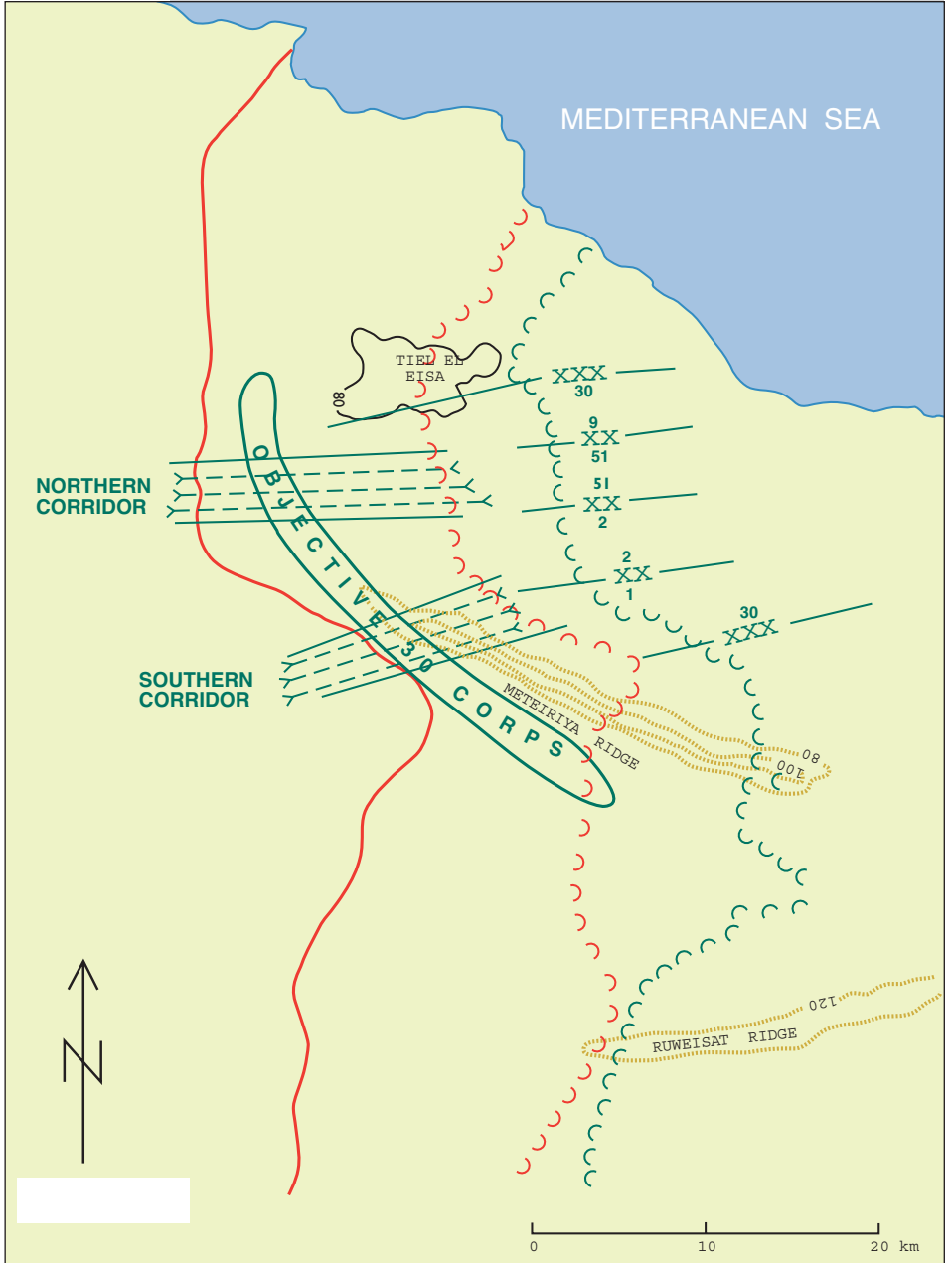
Armoured Division experienced similar problems. Although 2 Infantry Division had captured its objective at around 23.00 hrs, an advance guard from 10 Armoured Division was unable to pass through the lane until several hours after dawn on 24 October. When this advance guard finally tried to break out, 16 tanks were destroyed by German anti-tank weapons and mines.

At 09.00 hrs, the offensive was in effect halted. 10 Corps' armoured divisions were unable to pass the infantry divisions of 30 Corps and switch from column formation to deployment. Artillery support was not available, because the batteries of both 10 and 30 Corps were stuck in long columns; some had not even managed to leave their assembly area. The delays were so great that the rearmost elements of 10 Armoured Division were still in the assembly area at daybreak. Division troops, both corps artillery groups and the infantry divisions' service support units stood bumper-to-bumper on the roads.

Daybreak also brought a widespread need for dispersion. This dispersion created even greater chaos. Losses were incurred because of uncleared minefields, straggling German resistance, enemy artillery fire and friendly fire. ‘The whole area looked like a very badly organised car park’ was how the chaos was later described. In the course of 24 October, Montgomery ordered 8 Army to renew the attack at the beginning of the evening. This attempt failed completely; because of the chaos, it was still not possible to deploy sufficient combat



power. Operation *Lightfoot* was thus brought to a definitive halt. Not until 2 November was the offensive renewed, under the name Operation *Supercharge*. With heavy losses, the El Alamein line was finally breached and the British army took the initiative in North Africa.



10 Corps concentrated on moving up the most essential elements for the consolidation (anti-tank guns)....

Photograph: Military History Section RNLA



Conclusion

Operation *Lightfoot* failed for a number of reasons. One of these was the failure of the forward passage of lines. The mixture of six divisions from two corps led to a huge coordination problem, which had not been solved in the planning phase. But the main reason was that the breach, from where the attack was supposed to be continued by the armoured formations, was not deep enough. Interestingly enough, a short time later, in the decisive battle at El Alamein, almost exactly the same mistake was repeated. Only with extremely heavy losses among the forward infantry and engineer units was it possible to repair the damage that resulted from this mistake.

Source: Michael Carver, '*El Alamein*', MacMillan Publishing Company, New York, 1962.

Relief by rearward passage of lines

14060. A rearward passage of lines takes place as **part of a defensive or delaying operation** or of defensive or delaying combat actions. The higher commander may order a rearward passage of lines if he wants a defending or delaying unit to terminate the combat in the allocated sector or if he wants to transfer the combat contact to other friendly troops. The latter will then have to conduct a defence, albeit temporary. The aim of this is to provide the outgoing troops with time and space to move far enough to avoid any further risk of being attacked over land.

14061. In the rearward passage of lines, the **order of battle** in the outgoing unit is such that it can disengage. The incoming unit is deployed in such a way that it can perform its task as soon as it has taken over the responsibility. For this purpose, a **hand-over line** may be established

with one or more of the following characteristics. The hand-over line is chosen:

- ahead of the area from which the enemy can observe the defensive positions
- so that narrow lanes used by the incoming unit are protected

The hand-over line must also meet the following requirements:

- it must be possible to defend it, at least temporarily
- it must follow easily identified terrain features

The hand-over line is determined by the higher commander of the units involved in the rearward passage of lines. It may coincide with forward positions of the incoming unit. Behind the hand-over line, there must be good possibilities for lateral movement to allow for alternative points of passage.

14062. The commander organises the **preparation** of a rearward passage of lines in the same way as a relief in place and the **forward passage of lines**. The plan for the rearward passage of lines may also contain the following elements:

- arrangements for reconnaissance by commanders of the outgoing formations or units, also at lower levels
- measures for area planning, if parts of the outgoing unit are to remain in the sector temporarily, such as reserves and fire support, command and control support and combat service support elements
- keeping open or taking over reserved demolitions

14063. **Execution of the rearward passage of lines.** The rearward passage of lines is complicated by the fact that it is affected by the **pressure of time** under which it usually takes place.

The **order of priority** must allow an early withdrawal of combat service support units, so that the routes are clear for the movement of combat and combat support units.

The actual passage of lines is **confined to the units which actually transfer combat contact**. There must be sufficient routes, guides, movement control and facilities assigned to the formation that is passed through to ensure a rapid movement through the sector of the incoming unit. The commander of the incoming unit must deploy sufficient combat power to defend the hand-over line and points of passage temporarily until the rearward passage of lines has been completed.

The higher commander decides which commander will bear the **responsibility** for the operation if combat begins in the hand-over line. As soon as the first parts of the outgoing unit have passed the hand-over line, they fall under the TACOM of the commander of the troops in the hand-over line. This command relationship is sustained until the rearward passage of lines is complete.

Support from the incoming unit for the outgoing unit will end when the last combat units have left the sector. The moment at which responsibility is transferred will differ for the various command levels.

Functions in military operations

Command and control

14064. During the relief action, both commanders are present at the same location and deploy (parts of) their command posts in the same place for the duration of the relief action. After the transfer of responsibility for combat, those parts of the outgoing unit that have not yet been relieved come under the TACOM of the incoming commander. As soon as they have been relieved and have left the sector, they return to the command of their own commander.

14065. The relief must take place within the **period of time** indicated by the higher commander. Only if the development of the tactical situation necessitates an adjustment and this is in keeping with the intent of the higher commander can deviations be made. As soon as the hand-over has occurred, the incoming commander reports this to his higher commander.

14066. The commander of the incoming formation takes the **initiative for coordination and planning**. Liaison must be established if collocation cannot take place or prior to collocation. This process should start early. The incoming formation conducts detailed reconnaissance with support from the outgoing unit.

Report lines, a hand-over line (in the case of a rearward passage of lines) and the allocation of routes and areas for accommodating units, command posts and installations must be coordinated.

In the passage of lines, the plans of the incoming unit are in principle given higher priority than those of the outgoing unit.

Intelligence

14067. In order to be able to support the relief effectively, the G₂/S₂ of both the incoming and the outgoing unit must have early access to the same intelligence. It is, therefore, essential that the incoming commander draw up his intelligence requirement at an early stage so that this can be incorporated into the collection plan of the outgoing unit. The latter must deploy collection units in order to meet this requirement. If, because of a shortage of collection units, priorities have to be set, these will be given to the commander who is taking over combat contact.

Manoeuvre

14068. Mobility is essential in the relief operation. It helps to reduce the concentration of assets. Much attention must be given to a smooth flow of traffic on the various routes. This requires specific deployment of road repair capacity, tactical movement control and the preparation of alternative routes and crossings.

Fire support

14069. Measures relating to fire support and airspace control are vitally important to prevent fratricide and at the same time inflict losses on the enemy. The outgoing unit will always provide fire support for the incoming unit.

14070. In the **relief in place**, the fire support plan is taken over by the incoming unit. The responsibility for fire support coordination rests with the incoming unit, which also, therefore, takes the initiative for mutual coordination. Arrangements for the safety of friendly troops, such as the outgoing unit's no-fire line, are adapted to the requirements of the incoming unit if necessary. The artillery of the outgoing formation will provide any necessary fire support for the incoming formation and may be deployed by the higher commander for reinforcement of the incoming formation.

The responsibility for fire support must be transferred without any interruption in the fire support. The transfer is complicated by the fact that artillery units provide support for several units. Furthermore, these units seldom take over the engagement simultaneously. During the relief action, the unit to be relieved makes arrangements for whatever close air support and battlefield air interdiction is necessary to carry out its operation. The requirements of the incoming unit are included in this respect.

14071. For the **forward passage of lines**, the following measures are taken to ensure the continuity of fire support.

- Position areas of units supporting the incoming formation must be situated in such a way that support is still possible after the passage of lines.
- Fire planning for preparation fire preceding the passage of lines is done by the formation which has command of both the incoming and the outgoing unit.
- Arrangements for the safety of friendly troops (such as the no-fire line) are made by the artillery of the incoming formation.
- Fire support units of the outgoing formation provide maximum support for the incoming formation from their original positions.

For the **rearward passage of lines**, the following measures are taken for fire support.

- The commander of the incoming formation allocates position areas to the fire support units of the outgoing formation.
- The fire planning is based on the fire plan of the incoming formation. The need for this stems mainly from the relation between the fire plan and the obstacles that have been set up in front of the positions of the defending units.
- Measures for the safety of friendly troops, such as the no-fire line, are implemented and made known by the incoming units.
- Fire support units of the incoming formation provide maximum support for the passage of lines from their initial positions. For this reason, the outgoing fire support units establish liaison early on with the relief fire support units.
- After the passage of lines and depending on the subsequent mission, artillery from the outgoing formation may be deployed by the higher commander for reinforcement of the incoming formation.

Protection

14072. **Engineer support** for the relief operation in the form of road reconnaissance, repair of the routes of passage and the preparation of alternative crossings over obstacles is provided by the sector commander at the request of the formation passing the lines. The engineers from the unit being passed must prepare detailed information regarding obstacles. The barrier plan is taken over in its entirety by the passing formation. If any changes are necessary, the engineers from the outgoing formation may make them (or as many as they can) before the relief action, unless this is likely to jeopardise secrecy. They may also be able to provide support in setting up field fortifications. Engineer units need time to transfer the various obstacles.

14073. Priorities for **air defence** during the relief action are given to the protection of troop concentrations on the routes of passage and in the assembly areas. The priorities of the transferring and incoming formations must be coordinated in good time. If the outgoing formation has few or no organically assigned air defence units, the incoming formation will put its air defence units in position as quickly as possible. Similarly, the outgoing formation will leave its air defence in position as long as possible if the incoming formation has few or no air defence units.

*Priorities for air defence
during the relief action ...
Photograph: Media Centre
RNLA*



14074. The intention to perform a relief action must be kept hidden from the enemy. **Deception measures** must give the impression that normal activities are being continued. Extra protective measures may be needed to compensate for the increased vulnerability in these transitional situations. Deception measures involve the continuation of the normal pattern of activity, such as patrols, service support traffic and communications. This also means that the incoming unit has to maintain radio silence. Units which will be passing the lines must remain in assembly areas for the shortest possible period.

Service support

14075. During the relief operation, the outgoing unit gives as much service support as possible to the unit passing its lines. This refers particularly to the evacuation of casualties, recovery support and the supply of

fuel and ammunition. The higher commander may order the outgoing unit to hand over supplies that it does not need for the subsequent operation. Elements of the outgoing formation's service support units that are not needed immediately will be positioned as far back as possible and supplies stored in dumps can be taken over by the incoming formation.

Section 5 - Making contact with friendly troops

14076. Making contact with friendly troops is an operation in which a unit in an area not under the control of friendly forces relieves, takes command of or reinforces other friendly units.

14077. It may be necessary to destroy enemy elements between friendly units before contact can be made. Both units can move towards each other. Contact can be made under the following circumstances:

- with troops that have been isolated or cut off and which have set up all-round protection or are conducting a break-out
- with airmobile, airborne or infiltrated units in their bridgehead

In the case of the latter, contact is usually followed by a forward passage of lines or a relief in place.

14078. Making contact involves two or more units, whose missions may or may not be the same. It may be necessary to eliminate enemy troops located between the units involved.

Planning

14079. **Operational framework.** The commander who orders contact to be made may conduct operations in the depth in order to deceive the enemy and fix his reserves. The **close operation** focuses on conducting the attack and establishing contact. The **rear operation** concentrates on protecting flanks and guaranteeing combat service support.

14080. The order to make contact is also related to a subsequent order. The need to make contact may stem from the concept of operations. This need may also become apparent during the execution of an operation. A time will often be given at which contact should be made. In the planning, the following **points are important:**

- coordination of the manoeuvre between the units involved
- command relationships and responsibilities
- communications

Execution

14081. Operations for making contact are **offensive in nature**. The size and composition of a unit is determined by the operation for making contact and by the subsequent operation. Armoured units are the most suitable, certainly if there is a need for superiority in terms of fire power and mobility in order to break through enemy lines.

14082. The following **considerations** apply when making contact.

- Speed is needed in order to diminish the enemy response and thus shorten the period of vulnerability.
- If possible, contact is established by reconnaissance units, which are located ahead of the main force. This simplifies the coordination considerably.
- Subsequent operations should be started as soon as possible in order to take advantage of the fact that contact has been made.

Functions in military operations

Command and control

14083. The higher commander establishes the command relationships and the responsibilities for making contact. He may opt to take command himself or place one unit under the command of another. In the latter case, the responsibility is assigned to the commander who will ultimately conduct the subsequent operation (the incoming commander). If the command relationship is not specified, the commander of the largest unit has the command.

14084. In order for the operation to be successful, it is essential that liaison and other communications be established as quickly as possible. The initiative must come from the manoeuvring unit in this respect. As well as liaison, there must also be an exchange of communication plans, signal orders, authentication systems, call signs and frequencies.

Coordination measures to be taken include:

- establishing report lines
- establishing points of contact
- establishing one or more no-fire lines
- making passages and using guides at obstacles
- allocating frequencies and exchanging communications data
- agreeing on identification measures

Intelligence

14085. **Intelligence** regarding enemy locations, movements, actions and strengths must be exchanged constantly and as quickly as possible. The timely exchange of information concerning terrain and obstacles is also essential.

Manoeuvre

14086. Mobility-enhancing measures are essential. Routes must be cleared and alternative crossings or passages made through obstacles in order to achieve the required speed.

Fire support

14087. Fire support coordination measures are complex. Shortly before the actual contact, the no-fire line is established as close as possible to the positions in order to provide maximum freedom of action for the troops making contact. Close air support in the area between the two units requires special attention.

Protection

14088. The unit that is not moving must mark friendly obstacles or provide safe passages through them. After contact has been restored, it may also be necessary to set up temporary defensive positions. If one of the two units is static, the commander of this unit coordinates the air defence in the contact area.

Service support

14089. Special measures are needed if an encircled unit is relieved and must then displace. Depending on how long the unit has been encircled and on any subsequent operations for both units, resupply, assistance with the removal of defective equipment and medical support will be needed. If contact is established with airmobile or airborne units, these will normally provide their own combat service support, so that the unit making contact can concentrate its efforts entirely on the subsequent operation.

Section 6 - Withdrawal

14090. Withdrawal is an operation in which a **unit in contact disengages from the enemy**. The withdrawal is in principle followed by a movement in the form of a retreat, whereby the main force tries to stay out of contact. The retreat may, depending on the subsequent mission, be geared towards the definitive withdrawal of the main force from combat contact or towards a re-engagement elsewhere. The latter will often arise during defensive actions and in the delaying operation. The order of battle, including that of reconnaissance and protective elements, can be described as a 'reverse' advance to contact formation. The **rear guard** is relatively strong.

Characteristics

14091. The withdrawal takes place when a unit disengages from the enemy according to plan. This will normally occur with permission from or by order of the higher commander. A withdrawal can be made for one or more of the following **reasons**.

- The objective of the operation cannot be reached and the unit is in danger of being destroyed.
- The objective of the operation has been achieved and there is no longer any need to maintain contact with the enemy.
- The troops need to be released for deployment elsewhere in order to, for example, continue the attack, reinforce the defence or prepare the delaying operation.
- An enemy turning movement or envelopment must be prevented.
- The enemy needs to be manoeuvred into what is for him an unfavourable position, for instance by creating open flanks.
- The forward line of own troops needs to be adjusted.
- Friendly troops need to be withdrawn from the effects of friendly NBC weapons.
- For reasons relating to combat service support, for instance if a formation can no longer be supported.

Planning

14092. **Operational framework.** The commander who gives orders or permission for withdrawal from combat conducts the deep operation with a view to fixing the enemy in such a way that he cannot embark on a pursuit.

14093. The withdrawing unit focuses its **close operation** on disengaging from combat, putting as much distance as possible between itself and

the enemy in the shortest possible time. The close operation is organised in such a way that a rapid, rearward movement is combined with effective security measures. Limited visibility simplifies the disengagement but makes a well-ordered movement more difficult. Normally, only armoured units can disengage in good visibility and open terrain. In good visibility, infantry can only do so in covered or uneven terrain. Smoke and scatterable mines can aid the withdrawal.

The closer the combat contact, the more difficult it is to disengage. If units are unable to disengage, even with the use of all their assets, they must be supported by other units and air forces. In open terrain, attack helicopters can play a vital role in such circumstances.

14094. A withdrawal can be **benefited** by:

- reconnaissance of routes and positions
- improvement of existing routes and regulation of traffic, including civil and refugee traffic
- occupation of critical areas from which the enemy can influence the operation
- improvement of existing obstacles and control of these with fire
- use of indirect fire and smoke in order to limit the observation capabilities of the enemy and reduce his rate of advance

The rear operation focuses mainly on clearing the **withdrawal routes**, keeping them open and protecting them. A movement control organisation is needed for this and is set up as far as the rear of the positions of the covering troops.

14095. In the event of a withdrawal, the following **critical factors** arise:

- the moment of withdrawal and disengagement from the enemy
- the preservation of cohesion between the sub-units
- the protection of the withdrawal routes

14096. The exact moment and method of withdrawal must be chosen **on a unit's own initiative, if possible**. The commander can then choose the moment and the level of enemy pressure that exists at the time. In that case, the emphasis is on deception and secrecy.

14097. A withdrawal can take place by day as well as by night. Factors which help to determine the **timing** are:

- the subsequent mission
- weather and terrain conditions
- the enemy situation and the expected enemy action
- the situation of the unit itself

Using smoke

Photograph: Media Centre

RNLA



14098. In the withdrawal, **combat power** is split into three parts:

- a. **Covering troops.** These have the task of protecting the rearward movement of the main force from positions behind the last positions of the main force. Afterwards, the covering troops can function as a rear guard in the movement of the main force.
- b. **Main force.** This moves rearwards after disengagement, if possible in a single movement. The main force provides any necessary security for the disengagement from its positions by leaving behind a protective element. The enemy pressure at the time of disengagement determines the size and task of this protective element.
- c. **Potential reserves.** These will be deployed particularly in unforeseen situations which pose a threat to the rearward movement. It will often be impossible to designate a reserve beforehand. If necessary, a unit that is available at the time can be designated to operate in such a situation.

14099. The plan for the withdrawal must be as **straightforward** as possible. Changes in the order of battle must be avoided if at all possible. The following aspects require special attention:

- surprise and deception
- maximum use of cover
- sufficient withdrawal routes and a good traffic control plan

Execution

14100. The withdrawal takes place in the following phases:

- a. **Service support units** move rearwards.
- b. **Covering troops** take up positions behind the current positions and reserves are accommodated in assembly areas. Passages of lines and rearward movements are prepared, as are the next positions of the artillery.
- c. The **main force** falls back from its positions, leaving behind protective elements if necessary. Once the main force has disengaged and is at a safe distance, the protective elements also disengage. These units may also hold their position until the point at which the enemy discovers the withdrawal and mounts an offensive. The protective elements can then conduct a defence, followed by a delaying operation, in order to mislead and protect.
- d. The **protective elements** disengage. If they are unable to disengage or to prevent the enemy from overtaking the main force, they must be reinforced. Once the protective elements have released their positions, they follow the rest of the main force and continue to provide protection by performing delaying actions until they too have passed the covering troops.
- e. **Covering troops** perform their task at least until the main force has reached an adequate distance. Even then, they can hold their positions until the enemy actually mounts his offensive. They then act in accordance with the principles of the delaying operation.

14101. In the **worst case**, the withdrawal has to take place without prior planning or under unexpectedly heavy enemy pressure. The phases in which it takes place are similar to those in paragraph 14100 with the necessary adjustments in application.

- A position is taken up in the depth so that parts of the main force can conduct a temporary defence on the avenues of approach along which the enemy is actually attacking. All non-committed units fall back directly and clear the routes.
- The units in combat fall back with delaying actions to new positions, pass lines, reorganise and take up new positions in the depth. When units fall back in such situations, protective elements are often no longer available.

Functions in military operations

Command and control

14102. The objective of the operation must be clear to everyone; this is important for morale. This helps to avoid a situation in which the withdrawal (inadvertently) becomes an uncontrolled flight. Prior to the withdrawal, the use of communications equipment should proceed according to a normal pattern. This prevents the enemy from being able to discover prematurely the intention to withdraw. When the withdrawal commences, maximum attention should be given to electronic protection.

14103. The **synchronisation** of activities is essential in the withdrawal operation. In this respect, the commander should at least specify the following times:

- the moment before which no rearward movements must be made, with the exception of regular traffic and reconnaissance, and after which the (forward) units may begin to 'thin out'
- the moment until which the current position must be held

The latter forms the basis for the entire plan.

Manoeuvre

14104. Mobility-enhancing measures are necessary to perform the withdrawal as quickly as possible and keep the withdrawal routes open. The emphasis lies on road repair, on the maintenance of bridges and other crossings and on the preparation of alternative crossings. Attack helicopters are also eminently suitable in the withdrawal operation for supporting protective elements, covering troops and flank security, if there is heavy enemy pressure.

