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DISMOUNTED CLOSE COMBAT

URBAN TACTICS SYLLABUS: BATTLE LESSONS & EXERCISES

2022

ARMY

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Contents

Any person wishing to propose amendments to this pamphlet is invited to by filling in this Amendment Form. Such proposals will be given consideration and, if considered necessary appropriate amendments will be prepared and published.

Dismounted Close Combat
Urban Tactics, Battle Lessons and Exercises

Introduction

1. This publication has been produced to provide junior commanders and instructors a single point of reference from which to deliver urban specific low-level training. The publication has been designed to enable any instructor to deliver the lesson content, regardless of cap badge or experience. It is advised, however, that instructors should attend the Urban Operations Instructors Course (UOIC) or Close Quarter Battle Instructors Course (CQBI) to gain deeper Knowledge, Skills and Experience (KSE) required to improve training delivery. This particularly applies to Urban Close Quarter Battle (CQB) lessons where particular nuances exist and where repetitive training to achieve 'muscle memory' is key to KSE development and a deeper understanding of the Tactics Techniques and Procedures (TTPs).

Layout of the Pamphlet

2. The pamphlet is written in lesson form, each lesson being divided into two parts:

   a. Part A — Instructors Notes. This contains the information required by the instructor to enable them to prepare for the lesson.

   b. Part B — Conduct of the Lesson. This contains the matter to be taught and is laid out in a proven sequence.

Instructional Techniques

3. Skill at Arms Instructors are taught how to deliver lessons on a qualifying course. They will understand those basic instructional techniques required to deliver SAA training. However, very rarely will a squad of soldiers all have the same learning style. It is therefore essential that the instructor has the skills and experience to be able to adapt their instructional methods to cater for the needs of those being trained. The guiding principle is that all subject matter must be delivered regardless of the level of experience and/or previous knowledge of the student.

4. There is of course latitude in the methods which can be employed by the instructor to deliver this matter, but ultimately the lesson must deliver and practice the students on the detail contained within the lesson in accordance with the Learning Specifications (LSPECs) for that lesson.

5. Instructors are not permitted to omit detail or adapt drills to save time. Instructors should always consult the chain of command if there is any doubt as to what is required.

Safety Precautions

6. Before every lesson all weapons, spare barrels, ammunition containers and drill cartridges must be inspected to ensure that no live ammunition is present.

7. Prior to the use of Infantry Weapons, AFVs or Pyrotechnics for Live or Blank firing Pamphlet 21, Regulations for Training with Armoured Fighting Vehicles, Infantry Weapon Systems and Pyrotechnics is to also be consulted. The user must also ensure they have the most up to date version of this publication.

Risk to Hearing

8. Issued hearing protection is required by firers, supervisors and others in the close vicinity of the firing point or area during all firing.

References and Associated Publications

For the latest edition and/or amendments of each publication see 'Catalogue of Army Publications' Parts 1 and 2, Army Code No. 12123 and/or British Army electronic Battle Box (BAeBB).

Reference	Code No	Title
A	71855	CLOSE COMBAT – RANGES. Pamphlet No.21, Training Regulations for Armoured Fighting Vehicles, Infantry Weapon Systems and Pyrotechnics
B	71807	CLOSE COMBAT – LETHALITY. SA80 System, Rifle 5.56mm, L85A2/A3, Carbine 5.56mm, L22A2 and UGL 40mm L123A3
C	71996	CLOSE COMBAT – LETHALITY. General Service Pistol L131A1
D	71718	CLOSE COMBAT – LETHALITY. Grenades, Pyrotechnics and Associated Equipment
E	71882	Capability Directorate Combat Dismounted Close Combat Doctrine – Volume 1, Infantry Company Group – Infantry Platoon Tactics
F	72117	AFM Tactics for Stability Operations - Stability Tactics Handbook
G		Urban Tactical Handbook
H	71717	CLOSE COMBAT - SURVIVABILITY. Fieldcraft, Battle Lessons and Exercises
I	DN 20/05	Subterranean Operations in the Urban Environment
J	70739	CLOSE COMBAT - LETHALITY. Sniping - Part 2. Fieldcraft and Battle Exercises
K	71747	Military Engineering Volume II. Field Engineering. Pamphlet No2 Field Fortifications, 2006
L	71670	ME Vol II Pam 4 Demolitions
M	73108	DISMOUNTED CLOSE COMBAT. The tactical employment of Anti-Tank guided weapons