Fire support

14105. The artillery is deployed in such a way that the withdrawal can be supported continuously and that maximum support is available when the covering troops disengage. The protective elements must also be supported. The artillery may carry out part of the deception plan (smoke) and the obstacle plan.

Protection

14106. The return with minimal losses to friendly troops is the point of departure for the withdrawal operation. Much emphasis, therefore, lies

on protection. The formation's morale may suffer serious damage if insufficient attention is given to this aspect.

14107. **Countermobility measures** focus mainly on denying the enemy the use of bridges and crossings. Engineer units are deployed in particular with protective elements, covering troops and flank security in order to lay obstacles in front of the enemy. This includes detonating reserved demolitions and closing lanes through obstacles on withdrawal routes. Scatterable mines are a suitable means for blocking unforeseen enemy approaches quickly in the withdrawal operation.

14108. Air defence assets are ideally deployed at critical points along the withdrawal route (vulnerable locations and potential landing areas for enemy airmobile or airborne units).

14109. Operations security is designed to prevent the enemy from mounting the attack as soon as the withdrawal has begun. This means that all defence activities, including the security in the front and the use of communications equipment, must simply be continued. Preparations of positions on the flanks and in the depth by the protective elements and covering troops must be concealed.

Service support

14110. The plan for the combat service support must ensure that valuable supplies, such as fuel and ammunition, do not fall into enemy hands. All service support units and supplies that are not needed directly must be moved back as early as possible. If supplies are in danger of falling into enemy hands, they must be destroyed.

14111. During the withdrawal, the main effort in the maintenance will concentrate on maintaining the mobility of the disengaging units and the combat-readiness of the weapon systems of the protective elements. A good recovery and removal organisation along withdrawal routes is essential.

14112. The transportation of casualties by air can benefit the medical support during the withdrawal. If the withdrawal takes place over a great depth, the deployment of medical installations in an area that will ultimately be surrendered to the enemy is unavoidable. This imposes special demands on these installations in terms of their reaction time.

15

Operating in exceptional circumstances

Section 1 - General

15001. This chapter describes combat operations which are conducted under the influence of specific weather and terrain conditions. It concerns operations which are affected by major artificial or natural obstacles, extreme cold, desert regions, jungles, polder land and mountains. Sometimes there is a combination of these conditions (for example, extreme cold and mountains). These specific conditions may also be combined with those that occur in forests, built-up areas and in poor visibility. (The latter occur more frequently in normal terrain.) The chapters and sections should thus be read in combination with each other.

Section 2 - Crossing and breaching obstacles

Introduction

15002. An obstacle is a terrain feature, object or construction, natural or artificial, extended or modified, by means of which troop movements are halted, impeded, delayed or forced to change direction. Special equipment or ammunition is needed to cross or breach obstacles. An obstacle often forms part of a barrier. Tactically cohesive barriers which are echeloned in the depth make up a barrier system.

15003. An obstacle can serve to slow troops down or stop them altogether. This obstacle value is relative and differs for each level. An obstacle has stopping power if any vehicle is unable to overcome the obstacle under its own steam. An obstacle has slowing power if time or equipment is needed to overcome it. A slowing obstacle can be overcome by the formation or unit, but not without a substantial time loss. If a unit is facing a stopping obstacle, it means that the unit is unable to cross or breach the obstacle with its organically assigned assets.

15004. Obstacles which must be breached or crossed are rivers, canals, lakes, other large bodies of water, minefields and other obstacles.

Rivers, canals, lakes and larger bodies of water (all subsequently referred to as 'rivers') have the highest obstacle value if there are no longer any permanent crossings available. It is usually impossible to go around such an obstacle. The need to cross the obstacle is established beforehand. The crossing of water obstacles is referred to as a river crossing in the rest of this section.

Minefields are areas where anti-tank and/or anti-personnel mines have been laid; this may or may not have been done according to a fixed pattern. They are usually under observation and enemy fire and cannot always be foreseen, especially if artillery-delivered or scatterable mine systems have been used. Minefields can be temporary if the mines used have a timing device or if they can be armed remotely. The deployment of (armoured) engineers is required in order to create safe lanes through minefields.

Examples of other obstacles are uneven or marshy terrain, craters, anti-tank ditches and gullies, vertical walls and slopes, contaminated areas, artificial flooding and extensive (wire) barricades.

15005. This section deals only with crossing water obstacles and breaching minefields. However, the same principles apply to other obstacles. In any event these other obstacles will often be crossed or breached at lower levels. In this case, the formation level must assign sufficient engineer support to the battalion level.

Characteristics

15006. A crossing or breaching is never an isolated action, but is conducted in the context of an offensive, defensive or delaying operation, from which the aim of the crossing or breaching is derived. If no combat contact is expected with enemy ground troops, obstacles constitute obstructions for the flow of traffic. The emphasis lies, therefore, on the coordinated use of the crossing equipment and ensuring that traffic progresses smoothly. If, on the other hand, contact is expected with enemy ground troops, then the distinction between a crossing or breaching in a forward or rearward direction is important. A forward crossing occurs in the advance to contact, attack or pursuit. A rearward crossing occurs in the defensive, delaying operation or withdrawal.

15007. Every obstacle can be overcome if sufficient time and means are available. Ideally, existing crossings or corridors should be used, and troops should cross or breach obstacles before the enemy has a chance to respond. A turning movement may be less time-consuming than

crossing or breaching; this might be precisely what the enemy intends. If an obstacle cannot be circumvented, places must be sought where the enemy does not expect a crossing or breaching to take place. If troops do this in combination with deception, it is possible to surprise the enemy and create a favourable situation for their own operation.

15008. Overcoming an obstacle is a critical moment. After all, at that moment, there is a division of assets, as a result of which the enemy might be able to defeat part of the unit. What is more, troops do not have optimal room for manoeuvre and the enemy is normally able to deliver fire on the obstacle. The movement across an obstacle and the subsequent deployment of units must, therefore, be kept under tight control in order to maintain the momentum and prevent a reduction in tempo as a result of traffic chaos. There must also be sufficient assets available to respond to an enemy reaction.

15009. Limited visibility provides a good opportunity for crossing or breaching obstacles. However, the protective effect of limited visibility is partly counteracted by night vision equipment.

15010. If an obstacle is defended, the crossing or breaching must be preceded by the neutralisation of enemy fire and the control, at least with fire, of the point at which the crossing or breaching is to be made.

Planning

15011. A distinction is made between two types of crossing or breaching:

- a. a hasty crossing or breaching
- b. a deliberate crossing or breaching

15012. The hasty crossing or breaching is conducted after limited preparation and with assets that are directly available. An operation of this kind should be conducted before the enemy has the time or space to respond and take countermeasures.

15013. The deliberate crossing or breaching requires thorough reconnaissance, detailed planning, extensive preparation and the use of special engineer equipment. It takes place if the obstacle is particularly complex or if the hasty crossing or breaching has failed. In a hasty crossing, many measures can be disregarded; it is more in the nature of the offensive operation. The measures that are implemented depend on the situation.

The river crossing requires thorough reconnaissance.
 Photograph: Media Centre
 RNLA



15014. When planning the crossing or breaching of obstacles, the following considerations apply.

- The operational framework is determined by the operation of which the crossing or breaching forms part.
- Good and timely intelligence, based partly on recent reconnaissance, must:
 - confirm the nature and size of the obstacle
 - aid the decision to choose a favourable opportunity and conduct the operation without extensive preparations
- Traffic control measures form an essential part of each plan; the time planning forms part of this.
- Use must be made of as many deception measures as possible.
- It must be possible to provide sufficient fire support and air defence.

Forward river crossing

15015. The crossing of a water obstacle (from here on referred to as a river crossing) takes place in three partially overlapping phases:

- a. assault crossing
- b. extension phase
- c. consolidation phase

In the **assault crossing** phase, a foothold is gained on the enemy side of the obstacle. The enemy is prevented from delivering direct fire on the crossing site(s). This phase is omitted if enemy troops do not offer any resistance.

*The assault crossing.
Photograph: Media Centre
RNLA*



In the **extension phase**, the captured area is expanded into a bridgehead. The dimensions of this bridgehead must be such that the enemy is unable to deliver directed artillery or mortar fire on the crossing site.

In the **consolidation phase**, the force in the bridgehead is built up so that the attack, advance to contact or pursuit can be continued.

15016. If possible, a hasty crossing is carried out over a broad front with several crossing sites so that the enemy defence is split and the chances of a successful crossing are increased. The main effort is then established at the site at which the crossing was successful. Reserves are deployed there. In a deliberate crossing, a main effort is formed initially.

The area in which the river is crossed must meet the following requirements.

- The area must contain crossing sites with alternatives. These points must be far enough apart to reduce vulnerability and increase flexibility. The rule of thumb is that twice the number of crossing sites must be planned and prepared than are necessary for the amount of traffic.
- The crossing sites must if possible lie beyond the range of enemy observation.
- The area must have enough routes to the crossing sites and lateral routes with adequate classification and capacity.
- The area must offer possibilities for setting up waiting areas, in which the troops assemble before moving to the crossing sites. These wait-

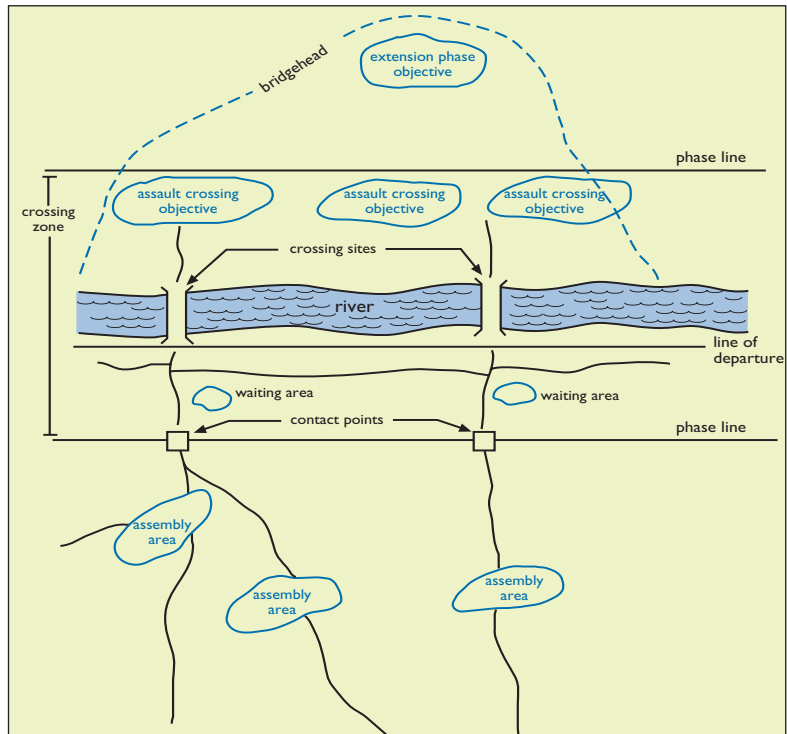
ing areas must have sufficient dispersion possibilities, good roads to and from the crossing sites and good cover. They are set up a short distance away from the crossing sites.

- The area must contain enough space on the enemy side for creating a bridgehead. It must be possible to conduct, if necessary, a defence in this terrain and to break out of the bridgehead without any delays.
- On the friendly side of the river, the area must offer possibilities for setting up a base of fire and position areas.
- There must be assembly areas a good distance away from the crossing sites to accommodate troops so that they can prepare for the crossing.

15017. The formation commander may establish a crossing zone that is reserved for the actual execution of the crossing if the tactical situation or the nature of the obstacle so demands. The depth of a crossing zone is kept to a minimum and depends on the nature of the river and the infrastructure on each side. This zone includes the roads alongside the river which enable lateral movements. A depth of 3 km on each side of the river serves as a guideline. The zone is bordered by phase lines.

15018. For the command and control in the crossing zone, a **river command** may be designated; this is charged with the execution of the

Figure 7: Diagram of a forward river crossing.



crossing and has area responsibility to that effect. The river command is only activated when there are no further combat actions on the river, in other words after the assault crossing.

In all cases, the movement control and the engineers are represented in the river command. It may also be necessary to include representatives from logistics, signals and EW as well as liaison officers from crossing formations.

The river command is responsible for:

- the organisation and setting up of waiting areas, in so far as they are located in the crossing zone
- the movement to and from the obstacle within the crossing zone
- the setting up and operation of the crossing sites, including any alternative points

The river command may also be given tasks which are associated with the river crossing, such as road repair, air defence, service support and security tasks in the crossing zone. In that case, however, the command must be reinforced. The units that play a role in this respect are normally placed under TACON of the river command.

15019. The formation commander sets the priorities and the sequence of the crossing schedule. These may change during the course of the operation. Communications between the tactical commander and the river command are, therefore, essential.

15020. To be able to keep the crossings in constant operation, bridge laying equipment must be kept in reserve.

15021. In the crossing plan, the responsible commander arranges the crossing in terms of time and space. The crossing plan is part of the operation plan; the engineer officer contributes in this respect. The crossing plan includes the following elements:

- crossing sites, alternative crossing sites, lines of communications
- deployment of the engineers with crossing equipment
- crossing zone with river command (if applicable)
- phase lines and checkpoints
- special signals instructions
- waiting areas and march routes
- order of battle, sequence and envisaged timetable
- protective measures

15022. With the assault crossing, a foothold is gained on the other side of the obstacle. This is achieved by:

- infiltration
- sailing, fording or deep fording
- airmobile deployment

The unit conducting the assault crossing has the task of creating so much room for manoeuvre that the enemy is no longer able to deliver direct fire on the crossing sites.

15023. The assault troops conducting the assault crossing will normally first conduct a forward passage of lines through units who have taken up positions on the friendly side of the river. These units use direct and indirect fire to support the unit conducting the assault crossing.

15024. At the beginning of the assault crossing the assault troops cross the line of departure. This is usually located on their own bank, as close to the river as possible.

15025. Once the objectives have been achieved in the assault crossing, the crossing zone can be activated. The engineers will complete the preparation of the crossing sites and the movement control will deploy. The river command must be capable of adapting the crossing plan quickly to any change in the main effort or to unforeseen events at the crossing site. The river crossing is extremely vulnerable once it has been

The engineers will complete the preparation of the crossing site.

*Photograph: Media Centre
RNLA*



localised by the enemy. It may be necessary to break the bridges up into rafts, displace or use smoke to conceal the crossing sites.

At the other side, the area is expanded by the main force to form a bridgehead. These elements pass through or around the assault troops which have carried out the assault crossing and capture the next objectives. The bridgehead is thus formed.

15026. In the consolidation phase, the rest of the main force is brought up to enable a break-out from the bridgehead. Crossing sites are adapted if necessary so that vehicles with less off-road capability can also cross.

A decision has to be made as to which units will continue the attack, advance to contact or pursuit. The preparation of these units is part of the river crossing process, as it affects the use of the crossing sites and the crossing zone.

Rearward river crossing

15027. The rearward river crossing takes place during the defensive or delaying operation or as part of a withdrawal. Usually, there will also be a rearward passage of lines through a unit conducting a defence behind the river. This unit has area responsibility and must thus ensure that the crossing sites are available and functioning. The location of the hand-over line should be such that the crossing sites are not under observation or direct fire.

Given that the enemy may have (local) air superiority and will concentrate his air support on the crossing sites, the air defence of the scarce crossing sites is particularly important. The crossing sites also need to be protected against other hostile actions (such as airmobile operations, infiltrating reconnaissance units, sabotage teams, etc.).

15028. Units that are not required for supporting the combat must be pulled back across the river as quickly as possible and leave the crossing zone. During this phase, existing bridges must be used as much as possible. It may be necessary to lay extra bridges or rafts. In this case, it may be necessary to use a river command.

15029. The combat forces fall back across the river under cover of direct and indirect fire by units on the friendly side of the river. The speed of the crossing depends on the pressure created by the enemy attack or advance to contact. Once all combat forces have crossed the river, the bridges are pulled back, dismantled or destroyed and any minefields closed.

15030. If there is limited enemy pressure and the crossing sites have sufficient capacity, the retreat takes place under normal tactical movement control. It is not necessary to set up a river command in this case.

15031. If enemy pressure on the enemy side of the river causes the return of the unit to proceed faster than was expected, the returning units must first be accommodated in waiting areas. This will also be necessary if there is insufficient capacity at the crossing sites to process the amount of traffic. In both cases, there is a requirement for extra space, which must be defended, on the enemy side of the river.

Breaching minefields

15032. Control of existing lanes through minefields must if possible be seized with a hasty breaching. If this is impossible, a deliberate breaching will be necessary. To be able to conduct a successful breaching, a commander must at least have the following intelligence:

- foremost and rearmost boundary (depth) of the minefield
- strength and location of enemy units which could cover the minefield

The main purpose of the breaching is to create narrow lanes through the minefield.

*Photograph: Media Centre
RNLA*



15033. The initial purpose of the breaching is to create narrow lanes through the minefield, along which dismounted infantry and combat vehicles can reach the other side of the obstacle. The extent to which this can take place in a preparatory phase depends on the situation at the time: terrain, enemy situation, type of obstacle and available breaching equipment. These lanes can be widened later if necessary. The minefield must be breached simultaneously in as many places as possible.

15034. Reconnaissance of enemy minefields must also focus on establishing corridors for patrols. Depending on the enemy situation, dismounted troops must reach the other side of the minefield to set up a bridgehead. Once lanes have been made, traffic control posts must be set up on both sides and reinforced with recovery equipment.

15035. Once the forward unit has breached the minefield and has taken up protective positions at the other side, engineer units can widen and mark the lanes. Traffic control units supervise the breaching of the minefield by the main force. Clearing the obstacle completely costs a considerable number of personnel and a sizeable amount of equipment. For this reason, it will only occur in combat operations if it is absolutely necessary.

15036. Command and control will occur at a lower level than it does for the river crossing. Within a formation, lanes may be created independently in several places.

Functions in military operations

Command and control

15037. The close relationship between the operation to form a bridgehead and the organisation of the use of breaching and crossing sites with the associated routes requires centralised planning and execution. The formation commander is responsible for this.

15038. Each command level that is involved in a river crossing will have an engineer commander under command or in support. He is responsible for the technical execution of the crossing or breaching. Engineer commanders are responsible at their level for the following aspects:

- providing engineer advice
- ensuring communications between the engineer units
- designating crossing site commanders

15039. The crossing site commander is a member of an engineer unit with the following responsibilities:

- laying the crossing site and keeping it and the approach and exit routes open and functioning
- leading the crossing and instructing troops that are using the crossing site
- advising the traffic control units

15040. The commander must keep the engineer commander advised of his intent and plans, if necessary by means of liaison. This enables the engineer commander to make his assessment of the situation and give advice. It also provides an opportunity for the river command and the crossing site commanders to conduct the crossing or breaching even if communications are limited.

Intelligence

15041. The intelligence preparation of the battlefield must provide definitive information regarding the nature and size of obstacles and support the commander in his decision making in respect of any turning movement around the obstacle and the hasty or deliberate crossing or breaching.

Manoeuvre

15042. See paragraphs 15011 - 15036.

Fire support

15043. For the crossing or breaching of an obstacle, it is essential that there is enough air support and ground-based fire support. The artillery and mortar units are set up for close support so that they can support all phases of the crossing. The primary task of the fire support units is to provide close support for the units in the bridgehead. Fire support units can also use smoke to hamper enemy observation of the breaching or crossing sites. In the event that only temporary and local air superiority can be won, the time and place of the crossing must be coordinated with the air forces. Especially during the assault crossing and when establishing the bridgehead, air superiority is vital.

Protection

15044. Units that are crossing or breaching an obstacle are vulnerable to enemy fire support and air forces. Although each unit is responsible for its own all arms air defence, air defence units need to be deployed at the lanes or crossing sites and on the connecting routes. The deployment of air support and friendly helicopters during the assault crossing and extension phase means that the use of the airspace has to be coordinated, particularly at brigade and division level.

Service support

15045. The unit that has to gain a foothold on the enemy side of the obstacle must have sufficient supplies. This is because units conducting the assault crossing or the breaching are temporarily cut off from their logistic supplies. The crossing plan must incorporate special measures for moving up fuel and ammunition in good time. Account must also be taken of a rapid and balanced build-up of supplies on both sides of the obstacle in case the crossing sites are lost.

A substantial amount of extra equipment is needed for crossing water obstacles, such as boats, transport assets and bridge-laying equipment. This requirement takes up part of the logistic capacity.

Medical evacuation needs to be included in the crossing plan. As long as it is impossible to deploy medical installations on the other side of the obstacle, casualties must be evacuated to the friendly side. Medical facilities with surgical capacity must, therefore, be deployed as near to the site as possible. Ideally, casualties are evacuated by helicopter.

Section 3 - Operating in extreme cold

Introduction

15046. Combat in extremely cold weather conditions requires special techniques, training and equipment. Snow, ice, frost and fog are likely to occur in such conditions. Wind intensifies the effect of cold on people.

Characteristics

15047. Extremely cold conditions have a number of radical effects on operations. Once normal conditions have returned, these effects usually disappear quickly. The weather is often highly unpredictable. Depending on the time and place, conditions can change extremely quickly. The following effects can be identified.

- Severe frost can improve the condition of terrain that was previously difficult or impossible to negotiate. The obstacle value of waterways is reduced or eliminated completely if extreme cold persists.
- Heavy snowfalls can make movements over previously passable terrain impossible. Roads can then only be used after they have been cleared.
- After a period of extreme cold, a thaw can make sizeable areas impossible for vehicles to cross.

- Keeping weapon systems, vehicles and other equipment combat-ready requires special measures, equipment and facilities. Metals and plastics become hard and brittle in extremely low temperatures.
- The living conditions are particularly tough for personnel and impose heavy demands on their physical stamina. Measures need to be taken against frostbite and dehydration. Special provisions in terms of clothing, equipment, food and medical support must keep the combat power up to the required level. Because of the cold, it is often impossible to remain for any length of time in unheated positions without the risk of cold injuries.
- Making trenches and cover is problematic. Normally, this can only be done with the aid of explosives.
- After a snowfall, special measures must be taken for camouflage.
- The effect of artillery and mortar fire is considerably reduced by the smothering effect of snow.
- Fuel consumption is higher than normal. This is because it is used for heating, which is necessary to prevent breakdown.
- Semi-arctic areas have many hours of daylight in the summer and few in the winter. Biting winds make it more difficult to see with the naked eye.

The living conditions are tough for personnel.
Photograph: Defence Organisation for Recruitment and Selection, Ministry of Defence



Planning and execution

15048. Extreme cold affects all (combat) actions: these cost a great deal **more time** than under normal circumstances. The effect of cold weather on the terrain and on enemy and friendly operations usually leads to

an adjustment of plans. Units must be able to **survive** in these extreme conditions and be deployed for prolonged periods. This requires proper training and equipment and a modified organisation. The combat is usually conducted by **relatively small units** which can hold out independently over a prolonged period. It is often difficult to make any changes in the order of battle during the course of the operation.

15049. **Offensive operations.** In extremely cold weather, success can be guaranteed if the attacker manages to separate the enemy combat units from their combat service support. Without food or fuel to survive, the effectiveness of combat forces is drastically reduced. Because of the need to concentrate positions, the defender's flanks and rear are only covered by surveillance so there is good scope for circumventing the enemy. Heavy snow, storms and fog provide excellent opportunities for a surprise attack. Severe frost over a prolonged period reduces the obstacle value of waterways, swamps and lakes. However, movements in a winter landscape are more easily observed. The attack is delayed, as more time has to be spent on service support for both personnel and equipment.

15050. **Defensive and delaying operations.** The number of personnel available for combat actions in extremely cold weather conditions is usually limited. It is also difficult to construct defensive positions. As a result, it is often impossible to set up a complete defence with mutually supporting positions. Certainly (mechanised) infantry will operate in relative isolation from various positions with perimeter protection. This applies less to tanks. The use of observation posts is necessary for the surveillance of unoccupied areas between the positions in order to enable the timely deployment of reserves. The reserves will, therefore, be deployed in a more decentralised manner. Account must also be taken of the fact that once a unit has been deployed, it cannot automatically be moved; this may even be impossible because of heavy snowfalls or thaw. The choice for the initial positions is, therefore, extremely important. The possibility that the enemy's avenues of approach could differ from what was originally expected must also be borne in mind. Given the dispersion, it is relatively simple for the enemy to infiltrate and then seize the logistic support installations and the lines of communications. The protection of the rear area thus requires special attention.

Functions in military operations

Command and control

15051. In operations in extremely cold weather, the emphasis lies on centralised planning and decentralised execution. The commanders at lower levels are expected to pay special attention to personnel care as well as showing initiative and persistence. The planning must take account of longer preparation periods and an increased requirement for rest, clothing and equipment. The capacity of communications equipment is also severely reduced in extremely low temperatures.