Reference	Code No	Title
N	TBC	Capability Directorate Combat. Mounted Close Combat Training – Volume 1. Individual Training. All Arms Fieldcraft and AV Battle Drills, Provisional Edition
O		NATO ATP-99 Urban Tactics
P	71648	AFM Warfighting Tactics: Part 4 Battlegroup Tactics
Q		DN 19/02 Warfighting Tactics: Part 5a Armoured and Armoured Infantry Subunit Tactics
R	72129	AFM Warfighting Tactics: Part 5B Mechanised and Light Infantry Subunit Tactics

Chapter 1
Streetcraft

Lesson 1. Urban Camouflage and Concealment

1-01 ***Aim.*** *The aim of the lesson is to teach camouflage in the urban environment:*

a. *Camouflage and concealment.*

b. *The use of shadow.*

c. *Texture and colour.*

d. *Common camouflage errors.*

1-02 ***Timings.*** *One 40-minute period.*

1-03 ***Method.*** *Basic instructional outdoor period.*

1-04 ***Stores.***

Rifle fitted with sight and sling 1 per soldier
Magazine 1 per soldier
BFA 1 per soldier
Fighting Order 1 per soldier
Combat helmet 1 per soldier
Camouflage cream 1 per soldier
Scrim As required
Screening / drape materials As required
PPE (glasses & gloves) 1 per soldier
Thermal sight where available
Demonstrators as necessary
Visual aids as necessary

1-05 ***Preparation.***

a. *Prepare visual aids to show any elements that cannot be demonstrated.*

b. *Reconnoitre the training area and select positions to best illustrate the drills.*

c. *Rehearse the demonstrators, preferably immediately prior to the squad arriving.*

d. *Two assistants will assist in demonstrating firing positions. Where assistants are not available demonstrate firing positions using students remotely.*

1-06 ***Miscellaneous.***

a. *Questions on the rules of concealment should be carefully prepared to avoid ambiguity.*

b. *The squad should be split into two teams to conduct pear on pear review when carrying out confirmatory practice.*

c. *Where possible*

Preliminaries

1-07 ***Safety Precautions.*** *Normal.*

1-08 ***Revision.*** *Question the squad on 'Why things are seen', then indicate area of observation for the demonstration.*

Introduction

1-09 *Explain:* Camouflage and concealment in built-up areas is as important to the survival of troops and equipment as in any other environment. The changing patterns of terrain and the differing nature of individual buildings make the task of blending with the terrain challenging. All field craft demands strong leadership coupled with professionalism and self-discipline from the soldier in its application. This requirement is reinforced in the urban battlespace.

Camouflage and Concealment

1-10 *Explain and demonstrate*: **Soldiers**. The need to break up the silhouette of helmets and individual equipment exists in built-up areas the same as it does elsewhere, but care must be taken not to negate the effectiveness of helmet fitted night vision equipment.

a. **Natural Camouflage.** Plant life in urban areas is limited so scrim should be attached to helmets and equipment to break up the outline of the soldier. If operating within a park or similar environment scrim should be complimented with natural camouflage.

b. **Mission.** Stabilisation tasks are likely to take place concurrently to Major Combat Operations (MCO) so the application of individual camouflage (scrim, foliage and cam cream) may be counterproductive to the mission (hearts and minds). Commanders must weigh up the benefits to the mission against the threat to friendly forces. The decision must be continually reviewed.

1-11 *Explain:* **Fire Positions**. Urban areas provide plenty of cover from view and fire which should, where possible and practicable, be used to conceal personnel and materiel. Where such concealment is not possible, Urban Camouflage Material (UCM) and locally available materials should be applied using innovation and initiative. The following points should be noted:

a. **External Appearance.**

(1) *Explain*: Care should be taken not to alter the external appearance of a building that would make it stand out. For example, drawing curtains or closing doors when all other buildings on the street have them open.

(2) *Explain*: Consideration must be given to the removal of glass from windows in front of a firing position. The advantages of keeping the glass are that it provides concealment from TI devices. The disadvantages are that the first shot will give away the position and the glass can become a hazard when shattering. Consider breaking the glass partially to provide a firing aperture while being less conspicuous.

(3) *Explain and demonstrate*: If loopholes are needed, they must be sited with care as they are usually conspicuous unless close to ground level or under eaves. However, it is sometimes possible to camouflage the hole by siting it through attachments to buildings, such as advertising signs (*see* Fig 1-1) or by using other methods (*see* Fig 1-2). Loopholes can be made in empty buildings to deceive the enemy.

(4) *Explain*: Distinctive buildings should be avoided, even if their protective qualities are good, because they can be easily described by the enemy when calling for air support, etc. The absence of glass in the windows of a room or house may prematurely reveal the location of defending troops.

(5) *Explain and demonstrate*: Consider the use of overt, dummy positions to draw the enemy away from friendly forces.

(6) *Explain*: Positions must be constructed in stages and camouflaged as they are prepared. When the enemy has air superiority, work may be possible only at night. Care must be taken to avoid light, sign or movement that will attract attention from the air or by ground-based observers, which will include the local population acting as eyes and ears for the enemy.

(7) *Explain and demonstrate*: If the enemy has Thermal Imaging (TI) capability, soldiers must be aware that UCM and other drape materials will not, on their own, conceal vehicles or positions. Thermal Camouflage Woodland (TCW) must be used in conjunction with the UCM. Local materials can also be employed to increase the deception. Care should also be taken to avoid giving a heat signature to an obviously derelict building.

(8) *Confirm by questions and practice.*

b. **Arcs of Fire.**

(1) *Explain and demonstrate*: A wide field of fire must be obtained by firing from alternative points, perhaps from different rooms in the building. The weapon should not be sited closer to the window to gain a wider field of fire.

(2) *Explain and demonstrate*: Similarly, if firing downwards from a first or second floor window, the weapons must be elevated (*see* Fig 1-3), not placed closer to the window.

(3) *Confirm by practice.*

c. **Checks.** *Explain*: After camouflage is completed, commanders and the soldier should inspect the position from the enemy's viewpoint. They also should make routine and periodic checks to ensure the camouflage fits in and does actually conceal the position. If it does not look natural, the soldier should rearrange or replace it.

1-12 *Explain and demonstrate*. **Weapon Signature**. Consideration should be given to muzzle flash, smoke, or dust produced while firing:

a. **Flash.** Muzzle flash can be seen most at night, dawn and dusk but is also visible when the firer is in a particularly dark room. The use of drapes or screening to the front of the firer will help to hide/subdue flash.

b. **Smoke.** Smoke works in the same way as the flash, however smoke from a rifle will be detected on cold frosty days.

c. **Signature.** This is the disturbance to your front when firing. For example, a weapon fired with the muzzle close to a net screen will cause the net to billow outwards, giving away the firers position.

d. Where possible the enemy should be engaged through apertures in walls, doors and shutters to hide weapon signature. In dry, dusty conditions the area around firing points can be dampened with water or wet cloth to also suppress dust.

1-13 *Explain and demonstrate*: **Vehicles**. Vehicles can often find isolated positions under archways or inside small industrial or commercial structures (*see* Fig 1-4). When concealing vehicles buildings with cellars should be avoided and if it is necessary to remove a wall to make space, a check should be made to ensure it is not load-bearing. Steel or concrete framed buildings may be the most suitable.

The Use of Shadow

1-14 *Explain and demonstrate*: Buildings throw sharp shadows, which can be used to conceal vehicles and equipment provided an awareness of the sun's position and the time of day is maintained. Vehicles may have to be moved periodically as shadows shift during the day. Emplacements inside buildings provide better concealment. Soldiers should avoid areas that are not in shadow. Other features of shadows that can prove useful are:

a. Avoid the lighted areas around windows and loopholes. Use the depth of the room and use a fire position in the room's shadow to hide the firer and weapon signature (*see* Fig 1-5).

b. Shutters, blinds, net curtain or cheesecloth, if common to the area in window spaces, will provide additional shadow to be utilised (*see* Fig 1-6). Alternatively, hessian can be suspended inside the room to create a similar effect.

c. Consider the use of drops within a room to give the appearance of a wall from which a firer can observe freely without being silhouetted (*see* Fig 1-7). There must be no light from behind the screen for it to be affective, from open doors for example.

1-15 *Confirm by practice.*

Texture and Colour

1-16 *Explain and demonstrate*: Standard camouflage pattern painting of equipment is not as effective in built-up areas as a solid, dull, dark colour hidden in shadows. Camouflage painted vehicles should have the patterns subdued with mud or dirt.

a. Predominant colours are normally brown, tan, black, and grey rather than green (*see* Fig 1-8). Each camouflaged position must be checked for compatibility in texture and colour.