Intelligence

15052. Sensors are ideal in these situations for observation over a prolonged period. However, the energy supply for these sensors is limited. Most of the intelligence, therefore, must still be gathered by combat reconnaissance. The use of helicopters for patrols can offer great advantages.

Manoeuvre

15053. Extreme cold has a major effect on the condition of the terrain. Little or no snow is generally good for movements. Heavy snowfalls, on the other hand, seriously hamper movements. Wheeled vehicles must have snow chains. Much-used roads and paths must be cleared if possible. Mine clearance is difficult under these circumstances because of the (partially) frozen detonators, reduced effectiveness of detectors and excavation difficulties. Helicopters are a good alternative for rapid movements, for example in the case of reserves. It may be necessary to block routes over frozen waterways, albeit temporarily, with the aid of explosives or by deploying artillery.

15054. Helicopters can be seriously hampered by heavy snow; for this reason, helicopter operations may be locally and temporarily impossible. Landing strips and zones with loose snow may also restrict helicopter operations.

Fire support

15055. The effectiveness of the weapon systems may be reduced substantially, particularly by the diminishing effectiveness of batteries, engines and fuel, oil and lubricants. Artillery and mortar fire becomes less effective because of the smothering effect of the snow. Air support,

on the other hand, is often effective because of the lack of cover for the enemy. This applies particularly to enemy service support installations and lines of communications.

Protection

15056. More than in any other conditions, it is vital that personnel be sheltered from the cold and the wind. Positions can often only be constructed by means of explosives. Setting up cover for armoured vehicles can also cause problems. Laying obstacles can be very costly in terms of time, equipment and explosives.

After intensive snowfalls, the concealment and camouflage of positions, personnel and equipment require time-consuming adjustments. The effect of concealment of weapon positions is partly cancelled out by the cloud of loose snow that is produced when weapons are fired.

Service support

15057. The service support has to take account of a higher rate of consumption of food and fuel and an increased incidence of non-combat losses (cold injuries). Since movements will generally proceed at a slower pace, turn-around distances between service support and user units will increase. This may lead to an increased transport requirement, for which helicopters can be deployed. If the supply of user units is jeopardised by the weather conditions, their self-sufficiency can be increased, possibly by storing supplies in dumps. Maintenance activities are more difficult. The capacity can be kept up to the required level by means of sheltered and heated work sites.

Section 4 - Desert warfare

Introduction

15058. Operations in desert regions are mainly affected by features of the **terrain**:

- the lack of infrastructure and local supplies
- good fields of observation and fire

Temperatures have a major effect on the performance of personnel and equipment. Ground water is often so deep that only small amounts can be obtained by digging wells.

Characteristics

15059. Desert regions are usually located in warm or tropical climate zones, which means that there is a combined effect of climate and terrain. Deserts consist of large stretches of terrain with a passable surface, fairly flat and relatively unsegmented by obstacles. There are also areas with great differences in altitude and with steep rock formations, sometimes even in the nature of a low mountain range, and vast sand dunes.

The lack of water makes the desert an inhospitable region. It is sparsely populated and has an extremely limited infrastructure. Inhabited areas are few and far between and are only to be found where there is water.

Limited possibilities for orientation.

Photograph: Defense Section, US Embassy



15060. The surface conditions away from the few roads require equipment with some degree of off-road capability, such as tracked vehicles. Vegetation is scarce in the desert, which means that artificial aids have to be used for camouflage.

The extensive fields of observation and fire require a permanent all-round protection, mobility and long-range reconnaissance. Because of the limited possibilities for orientation, the use of navigation apparatus is essential at all levels.

15061. There are enormous differences in temperature in the desert; during the day in the summer the temperature can rise to above 50°C, and at night in the winter it can drop to -45°C. Temperatures can vary some

forty degrees from day to day. Intensive rainfall occurs sporadically in desert regions. Because of the lack of vegetation, the ground is unable to soak up the enormous amount of water, which results in local flooding. Some low-lying areas (wadis) then become dangerous. The wind can be extremely strong and cause sandstorms, in which units may become completely isolated. This can also cause considerable damage and wear to equipment. Good uninterrupted visibility across terrain with few features can cause people to underestimate distances. Rising air can limit visibility; the effect of vibrating air is compounded by the use of binoculars. Atmospheric refraction distorts the shape of objects, especially vertically. All of this combines to reduce orientation and observation capabilities.

15062. **Effects on personnel.** Surviving in desert regions over a prolonged period imposes heavy physical and mental demands on personnel. Operating in the desert affects them physically and psychologically, particularly because of dehydration, exposure to the sun and the high temperatures. Physical capabilities are more limited and water consumption is extremely high. Strict discipline and extra personnel care are essential if the negative effects are to be kept to a minimum.

Acclimatisation is necessary to allow the body to adjust to the extreme heat. A period of approximately four weeks is usually enough. If that is impossible, deployment in hot conditions must alternate with a period in a cool area. Protection against the effects of the sun and sandstorms is also vitally important.

15063. **Effects on equipment.** Heat and sand take their toll on much of the equipment. The performance of helicopters diminishes considerably. The heat can have an adverse effect on supplies. Sand and dust can also have adverse effects, such as the accelerated wear of equipment. Frequent maintenance is thus highly important.

Planning and execution

15064. In flat desert regions, the operation is mainly conducted by armoured units, sometimes supported by airmobile and airborne units. Combat will usually take place in a large area which offers good scope for conducting highly mobile combat. In general, the command and control will not differ greatly from that under normal circumstances; the time and space factors, however, will be different.

15065. **Offensive operations.** Because of the large amount of space available, the desert region is ideal for envelopment and turning movements. Assault troops should use the enemy's open flanks to circumvent the enemy main effort and occupy key terrain in the depth; the enemy will thus be outmanoeuvred. Because of the lack of cover, assault troops are also vulnerable.

15066. Close cooperation between ground, airmobile and air components is essential. Covered approaches for helicopters are by no means always available; the enemy will thus observe these airmobile movements relatively early and it will be simple for him to attack. The consequences of the lack of camouflage possibilities are reduced by surprise, rapid movement and operations security (communications discipline and deception). Ideally, the combat is conducted at night because of the relatively higher degree of protection, favourable temperatures and the possibility of fighting without air superiority.

15067. **Defensive operations.** The extensive fields of observation and fire, the lack of obstacles and the numerous avenues of approach are the specific problems for defensive operations. This can be compensated by conducting the defence in the depth and by keeping a strong reserve. The initial emphasis should in any event be on establishing the location of the main enemy effort, so that it is possible to concentrate the counterattack force or the reserve on the enemy flank or rear.

15068. Key terrain in the desert consists of logistic facilities, road and rail intersections, water-collection areas, mountain passes, and so on. Holding the desert region itself will seldom be a deciding factor in achieving the ultimate objective.

A cohesive defence is not usually possible without a major engineer effort. Both sides will make much use of minefields in the defensive operation.

15069. **Delaying operations.** Special attention is required for timely reconnaissance, the preparation of positions in the depth and maintaining contact with the enemy in order to prevent turning movements. The extensive fields of fire mean that the enemy can be attacked at the longest possible range. Field artillery, aircraft and attack helicopters can be used to support the withdrawal and the subsequent movement to the depth. Smoke can also be used to conceal these movements.

Functions in military operations

Command and control

15070. Command posts should be kept as mobile as possible so that they can follow the mobile operation over long distances. The speed of the operation and the large space in which it takes place require extra communications measures, such as relay stations, satellite links and (airborne) tactical command posts.

Intelligence

15071. Because of the vast space in which troops operate and the high tempo of the operation, there is a requirement for long-range collection units. Airborne platforms such as UAVs, tactical air reconnaissance and helicopters are ideally suited in this respect. Electronic reconnaissance is also an important aid, as there is virtually no interference of radio traffic by external factors in these uninhabited areas.

Manoeuvre

15072. The vast space in desert regions gives rise to large-scale movements with long, open flanks. These movements mean that rear operations are a crucial factor in the sustainability. The use of helicopters offers considerable advantages.

Fire support

15073. The artillery and mortar units should have the same mobility and must be able to develop the same tempo as the combat forces. The use of artillery observers from helicopters can be highly effective because of the extensive fields of observation.

Protection

15074. The scant vegetation in the terrain provides little cover. This can be compensated by a deception plan in which dummy operations play a major role. The lack of obstacles means that mines are used extensively.

Air operations are almost always possible in desert regions. This lays a substantial claim on air defence units. Because of the scarcity of air defence assets, each unit must provide more all arms air defence than usual.

Service support

15075. The high tempo of the operations in desert regions means that turn-around distances increase rapidly.

The huge requirement for fluids means that the distribution of drinking water to personnel is the most essential provision. Temperature-controlled storage and transport of foodstuffs is usually another necessity.

The maintenance system is stretched to the utmost because of excessive wear as a result of the effects of sand and dust. The logistics system should focus mainly on the prevention of sand and heat damage to engines and the moving parts of pieces of equipment.

The medical system concentrates mainly on the prevention of dehydration and infections. Air-conditioned treatment areas are needed because of the high temperatures. The medical system must be prepared for the treatment of various ailments specific to desert conditions, such as sun-burn, heat-stroke, dehydration and cold injuries.

Section 5 - Jungle warfare

Introduction

15076. Jungles are vast tropical forest areas which are often combined with mountainous terrain or swamps. They have extremely dense vegetation with relatively few open spaces.

Characteristics

15077. There are virtually no roads in jungles; paths must be cleared and kept open by hacking through vegetation. Because of the dense vegetation, the fields of observation and fire are extremely limited; areas which would normally be designated as key terrain no longer have this value. The larger rivers form good approach routes. The living conditions are tough, not least because of the exhausting climate. Reliable maps are often unavailable or have limited value because of the lack of orientation possibilities, but this is fully compensated by the availability of navigation equipment.

15078. The unfavourable terrain can restrict communications and limit the possibilities for movement. Helicopters are essential for movements and support tasks.

Dense vegetation means that the fields of observation and fire are extremely limited.

Photograph: Audio-visual Service, RNLA



Planning and execution

15079. The text of paragraphs 0930-0934, 11102-11108, 12088-12093 and 1363-1368 also applies in part to the planning and execution of jungle warfare.

15080. **Offensive operations.** The attack is conducted by infiltrating on paths that troops have themselves cleared along the flanks of the enemy defence and then capturing objectives in the enemy's rear. These units usually operate independently over a prolonged period. They must be specially trained and equipped for such operations. For reasons of secrecy, it may be necessary to dispense with airmobile supply. In that case, the unit has to carry its own provisions. Support from porters is indispensable in this respect. As the attack progresses, reserves are brought up, ideally in armoured vehicles, along the cleared and secured tracks and paths. Rivers can also play an important role here.

15081. **Defensive and delaying operations.** The defence focuses primarily on the available routes, including the rivers. Along these routes, positions that can be defended on all sides are grouped in the depth and normally occupied by units of platoon size. The protection of the defence area, the service support installations and the friendly routes is ensured by extensive patrols and by laying ambushes. In this way,

enemy infiltration can be prevented, or a decision can be made on where to deploy a reserve. A large number of friendly troops are deployed for this purpose.

Deployment opportunities must be created for the reserve, which will move on foot or, preferably by helicopter (airmobile). The routes to be used must be prepared in detail.

Functions in military operations

Command and control

15082. Command and control is extremely decentralised. The use of communications equipment is limited; special provisions, such as airborne relay stations and satellite links, are usually required.

Fire support

15083. The deployment of mortars in jungles is generally more effective than that of other fire support assets because of the limited space for positions, the vertical impact and the mobility. Mortar support must be assured while troops are patrolling.

Service support

15084. The service support system is highly decentralised, because supplies can only be moved up to units by helicopter, small boats or special tracked vehicles, or sometimes even on foot. Special equipment must be available for jungle warfare.

15085. The high degree of humidity affects personnel and equipment. Preventive hygiene is, therefore, extremely important. The combat-readiness of friendly troops can be affected by tropical diseases. Vermin cause major problems in this respect. Compulsory and controlled use of medication and other preventive measures are necessary. The medical system should have specific medical expertise and medication.

Section 6 - Operating in polders

Introduction

15086. **Polder terrain** is flat and usually open. Sparse buildings, thickets and built-up areas, together with the dykes that surround the area, are the only limitations to visibility. The land is intersected by numerous

waterways with a regulable water level. The level of ground water is rarely lower than one metre under the surface. The road network is usually limited and largely intended for agricultural vehicles. The land is usually used for farming.

Characteristics

15087. The following **characteristics** determine operations in polder terrain.

- Waterways and dykes divide the area into compartments, limit movements and mean that troops operate separately.
- The condition of the surface can vary considerably. Waterways confine the movement possibilities for all vehicles to the roads. Roads and bridges often have low classifications.
- Concealment and cover are confined to the built-up areas, dykes, scattered buildings and thickets.
- Because the ground surface in the polder is always below the level of the water surrounding it, polder areas can be flooded easily. It then becomes impossible to operate in the polder.
- The high ground water level limits the possibilities for entrenchment; field fortifications must be raised (which means that they are more vulnerable) or entrenched in the body of the dykes.
- Because of the high level of humidity, mist often occurs in the morning and evening, which limits the field of observation.

Concealment and cover are limited.

Photograph: Media Centre

RNLA



Planning and execution

15088. **Offensive operations.** Polder terrain is unfavourable for offensive operations. Because of the limited possibilities for movement, the operation is usually carried by artillery support, attack helicopters and air support. Tanks constitute the means of manoeuvre. Infantry is necessary for any mopping up afterwards. Key terrain consists of transversal dykes and road intersections, usually in built-up areas. With infiltrations in poor visibility, offensive operations can be supported by cutting off enemy retreat routes.

15089. **Defensive operations.** The main effort of the defence lies in the control of roads, bridges and dykes. To this end, positions are taken up in built-up areas, in scattered buildings and behind screens of trees. If possible, the unoccupied sectors are flooded. The range of the weapon systems can be used to full advantage because of the extensive fields of observation and fire. The enemy is largely confined to roads; away from them, he operates on foot. He will also try to circumvent positions by means of infiltration or airmobile operations in limited visibility. Because of the restricted possibilities for movement, only limited offensive actions are possible. In the case of armoured operations, counter-attacks cannot usually be sustained for very long. Offensive actions, if they have been well prepared, can also be conducted on foot.

15090. **Delaying operations.** Polder terrain offers good possibilities for delaying operations because of the time-consuming combat actions that an enemy has to conduct along roads and dykes. By opening fire at long range and setting up a few extra obstacles, a great deal of time can be won. The most time can be gained by mobile delaying actions, whereby maximum use is made of tree cover, built-up areas and dykes. The lack of covered retreat routes means that smoke or poor visibility has to be used for protection.

Functions in military operations

Command and control

15091. Polder land is generally flat terrain which offers a clear view. For command and control this means that cohesion can easily be maintained in the operation.

Intelligence

15092. Intelligence regarding the state of the terrain and particularly whether it is passable is essential. It is necessary to find out which parts are dry enough, which means that engineering intelligence is particularly important.

Fire support

15093. Because of the extensive fields of observation and fire, artillery support can be put to full use. In offensive and delaying operations, there is a greater need for smoke to restrict the enemy's observation capacity. Deployment of artillery with direct laying is often the only way to put enemy firing positions out of action. Given the vulnerability of the troops operating on foot, it is extremely important to engage enemy artillery and mortars in the offensive operation.

Protection

15094. The passages through the numerous natural obstacles should be blocked by making craters and demolishing bridges.

Because of the lack of natural cover, the deployment of air defence assets is highly important. The lack of cover makes friendly non-armoured air defence assets vulnerable. Air defence will, therefore, mainly be conducted with armoured assets and portable systems.

Section 7 - Mountain warfare

Introduction

15095. Mountainous territory is extremely uneven terrain, which has steep slopes and valleys and which covers a large area. Mountainous terrain includes built-up areas and lowlands between the mountain ridges, highlands and passes. Towns and other built-up areas are concentrated in the valleys. The weather conditions are extremely changeable.

Characteristics

15096. Mountain warfare has the following **characteristics**.

- The enormous differences in altitude offer good observation possibilities, but at the same time create large areas of dead space. These differences also affect the range of communications equipment.
- The road infrastructure generally follows the pattern of water-

courses. This affects the manoeuvre, as most of the assets are confined to the road network. At higher altitudes, the road network is extremely limited. Movements off the roads and paths in such areas are only possible for troops on foot.

- On the lower slopes, the vegetation often consists of woods and bushes, which provide the necessary concealment. There is virtually no cover above the tree line.
- At higher altitudes, the ground is made up of rock; digging trenches is thus time-consuming and can only be done with special equipment.
- Operating on foot in mountainous terrain is extremely demanding in physical terms because of the thin air and the enormous differences in altitude.
- The weather is often unstable and can change very quickly.

15097. These characteristics result in the following **restrictions**.

- Armoured units can only be used to their full advantage in the valleys and in the areas near the roads over the passes.
- Because of the limited scope for movement, changing the combat organisation after the initial deployment is complicated.
- The differences in altitude often hamper mutual support between units; this requires a low-level order of battle of essential weapon systems.
- The limited road infrastructure imposes restrictions on the combat service support for tactical formations.

15098. **Effects on personnel.** The effects of the weather on personnel under normal circumstances is intensified in mountainous terrain (for example, the dazzling effect of the sun, hypothermia caused by cold winds and snowstorms, avalanches, floods caused by heavy rainfall, and so on). For this reason, only those personnel who have had good mental and physical training and who have the necessary equipment can operate effectively in mountainous terrain. An acclimatisation period of at least a few days is required.

15099. **Effects on equipment.** Extra training is needed for driving in mountainous terrain. Tracked vehicles can easily skid in loose stones and rubble, mud or snow. Not all roads are passable for large service support vehicles. The thin air also has an adverse effect on engine performance. Above 1800 metres, there is a 10-25% loss of power.

Planning and execution

15100. The area is **compartmentalised** because of the great differences in altitude; this makes it difficult to maintain the cohesion in the operation. Operations in mountainous territory focus primarily on key terrain. In mountainous terrain, this consists of areas which control passes, road intersections, exits from valleys, defiles and through-roads. The possession of these key areas of terrain has a canalising effect; they can often be controlled from a higher altitude. Combat actions to gain or hold high ground will often dominate mountain warfare.

15101. **Infantry** can operate virtually anywhere in mountainous country. Only infantry can capture and hold key terrain that is situated high in the mountains. Units of platoon and company size can often delay or halt a larger enemy unit by occupying critical high ground near passes or on mountain ridges. Movements are ideally carried out by helicopter, as passing critical high ground any other way is extremely time-consuming. Support by artillery and mortars and close air support makes the helicopters even more effective.

Infantry can operate virtually anywhere in mountainous terrain.

*Photograph: Media Centre
RNLA*



15102. **Offensive operations.** It will usually be necessary to form task forces. More assault troops are needed than in flat terrain in order to compensate the terrain advantages of the defender. The scope for influencing the operation is increased if a central reserve with a high degree of mobility is available. Airmobile units are particularly suitable in this respect. Axes of advance which follow the course of the valleys are the most favourable. The speed of attack will be lower than in flat terrain.

15103. The **assault troops** will encounter the most resistance in the valleys, as long as the enemy controls the valleys with fire from higher ground. In that case, it is necessary to first take up forward positions, if possible on the flank and in any event on higher ground, before the attack can be mounted in the valley. If this is not possible, the enemy is first fixed frontally so that he can be circumvented via the surrounding valleys and high ground.

15104. The **reserve** follows along the roads so that it can be deployed quickly. Normally, tank units can only conduct an attack via the roads. Turning or enveloping movements by infantry should be carried out via higher ground. This is very costly in terms of combat power and time. Airmobile units can play an important role in this respect.

15105. **Close air support** is difficult to carry out because of the limitations of the terrain. Attack helicopters, on the other hand, can get close to the enemy positions as they are barely affected by the nature of the terrain and the mountains can provide extensive cover. Unstable weather conditions can, however, impose sudden restrictions on the close air support and the deployment of attack helicopters.

15106. **Defensive operations.** The combat organisation is heavily influenced by the terrain. Task forces often need to be formed for prolonged periods. The size of units that receive independent orders must be such that they can also form their own reserve. The need for a central reserve is determined by the estimated reaction time for its deployment.

15107. The defence is mainly conducted on **passes, road intersections and critical high ground.** Mountain ranges running transversely in the defence area favour the operation. Although it is possible to select positions with extensive fields of observation and fire, it is often difficult to introduce cohesion into the defence.

15108. The defence is characterised by **local combat actions on a small scale.** In terrain with good visibility and few obstacles, armoured units can conduct mobile operations. **Counterattacks** of any substance are only possible in wide valleys or on upland plains.

15109. When the enemy attacks, **armoured units** will stop him in the valley. These combat actions may be supported from positions in areas of higher ground. The later troops open fire, the deeper the enemy will penetrate the defence area and the greater the possibility of attacking him on the flanks. If, despite counterattacks and counterstrokes, the enemy pushes through, he must be countered with a defence grouped

in the depth. Mountainous terrain provides favourable possibilities in this respect. The use of transverse connecting routes makes it possible to attack the enemy quickly in the flank and rear. The **main effort** of the friendly operation is situated at the point at which the terrain allows a rapid enemy drive with armoured assets. It is difficult to shift the main effort in mountainous terrain.

15110. The nature of the terrain often means that **reserves** have to be decentralised and located close behind the forward units. Reserves from the higher level are, on the one hand, intended for reinforcement of forward units in the identified main enemy effort and, on the other, for disabling enemy airmobile or airborne elements. Friendly airmobile units thus make an ideal reserve.

Engineer units support the defence by setting up obstacles, particularly on passes and roads.

15111. **Delaying operations.** The same considerations apply to delaying operations in mountainous terrain as those for defensive operations. On his approach, the enemy will initially deploy his assets on the through-roads in order to be able to push through into the depth of the area. If he encounters fierce resistance or if he wishes to use surprise, he will use the areas in between. Mountainous terrain provides good opportunities for repeatedly forcing the enemy to deploy by means of obstacles and temporary defence. There is also the possibility of setting up ambushes and surprise positions from constantly changing directions.

The terrain often provides clear indications for the location of the main effort; it is difficult to shift it because of the nature of the terrain.

15112. **Mechanised infantry** may also be involved in delaying operations. They must conduct a mobile operation, supported wherever possible by **tanks**. These tanks always depend on the support of the (mechanised) infantry. The obscurity of the terrain means that there is a need for several task forces which conduct the combat more or less independently. There will often be just a small **reserve** which is maintained locally and located close to the forward units. A larger reserve is kept if:

- the terrain allows the rapid transfer of the reserve to threatened areas
- the reserve is able to conduct counterattacks
- the reserve is designated as a protective element for the purposes of disengagement

Functions in military operations

Command and control

15113. Command and control is problematic in mountainous terrain because of the compartmentalisation of the terrain. As a result, units operate independently and in smaller groups. Plans must be closely coordinated.

15114. **Communications** pose an additional problem in this case as the mobile operation is conducted over great distances and the terrain causes receptions to be shielded. Units often operate separately because of mountain ridges. Because of the limited scope for deployment and the communication problems, the **location of the command post** must be chosen carefully. Commanders and staff officers need to be able to move quickly and frequently. Command and control units should, therefore, be as small and light as possible, if necessary in an airborne tactical command post. It may be necessary to incorporate them in combat units in order to provide adequate protection.

Intelligence

15115. Combat reconnaissance should also extend to adjacent and adjoining valleys in order to identify ambushes in good time. The need for reconnaissance in the depth of the sector is greater than in flat terrain because of the limited scope for observation and movement. Air reconnaissance is often the only method for collecting intelligence from the depth of the sector in mountainous terrain.

Fire support

15116. If centralised battle command is not possible, parts of the artillery will be placed under the command of the assault troops. In mountainous terrain, the artillery must establish a close network of observers. An enemy that makes use of extremely steep slopes can sometimes only be countered with mortar fire. Mortars can also be deployed in places which cannot be reached by guns. The terrain conditions in the valleys often hamper close air support for the forward units; it is, therefore, only requested in exceptional cases. Unstable weather makes the execution of close air support uncertain.

Protection

15117. The air defence should mainly be directed at valleys and roads. It must also be possible to attack an enemy airmobile or airborne deployment. For the deployment of air defence, the following aspects need to be considered:

- areas from which adequate early warning for the delivery assets is possible
- good locations for the delivery assets
- local protection of isolated air defence positions
- resupply of ammunition

Service support

15118. In mountainous terrain, the combat service support is vulnerable because of the lack of sufficient infrastructure. In the preparatory phase, therefore, sufficient stocks must be built up. The timely resupply of goods and evacuation of casualties are often only possible by helicopter or by means of pack animals. Logistic support in mountain terrain requires a thorough reconnaissance of service support routes and areas. It may be enough to ensure that units down to a low level have a certain degree of self-sufficiency.