Common Camouflage Errors

1-17 *Explain and demonstrate*: Great care is required to avoid being silhouetted or sky lined. To defeat enemy surveillance, soldiers should be alert for common camouflage errors such as:

a. **Poor Track Discipline.** Vehicles should be kept to hardened roads and tracks wherever possible. Similarly, individuals must keep to the designated cleared routes.

b. **Shine or Shadows.** Poor positioning when taking up fire positions or observing out of windows can result in shadows being cast around corners or through doorways and sunlight reflecting off surfaces, both of which can betray a soldier's position.

c. **Camouflage Net.** An unnatural colour or texture, camouflage net should be avoided in an urban environment unless being used in the confines of a park where trees and shrubs are present. Urban Camouflage Material should be used in close proximity to buildings instead of camouflage net.

d. **Unnatural Sounds and Smells.** The funnelling effect of streets and buildings combined with weather conditions can carry smells while the hard surfaces of buildings and walls can reverberate sounds alerting enemy to the presence of friendly forces.

e. **Movement.** The eye is attracted to any movement but especially sudden movement. This is particularly noticeable in the urban environment due to the close quarters and harsh, linear features of the terrain.

Conclusion

1-18 **End of Lesson Drill.**

a. *Questions to and from the squad on the lesson.*

b. *Confirm by questions and practice.*

c. *Normal safety precautions.*

d. *Pack kit.*

e. *Summary. Emphasise three or four main points from the lesson.*

f. *A forecast of the squads next lesson in this subject.*

1-19 - 1-29. *Reserved.*

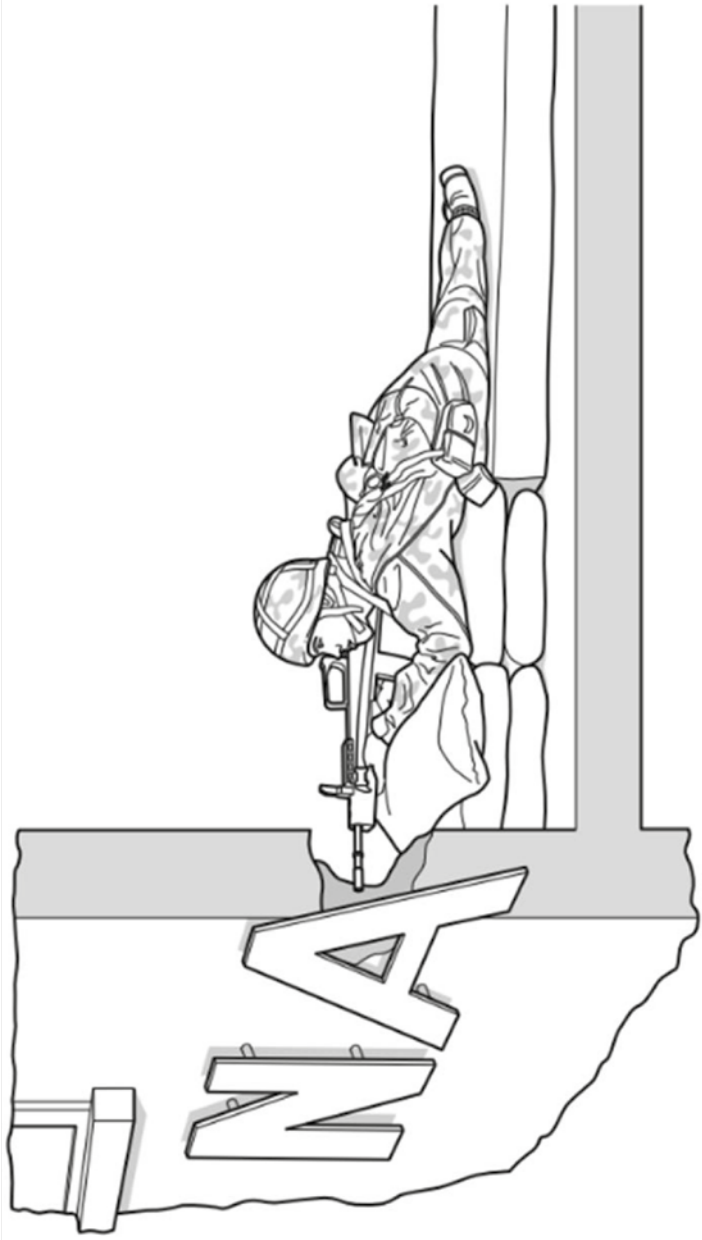


Fig 1-1. Camouflaging a Loophole Behind a Sign

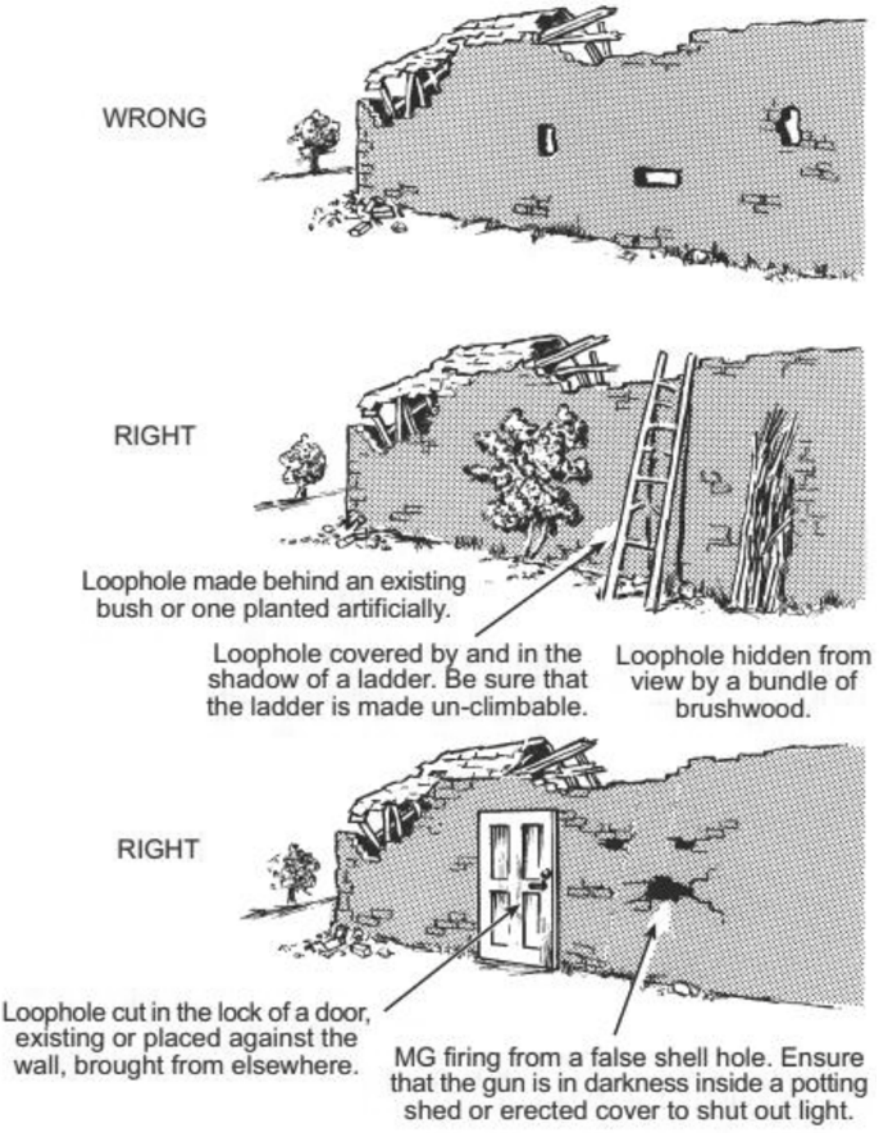
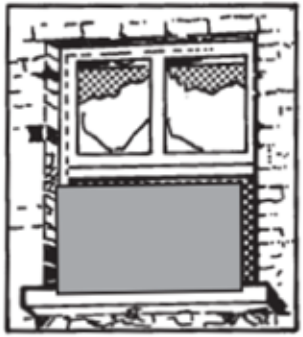


Fig 1-2. Camouflaging a Loophole, Other Methods

Fig 1-3. Firing Downwards

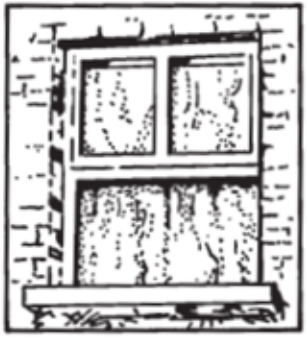
Fig 1-4. Urban Tank/Vehicle Hide

WRONG



RIGHT

Build your sandbagged emplacement well back in a darkened room so that you are invisible from the outside.



RIGHT - BETTER STILL

A lace curtain allows you to see through it without being seen.

Fig 1-5. Use the Depth of a Room to Conceal Your Position

View from inside

View from outside

Fig 1-6. Use of Net Curtain

Fig 1-7. Use of Drops Within a Room

Fig 1-8. Challenger 2 With Urban Camouflage

Lesson 2. Target Indication and Fire Control

1-30 ***Aim.*** *The aim of the lesson is to teach the considerations for target indication and fire control in the urban environment:*

a. *Target indication.*

b. *Fire control.*

1-31 ***Timings.*** *One 40-minute period.*

1-32 ***Method.*** *Basic instructional outdoor period.*

1-33 ***Stores.***

Rifle 1 per soldier
Magazine 1 per soldier
BFA 1 per soldier
Fighting Order 1 per soldier
Combat helmet 1 per soldier
PPE (glasses & gloves) 1 per soldier
Visual aids as necessary
Demonstrators as necessary
Spot mapping as necessary
Fig 11 targets (painted) as necessary

1-34 ***Preparation.***

a. *Prepare spot mapping and Urban Grid System if not already available.*

b. *Prepare a suitable visual aid to show target indication of buildings.*

c. *If possible, prepare mini landscape of arcs to be issued to each soldier with a representative sight picture for indicating the position of the target.*

d. *Reconnoitre the training area and select positions:*

(1) *An arc of fire with reference points.*

(2) *Targets to use during demonstration and practice.*

(3) *Locations for assistants/fig 11 targets for practice (assistants/ targets must be visible from the student vantage point).*

e. *Rehearse the assistants, preferably immediately prior to the squad arriving.*

1-35 ***Miscellaneous.***

a. *Assistants will enhance practice periods and be easier to prepare. Assistants must know their positions and be rehearsed.*

b. *Painted Fig 11 targets should be used when assistants are not available. Targets should be painted in various colours to be easily recognised and distinguished from each other. Multiple targets should be positioned to allow practice and positioned so they are clearly visible from the students vantage point.*

Preliminaries

1-36 ***Safety Precautions.*** *Normal.*

1-37 ***Revision.*** *Indication of targets and Reaction to Fire Control Orders (FCO).*

Introduction

1-38 *Explain:* The urban environment is congested and complex making target indication and fire control difficult. While the lessons previously taught for the indication of targets and fire control are relevant, there are additional methods and considerations that can be employed to help facilitate swift target acquisition and subsequent, affective suppression.

Target Indication

1-39 *Explain and demonstrate*: **Spot Mapping**. Identifying or referring to a piece of ground in urban terrain using a six or eight figure grid reference can prove imprecise and slow, often making it impracticable. Specialist mapping, referred to as a spot map (*see* Fig 1-9), should therefore be used to reference own location, the location of flanking units or persons and those of enemies and other significant sites or locations.

1-40 *Confirm by practice.*

1-41 *Explain and demonstrate*: **Urban Grid System**. In addition to spot mapping the area of operations may be gridded and numbered to aid target indication (*see* Fig 1-10), particularly to air assets. The grid sectors are usually based on what the aircrew or aircraft sensors can easily see, such as rivers, road junctions, significant buildings or bridges.

1-42 *Confirm by practice.*

1-43 *Explain and demonstrate*: **Target Identification of Buildings**. A building provides multiple areas of interest or targets in the form of windows, doors and mouseholes. To assist target identification a simple colour code and numbering system is used to identify a point on a building when observing or for target indication (*see* Fig 1-11).

a. White is used to indicate the front aspect of the building. This is the aspect where the front door is present and not necessarily the aspect facing the observer.

b. Black is used to indicate the rear aspect of the building (opposite white aspect).

c. Red is used to indicate the right aspect of the building. This is in relation to the white aspect if viewed from the front.

d. Green indicates the left aspect of the building (opposite red aspect). This is in relation to white aspect if viewed from the front.

e. Each level of the building is numbered respectively: 1 – bottom level/ floor (could be a basement or ground floor), 2 – second level/floor, 3 – level/ floor, etc.

f. Windows and doors are numbered from left to right for every floor, starting at 1 for each floor.

g. Target indication is given using a combination of colour and numbers (floor then window/door No) e.g. 'white, 2-1' would indicate the front aspect of the building, second floor, first window/door on the left.