16

Airborne operations

Section 1 - Introduction

1601. Airborne operations are joint operations in which **in principle specially trained ground forces** are flown in aircraft to a landing area. After deployment, airborne formations, units or task forces are in principle on their own until other ground forces physically make contact with them. The deployed airborne formations, units or task groups may be reinforced with other units which are transported by air. Airborne operations may be supported by air transport or air supply operations.

Airborne operations.

Photograph: Media Centre

RNLA



Section 2 - Characteristics

1602. An airborne operation can be used to retain or regain the initiative. It can play an important role, as it can be conducted from an unexpected direction over a great distance and possibly with a view to bringing about a decision. The success of an airborne operation is highly dependent on the degree of surprise. Good operations security is, therefore, essential.

The commander may also use an airborne operation in the context of a deception operation. Furthermore, the mere presence of the airborne formations, units or task forces as well as the air transport capacity for possible deployment may be enough to pose a real threat to the enemy. This may be a reason for him to deploy some of his units in a particular area.

1603. There are three **types of airborne operation**.

- a. **Capturing and occupying key areas or objects.** In an operation of this type, there are normally two phases. First is the offensive phase, during which the objective is captured. The defensive phase then follows, in which the captured objective is defended against enemy attacks until the troops join up with other formations or units.
- b. **Area interdiction** prevents or hinders enemy operations in a specified area. The area must be suitable for the deployment of airborne units on foot. It must also severely hamper the operations of enemy mechanised and armoured units off the roads and paths. The operation can be carried out with a large number of smaller elements, which conduct scattered actions, or with a larger unit operating in concentrated formation.
- c. An **airborne assault** is a tactical or operational action, usually of short duration, which is characterised by the aggressive way in which it is conducted. This assault is conducted to destroy enemy objects and installations, take or release prisoners of war or disrupt enemy operations. Given the problems in terms of logistic support and the command and control, this type of operation is often limited in scale. An airborne assault is supported by the available fire support and creates a diversion or deception wherever possible. The assault ends when the unit withdraws over land or is retrieved by air or by sea.

1604. The **tasks** of airborne formations, units or task forces include:

- collecting information in enemy territory
- conducting raids on headquarters, artillery positions, supply routes and logistic installations
- occupying and holding vital ground
- attacking the enemy in the rear in order to fix his reserve and cut off his supply routes, in combination with an attack by ground forces
- providing flank security or surveillance of a possible approach

1605. **Deployment restrictions.** The deployment of airborne formations, units or task forces is subject to the following restrictions.

- The aircraft used for the airborne operation must be able to reach their objective in order to drop or set down their load. This may be hampered by **adverse weather conditions**. In the case of large-scale

airborne operations, air superiority is essential throughout the operation.

- Immediately after the landing, the dropped units are extremely **vulnerable** because of their limited mobility and the possible lack of organically assigned fire support and combat support. The units may need some time to reorganise into a combat-ready unit with sufficient defensive capacity, including NBC defence. Offensive air support, if constantly available with sufficient capacity, may compensate for this to some extent.
- The **sustainability** of an airborne operation is **limited**. This requires timely relief, reinforcement of the airborne unit or a timely extraction from the landing area. Compared to other units, reinforcement, renewed deployment and retrieval of a dropped unit is particularly difficult. Air supply and medical evacuation by air are particularly vulnerable and may be constantly interrupted.

1606. Airborne formations, units or task forces have the following **characteristics**.

- The airborne unit can conduct an **independent operation** or operate in conjunction with other ground forces: a preparatory operation, a support operation, a supplementary operation or an extension of the overall operation. This serves to increase the tempo of the entire operation.
- Airborne units are **specially organised, equipped and trained** for deployment by parachute or aircraft to capture an objective in a particular area or conduct specific operations.
- The deployment of airborne units requires **timely planning and thorough preparation** and can only be carried out if there is local air superiority. The further support of the dropped airborne unit also requires timely planning and preparation.
- Airborne formations, units or task forces are **less suitable as a reserve** than are airmobile formations, units or task forces, since the scale and the preparation and execution of such an operation costs more in terms of time and effort.

1607. An airborne unit has the following **limitations**.

- Airborne formations, units or task forces have **limited ground mobility**, as a result of which they are unable to outmanoeuvre enemy armoured units. They can compensate for this to a certain extent by having a relatively large number of anti-tank weapons. Mobility can be increased with light vehicles, which can be dropped during or after the landing. Vehicles can also be flown in, provided there is a suitable landing facility.

- Airborne formations, units or task forces have **few, if any, armoured vehicles** during and immediately after the landing. It is, therefore, vitally important that they take full advantage of the terrain.
- Airborne formations, units or task forces normally have **no organically assigned artillery units**. They often have to rely on supplementary fire support.

Section 3 - Planning

1608. The airborne operation is usually **an integral part of the higher commander's deep operation**. The deep operation of the higher level also focuses on the enemy's air defence assets, his command and control installations and his logistic installations, as well as on the reserves which could threaten the execution of the airborne operation. The higher level also collects as much real-time information as possible regarding the landing area and the surrounding area of interest. In the case of airborne operations in enemy territory, this support by the higher level must be guaranteed; it constitutes an essential condition for success.

1609. The commander of an airborne unit has little or no capacity himself for conducting the deep operation around the landing area. Depending on the situation, therefore, he needs virtually constant support from the (next) higher level to conduct the deep, close and rear operation simultaneously. The **deep operation** concentrates on preventing surprise actions by the enemy and on the early countering of potential enemy armoured and mechanised reserves by deploying reconnaissance elements and coordinating the available fire support. The **close operation** focuses on capturing the given object or area. The **rear operation** aims to safeguard the freedom of action. The integrity of the landing area, the possibilities for resupply and the protection of combat (service) support units are the key aspects in this operation.

Particularly important is the protection and unrestricted use of the **air-head**. This is the area designated by the higher commander which, once captured and occupied, enables the continuous supply of troops, equipment and stocks, as well as the evacuation of casualties. Under normal circumstances, this area will already have been captured and consolidated in the first phase of the airborne operation. Particular attention should be devoted to neutralising the enemy's air defence capacity in this respect.

1610. **The way in which an airborne unit deploys in or leaves the landing area** depends on the available air transport, the deployment range and the available combat service support. In order to ensure the safety of the airborne unit, it is essential that sufficient combat power be available in the first wave of deployment or in the last wave of an extraction. Speed and fire power are necessary to achieve a tactical or operational advantage by means of a surprise deployment. After the initial deployment, enough air transport capacity must be left to fly in following echelons and to resupply the entire unit.

1611. **The commander who orders the airborne operation** must have the authority to allocate the required ground and air elements for the operation. He initiates the planning process and is responsible for the coordination of intelligence, psychological operations, deception operations and the deployment of special forces throughout the entire operation. His staff also assists in the planning of fire support and airspace control. The higher commander issues planning guidelines at an early stage. All the commanders involved in the airborne operation are thus able to start the detailed planning. Liaison officers from the ground and air components are exchanged. During the operational decision-making process, a plan is developed in which, based on the execution, backward planning is followed. This is the only way in which the commander can ensure that the overall plan is in keeping with the dominating role of the plan for the ground operation.

1612. The overall plan consists of the following five **sub-plans**.

- a. The **plan for the ground operation** covers the operation of the airborne unit including the support required as soon as the first infantry troops have landed. The deployment of all elements, the missions they are to accomplish and the command relationships are all set out in detail.
- b. The **landing plan** ensures that the airborne formations, units or task forces arrive in the right place at the right time and in the correct order for the tactical ground plan to be implemented. The most important considerations when planning this phase are the selection of (alternative) landing sites, the enemy's order of battle and (air defence) capacities.
- c. The **plan for the movement by air** comprises the flight route and the air movement table. It also contains information about flight formations, altitudes and air speeds, weather, refuelling, maximum load capacity, radius of action and procedures for airspace control, air defence and tactical air support.

- d. The **loading plan** is based on the necessary order of arrival in the landing area on the basis of the landing plan and gives the priority for loading the transport aircraft.
- e. The **preparation plan** is based on the plan for the movement by air. It indicates how the airborne units are divided among the various departure airfields in order to prepare for the operation.

1613. Prior to an airborne operation, the commander announces **abort criteria**. These refer to a termination of the operation **after** it has commenced. An abort means an immediate return to the assembly area. Abort criteria relate to the following aspects.

- (alternative) landing areas have not been sufficiently cleared of enemy elements or are soon expected to be under enemy threat
- insufficient air superiority
- surprise has been lost prematurely
- air corridor cannot be kept clear for long enough
- there is too great a loss of combat aircraft, transport aircraft or transport helicopters

Section 4 - Execution

1614. In principle, airborne operations can be carried out up to brigade level in all types of combat. Above brigade level, they are only conducted as part of larger defensive or offensive operations. It should be noted that airborne formations, units or task forces are generally less suitable for conducting defensive operations over a prolonged period or for operations against armoured units.

1615. An airborne operation usually consists of the following **five phases**, which can to some extent take place simultaneously.

- a. The **preparation phase** contains all activities from the receipt of the warning order or the planning order to the departure of the laden aircraft. In this phase, the joint planning is completed, the necessary intelligence is analysed, extremely strict security measures remain in force and the units, supplies and equipment are mustered and loaded into the assembled transport aircraft.
- b. In the **conditioning phase**, the landing is prepared by marking landing areas, delivering preparation fire or carrying out air attacks.
- c. The **movement** by air begins with take-off from the departure airfields and ends with the (airborne) landing in the landing area.
- d. The **attack** begins with the (airborne) landing in the landing area and ends with the consolidation at the objective.
- e. The **follow-up missions**. Because of the specific nature of an airborne operation, the commander takes the initiative in the execu-

tion. The commander of the airborne unit must continue to act in accordance with the (next) higher commander's intent, even if the drop has taken place in enemy territory.

1616. The airborne operation usually ends when contact is made with ground troops. The operation may, however, also be followed by an extraction or an exfiltration operation.

OPERATION MUSKETEER, SUEZ, 1956

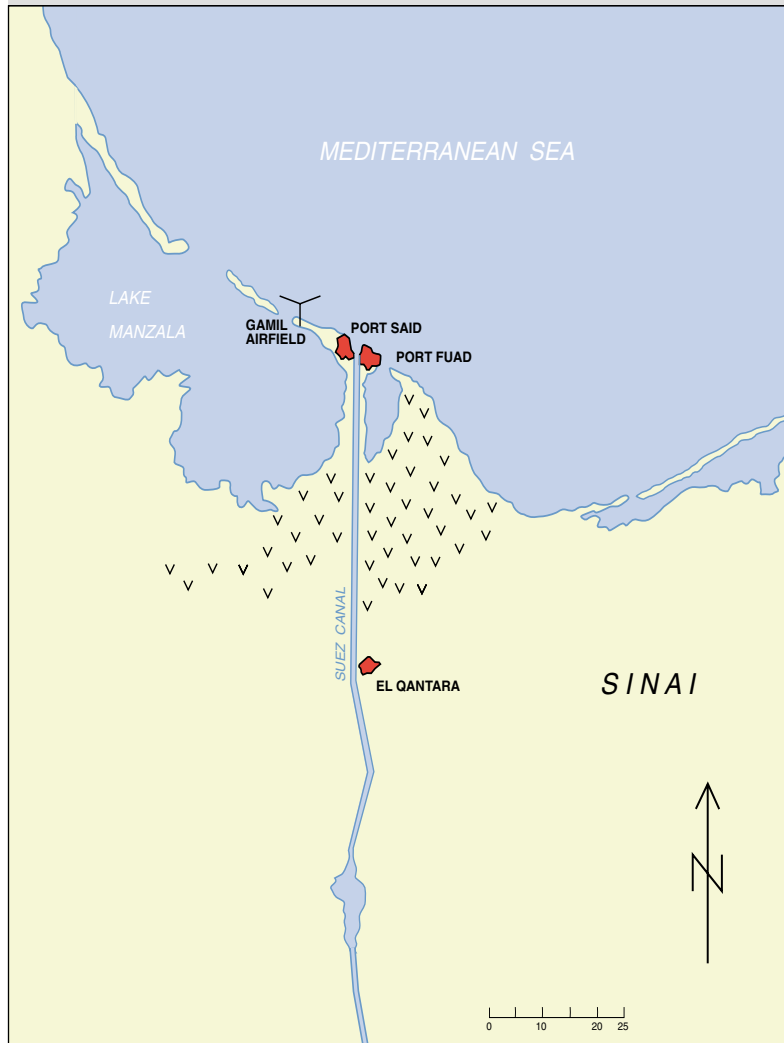
On 23 July 1952, a number of Egyptian officers staged a *coup d'état* and ousted King Farouk. The leader of the group, and soon afterwards the undisputed leader of Egypt, was Colonel Gamal Abdel Nasser. He wanted to make Egypt the leading Arab state. From 1955, he built up his army with the help of the Soviet Union. Thus the East-West conflict of the Cold War also made an entry into the Middle East. Nasser's radical anti-western and Pan-Arabic attitude brought him into conflict with both France and Great Britain, as well as with Israel. From August 1955, Egypt supported actions by Palestinian commandos (*fedayeen*) in Israeli territory and blocked access to Israel via the Red Sea. The situation escalated when, on 26 July 1956, Nasser nationalised the Suez Canal for financial and nationalistic reasons. France and Great Britain saw this as a serious infringement of their strategic and economic interests. What is more, they were major shareholders in the Suez Canal Company, which ran the Suez Canal. France also had great difficulties with Nasser's support of the Algerian rebels and, as the largest arms supplier for Israel, was involved in the security situation of that country. France and Britain decided, therefore, to use force against Egypt and made plans for a joint intervention. The Franco-British operational planning started on 10 August 1956 under the command of General André Beaufre and Lieutenant General Hugh Stockwell. The French settled for a British high command.

Even during the planning phase, there was a shift in the military and political goals of the operation. The original idea was for a landing at Alexandria and an advance to Cairo. This was to result in the defeat of the Egyptian army and the fall of Nasser's regime. The plan, which included a parachute drop, was given the name *Musketeer*. It was to take place in the middle of September. At the end of August, however, the French proposed that the plan be changed to one for an attack on Port Said and the capture of the Suez Canal; the whole operation would also be postponed until October. Not only were an attack on Alexandria and the subsequent advance of over 200 kilometres to Cairo risky in military terms. There was also the problem that the operation bore the hallmarks of a blatant political intervention. In addition, France attached great importance to the close involvement of Israel in the operation. On 7 August, this country had already announced its desire to join an attack on Egypt with an advance through the Sinai desert to the Suez Canal. The last reason was that elements of the attack on Alexandria had leaked out. On 8 September, the British agreed to the French proposal. This was only six days before the departure of the transport fleet from England. On 1 September, the Israeli government had been given access to the Franco-British operation plans. Military talks were held in Paris between the French, British and Israelis from October. The European operation was now taking the form of support to the Israeli attack on Egypt. The common objective was to bring down Nasser's regime,

but without an advance to Cairo. On 24 October, the day the world watched Russian tanks roll into Budapest, the three countries signed a secret agreement to coordinate their actions.

On 29 October 1956, Israel made the opening move of the war with a drop of parachutists at the Mitla Pass in the Sinai desert. On the same day, a French-British operational headquarters was activated in Cyprus. London and Paris gave Egypt and, for form's sake, Israel an ultimatum that they were to respect the safety of the Suez Canal. From 31 October, the British bombarded Egyptian airfields. Neither the British nor the French provided air support for the Israeli advance. On 5 November, the entire Sinai was in Israeli hands. The Franco-British attack on the Suez Canal began the same day. The British in particular stressed that it was merely a policing action to protect the Canal.

The Franco-British attack was directed at Port Said, a town at the northern end of the Suez Canal. It was situated on a strip of land 1-2 km wide between



the Canal and a partially enclosed bay of the Mediterranean, Lake Manzala. This finger of land connected the town with the rest of Egypt. On the strip of land that separated Lake Manzala from the sea lay Gamil airfield, four kilometres west of the town. The original plan was to drop parachutists behind the Egyptian positions just as the amphibious landing was taking place on the coast. On 2 November, however, the airborne operation was brought forward by 24 hours because international pressure was becoming so great that any delay would probably have led to cancellation. Furthermore, the Israeli advance was proceeding very quickly. Because of the withdrawal of the Egyptians from the Sinai, there was a risk of a concentration of Egyptian combat power in the Canal area. One problem in bringing forward the airborne operation was that naval gunfire support from the fleet advancing from Malta for the lightly armed parachutists was now no longer possible and there would now be a longer interval between the parachute drop and the amphibious operation. Fire support could now only be provided by combat aircraft operating from aircraft carriers off the Egyptian coast. The shift to an earlier time meant that the airborne operation was more important and more independent than had originally been envisaged. For the British, this was the maximum period in which airborne troops could operate without contact with friendly troops.

The British drop was planned for Gamil airfield and the French parachute drop for Port Fuad, on the other bank of the Canal. However, when the attack was brought forward, the French were consequently given an extra task at the last minute. The drinking water installation and the bridges on the southern approach to Port Said (which were originally to have been secured by British troops with helicopters) now became an objective for the French paras. These bridges were important for blocking off Port Said and any break-out in a southerly direction along the Canal to El Qantara. The planners felt that it would be unwise to conduct air drops further south along the Canal, in other words deeper into Egyptian territory. For that, the units would have to have heavier equipment and their own vehicles, but there were no helicopters available to bring these in. The airborne operation thus remained confined to the occupation of Port Said, with a break-out to the south. It was given the name *Télescope* and was led by Brigadier General 'Tubby' Butler. His command post was to be set up at Gamil airfield. The units carrying out the operation were 2 *Régiment de Parachutistes Coloniaux* (battalion size) under Colonel Jobert and 3 Parachute Battalion under Lieutenant Colonel Paul Crook.

The weather conditions on 5 November 1956 were ideal for an airborne operation. At first light, 600 British and 490 French paras departed from Cyprus. The flying time was two hours. The planners had decided against marking by reconnaissance teams in order to enhance the effect of surprise. They took this risk because the landing was taking place in daylight. The paras were particularly concerned about the presence of Egyptian tanks, anti-tank weapons and air defence guns. No-one knew how powerful the Egyptian defence would be or to what extent the withdrawal from the Sinai had provided reinforcements of troops and equipment.

The British made a successful parachute landing at the airfield. One engineer group had the task of destroying blockades at the airfield and repairing the bridge to the west of the airfield. The British paras were very lightly armed. Even personal weapons were in containers, while anti-tank weapons, signals equipment and jeeps were dropped immediately after the paras. The drop took ten minutes. The airfield was defended by a number of infantry companies

One of the reasons for Operation Musketeer was to enforce clear passage along the Suez Canal.

Photograph: Dutch Press Agency (ANP)



with guns in bunkers. Oil drums had been placed on the runway to hamper landings, but it was these very drums which provided useful cover for the paras. At the airfield, the British grouped themselves into companies in order to block off the access routes. On the first day, Crook lost six percent of his strength, slightly more than had been expected. Within an hour, all objectives had been captured. However, the airfield was too small for the British transport aircraft, so supplies had to be brought in by parachute. Helicopters were used to evacuate casualties and to fly in medical teams.

The French parachute landings at Port Fuad and the bridges south of Port Said were equally successful. Because the landing zone at the bridges was so short, less than 150 metres, the jump had to be made from as low as 130 metres. All the paras were on the ground in four minutes. Air defence guns had been partly disabled by French naval aircraft. The French had had a great deal of experience of this type of operation in Algeria and Indo-China and their equipment was also better than that of the British. Their weapons had been adapted so that the men could carry them during the jump. They also had aircraft from which several men could jump simultaneously and thus faster. Before the paras themselves jumped, containers with machine guns, ammunition and mortars had already been dropped. With regard to the leadership of the operation, the French had also implemented arrangements of which they had had experience in Indo-China. Brigadier General Jean Gilles led the airborne operation from an airborne command post which circled continuously above the area of operations at 300 metres. Gilles was thus in communication with the headquarters in Cyprus, with the naval ships, with the ground troops and with the aircraft that were providing air support.

There were Egyptian troops in position at both the French landing zones, which meant that the paras had to spring into action immediately. They were, however, able to suppress the defence quickly, although a few snipers put up

prolonged resistance. One of the two bridges fell undamaged into French hands. This meant that the town was isolated and cut off from the water supply. The British had more difficulty with their advance to the town, given that the Egyptians had deployed their recently acquired Russian guns. Except for a few outlying areas, the British paras did not initially enter the town.

The Egyptian resistance meant that the British and French were faced with the decision of whether to first reinforce the landed troops with heavier weapons instead of proceeding with the second air drop. The decision was made in favour of the deployment of a second French battalion, over 500 men, to the south of Port Fuad. In the afternoon of 5 November, this unit mopped up that city. Originally, this landing was also to have taken place in the morning, but this was changed for a number of reasons. A postponement until the afternoon provided the opportunity to ascertain the strength of the Egyptian defence and to deploy all available air support against it. A hundred British paras also landed at the airfield in the afternoon and new supplies and heavy weapons arrived. Equipment was dropped for the French paras.

In the late afternoon, when the Franco-British troops had control of all access routes to Port Said, the first cease-fire talks took place between Butler, Jobert and the Egyptian governor of Port Said. However, they did not reach an agreement. Now the amphibious phase started. The Allied Supreme Commander in London, General Keightley, also the Commander in Chief Middle East Land Forces, had requested permission a few days earlier to start the operations with preparation fire from the ships off the coast. On 4 November, the cabinet had decided to exercise the utmost caution in this respect, as large numbers of civilian casualties were likely. The political view was that this would weaken Britain's international position. When the amphibious operations took place at 05.00 hrs on 6 November, therefore, there was no preparation fire. There was only limited fire support from a few ships and from close air support. 40 and 42 (UK) Marine Battalion landed on the beach. Their assignment was to make contact with the French and British paras respectively. Over the next few hours, Centurion tanks from 6 (UK) Tank Battalion and artillery were set down ashore. 45 Marine Battalion was flown in by helicopter between 06.00 and 07.00 hrs. The aircraft landed in the bridgehead on the edge of the town. This method of operating was unprecedented. For the rest of the day, these helicopters were used for evacuating casualties and bringing in supplies. 2 (UK) Parachute Battalion was brought into the port by ship. In the afternoon, French troops landed with AMX tanks and British troops at Port Fuad. Preparation fire was not needed there, as the town was already in French hands.

The capture of Port Said proceeded less auspiciously. The paras and marines, supported by tanks, became embroiled in urban fighting. Not only units from the Egyptian army formed small pockets of resistance, but also the townspeople, to whom weapons had been widely distributed, became involved in the guerrilla-like struggle. The Egyptians also used tanks. In the afternoon of 6 November, Port Said was in Allied hands, although isolated pockets of resistance remained active. That day, Butler was personally leading the advance southwards, along the Suez Canal, to El Qantara. At that moment, the British government bowed to enormous international pressure, particularly from the Americans, and pulled out. At 24.00 hrs on 6 November, the operations were terminated. At the moment of the cease-fire, Allied troops were within a few kilometres of El Qantara.

The Franco-British air fleet suffered no losses during the operation. The pre-

ceding attacks on the Egyptian air force and on the air defence weapons had been effective. In December 1956, the last British and French troops left the Suez Canal. A UN peace force took their place. The Allies had suffered the loss of 32 men.

Operation *Musketeer* showed the strong and weak aspects of airborne operations. With their surprise operation, a mere thousand men forced an opponent that was vastly superior in number to the negotiating table within 12 hours to talk about a cease-fire, once they had taken possession of key infrastructure. The political desire to confront the Egyptians with a *fait accompli* was fulfilled. But the paras lacked the combat power for the actual occupation of Port Said. Because of the sudden decision to bring the operation forward, that vulnerable phase lasted for twenty-four hours. Only after the amphibious operation were troops able to move the operation into the town and expand the bridgehead to the south. Another weakness, the limited fire support, was compensated by the fact that the Egyptian air force had been largely paralysed beforehand and because good coordination of navy and army elements enabled close air support to be provided in good time.

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Section 5 - Functions in military operations

Command and control

1617. The most important aspects are clear, unity of command and joint, central preparation and planning. In some cases, a special joint airborne task force may be formed. Decentralised implementation of the operation is, however, essential in the various stages, especially in the first minutes of the landing. The potential range and the joint nature of airborne operations mean that here, to, special command and control procedures are necessary. In any event, an airborne unit of at least brigade size has the following key officials.