1-44 *Confirm by practice.*

1-45 *Explain:* **Tracer**. Studies and historical analyses have shown that only five percent of targets in the urban environment are more than 100 metres away making the tracer, with an ignition range of approx. 140m, ineffective as a method of target indication for most engagements.

1-46 *Explain:* **UGL**. When fired against the wall of a building the flash can be used as a reference for target indication.

"Delta Fireteam – watch my UGL strike. Reference UGL strike – 2 - 1 (second floor, first aperture/window), **enemy – rapid fire!"**

1-47 *Explain and demonstrate*: **Laser Light Module (LLM)**. The LLM can be extremely effective at indicating targets, particularly at night. To indicate a target or firing point the observer should activate the laser (IR if operating at night with NVD's) and indicate the target by using the laser to 'draw' in circular motions around the target several times (known as laser lassoing – *see* Fig 1-12).

1-48 *Explain:* **Indexing of Targets**. When conducting offensive operations, particularly Strike Operations, targets may be indexed to prevent confusion and to provide a quick reference for locating and communicating targets to other friendly forces. Targets are indexed into the following categories:

a. **Alpha.** Target buildings are referred to as Alpha's. If several target buildings exist a suffix will usually be added; Alpha one, Alpha two etc.

b. **Bravo.** Target individuals are referred to as Bravo's. The term Bravo's is often used to report armed individuals or persons of interest or are specific targets that have been identified as high priority (to be neutralised or detained).

c. **Charlie.** Target vehicles are referred to as Charlie's. Charlie's are vehicles of interest and may be affiliated with an Alpha or Bravo or may fit the description of a specific threat (Vehicle Born Improvised Explosive Device (VBIED)).

1-49 *Confirm by questions.*

Fire Control

1-50 *Explain:* The indication of targets and control of fire are as previously taught[1] but come with additional considerations specific to the urban environment and should be supplemented with the methods above.

1-51 *Explain:* **Full Fire Control Order**. Due to the confined nature of urban terrain a full fire control order is only likely when the enemy is pre seen without compromise. An example full fire control order utilising spot mapping, building identification and target indexing is as follows:

"Delta Fire Team – 100m – right of Blue 2 (spot map reference) – **Alpha Red Door – White** (front aspect) **– 2 – 2** (Second floor, second window) **– Enemy – Fire!"**

1-52 *Explain:* **Brief**. Most likely to be utilised when first contacted. Due to the complex environment the firing point may not be obvious. Use distinct building features to assist indication. An example brief FCO is:

"Section – ¼ Right – Building with red door – Rapid – Fire!"

1-53 *Explain:* **Individual Fire Control Order**. Engagement times in the urban environment are short with the enemy presenting only fleeting targets so the use of individual fire control orders passes the responsibility to fire to the individual. The individual fire control order should not be used to suppress a target/bravo that is continually 'popping' up in the same window/area, a full fire control order should be given to facilitate continual suppression as opposed to reactive, ineffective, suppression.

1-54 **Considerations.** The following factors must be considered when engaging / providing suppressive fire:

a. **Hard Cover.** Buildings provide the enemy with an affective barrier against small arms fire while the vertical walls of the buildings and shorter

1 Pam 2. Close Combat - Survivability. Fieldcraft, Battle Lessons and Exercises. Chapter 5 Lessons 19 - 21.

engagement ranges reduce automatic weapon beaten zones making suppression more difficult. Accurate, semi-automatic weapons, such as the SA80 and L129 sharpshooter rifle should be utilised to effectively suppress enemy within buildings.

b. **Accuracy.** Recent urban operations have shown the wide use of firing apertures as small as 20cm (*see* Fig 1-13). Effective engagement of these apertures requires a high degree of accuracy.

c. **Firing Points.** The urban environment also provides the enemy with multiple firing points. A single building can have several windows and doors, each a potential firing point for the enemy. When suppressing an objective allocated to suppress each potential firing point using the colour code and numbering system. Failure to do so (by allocating a fire unit to suppress a whole aspect for example) will result in firers concentrating all fire on a single point giving the enemy freedom of movement to move to a different firing point.