- a. The **air transport commander** is responsible for the loading, the movement by air and the execution of the (air) landing itself. During the movement through the air, he is responsible for both the air force's air transport unit and the army's airborne unit. He is often the one who determines whether the unit departs, whether the landing will ultimately take place and whether the landing sites or drop zones need to be changed. A decision must in any event be made beforehand as to who has this decision-making authority.
- b. The **landing commander** has overall command in the planning and execution of the ground operation. The responsibility for the overall mission thus shifts to him once the units have left the aircraft. He is also responsible for ensuring the right order and composition of the aircraft loads and for the preparation of the airborne unit and the

Command and control.

Photograph: Media Centre

RNLA



reinforcements under his command.

1618. **Command and control relationships.** OPCON usually applies to the relationship of the air transport commander to his subordinate ground and air commanders. After the landing, this command applies between the landing commander and his subordinate commanders. Normally, command and control relationships and support relationships are also established with the area commander responsible for the area in which the landing takes place.

1619. As soon as the operation has reached the execution phase, **coordination between the various levels** must be ensured. The establishment of liaison is a precondition. The plan must also contain a clear division

of the areas in which the ground components operate. This is the only way to guarantee the safety of friendly personnel.

1620. If the airborne operation is to be followed by contact with ground troops, it is important to plan and establish command and control relationships at an early stage. In general, OPCOM will be given to the ground commander of the area of responsibility in which the airborne unit is operating. He then has command of both the unit making contact and the airborne unit with which contact is made.

Intelligence

1621. The area of interest of an airborne unit is many times larger than that of a ground-based unit of similar size. It is directly related to the numerous deployment possibilities and the inherent vulnerability of the unit after deployment. The commander of the airborne unit must have theatre-level intelligence, even in the planning phase. Because of the vulnerability of both the air transport and the airborne unit, detailed intelligence about the enemy is required.

The commander must also continue to have access to an up-to-date and complete intelligence picture during the execution. For this, he relies not only on his own assets, but also on the support of the higher levels.

Manoeuvre

An airborne unit can only manoeuvre on a small scale and with limited speed.

Photograph: Media Centre

RNLA



1622. In most airborne operations, the majority of the ground component of the airborne formations, units or task forces consists of **light infantry**. This is particularly suitable for occupying key terrain, but normally has limited fire power and limited tactical mobility. In general, the infantry has two main tasks: firstly, to capture and hold key terrain and, secondly, to deny the enemy use of obscure terrain. To ensure that the light infantry is not entirely dependent on manpower for tactical mobility and fire power, airborne units are sometimes equipped with compact, lightweight vehicles.

1623. An airborne unit can only manoeuvre **on a small scale and with limited speed**. This means that the commander, after using surprise to capture the object quickly, must usually set up a relatively static defence as quickly as possible. This defence must hold until the arrival of friendly ground forces or until the moment of extraction.

1624. In the loading plan, the commander must take account of the equipment required for the mission in relation to the desired ground mobility and the available transport capacity. In more defensive operations, it may be necessary to lay minefields. Given the weight of the available mechanical minelayers, the preferred option is to use helicopters to scatter or artillery to deliver mines.

Fire support

1625. In the planning for the airborne operation, the commander must usually weigh up the available transport capacity against the fire support assets that have to be transported. Under certain circumstances, fire support may be guaranteed by long-range artillery, air support or naval gunfire support. It is essential that observers for these assets are assigned to the airborne unit prior to deployment. Immediately prior to and during the actual airborne operation, enemy positions in and around the landing area must be neutralised with fire support. Fire support must also be used to prevent a rapid deployment of enemy reserves after the landing and to prevent enemy artillery shelling of the landing area.

1626. In most cases, **offensive air support** is a precondition for an airborne operation to commence. With a combination of tactical air reconnaissance and battlefield air interdiction, enemy elements in and around the landing area can be identified and then eliminated. During

the course of the airborne operation, close air support can be used against targets that are suddenly identified. Land and air forces must in any event use electronic warfare to suppress the enemy air defence assets.

Protection

1627. **Air superiority**, albeit temporary and local, is necessary to conduct a successful airborne operation. Heavy transport aircraft are vulnerable to attack by enemy fighter planes at any stage of the operation, but particularly during the actual landing. In this phase, the priority is to get personnel and equipment safely on the ground. The lion's share of the air defence will have to be provided by air defence fighters.

The ground component usually has **organically-assigned air defence capacity** in the form of portable and other organic air defence systems. The airspace control and related arms control measures must be precisely established and checked carefully in order to prevent fratricide.

1628. The number and type of **engineer assets** that are flown in depends on the task, the expected situation and the available air transport capacity. These assets must implement mobility-enhancing and counter-mobility measures in the landing area, such as repairing or laying landing strips and sites. Subsequently, the available engineer capacity can be used to set up protective shelters for personnel and storage sites for such items as aviation fuel and ammunition.

Service support

1629. The combat service support must be geared towards a certain **overcapacity**, also when stocking supplies, in anticipation of the risks and contingencies of airborne operations. The units usually have an integrated combat service support element. Units are resupplied according to a timetable, which can be adapted to the actual situation at the request of the local commander.

1630. **Supply**. The number of assets that determines the self-sufficiency of landed units varies according to the expected interval before contact is made with ground troops. Resupply occurs according to a previously arranged timetable and on request.

1631. The **maintenance facilities** in airborne operations are limited. The unit will thus have to rely on improvisation and battle damage repair.

17

Airmobile operations

Section 1 - Introduction

1701. Airmobile operations are operations in which **in principle specially trained and equipped combat forces** and their equipment **manoeuvre over the battlefield** in order to engage in combat on the ground. After supplementary training, other units may also be deployed in an airmobile capacity. During their deployment, the units, mainly infantry units, remain dependent on the support of aircraft or helicopters. The operations of the air and ground components should, therefore, be integrated. The possible operations are highly dependent on the assets and size of the airmobile units which are to be deployed.

Airmobile operations: here, for example, with the Chinook heavy transport helicopter.

Photograph: Media Centre

RNLA



1702. A specific form of airmobile operation is the **air assault operation**. This involves the deployment of a relatively small, specially trained ground component and a relatively large helicopter component. An air assault operation is the offensive deployment of airmobile units, which can if necessary be picked up again quickly and moved to another deployment location. It is an airmobile version of a raid.

1703. **Heliborne operations** are operations in which air transport assets are used to move troops, equipment and general supplies. A heliborne operation such as this will have the same general plans as an airmobile operation, the difference being that there is no plan for the ground operation. The operation is usually conducted independently by an air component.

Section 2 - Characteristics

1704. Airmobile formations, units or task forces enable a commander to put **depth and tempo** into his operation. He is also able to react quickly over the entire width and depth of his sector. Partly because of this, the commander can regain the initiative and obtain freedom of action. These types of formation, unit or task force are thus ideal for operating as a mobile reserve.

1705. Airmobile operations form an **integral part of the ground operation**. The threat they pose may lead the enemy to provide extra security for his vital installations and key terrain in the rear area.

1706. Airmobile operations have a **high risk factor** and should only be ordered if they are to achieve objectives that are essential for the overall plan.

1707. When it is deployed, an airmobile formation comprises **two components** which are integrally linked to each other, namely the **ground component** and the **air component**. The ground component has light infantry, fire support, combat support and combat service support units. The ground-based assets of the helicopter units are also included. The air component consists of the airborne section of the helicopter units. With each deployment, particularly in enemy territory, an optimal combination of these assets is put together.

1708. Airmobile formations, units or task forces play an important role in mobile operations, as they can be deployed over a considerable distance, from an unexpected direction and with a decisive effect. As a result, this helps to increase the tempo. Three features play a key role in this respect.

- a. The deployment of combat forces in an area of operations will **in principle be much faster** if carried out by air rather than over land. An airmobile unit which is kept in reserve for immediate deployment and which has prepared for this action has a short response time. As a result of the complexity of airmobile operations, however, part of this advantage may be lost because of the need to collect sufficient

intelligence and to complete planning and preparation. Contingency planning can compensate for this disadvantage, although this requires time and staff capacity. A high standard of training also reduces the need for extensive drilling for contingencies.

- b. Airmobile formations, units or task forces can be deployed **over great distances**, in the course of which they are subject to few if any restrictions imposed by terrain features, such as waterways, swamps, vegetation or buildings. It is also virtually impossible to physically block the (air) supply lines.
- c. An airmobile unit can conduct **a range of offensive and defensive combat actions**, in which it really comes into its own in a mobile operation. An airmobile unit is less suited for conducting delaying actions independently. On the other hand, an airmobile unit can be deployed in the delaying operation of the higher formation. As a reserve, it can prepare a wide range of options and can guarantee rapid deployment in the context of whichever option is chosen.

1709. The inherent **mobility** of an airmobile unit provides speed, range and flexibility as described previously. However, one must bear in mind the fact that, after an airmobile movement, the ground component has limited tactical mobility, apart from its allocated air-transportable vehicles. During the operation, the ground component also remains dependent on (attack) helicopters for engaging targets, moving units, performing logistic tasks and medical evacuation.

1710. If there is local and/or temporary air superiority and limited enemy anti-aircraft capacity, an airmobile formation can conduct the operation using **surprise**. The technological capability of operating in poor visibility increases the scope for surprise. The shock caused by this surprise action makes it possible to regain the initiative.

1711. If there are enough transport helicopters available to carry out the airmobile movement, a **concentration of assets** is possible. Deployment of airmobile formations, units or task forces in addition to regular formations that have already been deployed may be a decisive factor at critical moments and change the course of the operation.

1712. Light equipment and the lack of armour mean that **fire support** is essential for the ground component. Air support also helps to create favourable conditions. Fighter aircraft, artillery and attack helicopters can reinforce each other in a joint air assault team.

1713. Airmobile operations almost always cover substantial distances. **Special and additional communications** are thus necessary to ensure command.

1714. To guarantee the **logistic self-sufficiency** of an airmobile formation, a special logistic organisation and special procedures are required. The ground component must be able to operate independently for a prolonged period (a maximum of 72 hours), which means that the air component needs large quantities of class III and V goods.

Capabilities

1715. Airmobile deployment offers the following possibilities:

- conducting an **attack from any direction**, engaging targets in impassable terrain, passing obstacles or enemy positions, using surprise and forcing the enemy to react prematurely or to expose himself to other attacking forces
- **rapid deployment of combat power** to increase the area of influence, seek contact with enemy formations or reduce the vulnerability to an enemy attack
- **improving flexibility** of the ground commander by giving him a relatively small, highly mobile reserve, whereby a relatively large section of his combat forces can be deployed immediately
- **maintaining a high tempo** by fighting from several directions at the same time or in several places at once (depending on the size of the force)
- conducting **operations in limited visibility** in order to achieve the element of surprise and reduce vulnerability
- conducting military operations over land **independently of supply routes**
- providing **surveillance** over a large area
- rapid **reinforcement** of units engaged in combat

Limitations

1716. Airmobile deployment is subject to the following **limitations**:

- Airmobile operations, particularly those conducted at night, require **a great deal of planning and preparation time**.
- Helicopters are sensitive to **technical faults and extreme weather conditions** (visibility, temperature, wind speed and precipitation). The latter also applies to a lesser extent to the ground component.
- The transport helicopters require **suitable landing and pickup zones**.
- During the air transport, an airmobile unit is **vulnerable to attack from the air and to the effect of air defence and all arms air defence**

assets. Contingency plans need to be drawn up to allow a timely response to unforeseen developments. Diversion possibilities are usually required.

- The ground component is **vulnerable to fire** during the landing phase and during ground-based movements as a result of the limited mobility, fire power and protection. The same limitations apply in the event of NBC attacks because of the limited scope for protection and the inadequate decontamination capacity.
- The operation is **dependent on air supply routes**, in order to guarantee the sustainability or to fly in reinforcements until contact has been made with ground troops. Resupply of class III and V goods, both of which have a high consumption rate, is essential in this respect.
- The **withdrawal** of ground-based troops in (combat) contact with the enemy is difficult to bring about.
- Airmobile units are **vulnerable to electronic support measures and electronic countermeasures** because of the use of a large number of assets with electromagnetic emission and because of the great distances between the various sections of airmobile sub-units. Alternative and supplementary command and control assets are, therefore, essential.
- The **transport helicopter capacity is often limited**, as a result of which an airmobile unit has to be moved in multiple waves.
- The helicopter pilots have **physical limitations**, which restricts the number of waves or missions.

Section 3 - Planning

1717. Airmobile formations, units or task forces can attack the enemy fast and unexpectedly. They really come into their own in situations where there is a **calculated advantage over the enemy** as a result of surprise, terrain, threat or mobility.

1718. General deployment considerations.

- Airmobile formations, units or task forces must only be given assignments which **take advantage of their superior mobility**. They must not be committed for tasks requiring prolonged deployment.
- There is a **requirement for a minimum number of helicopters**. That minimum requirement must be determined in advance.
- Planning must be **centralised and carried out under unity of command** with great precision; the implementation usually requires decentralised deployment.
- **Fire support planning** must have a suppressing effect along the air routes and in the vicinity of the landing areas. The suppression of

enemy air defence takes priority.

- The **operations of infantry units** are not actually changed by the integration of infantry with helicopters. The time and space dimensions of the deployment, on the other hand, do change.
- Airmobile deployment is particularly effective if the enemy has a **limited number of supply routes** and at the same time lacks air superiority and an effective air defence system.

1719. The higher commander commits an airmobile formation or unit for his deep, close or rear operation.

In his **deep operation**, the higher commander may use an airmobile formation or unit to, for example, capture a key area and then defend it. He may use the formation, or parts of it, to conduct raids. As part of a pursuit, he may also conduct a vertical envelopment to surround the enemy.

As part of his **close operation**, the higher commander may use an airmobile formation to, for example, block an enemy break-through or perform security tasks in larger areas. In an emergency, he may use an airmobile formation to reinforce units engaged in combat.

As part of his **rear operation**, the higher commander may, for example, deploy an airmobile formation, or part of it, as a reserve to conduct counterstrokes against enemy elements which, by air or otherwise, have penetrated his rear area. He may also deploy airmobile units for the surveillance and protection of the rear area.

1720. The commander of an airmobile formation can operate offensively in the depth with his attack helicopters. However, he will need support from the (next) higher level to conduct his own deep, close and rear operations simultaneously. The deep operation of the higher level then focuses primarily on enemy air defence assets and reserves which could have an adverse effect on the execution of the mission. As much up-to-date information as possible about the landing area is also collected.

With the help of the attack helicopters, the **deep operation** targets enemy reserves, command and control installations and logistic installations in order to create favourable conditions for the close operation.

The **airmobile unit's close operation** concentrates initially on protection against the enemy combat power which has a direct effect on the landing and the deployment of the ground-based units. The close

The AH-64 Apache attack helicopter.

Photograph: Media Centre

RNLA



operation then focuses on the objective. The attack helicopter and ground components conduct integrated actions in this respect: the ground component forces the enemy into open terrain, thus enabling the attack helicopters to wear down the enemy, the task to which they are best suited.

The **rear operation** concentrates on preserving the freedom of action, namely by preventing the enemy from turning around or surrounding the ground component, keeping the (air) lines of communications clear and protecting the combat service support units. In these operations, too, support is often needed from the higher commander.

1721. The way in which an airmobile unit deploys depends in the first instance on the number of **transport helicopters** available, the **deployment distance** and the **combat service support** capacity. To guarantee the safety of the airmobile unit and thus increase the chances of success, it is essential that sufficient combat power be available in the first wave of a deployment or in the last wave of an extraction. After all, speed and fire power are necessary conditions for achieving a tactical advantage by means of a surprise deployment. After the initial deployment, there must still be sufficient transport capacity to fly in following echelons in order to resupply and to ensure tactical mobility in the landing area.

1722. The commander who orders the airmobile operation must have the authority to allocate the necessary ground and air elements for the operation. His staff initiates the planning process and is responsible for the **coordination of intelligence, psychological operations, deception**

operations and the deployment of special forces throughout the operation. This staff also provides support in the planning of fire support, suppression of enemy air defence assets and airspace control. At an early stage, the commander issues guidelines which enable the organisations involved in the airmobile operation to begin their planning. The staff of the airmobile unit is involved in the planning at this early stage.

1723. On the basis of the guidelines issued by the authorising level, the airmobile commander starts his **planning in the integrated staff**. This plan contains five sub-plans: one for each phase of the airmobile operation. These phases are the ground operation, the preceding landing, the airmobile movement to the landing area, the loading of the unit and the general preparations in the assembly area. As this suggests, a process of backward planning is used. This is the only way in which the commander can be sure that the plan is in keeping with the dominating role of the ground operation. Depending on the time available, some sub-plans can be drawn up simultaneously.

- a. The **plan for the ground operation** covers the operation of the airmobile unit including the support required as soon as the infantry personnel have landed. The deployment of all elements, the missions they are to accomplish and the command relationships are all set out in detail.
- b. The **landing plan** ensures that the airmobile formations, units or task forces arrive in the right place at the right time and in the correct order for the plan for the ground operation to be implemented. The most important considerations when planning this phase are the selection of (alternative) landing sites and the enemy's order of battle and capabilities.
- c. The **plan for the airmobile movement** comprises the flight route(s) and the air movement table. It also contains information about flight formations, altitudes and air speeds, weather, refuelling, maximum load capacity, radius of action and procedures for air defence, fire support and the suppression of enemy air defence.
- d. The **loading plan** identifies the pickup zones and gives guidelines on how these can be set up and monitored. The plan indicates landing priorities for the transport helicopters and the order in which units are to move to the pickup zones with their supplies and equipment.
- e. The **assembly area plan** gives detailed instructions regarding the use of the assembly area and about the (re)organisation of units, supplies and equipment, prior to an airmobile operation.

1724. Prior to an airmobile operation, the commander issues **go/no-go criteria** and **abort criteria**. The go/no-go criteria indicate the circum-

stances under which the airmobile operation will not be conducted. They relate particularly to weather conditions and the extent to which enemy air defence is suppressed. The abort criteria relate to an abort of the operation **after** it has started. An abort means an immediate return to the assembly area. Abort criteria relate to the following aspects:

- (alternative) landing areas have not been sufficiently cleared of enemy elements or are soon expected to be under enemy threat (up-to-date information about the landing areas is required for this)
- there is insufficient availability of air defence assets, means to suppress enemy air defence and fire support
- surprise has been lost prematurely
- there has been too great a break-down of attack helicopters and/or transport helicopters

Section 4 - Execution

1725. The airmobile unit can perform **tasks** in the context of the various types of combat or as part of an operation in a transitional phase. Depending on his assessment of the situation, the commander will conduct his assigned mission with a balanced mix of attack helicopters and airmobile infantry or decide to put the emphasis on either the attack helicopters or the infantry.

1726. As part of offensive, defensive or delaying operations, the airmobile unit can carry out the following **assignments**:

- vertical turning movement/envelopment in order to capture key terrain
- raid
- combat reconnaissance
- counterattack
- spoiling attack
- blocking of enemy penetration
- defence of a key area or object
- securing line of departure, rear area, supply routes and flanks

1727. In **large areas outside the enemy's main effort**, only the helicopter component can operate with the required degree of mobility as the ground component, once it is on the ground, is limited in this respect. The ground component's reconnaissance and observation elements are deployed in key positions in the terrain and moved to subsequent positions in the depth with friendly vehicles or transport helicopters. Part of the infantry can be used to canalise the enemy. The attack helicopters engage the enemy in the engagement areas.

1728. **Transitional phases in operations.** Making contact and relief actions are highly important for an airmobile unit. These are vulnerable phases and require specific plans and coordination measures.

1729. The implementation of an air assault normally progresses through the following stages:

- **reconnaissance** of routes and landing sites by specially equipped and trained teams
- **neutralisation** of the enemy in and around the air routes and the landing sites by suppression of his air defence, air assaults, artillery and possibly naval gunfire support
- **movement** to the objective or to a location as near to it as possible
- **capture and occupation** of the objective
- **extraction**, reinforcement of the defence or establishing contact with friendly troops and relief action

During the movement stage, the enemy must be neutralised so that he is unable to influence the operation. Air superiority is essential in this respect.

Section 5 - Functions in military operations

Command and control

1730. The tempo, the potential range and the joint nature of airmobile operations mean that clear demarcations are necessary. An airmobile formation of at least brigade size in any event has the following four key officials with their specific responsibilities.

- a. The **commander of the airmobile operation** has overall responsibility for the planning and execution of the operation. The term airmobile commander will be used in the rest of this chapter.
- b. The **aviation mission commander** is responsible for the planning and deployment of the air component. He is subordinate to the airmobile commander and acts as his adviser with regard to the third dimension.
- c. The **commanders of the ground units** are responsible for the execution of (part of) the plan for the ground operation. During certain phases, they may be assigned extra support elements to carry out their mission, including (parts of) the air component. They are subordinate to the airmobile commander.
- d. The **commanders of the helicopter units** are subordinate to the aviation mission commander.

1731. **Command and control relationships** are extremely important during an airmobile operation: these must serve to guarantee the integrated, joint nature of the operation. Within the airmobile formation, the airmobile commander has full command (FULLCOM) over the organic ground components. He is usually assigned the air component he needs for his operation under OPCOM. The aviation mission commander has FULLCOM over the helicopter units, which form an organic part of the air component. He is under OPCOM of the airmobile commander. If parts of an airmobile formation are deployed with another formation, the necessary (ground and air-based) assets will usually be placed under OPCOM of that formation.

1732. As soon as the operation has reached the execution phase, **coordination between the various levels** must be guaranteed. Liaison down to a relatively low level is a prerequisite. The plan must also include good coordination between the ground and air components. Only in this way can the safety of friendly personnel be guaranteed.

1733. Given the substantial distance from the main force at which airmobile operations usually take place as well as the distances between the units involved in the joint, integrated actions, an airmobile unit needs **special communications assets**. These enable communication within the airmobile headquarters, between the air and ground components, with the higher level and with the supporting units.

In principle, an airmobile command post is used. This guarantees the command and control over considerable distances throughout the operation.

Intelligence

1734. The **area of interest of an airmobile formation** is many times larger than that of a ground-based formation of similar size. It is directly related to the many deployment possibilities, the required speed of action and the vulnerability of the formation after deployment. The airmobile commander must have early access to intelligence about his landing area.

In view of the nature of airmobile operations, meteorological data (including the weather forecast) is particularly important. The vulnerability of both the air and ground component also creates a need for detailed intelligence about the enemy and thus a thorough knowledge of the entire spectrum of the enemy's operation. Partly as a result of intelligence collected at an early stage, the commander is able to estab-

lish the order of battle and the formation of his units and consider the possible deployment options. The commander must continue to have access to a complete and up-to-date intelligence picture during the execution as well. For this, he relies not only on his own assets but also on the support of the higher levels.

*The Cougar medium transport helicopter.
Photograph: Defence Organisation for Recruitment and Selection,
Ministry of Defence*



Manoeuvre

1735. An airmobile formation has **air and ground-based manoeuvre elements** which, as far as characteristics and deployment principles are concerned, are completely different.

Most of the **ground component** consists of light infantry, which is suitable for occupying terrain, has fire power with a relatively limited range and has low ground mobility. As part of the air component, attack helicopters are ideal for eliminating large concentrations of (mechanised) enemy elements at long range. They are highly flexible and fast, but over enemy territory they are relatively vulnerable to the effects of air defence and all arms air defence assets and cannot control terrain for prolonged periods.

1736. When developing the **plan for the manoeuvre**, both manoeuvre assets must strengthen each other's capabilities and compensate for each other's weaknesses. In general, the infantry has two main tasks: to capture or hold key terrain or vital ground and, secondly, to deny the enemy the use of obscure terrain. The main task of the attack helicopters is to wear down enemy combat power. Ideally, the helicopters operate in open terrain, where their long-range anti-tank weapons are

put to best use.

The plan for the manoeuvre is the key aspect. In the loading plan, therefore, the commander must take account of the equipment needed for the manoeuvre in relation to the required ground mobility and the available transport capacity.

Fire support

1737. In the **planning for the fire support**, the commander must take account of each phase of the operation, but particularly the most vulnerable phase, namely the landing. Fire support is also important during the movement by air, particularly as an element of the suppression of enemy air defence. The fire support preceding the deployment must be as intensive as possible and of short duration in order to achieve the maximum shock effect and preserve the element of surprise.

During the ground operation, fire support is used to neutralise enemy defensive positions, prevent the deployment of enemy reserves and attack ground-based weapon systems. Aspects to be considered in this respect are availability, range and coordination of the available means.

1738. Ideally, the airmobile commander has **artillery in direct support**, which gives him the opportunity to deliver fire quickly over numerous targets and with various types of ammunition.

1739. The airmobile commander also has **air support**. Sufficient offensive air support is a precondition for an airmobile operation to begin and to be successfully completed. By a combination of tactical air reconnaissance and battlefield air interdiction, enemy elements in and around the landing area and further in the depth are identified and then eliminated. Close air support can be used during the airmobile operation against targets which are identified suddenly.

Protection

1740. The success of an airmobile operation is highly dependent on **surprise**. Operations security is thus vitally important. In the planning phase, therefore, the need-to-know principle must be rigorously applied. A strict application of electronic silence is essential in the preparations. Deception can also be an instrument for achieving surprise.

1741. **Air superiority**, at least temporary and local, is necessary to conduct a successful airmobile operation. Winning local and temporary air

superiority around the air supply routes and the landing area is thus an essential condition. For this reason, combat air patrols are available to the airmobile commander throughout the operation.

1742. Helicopters, especially when they are on the ground, are **vulnerable to attack by enemy fighter planes**, for example if they are concentrated in the assembly area, in the landing area or at FARPS. The commander must set priorities here for air defence. In many cases, the ground component only has a limited capacity in terms of portable air defence systems.

1743. If the airmobile operation cannot be conducted under an existing 'air defence umbrella', friendly air forces must help with the protection. Arms control measures must be closely observed in order to prevent fratricide.

1744. During more defensive missions, **field fortifications** can counteract the relative vulnerability of the light infantry. From well-prepared positions, an airmobile formation can hold a mechanised enemy for a prolonged period.

1745. It may be necessary to lay **mine obstacles**. Given the weight of mechanical minelayers, these assets cannot be transported by air. In that case, mine obstacles should be laid manually, scattered by helicopter or delivered by artillery.

1746. The **suppression of enemy air defence**, possibly with the aid of electronic warfare assets, must always be carried out wherever that enemy air defence poses a threat to the airmobile operation in the depth.

Service support

1747. The **combat service support** for airmobile operations occupies a special place in the spectrum of service support activities, as several aspects of this support differ markedly from that of other operations.

- **Joint combat service support** must be provided for the ground and air components.
- Compared to the combat service support for ground-based operations, the combat service support for airmobile operations requires **different assets**. Examples are helicopters, special vehicles and special packaging for the transportation of goods.
- It may be impossible to achieve a **continuous support chain** during a certain period of deployment.

- There are several deployment options for the combat service support:
 - by road
 - partly by air and partly by road

Each deployment option for the combat service support has advantages, but they also have limitations, such as the maximum range, availability of flight routes and dependence on weather conditions. These factors must play a key role in the planning process for an operation.

1748. **Supply.** A typical feature of airmobile operations is high fuel consumption by the helicopters. There are only limited facilities available for the internal supply of the deployed airmobile units. As a result, the supplies within the unit are relatively immobile and, above all, vulnerable.

As a rule, helicopter capacity will be limited. This means that priorities have to be set, as helicopters must also be available for other logistic tasks.

1749. **Maintenance** in the landing area is limited to keeping equipment combat-ready by means of battle damage repair. This places great emphasis on preventive maintenance prior to the deployment of an airmobile unit.

Only very rarely can forward maintenance installations be set up, given the vulnerability in the landing area and the (often) limited transport capacity.

1750. **Medical support.** The extent to which transport helicopters are used for medical evacuation must be kept under constant review. If this is limited, medical installations should be set up in the landing area.

18

Air-mechanised operations

Section 1 - Introduction

1801. Air-mechanised operations consist of the largely **independent execution of combat tasks** by attack helicopters. The support of ground-based units is usually confined to intelligence collection units, fire support, electronic support measures, air defence and possibly ground security.

*Air mechanised operations.
Photograph: Media Centre
RNLA*



1802. Air-mechanised operations are carried out as part of the **deep operation** of a division or an army corps. If an air-mechanised operation is launched in good time and with a high degree of accuracy against enemy armoured reserves, command posts, communication systems and key logistic installations, the initiative can be regained or held and scope for further offensive operations can be created.

Section 2 - Characteristics

1803. Air-mechanised operations normally form part of the concept of operations of a **division or corps**. They are designed to influence the operation over a period of 24-72 hours. Air-mechanised operations carry a high level of risk, but can have an extremely favourable or even decisive effect on the course of the operation.

1804. Attack helicopter units can be **deployed** against armoured and non-armoured targets and against other helicopters. Because of their speed, their independence from the situation on the ground and their ability to conduct operations even in poor visibility, they can achieve a high degree of surprise in their operations.

1805. Attack helicopters bring their fire power to bear in one or more **engagement areas**. An engagement area is an area containing the targets, which are attacked with concentrated fire. The formation commander designates:

- the engagement areas
- the point at which these become effective
- the effect to be achieved in these engagement areas
- the acceptable risk

1806. Air-mechanised operations can be used in any **form of combat** and in operations in all transitional phases. In offensive operations, the objective of an air-mechanised operation may be to engage enemy reserves which could affect the friendly main effort. In defensive or delaying operations, the aim of the air-mechanised operation may be to engage follow-on assault echelons, so that combat with them can be initiated later in the close operation in conditions that are favourable for friendly troops.

Other possible objectives of air-mechanised operations are:

- to destroy enemy command and control systems
- to determine enemy activity in terms of strength, composition, location and actions
- to neutralise enemy ground-based air defence
- to destroy enemy logistic installations which are essential for sustainability
- to destroy critical points on the enemy lines of communications

1807. Air-mechanised operations are ideally conducted at night. Daylight operations entail an increased risk of enemy fire from the ground directed at the low-flying aircraft.

1808. Air-mechanised operations can be conducted as:

- **air-mechanised raids**, whereby a high-payoff target is destroyed by means of a combat action that is limited in time and space
- **air-mechanised manoeuvres**, whereby an enemy (armoured) formation is engaged over a prolonged period in suitable terrain

Air-mechanised raids can be conducted to a maximum depth of 300 km and air-mechanised manoeuvres to a depth of approximately 75 km ahead of the FLOT.

1809. Air-mechanised operations can only be conducted if a large number of **conditions** are met. These include:

- temporary and local air superiority above the flight route and the engagement area
- permanent and up-to-date information about the targets located in the engagement area
- airspace control measures designed to guarantee maximum security
- preparation time, which ranges from 4 to 48 hours, depending on the extent to which air superiority and the airspace control measures have been achieved

Section 3 - Planning

1810. The formation commander who orders an air-mechanised operation must provide the conditions for the operation. This complicates the **planning**, as a great deal of information is unavailable when the formation commander gives his orders. This means that the decision-making is also a constant process in the further preparation and that the command will consist of a number of warning orders and/or fragmentary orders. This also complicates the planning by the commander in charge of the execution of the air-mechanised operation.

1811. Extensive **intelligence preparation of the battlefield** is essential in the preparation and execution of an air-mechanised operation. It should focus on the vicinity of the FLOT points at which forces leave the friendly area, flight routes, the engagement areas and the areas surrounding them. The results of reconnaissance by the higher levels must constantly be made available to the air-mechanised unit and must be completed with the results of long-range reconnaissance. Special forces, electronic reconnaissance units and UAVs are ideal assets in this respect.

1812. **Factors** which the formation commander needs to consider during the planning include:

- the weather (including the amount of daylight)

- the terrain surrounding the engagement area
- the availability of air forces to provide support for the air-mechanised operation in the form of air support and air defence
- the possibilities for long-range artillery systems to support the combat action in the engagement area
- the capacity for combat service support for the operation

1813. An essential aspect for an air-mechanised operation is the **synchronisation** of the attack helicopter deployment with the other necessary activities. The following times are designated for the synchronisation planning:

- the last moment for confirming or aborting the operation
- take-off in the forward operating base
- passing the FLOT on the way to the engagement area (F-hour)
- start of the combat action in the engagement area
- return from the engagement area to the forward operating base or a FARP

All designated times are thereby derived from F-hour.

1814. The formation commander who orders an air-mechanised operation must make arrangements that will guarantee security during the **passage of the FLOT**, both prior to and after deployment. Although this is not a passage of lines, as no combat contact is transferred, a large number of coordination measures (referred to in Chapter 14) can be applied. Airspace control measures should in any event be taken for the air corridor, along which the FLOT is passed. This corridor is approximately 3 km wide. If necessary, an air route to the starting point can also be designated above friendly territory.

Section 4 - Execution

1815. Up to the time specified in the planning process, the formation commander still has the chance to **abort** the planned operation. For this, he applies abort criteria, which are drawn up during the decision-making process. Up to this moment, limited adjustments to the plan are possible. Constant coordination via the attack helicopter unit's liaison officer is essential.

1816. The attack helicopter unit leaves the forward operating base at the previously established time and, at the starting point, assumes the flight formation, whereby the whole of the allocated air corridor is used. The FLOT is passed at the previously established F-hour.

*The AH-64 in action in the engagement area.
Photograph: Defense Section, US Embassy*



1817. Although **combat in the engagement area** is expected to commence at the planned time, this may be disrupted by enemy actions in the air corridor, either from the air or from the ground. The attack helicopter unit provides local protection during the flight. If necessary, the helicopters can be deployed against these enemy actions, which may lead to a disruption of the mission in the engagement area.

1818. Electronic silence is imposed during the air-mechanised operation. In principle, therefore, the formation commander who orders the air-mechanised operation has no further opportunity to adjust his orders once the attack helicopters have left the forward operating base. The supply of information will also be very limited during the operation.

1819. After the combat action in the engagement area has been carried out, the **return movement** starts at the specified time. If the desired effect is achieved before that time, the return starts earlier, as long as the airspace control measures allow for it. If the desired effect has not been achieved by the specified time, the return will still commence, as fuel supplies will usually make it impossible to continue the combat action.

1820. Based on the distance to the engagement area, the effect to be achieved, the size of the engagement area and the situation on the way to and around the engagement area, a decision may be made to set up

an **airmobile** FARP. This substantially increases the time and space factors for the deployment of the attack helicopters.

1821. Support by **air forces** enhances the effect of air-mechanised operations and can be an essential ingredient for success. Air forces can in that case:

- achieve temporary air superiority in the engagement area
- neutralise enemy air defence
- engage or temporarily block the enemy in the depth
- reinforce the fire of the attack helicopters by means of close air support

Section 5 - Functions in military operations

Command and control

1822. During the preparation and the execution, the formation commander must be kept informed about the operation. For this reason, the attack helicopter unit's **liaison officer** is incorporated in the formation commander's staff for the entire period. The liaison officer should have a permanent communications link to his unit, even when it is being transported by air. Reports about the achieved effect and other details are not usually available to the formation commander until an hour after completion of the air-mechanised operation.

1823. The formation commander who orders the air-mechanised operation is responsible for the following **coordination measures**.

- It is essential that all users of the airspace are aware of the airspace control measures that are in force, engagement areas and flight routes.
- Laser codes, in use by helicopters and CAS for guided ammunition, must be harmonised.
- There must be liaison between the air-mechanised unit and ground-based units involved in the operation (passing FLOT, setting up FARP).

Intelligence and military information

See paragraphs 1810 and 1811.

Manoeuvre

See paragraphs 1812-1818.

Fire support

1824. **Artillery** can support air-mechanised operations by providing fire support as they do in ground-based operations, although the distance imposes restrictions in this respect. The fire support may involve:

- shelling according to a firing schedule which focuses on the suppression of enemy air defence
- firing on request against enemy actions from the ground in the air corridor
- firing on request in support of the combat action in the engagement area, if it is within range of the artillery
- interdiction fire to block off the engagement area, if it is within range of the artillery

1825. **Fire support in the engagement areas** reinforces the fire from the attack helicopters. On the other hand, this extra fire support may produce so much smoke and dust that the attack helicopters are unable to achieve the desired result.

Protection

1826. **Suppression of enemy air defence** can be brought about by physical destruction or by electronic means. There are three types of suppression of enemy air defence:

- suppression by the air-mechanised unit itself, which occurs at the expense of the helicopter unit's capacity
- suppression with artillery fire and air support
- suppression by electronic warfare

This suppression commences some time before F-hour and should achieve maximum effect from F-hour onwards.

1827. Attack helicopters are fitted with an identification system in order to prevent fratricide. This system is based on the transmission of identification signals and is thus only activated at critical moments in the operation, such as the passage of the FLOT. This identification system must be closely harmonised with the friendly air defence.

Service support

1828. Given that an air-mechanised operation is conducted with a relatively large number of assets over a great distance within a short space of time, it results in short-lived but intense pressure on the **combat service support**. As much combat service support as possible is carried out

A ground-based FARP with the BO-105 observation helicopter.

Photograph: Physics and Electronics Laboratory, Netherlands Organisation for Applied Scientific Research (FEL/TNO)



from an area that is under friendly control and outside the range of enemy artillery. Logistic activities beyond the FLOT require the deployment of combat forces for protection.

1829. A FARP can be set up for the combat service support. The FARP is kept as small as possible so that it can incorporate the necessary flexibility and protection. There are two possibilities for setting up a FARP.

- **Ground-based FARP.** In this case, enough supplies are transferred by road from the forward operating base to a location behind the FLOT. Intelligence personnel and a repair element usually form part of this.
- **Airmobile FARP.** In this case, a FARP is set up in an area not controlled by friendly troops or even one in enemy territory. This FARP is set up and supplied with the aid of medium and heavy transport helicopters. The tactical situation usually requires the deployment of combat forces for security in the case of an airmobile FARP.

1830. The recovery and evacuation of **casualties** is made possible by assigning medevac helicopters. They should be fitted with special equipment to enable them to locate and recover casualties. If personnel are still missing after departure from the engagement area, a special operation (combat search and rescue) will have to be initiated (see Chapter 20).

19 Amphibious operations

Section 1 - Introduction

1901. An amphibious operation is mounted from the sea by naval and land forces, supported by air forces, against an enemy shore. It entails a coordinated deployment of ships, aircraft, various weapon systems and landing units.

1902. Amphibious operations usually create the conditions for subsequent operations. They concentrate on the enemy's weak points and are designed to gain the element of surprise. This is not only achieved by deploying units at a particular time and place; the threat posed by amphibious units may also force an enemy to deploy his assets in a dispersed formation.

1903. Amphibious operations are in principle conducted by naval forces and specially trained and equipped marines units. After extra training, army combat forces are also capable of taking part in an amphibious operation. They should in any event be supported by marines units in terms of personnel and equipment.

Section 2 - Characteristics

1904. A typical feature of amphibious operations is the deployment of landing troops from the sea, after which another operation usually follows. An operation at sea is highly dependent on the effects of the weather. There can be enormous local and temporary differences in these effects, which means that flexible command and control and close coordination between naval and land forces are extremely important.

1905. There are three types of operation according to the objective.

- a. An **amphibious assault** is conducted by putting combat forces ashore with the aim of creating the conditions for subsequent operations, which are normally conducted by land forces.
- b. An **amphibious withdrawal** has the objective of evacuating friendly units by sea from an enemy shore.

- c. An **amphibious raid** is a shore landing with a limited objective in terms of time and space. A withdrawal is included in the planning for this operation. An amphibious raid may be conducted to:
- inflict losses on the enemy or damage to key installations
 - collect intelligence
 - capture or liberate certain individuals
 - capture specific equipment

Section 3 - Planning

1906. Amphibious operations are conducted by an **amphibious task force**. This always consists of:

- naval forces
- landing forces
- air forces

1907. The **naval forces** may consist of the following groups.

- The **transport group** is responsible for the embarkation, the loading, the movement to the amphibious objective area and the logistic support of the landing units.
- The **control group** coordinates the ship-to-shore movement.
- The **tactical air control group** is located on board a command ship and forms the tactical air control centre for the coordination of air support.
- The **fire support group** is responsible for the planning and execution of fire support for the landing unit by naval artillery, guided weapons and aircraft. It coordinates with land-based artillery.
- The **screening group** is responsible for the protection of the amphibious task force against an enemy threat at sea during the movement to the amphibious objective area and during the landing. It can comprise cruisers and frigates.
- The **mine warfare group** consists of minesweepers and is responsible for disposing of sea mines.
- The **reconnaissance and underwater demolition group** conducts reconnaissance of the landing shore and the area further inland. The aim of this reconnaissance is to collect information about the enemy, the terrain and the infrastructure. If the need arises, this group is capable of clearing obstacles under water or on land. It usually consists of special forces.

1908. The **landing forces** consist of a combat element, a combat support element and a combat service support element. The combat element carries out the actual shore landing with naval artillery and air support.

Close air support for the landing forces.

Photograph: Audio-visual Service RNLAf, Soesterberg air base photographic flight



1909. The **air forces' assets** can come from any Service. The task of the air forces covers such activities as winning air superiority, engaging enemy ships and supporting the landing forces before, during and after the landing with reconnaissance, close air support and battlefield air interdiction.

1910. In an amphibious operation, the planning is based on the landing and the assault, from which all preceding activities are derived (backward planning). The following five phases can be identified.

- a. In the **planning phase**, the preparations start with an initiating directive. This phase lasts until embarkation. The initiating directive specifies the mission, the units required, command relationships and the timetable. The planning of the operation is continued and refined in the subsequent phases.
- b. During the **embarkation phase**, the units board the ships. The ships are also loaded with equipment, vehicles and supplies in the order required for the landing.
- c. In the **evaluation phase**, the plans are evaluated and the combat-readiness is tested.
- d. In the **movement phase**, troops sail from the embarkation ports to the amphibious objective area. This movement may pass training areas, assembly areas and rendezvous points.
- e. In the **assault phase**, the actual landing takes place in the amphibious objective area. The movement in landing craft and/or helicopters to the shore or to objectives further inland (the ship-to-shore movement) forms part of this phase.

The landing is complete once a bridgehead has been established.
Photograph: Audio-visual Service RNLN



1911. During the assault phase, the forward units take objectives which lie so far inland that the enemy is unable to observe or deliver direct fire on the landing shore. Most of the principles of offensive operations apply to this type of assault.

The combat organisation of the landing unit is tailored to the operation on the shore. The order of battle during the movement and the embarkation is derived from this.

1912. The landing is complete once a bridgehead has been established and the following conditions have been met.

- It must be possible to defend the bridgehead.
- For the combat, combat support and combat service support units, there must be sufficient space to ensure the supply of reinforcements, equipment and stocks for the follow-up operation.
- Assets for command and control, communications and fire support must be set up on land.
- The commander of the landing unit must be able to take over the command of the operation from the commander of the amphibious task force.

Section 4 - Execution

1913. An essential condition for an amphibious operation is that there must be maritime superiority before an assault is launched. The assault must focus on the capture of a bridgehead that is deep enough to build up the required level of combat power for the next operation. After establishing the bridgehead, the landing unit must have enough mobil-

ity to maintain the tempo and momentum of the assault and thus compensate for any lack of combat power. Attack helicopters can play a significant role in this respect.

1914. In all cases, an **advance guard** establishes the best place for the landing on an enemy shore. The advance guard is a temporary combat organisation within the amphibious task group, which operates ahead of the main force in the amphibious objective area. The task of the advance guard is to prepare for the assault by performing surveillance and reconnaissance tasks and preparatory combat actions. The advance guard also plays a part in clearing obstacles and mines (both under water and on shore), in the preparation fire, in firing demolitions and in offensive air support. The advance guard can also be deployed to perform actions in the context of deception.

Section 5 - Functions in military operations

Command and control

1915. The **command relationships** during an amphibious operation are set out in the **initiating directive**. The commander of the amphibious task force is a naval officer. The commander of the land component is the landing unit commander.

1916. Amphibious operations are conducted in an amphibious objective area, the dimensions of which extend to sea, land, air and below sea level. The **cooperation** of naval, land and, in some cases, air forces requires a high level of coordination. The overall operation is conducted under unity of command, that of the commander of the amphibious task force.

1917. After the landing, during the assault on the coast, the commander of the amphibious task force may gradually delegate certain **powers** to the landing unit commander, such as the command over fire support assets, until the bridgehead has been fully established and the responsibility passes entirely to the landing unit commander.

1918. The **operation plan** should contain definitive information about such aspects as:

- the amphibious assault areas
- the bridgeheads
- the putting ashore of following units
- the combat organisation during and after the landing

1919. The commander of the amphibious task force is responsible for **airspace control** throughout the operation. This task must be tailored to the airspace control elements in the surrounding areas.



As the landing progresses, the landing unit's fire support assets can also be deployed.

Photograph: Audio-visual Service RNLN

Intelligence

1920. Up-to-date intelligence is essential to ensure that an amphibious landing is conducted at the right time and in the right place. The intelligence preparation of the battlefield starts in the planning phase and must provide definitive information about the most suitable landing sites. The reconnaissance and underwater demolition group has the means for collecting information. After the landing, the landing unit's intelligence requirement is the same as that for land operations.

Manoeuvre

1921. See paragraphs 1904 - 1914.

Fire support

1922. Up to and during the actual shore landing, fire support will be provided by naval gunfire and air support. As the landing progresses, the landing unit's fire support assets can also be deployed and the scope for naval gunfire support will diminish. This should be closely coordinated by the fire support group.

Protection

1923. After the landing, the landing unit's engineer units can perform **mobility and countermobility tasks**. The reconnaissance and underwater demolition group can also be deployed for these tasks. During the landing phase, **air defence** is conducted from ships and by aircraft. Afterwards, the landing unit's air defence assets also form part of the air defence system.

Service support

1924. The service support plan must provide for **continuous and coordinated combat service support** for the landing forces. This support, which is initially provided from the sea, must be sustained over a prolonged period. In the planning, account must be taken of:

- the position of the supplies on embarkation, so that they become available in the right order
- the continuation of the combat service support after the landing by setting up a logistic base

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Special operations

Section 1 - Introduction

2001. Special operations are **combat actions which are conducted deep inside enemy territory**. They are normally limited in terms of size and scale. The execution of special operations requires specially trained and equipped units. Special forces, therefore, are ideally suited in this respect. Although deployment by air is one of the possibilities, special operations must not be confused with airmobile operations.

2002. Special operations are often conducted as a direct contribution to objectives at the operational level. They can also be conducted at the strategic level. The units that can be deployed for special operations lack the combat power, tactical mobility, sustainability and reaction capacity to be effective within the time and space factors of the tactical level. Special operations can also be conducted to achieve strategic objectives. However, special operations of this kind will not be covered in this chapter.

Section 2 - Characteristics

2003. Special operations may be conducted in cooperation with other units or they may be independent and without any direct relationship with or support from other units. Special operations can have a high payoff, but they also carry a high level of risk. The units conducting special operations must have technologically advanced equipment; they should also be trained to a high standard. For the mission to be effective, the preparation requires a great deal of time and precision.

2004. Despite detailed preparation of the mission, the factors which influence special operations are often difficult to predict. Planning takes place in an atmosphere of uncertainty. Commanders charged with the execution must, therefore, have as much freedom of action as possible.

2005. **Types of special operation.** Special operations can be divided into three types, according to the objective:

- a. special reconnaissance
- b. direct action
- c. other tasks

2006. Special reconnaissance and direct action are enemy-oriented tasks and are respectively passive and active in nature. The other tasks focus on friendly troops. Combat search and rescue (CSAR), for example, is designed to get friendly personnel to safety.

Special operations		
special reconnaissance	direct action	other tasks
<ul style="list-style-type: none"> • reconnaissance of terrain and infrastructure • reconnaissance of the enemy 	<ul style="list-style-type: none"> • detect and eliminate personnel • destroy/sabotage critical targets 	<ul style="list-style-type: none"> • CSAR • train and equip resistance units in enemy territory

2007. **Special reconnaissance** is usually conducted over considerable distances deep inside enemy territory. These long-range reconnaissance patrols (LRRPs) enable a commander to collect information which cannot be obtained with conventional tactical reconnaissance assets. These reconnaissance patrols thus form an essential addition to other collection units at the operational level, especially if the latter are sensitive to the effects of weather and terrain, camouflage and other protection and deception measures by the enemy. An important advantage in this respect is that the information collected in this way is up to date and extremely reliable.

- **Reconnaissance of terrain and infrastructure.** This reconnaissance focuses on a particular area in order to collect information about its terrain conditions and infrastructure. A distinction is made between area reconnaissance and object reconnaissance. In some cases, area reconnaissance can also focus on the meteorological, hydrographic or geological aspects of a particular area.
- **Reconnaissance of the enemy.** This reconnaissance can be aimed at positions, emplacements, installations, command posts, communication centres, etc. Special forms of reconnaissance are target acquisition and what is known as post-strike reconnaissance (establishing the effectiveness of the target engagement). Reconnaissance of the enemy may be followed by direct action.

*Special reconnaissance.
Photograph: Media Centre
RNLA*



2008. **Direct action.** This refers to short attacks, in the form of raids, on installations or units that are vitally important to the enemy. They are designed to destroy or capture a specific object or to eliminate or capture specific equipment or personnel. An exfiltration operation is usually incorporated in the plan for the execution. Targeting with special equipment for terminally guided ammunition also falls under the heading of direct action.

2009. **Other tasks** refer to combat search and rescue and training resistance units in enemy territory.

Combat search and rescue is designed to rescue friendly personnel or vital equipment which has fallen or is in danger of falling into enemy hands. Special forces and crew members of downed aircraft in particular run a considerable risk of being captured by the enemy. Combat

Direct action.

Photograph: Media Centre

RNLA



search and rescue operations are not only important because of the morale of friendly troops, but also to prevent the enemy from obtaining propaganda opportunities. Because of the speed required in the execution, they are often conducted in conjunction with other units, for instance helicopter units, and air support.

2010. **Organisation.** The size of units operating in enemy occupied territory will depend on the mission. They will normally be composed of special forces, possibly augmented by specialists relevant to the mission. Exceptional demands are made on personnel in terms of their physical condition and equipment, so they not only need to be well trained in survival techniques, but must also know how to handle weapons and other equipment belonging to the enemy. A thorough knowledge of the language, culture and geography of the deployment area will also be a major advantage.

Section 3 - Planning

2011. **Basic principles.** The same basic principles that apply to other military operations also apply to special operations. Their application, however, will not be the same in all cases. Because of the environment in which they are conducted, special operations are more affected by non-military factors than are other operations. For this reason, there is more emphasis on the following basic principles.

- **Surprise.** The planning of a special operation is always an integral part of an operation plan. A headquarters' planning cell must ensure that the deployment of special forces is only known to the staff officials involved in the execution, such as a 'special operations staff officer'. Operations security must ensure that the plan remains secret until the right time, otherwise the element of surprise will be lost.
- **Objective.** The limited scope for special operations, such as the limited number of special units available and the many preconditions, means that they only focus on high-payoff targets. Special operations are particularly feasible in the initial stage of a campaign or operation. After a while, however, their importance diminishes, which means that they need to be constantly evaluated.

2012. **Direction.** Special operations are planned at the operational or tactical level. It is sometimes influenced by politico-strategic factors. The execution virtually always occurs at the technical level. The distance between both levels as well as the possible overlap in which the execution takes place mean that there has to be constant interaction between the directing and the executing levels.

Section 4 - Execution

2013. **Considerations for deployment.** At first glance, urbanised areas appear to be highly suitable as a setting for special operations, as such a population concentration could simplify the support of the operation. One should realise, however, that an operation in such a location could have major repercussions for the local population, as it is much easier for the enemy to seal off a densely populated area and force the inhabitants to cooperate than would be the case in rural surroundings.

2014. Special operations must be **coordinated** with the units in whose area of interest the actions are conducted. Coordination must also take place with units who will bear any future responsibility for the area in

*Deploying special forces.
Photograph: Media Centre
RNLA*



which the actions occur. The units conducting the special operation should always take the initiative with regard to coordination.

2015. The **required preparation time** is an important planning factor. The troops that are deployed in enemy territory need time to reach their deployment area and to prepare once they have arrived. This depends partly on whether the troops have stayed behind, have infiltrated, have been flown in or have reached their deployment area by sea. If the special operation is conducted in combination with or in support of a major operation, the preparation time for the latter must also be taken into consideration.

2016. The planning should always make provisions for the return phase to friendly units. This can occur in the following ways:

- the troops return independently to friendly territory, making use of escape routes
- after the operation, the unit makes contact with friendly troops in the area in which the special operation has been conducted
- the unit is evacuated by air or by sea

2017. The **execution** consists of the following six phases:

- a. setting up the command and control structure
- b. setting up and protecting the base area
- c. infiltrating or staying behind in the deployment area
- d. carrying out the mission
- e. return
- f. completion

Section 5 - Functions in military operations

Command and control

2018. Special operations must be conducted in coordination with the units in whose area of responsibility or interest they take place. However, operations security requirements limit the supply of information and the setting up of liaison.

2019. If a special operation is conducted **extremely deep inside** enemy territory, it may be advisable for a higher level than the one directly involved to lead and coordinate the operation. If more than one unit is operating in this area, it may be necessary to issue coordination instructions or even install a coordinating command post. This command post may be set up permanently or just for a specific mission.

2020. Radio links and satellite communications are essential for the command and control of special operations. If radio links are used, security measures are needed to prevent detection.

Intelligence

2021. Special operations usually contribute directly to achieving the **operational objective**. Special units have limited tactical mobility. These features mean that there are special demands in terms of the intelligence requirement of these units. The deployment area must be chosen carefully and the intelligence preparation of the area must be given priority. All the intelligence collected must be made available.

2022. The **importance of special operations** means that the utmost precision is required in determining the target or targets. Access to the intelligence sources at the highest level is a precondition in this respect. This need may in itself give rise to further reconnaissance, as a result of which the operation may be compromised. Careful coordination is essential.

Manoeuvre

2023. Missions targeting the enemy start with an infiltration or with a 'stay-behind'. Infiltration can be carried out by sea, by air or over land. The means of transport chosen will depend on availability, the meteorological conditions and the enemy situation. Movements by air and by sea in particular require a great deal of coordination. In these cases, the plan should be supported by a contingency plan.

2024. The 'stay-behind' only occurs in the initial phases of the defensive or delaying operation. In the preparations, it is then possible to organise the service support in advance in such a way that the operation can be conducted over a prolonged period.

The exfiltration procedures can be conducted in the same way as the infiltration. Here, too, a movement by air or by sea requires coordination measures, which will complicate the planning process.

Fire support

2025. Special units conduct their operations as covertly as possible. This means that they do not generally receive fire support, as this may jeopardise their mission.

2026. If the special operation consists of providing **terminal guidance for precision strikes**, there should be close technical coordination beforehand with the fire support units.

Protection

2027. Because of the nature of special operations, the units conducting them have **little protection**. What they have is mainly drawn from the covert nature of their operation. Special operations, therefore, require separate measures with regard to operations security.

Service support

2028. Special operations are conducted deep in enemy territory, which makes service support tasks difficult. There is also the risk that the covert nature of the operation will be impaired. Specific measures are thus necessary for the service support in the case of special operations.

On occasions, the operating units will be cut off from extra service support; they must then fall back on their basic equipment and on whatever they can lay their hands on in enemy territory.

Glossary

1. The definitions in this glossary are primarily based on the AAP-6(V), 'NATO Glossary of Terms and Definitions'. Besides the AAP-6, a number of other official publications were used, such as the German Army's HDV 100/900 (*Führungsbegriffe*) and Training Instruction '*Truppenführung/Gefecht*', the US Army FM 100-5 (Operations) and the British Army Field Manuals ADP-1 (Operations) and ADP-2 (Command). If applicable, a reference to these publications is included in the glossary.
2. In some cases, a term is used for which no internationally agreed definition is available. In such instances, the RNLA has formulated its own description or definition. For some terms, the RNLA has a slightly different interpretation than defined in, for example, the AAP-6. Where applicable, this is indicated in the glossary using the abbreviation 'NL'.
3. The glossary also contains a number of abbreviations. These stem, in principle, from the AAP-15(F), 'NATO Glossary of Abbreviations Used in NATO Documents and Publications'. If a different reference publication has been used, this is clearly marked in the text.

abort criteria

Criteria for aborting an airborne, airmobile or air-mechanised operation once it has commenced.

administrative control (ADMINCON)

Direction or exercise of authority over subordinate or other organisations in respect to administrative matters such as personnel management, supply, services and other matters not included in the operational missions of the subordinate or other organisations (AAP-6).

advance guard

That section of the troops sent ahead on the march route with the aim of protecting the main force.

advance to contact

1. A movement towards the enemy to establish contact or to achieve a march objective (NL).
2. An offensive operation designed to gain or re-establish contact with the enemy (AAP-6).

air assault

Offensive deployment of airmobile units with a relatively small ground component and a relatively large helicopter component.

air defence (AJP-OI(A): AD)

All measures designed to nullify or reduce the effectiveness of hostile air action (AAP-6).

air superiority

Local and/or temporary situation in which friendly air forces dominate the airspace.

air supremacy

1. Situation in which, in a substantial part of the theatre of operations, the enemy air forces are incapable of interfering with friendly land, sea and air operations over a prolonged period (NL).
2. That degree of air superiority wherein the opposing air force is incapable of effective interference (AAP-6).

airhead

1. The area to be seized and held as part of an airborne operation to enable the constant supply of troops, materiel and supplies and the evacuation of casualties (NL).

- 2a. A designated area in a hostile or threatened territory which, when seized and held, ensures the continuous air landing of troops and materiel and provides the manoeuvre space necessary for projected operations. Normally it is the area seized in the assault phase of an airborne operation (AAP-6).
- 2b. A designated location in an area of operations used as a base for supply and evacuation by air (AAP-6).

airmobile force commander

The commander who has overall responsibility for the planning and execution of an airmobile operation.

airspace control (ASC)

- 1. The entire range of measures and procedures which enhance operational effectiveness by enabling the safe, efficient and flexible use of the airspace above the battlefield (NL).
- 2. A combination of airspace organisation planning procedures, the resulting control structure and coordinating functions to minimise risks and allow for efficient and flexible use of airspace by all elements involved in air, land and sea operations (AAP-6).

all arms air defence

Active and passive measures with friendly assets for the protection of the unit against hostile air reconnaissance and air attacks.

amphibious assault area

The part of the objective area within which are conducted the landing operations of an amphibious force. It includes the beach, the approaches to the beach, the transport areas, the fire support areas, the air occupied by close supporting aircraft, and the land included in the advance inland to the initial objective (AAP-6).

approach march

- 1. Phase from the start of the attack to the breach (NL).
- 2. Advance of a combat unit when direct contact with the enemy is imminent. Troops are fully or partially deployed. The approach march ends when ground contact with the enemy is made or when the attack position is occupied (AAP-6).

area commander

The commander who, in the context of area planning, is responsible for a particular area. He is authorised to instruct all units and troops in his area of responsibility with regard to locations to be occupied, security and movements.

area defence

A form of manoeuvre in the defensive operation whereby a penetrating attacker is gradually defeated by fire power from inter-connected defensive positions grouped in the width and depth, combined with offensive actions and concentrated fire support.

area of influence

A geographical area wherein a commander is directly capable of influencing operations, by manoeuvre or fire support systems normally under his command or control (AAP-6).

area of intelligence responsibility (AOIR)

An area allocated to a commander, in which he is responsible for the provision of intelligence, within the means at his disposal (AAP-6).

area of interest (AOI)

1. The area about which a commander needs information for the further planning of his operations (NL).
2. That area of concern to the commander, including the area of influence, areas adjacent thereto, and extending into enemy territory to the objectives of current or planned operations. This area also includes areas occupied by enemy forces who could jeopardise the accomplishment of the mission (AAP-6).

area of operations (AOO)

The area for which responsibility is assigned to a commander; this responsibility consists of taking measures for security, area planning and tactical movement control, also with respect to units not under his command.

area of responsibility (AOR)

A defined area of land in which responsibility is specifically assigned to the commander of the area for the development and maintenance of installations, control of movement and the conduct of tactical operations involving troops under his control along with parallel authority to exercise these functions (AAP-6).

assembly area

1. An area in which a command is assembled preparatory for further action (AAP-6).
2. An area in which (some of) the combat-ready troops or laden vehicles wait for the order to conduct or continue the mission.
Referred to as a *waiting area* in the case of a river crossing.

attack

The general term used to indicate an offensive, an offensive operation and an offensive combat action.

aviation mission commander

The official responsible for the control of the air component in an airmobile operation.

axis of advance

1. The general direction in which the manoeuvre to the objective must be conducted (NL).
2. A line of advance assigned for purposes of control; often a road or a group of roads, or a designated series of locations, extending in the direction of the enemy (AAP-6).

barrier

A coordinated series of obstacles designed or employed to detect, channel, direct, restrict, delay or stop the movement of an opposing force and to impose additional losses in personnel, time and equipment on the opposing force (AAP-6).

barrier restricted area

1. An area in which the use of obstacles is only permitted after coordination (NL).
2. An area declared by an authorised commander where manoeuvre of friendly forces must not be hindered by barriers. Restrictions imposed may include a complete ban on the emplacement of certain obstacles in certain areas for specified periods (AAP-6).

barrier system

A number of tactically cohesive barriers echeloned in the depth.

battle

At division level or higher, the entire series of combat actions and directly related movements designed and executed by a formation to accomplish a particular objective or to perform a particular task (see also *engagement*).

battlefield

The area in which the battles take place, including the airspace, in so far as the land forces need it for their operation, and the electromagnetic spectrum.

battlefield air interdiction (BAI)

A coordinated air operation by land and air forces directed at ground targets, mainly reserves in the depth and other enemy units which will affect the close operation in the short term.

block

In the close operation, to deploy, whether planned or not, one or more units to deny the enemy, once he has penetrated, access to a particular sector and thus prevent his advance. If this occurs in the depth, the term used is interdict.

blocking position

A defensive position so sited as to deny the enemy access to a given area or to prevent his advance in a given direction (AAP-6).

boundary

1. A line, if possible along a clearly defined terrain feature, between two sectors which have been established on the basis of how the commander wishes to conduct the operation (NL).
2. In land warfare, a line by which areas of responsibility between adjacent units/formations are defined (AAP-6).

breach

Phase in the attack in which troops break into an enemy position.

bridgehead

An area of ground, in a territory occupied or threatened by the enemy, which must be held or at least controlled, so as to permit the continuous embarkation, landing or crossing of troops and material, and/or to provide manoeuvre space requisite for subsequent operations (AAP-6).

canalise

To force the enemy into an area which is advantageous for the friendly operation by means of obstacles, troops, fire and/or positions.

checkpoint

1. A predetermined, clearly defined point in the terrain which serves as an aid to command (NL).
2. A predetermined point on the surface of the earth used as a means of controlling movement, a registration target for fire adjustment or reference for location (AAP-6, sense 1).

CIMIC activities

Activities aimed at achieving operational advantages for the unit, improving the safety of friendly personnel and establishing trust among the local population.

civil-military cooperation (CIMIC)

The resources and arrangements which support the relationship between commanders and the national authorities, civil and military, and civil populations in an area where military forces are or plan to be employed. Such arrangements include cooperation with non-governmental or international agencies, organisations and authorities (AAP-6).

civil-military (CIMIC) centre

A centre in which a commander coordinates the operations of friendly troops, civil organisations, international organisations and non-governmental organisations.

close air support (CAS)

Air action against hostile targets which are in close proximity to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces (AAP-6).

close operation

The operation in the FLOT which concentrates on attacking the enemy with mobility, fire and obstacles.

collection

The method of supply whereby the receiving unit collects the goods from the service unit.

combat action

A combative operation by a unit of battalion size or part thereof.

combat forces

A general term for units which track down the enemy and use direct fire and mobility to engage the enemy.

combat operation

Any military operation in which at least one of the warring parties does not consent to the deployment of the troops and in which the objective is mainly achieved by conducting battles.

combat organisation

The organisation in which the chain of command is organically assigned units is broken in order to achieve the best composition for a particular operation.

combat power

1. The capacity of a unit to conduct a combat action or battle (NL).
2. The total means of destructive and/or disruptive force which a military unit/formation can apply against the opponent at a given time (AAP-6).

combat reconnaissance

Reconnaissance conducted in order to provide the commander of a battalion or lower unit, either shortly before or during a combat action, with the information he needs to conduct his combat task.

combat service support (CSS)

1. The process designed to maintain units prior to, during and after operations (NL).
2. The support provided to combat forces, primarily in the fields of administration and logistics (AAP-6).

combat service support forces

Units which provide combat service support.

combat staff

Mobile ground or air asset, with which a formation commander, independently of his tactical command post, can for a brief period gain insight into the terrain or personally influence the troops.

combat support forces

Units which provide support for the combat forces in the form of fire support or other operational support.

combat zone (CZ)

1. That area required by combat forces for the conduct of operations (AAP-6).
2. The section of the theatre of operations without a forward boundary, the rearmost part of which borders on the communications zone (HDV 100900).

combined (multinational) operation

An operation conducted by forces of two or more Allied nations acting together for the accomplishment of a single mission (AAP-6). When non-NATO nations' forces participate in the operation, the adjective '*multinational*' is applicable (AJP-OI(A)).

command

1. In the RNLA, the process whereby the commander, assisted by his staff, organises the activities of the troops assigned to him and of any support troops (NL).
2. The authority vested in an individual of the armed forces for the direction, coordination and control of military forces (AAP-6).

command and control (C2)

Leading and directing a military organisation in order to achieve its objectives. Command and control consists of leadership, decision-making and command.

command and control system

An integrated system comprising doctrine, procedures, organisational structure, personnel, equipment, facilities and communications which provides authorities at all levels with timely and adequate data to plan, direct and control their activities (AAP-6).

command and control warfare (C2W)

The use of all military assets to neutralise enemy command and control capabilities while protecting friendly command and control capabilities against such actions.

command post (CP)

A unit's or subunit's headquarters where the commander and the staff perform their activities.

communications zone

1. Rear part of the theatre of operations (behind but as close as possible to the combat zone) (NL).
2. Rear part of a theatre of operations (behind but contiguous to the combat zone) which contains the lines of communications, establishments for supply and evacuation and other agencies required or the immediate support and maintenance of the field forces (AAP-6).

consolidation

Organisation and strengthening of a captured objective.

contact point

A point in the terrain, easily identifiable, where two or more units are required to make contact (AAP-6).

coordinating point

A designated point at which adjacent units/formations must make contact for purposes of control and coordination (AAP-6).

corridor

A compartment of the terrain running in the same direction as the axis of the movement.

counterattack

1. An attack, whether or not foreseen in the operation plan, with the aim of destroying the attacker's combat power, regaining lost ground or liberating friendly troops who have been cut off (NL).
2. Attack by part or all of a defending force against an enemy attacking force, for such specific purposes as regaining ground lost or cutting off or destroying enemy advance units, and with the general objective of denying to the enemy the attainment of his purpose in attacking (AAP-6).

counterattack force

That section of the troops in a mobile defence specifically designated to conduct a counterattack.

counter-reconnaissance

All measures taken to prevent the enemy from obtaining information by means of ground reconnaissance.

counterstroke

An action, usually without preparation, conducted by lower tactical levels on their own initiative if an opportunity arises to defeat or repel the enemy locally (up to battalion level, referred to as a *thrust*).

covering force

1. Part of a formation which provides security for the main formation by reconnaissance, attack, defence, delay or a combination thereof. Applies in offensive, defensive and delaying operations (NL).

- 2a. A force operating apart from the main force for the purpose of intercepting, engaging, delaying, disorganising and deceiving the enemy before he can attack the force covered (AAP-6).
- 2b. Any body or detachment of troops which provides security for a larger force by observation, reconnaissance, attack or defence, or by any combination of these methods (AAP-6).

crossing site

Place on a river with an access and exit road, where troops can cross by boat, ferry, bridge or by wading.

crossing zone

A strip of land on each side of a river, designated by the formation commander, to enable a coordinated crossing.

D-Day

The day on which an operation commences or is due to commence (AAP-6).

deception

Those measures designed to mislead the enemy by manipulation, distortion or falsification of evidence to induce him to react in a manner prejudicial to his interests (AAP-6).

decision making

The planning process in which the operation of a unit is determined. This is done by means of a logical and ordered examination of all factors which will influence the conduct of the operation.

deep operation

The operation that is conducted deep in hostile territory to limit the enemy's command and control capabilities and sustainability, destroy certain assets or delay the enemy's movement.

defence

The general term used to describe the defensive, the defensive operation and the defensive combat action.

defence area

1. The area in which a battalion or formation conducts the defensive battle and which extends from the forward edge of the battle area to the rear boundary of the unit concerned (NL).

2. For any particular command, the area extending from the forward edge of the battle area to its rear boundary. It is here that the decisive defensive battle is fought (AAP-6).

defensive operation

The form of combat in which a hostile attack within the allocated area is halted while inflicting such losses on the enemy that he is unable to sustain his offensive operation.

defile

A corridor in which there is insufficient space to deploy fully.

delay line

A line which is used to coordinate and synchronise the delaying operation and in which it must be possible to conduct a temporary defence.

delaying operation

An operation in which a force under pressure trades space for time by slowing down the enemy's momentum and inflicting maximum damage on the enemy without, in principle, becoming decisively engaged (AAP-6).

deliberate attack

A type of offensive action characterised by pre-planned coordinated employment of fire power and manoeuvre to close with and destroy or capture the enemy. See also hasty attack (AAP-6).

demonstration

An attack or show of force on a front where a decision is not sought, made with the aim of deceiving the enemy (AAP-6).

direct delivery

Method of supply whereby the service unit delivers the goods to the receiving unit.

direct support (DS)

The support provided by a unit not attached to or under the command of the supported unit or formation, but required to give priority to the support required by that unit or formation (AAP-6).

disposition

Distribution of the elements of a command within an area, usually the exact location of each unit headquarters and the deployment of the forces subordinate to it (AAP-6).

doctrine

1. The formal expression of military thinking, applicable at a given time. Doctrine describes the nature and characteristics of current and future military operations, the methods for preparing for those operations and the ways in which military operations in times of crisis and war can be completed successfully (NL).
2. Fundamental principles by which the military forces guide their actions in support of objectives. It is authoritative but requires judgement in application (AAP-6).

echelon

1. Separate level of command.
2. Part of a unit grouped in the depth to which a specific task is assigned.

electronic intelligence (FLINT)

1. A component of electronic warfare that comprises the tracking, interpreting, localising, recording and analysing electromagnetic energy emissions with the aim of acquiring a set of data for the decision-making process (NL).
2. Intelligence derived from electromagnetic non-communications transmissions by other than intended recipients or users (AAP-6).

electronic warfare (EW)

1. The process whereby electromagnetic energy is employed to determine, exploit, restrict or prevent enemy use of the electromagnetic spectrum and to ensure that friendly use of the spectrum continues to be successful (NL).
2. Military action to exploit the electromagnetic spectrum encompassing the search for, interception and identification of electromagnetic emissions, the employment of electromagnetic energy, including directed energy, to reduce or prevent hostile use of the electromagnetic spectrum, and actions to ensure its effective use by friendly forces (AAP-6).

encirclement area

The area in which encircled troops are situated and in which they prepare for subsequent operations.

engagement

Below division level, the entire series of combat actions and directly related movements designed and executed by a formation to accomplish a particular objective or to perform a particular task (see also *battle*).

engagement area

An area in which enemy targets can be engaged with concentrated fire.

envelopment

1. An attack in which the main effort is directed at the enemy flank and/or rear (NL).
2. An offensive manoeuvre in which the main attacking force passes around or over the enemy's principal defensive positions to secure objectives to the enemy's rear (AAP-6).

essential elements of information (EEI)

Key questions to intelligence sources which satisfy the priority intelligence requirements.

evasion and escape

1. A covert movement within enemy territory designed to allow troops to leave this area and make contact with friendly troops (NL). Also known as *exfiltration*.
2. The procedures and operations whereby military personnel and other selected individuals are enabled to emerge from an enemy-held or hostile area to areas under friendly control (AAP-6).

extraction

Action designed to pick up a unit from hostile territory.

feint

An offensive action with the purpose of diverting the enemy's attention by engaging him outside the main effort.

F-Hour

The designated time at which the first helicopters conducting an air-mobile or air-mechanised operation pass the FLOT.

fire coordination line

A line across which there may be no effect from direct or indirect fire without prior coordination.

fire support

1. The capacity to apply indirect fire from land and naval forces and fire from air forces in order to neutralise (temporarily) the enemy's military potential (NL).
2. The application of fire, coordinated with the manoeuvre of forces, to destroy, neutralise or suppress the enemy (AAP-6).

fire support coordination line (FSCL)

1. A line, if possible following well-defined terrain features, designated by the authorised commander of the land forces after coordination with the air component commander. Fire support on the friendly side of this line must be coordinated; fire support on the other side may be conducted without prior coordination (NL).
2. A line established by the appropriate ground commander to ensure coordination of fire not under his control but which may affect current tactical operations. The fire support coordination line is used to coordinate fires of air, ground or sea weapons systems using any type of ammunition against surface targets. The fire support coordination line should follow well-defined terrain features. The establishment of the fire support coordination line must be coordinated with the appropriate tactical air commander and other supporting elements. Supporting elements may attack targets forward of the fire support coordination line without prior coordination with the ground force commander, provided the attack will not produce adverse surface effects on or to the rear of the line. Attacks against surface targets behind this line must be coordinated with the appropriate ground force commander (AAP-6).

force protection

All measures designed to preserve the military potential of friendly forces.

formation

1. The term for a unit of brigade level and higher.
2. A geographical arrangement of units, vehicles or personnel.

forming-up place

The last position occupied by the assault echelon before crossing the start line/line of departure. Also called attack position (AAP-6).

forward air controller (FAC)

A qualified individual who, from a forward position on the ground or in the air, directs the action of combat aircraft engaged in close air support of land forces (AAP-6).

forward arming and refuelling point (RNLA's ADP I: FARP)

Improvised and temporary position where helicopters can be supplied with fuel and/or ammunition.

forward combat zone (FCZ)

That part of the combat zone where the army corps operate.

forward edge of the battle area (FEBA)

1. The foremost boundary of the defence area, indicated by coordinating points on the sector boundaries and adjusted to suit the terrain (NL).
2. The foremost limits of a series of areas in which ground combat units are deployed, excluding the areas in which the covering or screening forces are operating, designated to coordinate fire support, the positioning of forces or the manoeuvre of units (AAP-6).

forward line of own troops (FLOT)

A line which indicates the most forward positions of friendly forces in any kind of military operation at a specific time (AAP-6).

forward operating base (FOB)

An area located in the sectors of the forward brigades, from which an airmobile or an air-mechanised operation into hostile territory is conducted.

forward passage of lines

Forward movement of one unit through the area of other troops engaged in combat, whereby this contact is taken over.

forward position

Position in front of the defence area from which the brigade commander secures his operation by conducting a temporary defence.

fragmentary order (FRAGO)

1. An order which contains tasks of immediate importance to one or more subordinate commanders and in which elements of full orders are omitted, in so far as these are:
 - already known;
 - not yet of immediate importance (NL).

2. An abbreviated form of an operation order, issued as required, that eliminates the need for restating information contained in a basic operation order. It may be issued in sections (AAP-6).

framework nation principle

Organisational form of a combined force, whereby one country supplies the basic organisation and other countries supplement it.

frontal attack

An offensive manoeuvre in which the main action is directed against the front of the enemy forces (AAP-6).

full command (FULLCOM)

The military authority and responsibility of a superior officer to issue orders to subordinates. It covers every aspect of military operations and administration and exists only within national services (AAP-6).

general support

That support which is given to the supported forces as a whole and not to any particular subdivision thereof (AAP-6).

go/no-go criteria

Criteria to determine whether or not an airborne, airmobile or air-mechanised operation is to be commenced.

hand-over line

A control feature, preferably following easily defined terrain features, at which responsibility for the conduct of combat operations is passed from one force to another (AAP-6).

hasty attack

In land operations, an attack in which preparation time is traded for speed in order to exploit an opportunity (see also *deliberate attack*) (AAP-6).

hasty crossing

The crossing of an inland water obstacle using the crossing means at hand or those readily available, and made without pausing for elaborate preparations (AAP-6).

H-Hour

The specific time at which an operation or exercise commences or is due to commence (AAP-6).

host nation support (HNS)

Civil and military assistance rendered in peace, crisis and war by a host nation to Allied forces and NATO organisations which are located on or in transit through the host nation's territory (AAP-6).

infiltration

1. Penetrating and moving as covertly as possible within territory not fully controlled by the enemy (NL).
2. A technique and process in which a force moves as individuals or small groups over, through or around enemy positions without detection (AAP-6).

information requirements

1. The overall requirement for information about the enemy, the weather and the terrain (NL).
2. Those items of information regarding the enemy and his environment which need to be collected and processed in order to meet the intelligence requirements of a commander (AAP-6).

intelligence

The product resulting from the processing of information concerning foreign nations, hostile or potentially hostile forces or elements, or areas of actual or potential operations (AAP-6).

intelligence cycle

The sequence of activities designed to meet the information requirements of the commander and his staff as well as that of higher, adjacent and lower commanders.

intelligence preparation of the battlefield (IPB)

The systematic and permanent process in which the risk and environmental factors are analysed for the operational decision-making process.

interdiction

Actions to divert, disrupt, delay or destroy the enemy before it can affect friendly forces.

intermediate objective

An area or feature between the line of departure and an objective which must be seized and/or held (AAP-6).

interoperability

1. The ability of systems, units or forces to provide services to and accept services from other systems, units or forces and to use the services so exchanged to enable them to operate effectively together (AAP-6).
2. The capacity/potential of systems, units and forces to work together with the common aim of accomplishing the mission (HDV 100/900).

joint air assault team (JAAT)

A combination of attack and reconnaissance helicopters, field artillery and close air support to engage high-payoff targets.

joint force commander (AJP-OI(A): JFC)

A general term applied to a commander authorised to exercise command authority or operational control over a joint force (AJP-OI(A)).

joint operation

An integrated military operation conducted with other Services.

key terrain

Any locality or area, the seizure or retention of which affords a marked advantage to either combatant (AAP-6).

landing area

The area in which an airmobile or airborne operation takes place.

lateral route

A route generally parallel to the forward edge of the battle area, which crosses or feeds into axial routes (AAP-6).

lead nation principle

Organisational form of a multinational force, whereby one nation leads and the headquarters is staffed mainly by personnel from that country.

liaison

That contact or intercommunication maintained between elements of military forces to ensure mutual understanding and unity of purpose and action (AAP-6).

line of departure (LOD; RNLA's ADP I: LD)

1. A line, preferable following clearly defined features in the terrain, used to coordinate separate manoeuvres and fire support at the beginning of the attack (NL).
- 2a. In land warfare, a line designated to coordinate the departure of attack elements (AAP-6).
- 2b. In amphibious warfare, a suitably marked offshore coordinating line to assist assault craft to land on designated beaches at scheduled times (AAP-6).

lines of communications (LOC)

All the land, water and air routes that connect an operating military force with one or more bases of operations and along which supplies and reinforcements move (AAP-6).

local protection

The protection of a friendly unit with organically assigned means.

main attack

An attack directed against the chief objective of the campaign, major operation or battle (AAP-6).

main effort

The point at which most of the combat power is deployed.

main force

The majority of the troops participating in an operation/battle.

main supply route (MSR)

The route or routes designated within an area of operations upon which the bulk of traffic flows in support of military operations (AAP-6).

maintenance

1. All activities needed to keep goods and equipment ready for use or restore them to such a state (NL).
- 2a. All action taken to retain materiel in or to restore it to a specified condition. It includes inspection, testing, servicing, classification as to serviceability, repair, rebuilding and reclamation (AAP-6).
- 2b. All supply and repair action taken to keep a force in condition to carry out its mission (AAP-6).

major operation

A coordinated design of a series of successive or simultaneous battles or other military actions. The objective of the operation is to achieve a predetermined part of the operational objective within a certain area or period of time. Characteristic of a major operation is that, contrary to a (subordinate) campaign, the operation is directed by the commander of one Service component and the deployment of means from that Service is dominant (RNLA's ADP I).

manoeuvre

Employment of forces on the battlefield through movement in combination with fire, or fire potential, to achieve a position of advantage in respect to the enemy in order to accomplish the mission (AAP-6).

march column

A unit or task group moving along the same route for a single movement, organised under a single commander.

march sector

A section of land in which a commander can select his march routes.

march serial

Part of a march column, composed of one or more march units.

march unit

The smallest subdivision of a march column or march serial, consisting of no more than twenty-five vehicles.

medical support

All processes relating to medical care, evacuation and treatment.

meeting engagement

A combat action that occurs when a moving force, incompletely deployed for battle, engages an enemy at an unexpected time and place (AAP-6).

mission command

A form of command and control which is partly based on the decentralisation of authority for the conduct of all military operations.

mobile defence

A manoeuvre form of the defensive operation which is designed to defeat the attacker in a single battle with a strong counterattack force, after he has initially been allowed to penetrate the defence area. The emphasis lies more on destroying the enemy's combat power than on holding or regaining ground.

momentum

The product of speed and striking power.

monitoring

The systematic and continuous surveillance and observation of an area, object, personnel or equipment in order to be able to gather information and to warn or alert troops.

mopping up

1. Finding and eliminating remnants of enemy resistance, infiltrators and/or subversive elements (NL).
2. The liquidation of remnants of enemy resistance in an area that has been surrounded or isolated, or through which other units have passed without eliminating all active resistance (AAP-6).

movement

The relocation of troops, units, facilities, supplies, etc.

movement control

1. The preparation, organisation, coordination and control of movements in a particular area (NL).
2. The planning, routing, scheduling and control of personnel and cargo movements over lines of communications (AAP-6).

naval gunfire support (RNLA's ADP I: NGFS)

Indirect fire provided from ships in support of the operation by land forces.

no-fire area (NFA)

An area in which no indirect fire is allowed.

no-fire line (NFL)

A line short of which artillery or ships do not fire except on request or approval of the supported commander, but beyond which they may fire at any time without danger to friendly troops (AAP-6).

objective

1. An, if possible, easily identifiable section of terrain, the seizure of which has been ordered (terrain-oriented objective) or an enemy unit, the destruction or at least the neutralisation of which has been ordered (enemy-oriented objective) (NL).
2. The physical object of the action taken, e.g. a definite tactical feature, the seizure and/or holding of which is essential to the commander's plan (AAP-6).

obstacle

Any obstruction designed or employed to disrupt, fix, turn or block the movement of an opposing force and to impose additional losses in personnel, time and equipment on the opposing force. Obstacles can exist naturally or can be man-made.

offensive air support (OAS)

Air support in direct support of the tactical operation by land forces.

offensive operation

The form of combat in which hostile forces are defeated and/or terrain is captured.

operation (OP)

1. Military actions by units during the mission, which are linked in time and space and are focused on a common objective (NL).
2. A military action or the carrying out of a strategic, tactical, service, training or administrative military mission; the process of carrying on combat, including movement, supply, attack, defence and manoeuvres needed to gain the objectives of any battle or campaign (AAP-6).

operation order (OPORD)

A directive, usually formal, issued by a commander to subordinate commanders for the purpose of effecting the coordinated execution of an operation (AAP-6).

operation plan (OPLAN)

1. A plan drawn up by the commander for the preparation, execution and/or termination of an operation (NL).

2. A plan for a single or series of connected operations to be carried out simultaneously or in succession. It is usually based upon stated assumptions and is the form of directive employed by a higher authority to permit subordinate commanders to prepare supporting plans and orders. The designation 'plan' is usually used in-stead of 'order' in preparing for operations well in advance. An operation plan may be put into effect at a prescribed time, or on signal, and then becomes the operation order (AAP-6).

operational command (OPCOM)

The authority granted to a commander to assign missions or tasks to subordinate commanders, to deploy units, to reassign forces and to retain or delegate operational and/or tactical control as may be deemed necessary [...] (AAP-6).

operational control (OPCON)

The authority delegated to a commander to direct forces assigned so that the commander may accomplish specific missions or tasks which are usually limited by function, time or location; to deploy units concerned and to retain or assign tactical control of those units [...] (AAP-6).

operational logistics

The process designed to maintain a deployed unit by servicing the equipment and provide support for personnel in the form of equipment, supplies, etc.

operational personnel support

The process designed to maintain the personnel complement at the required strength and provide support for personnel, primarily with non-material assets.

operations security (OPSEC)

The process which gives a military operation or exercise appropriate security, using passive or active means, to deny the enemy knowledge of the dispositions, capabilities and intentions of friendly forces (AAP-6).

order of battle (ORBAT)

1. The organisational arrangement and grouping of the available troops and assets and their distribution on the battlefield (NL).
2. The identification, strength, command structure and disposition of the personnel, units and equipment of any military force (AAP-6).

outmanoeuvre

To prevent the enemy from using his military power effectively by pushing troops through rapidly into his rear area so that he is presented with a *fait accompli*.

passage of lines

An operation in which a force moves forward or rearward through another force's combat positions with the intention of moving into or out of contact with the enemy (AAP-6).

penetration

A form of offensive which seeks to break through the enemy's defence and disrupt the defensive system (AAP-6).

phase

Part of an action limited by time and space.

to phase

To divide the attack into phases, whereby certain characteristics change at the end of a phase (formation, direction, order of battle or method of operating).

phase line (PL)

A line utilised for control and coordination of military operations, usually a terrain feature extending across the zone of action (AAP-6).

pickup zone

A geographic area used to pick up troops or equipment by helicopter.

position

A cohesive system of firing positions, situated to enable so that coordinated fire can be delivered and/or a particular section of terrain can be held (US term: *battle position*).

post-conflict operation

An operation which immediately follows a successful combat operation and which is geared towards the realisation of the strategic end state desired by the political leaders.

preparation fire

1. Prepared and surprise fire, delivered shortly before an attack according to a predetermined timetable, with the aim of affecting the enemy's combat power to such an extent that he is no longer able to influence the breach (NL).

2. Fire delivered before an attack to weaken the enemy position (AAP-6).

priority intelligence requirements (PIR)

Those intelligence requirements for which a commander has an anticipated and stated priority in his task of planning and decision-making (AAP-6) (US term: *critical information requirements* (CIR)).

psychological operations (PSYOPS)

Planned psychological activities in peace and war directed to enemy, friendly and neutral audiences in order to influence attitudes and behaviour affecting the achievement of political and military objectives [...] (AAP-6).

pursuit

An offensive operation designed to catch or cut off a hostile force attempting to escape, with the aim of destroying it (AAP-6).

raid

1. An offensive action with the aim of destroying or capturing an element or area that is vital to the enemy in order to disrupt him (NL).
2. An operation, usually small scale, involving a swift penetration of hostile territory to secure information, confuse the enemy or destroy his installations. It ends with a planned withdrawal upon completion of the assigned mission (AAP-6).

reaction time

The time required to bring combat power to bear, consisting of the time needed to achieve full deployability, to move and to deploy.

rear area

1. The general term for the area behind deployed troops (NL).
2. For any particular command, the area extending forward from its rear boundary to the rear of the area of responsibility of the next lower level of command. This area is provided primarily for the performance of combat service functions (AAP-6).

rear combat zone (RCZ)

That section of the combat zone behind the rear boundary of the army corps.

rear guard

Security detachment which a moving ground force details to the rear to keep it informed and covered (AAP-6).

rear operation

The operation, usually in the rear area, designed to ensure freedom of action of friendly forces.

rearward passage of lines

In the delaying or defensive operation, the rearward movement of a unit through the area of other friendly troops who thus take over contact with the enemy.

reconnaissance

A mission undertaken to obtain, by visual observation or other detection methods, information about the activities and resources of an enemy or potential enemy or to secure data concerning the meteorological, hydrographic or geographic characteristics of a particular area (AAP-6).

reconnaissance in force

An offensive operation designed to discover and/or test the enemy's strength or to obtain other information (AAP-6).

reinforce

1. To add combat power to a lower command level during the operation (NL).
2. A mission in which one unit augments the capability of another similar-type unit (FM 101-5-1).

release point (RP)

1. A well-defined point on the route or in the terrain which marks the end of the movement of a (march) column and the authority of the column commander as such (NL).
2. In road movements, a well-defined point on a route at which the elements composing a column return under the authority of their respective commanders, each one of these elements continuing its movement towards its own appropriate destination (AAP-6).

relief

The replacement of a fighting unit with another unit, whether or not of the same size or composition.

relief in place

An operation in which, by direction of higher authority, all or part of a unit is replaced in an area by the incoming unit. The responsibilities of the replaced elements for the mission and the assigned zone of operations are transferred to the incoming unit. The incoming unit continues the operation as ordered (AAP-6).

report line

A line at which troops, after having reached it, must report to their command echelon (AAP-6).

reserve

Portion of a body of troops which is kept to the rear, or withheld from action at the beginning of an engagement, available for a decisive movement.

road-use authorisation

The allocation granted to one or more vehicles in order to move over a controlled route in a fixed time according to movement instructions (AAP-6 term: *movement credit*).

route

The prescribed course to be travelled from a specific point of origin to a specific destination (AAP-6).

Rules of Engagement (ROE)

Directives issued by competent military authority which specify the circumstances and limitations under which forces will initiate and/or continue combat engagement with other forces encountered (AAP-6).

sector

An area designated by boundaries within which a unit operates and for which it is responsible. See also *zone of action* (AAP-6).

secure

To take measures for the protection of another unit, area or object, with the aim of:

- safeguarding the unit, object or area against (surprise) enemy attack or the effect thereof, espionage, sabotage, subversive activities and terrorism;
- creating time and space for the commander for the preparation and execution of his (planned) countermeasures.

(See also AAP-6: *security*).

security line

A line in which protective elements are established to secure a unit or object. This line is located in such a way that the enemy is forced to engage in combat.

spoiling attack

A tactical manoeuvre employed to impair seriously a hostile attack while the enemy is in the process of forming up or assembling for an attack (AAP-6).

standard operating procedure (SOP)

A set of instructions covering those features of operations which lend themselves to a definite or standardised procedure without loss of effectiveness. The procedure is applicable unless ordered otherwise (AAP-6).

start point

A well-defined point at which the movement of a (march) column begins and the column commander assumes command of the (march) column.

striking power

The product of mobility, fire power and protection.

strong point

1. A prepared and fortified position, which is designed to enable troops to keep possession of terrain and from which they can observe and, if necessary, fire in any direction (NL).
2. A key point in a defensive position, usually strongly fortified and heavily armed with automatic weapons, around which other positions are grouped for its protection (AAP-6).

supply

The process of receiving, stocking, distributing and providing goods.

suppression of enemy air defence (SEAD)

1. The activity which neutralises, destroys or temporarily degrades enemy air defences by a physical attack and/or electronic warfare (NL).
2. That activity which neutralises, temporarily degrades or destroys enemy air defences by a destructive and/or disruptive means (AAP-6).

sustainability statement

A statement in which participants in a combined operation establish how the logistic tasks are to be distributed.

sustainment

A sub-process of the materiel-logistic process which comprises all recurring activities and which is necessary to ensure that equipment is made and kept ready for deployment.

tactical air reconnaissance (TAR)

Reconnaissance by air forces to collect information for the ground operation.

tactical command (TACOM)

The authority delegated to a commander to assign tasks to forces under his command for the accomplishment of the mission assigned by higher authority (AAP-6).

tactical command post (TACCP)

Mobile command post, from which the operation can be directed in front over a prolonged period (UK term: *forward headquarters*).

tactical control (TACON)

The detailed and, usually, local direction and control of movements or manoeuvres necessary to accomplish missions or tasks assigned (AAP-6).

target acquisition

The detection, identification and location of a target in sufficient detail to permit the effective employment of weapons (AAP-6).

targeting process

The cyclical process in which targets are identified and selected, the target engaged and the effect recorded.

task force (RF)

A temporary grouping of units, under one commander, formed for the purpose of carrying out a specific operation or mission (AAP-6).

theatre of operations

That part of the theatre of war where related and coordinated campaigns are conducted at sea, on land or in the air.

theatre of war

That part of the ground surface, the sea and the airspace which is in any way involved in war actions.

thrust

An action, usually without preparation, conducted by lower tactical levels on their own initiative if an opportunity arises to defeat or repel the enemy locally (above battalion level, referred to as a *counter-stroke*).

traffic control

Control designed to ensure a constant traffic flow and to ensure observance of legal and other regulations and stipulations issued by competent authorities in respect of road traffic.

traffic headquarters

A staff assigned to a commander, responsible for movement control in his sector.

traffic regulation

All measures which result in the efficient regulation of traffic according to the traffic plans. In a specific sense, actual instructions given to the traffic at a particular point by an individual (traffic officer) or by technical means.

transfer of Authority (TOA)

An action by which a member nation or NATO Command gives operational command or control of designated forces to a NATO Command (AAP-6).

turning movement

A variation of the envelopment in which the attacking force passes around or over the enemy's principal defensive positions to secure objectives deep in the enemy's rear to force the enemy to abandon his position or divert major forces to meet the threat (AAP-6).

unit

1. Generic term for each composite group of personnel and equipment (NL).
2. A military element whose structure is prescribed by a competent authority (AAP-6).

unmanned aerial vehicle (UAV)

Unmanned aircraft which flies according to a pre-programmed course (drone) or piloted remotely during the flight (*remotely piloted vehicle* (RPV)).

user unit

A unit which conducts its own materiel administration or on behalf of which this is conducted.

vital ground

1. The ground in the allocated sector that offers the last opportunity for a defence (NL).
2. Ground of such importance that it must be retained or controlled for the success of the mission (AAP-6).

warning order

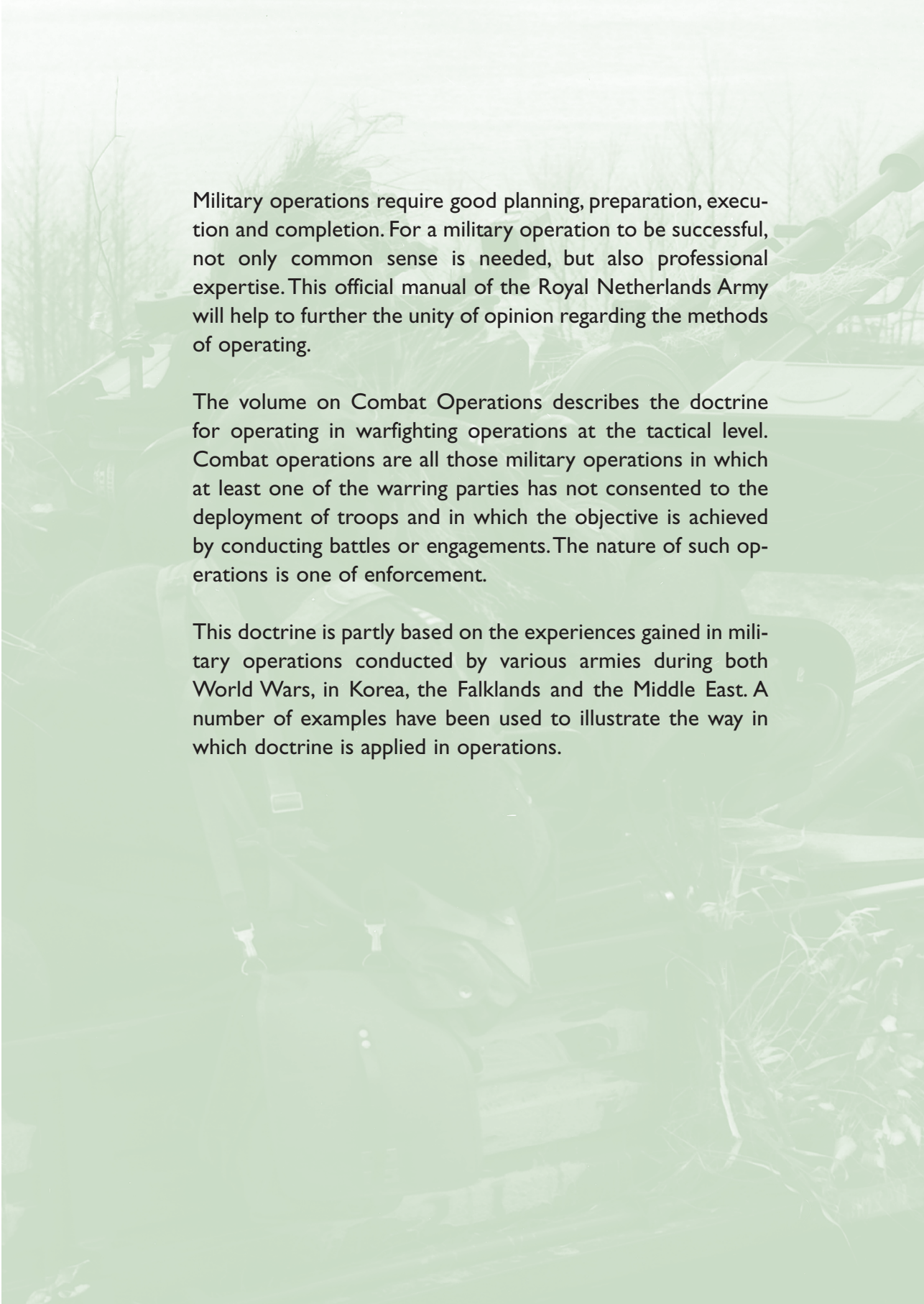
1. An order for the purpose of notifying subordinate commanders of future orders as early as possible so that commanders can make the necessary preparations in time (NL).
2. A preliminary notice of an order or action which is to follow (AAP-6).

zone of action

A tactical subdivision of a larger area, the responsibility of which is assigned to a tactical unit; generally applied to offensive action. See also *sector* (AAP-6).

zone of attack

An area defined in the width by sector boundaries in which a unit conducts an offensive operation.



Military operations require good planning, preparation, execution and completion. For a military operation to be successful, not only common sense is needed, but also professional expertise. This official manual of the Royal Netherlands Army will help to further the unity of opinion regarding the methods of operating.

The volume on Combat Operations describes the doctrine for operating in warfighting operations at the tactical level. Combat operations are all those military operations in which at least one of the warring parties has not consented to the deployment of troops and in which the objective is achieved by conducting battles or engagements. The nature of such operations is one of enforcement.

This doctrine is partly based on the experiences gained in military operations conducted by various armies during both World Wars, in Korea, the Falklands and the Middle East. A number of examples have been used to illustrate the way in which doctrine is applied in operations.