d. **Exposure.** The urban environment restricts arcs of observation and fire and provides the enemy with cover from which to fire and manoeuvre resulting in fleeting exposures that require soldiers to be able to engage accurately at short notice.

e. **Grenades.** The underslung grenade launcher (UGL) provides accurate fire against point targets such as windows up to 150m. With an arming distance of 14-28m the UGL projectile, on impact, explodes and is designed to penetrate up to 63.5mm of steel, 300mm of concrete and cause casualties to 5m from the explosion. This makes the UGL an extremely effective system for neutralising positions and firing points within buildings, particularly when coordinated with an assault team as part of their pre entry strike/fires.

1-55 *Confirm by questions.*

Conclusion

1-56 **End of Lesson Drill.**

a. *Questions to and from the squad on the lesson.*

b. *Confirm by questions and practice.*

c. *Normal safety precautions.*

d. *Pack kit.*

e. *Summary. Emphasise three or four main points from the lesson.*

f. *A forecast of the squads next lesson in this subject.*

1-57 - 1-59. *Reserved*

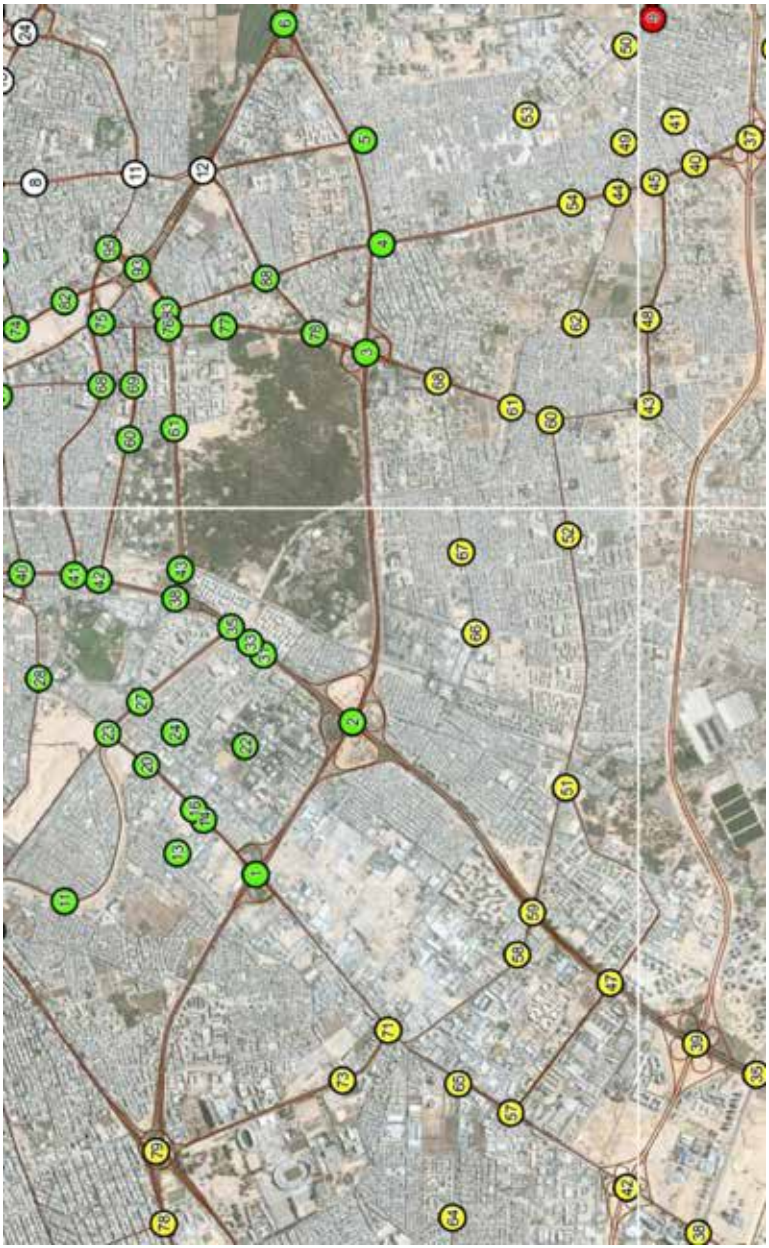


Fig 1-9. Spot Map

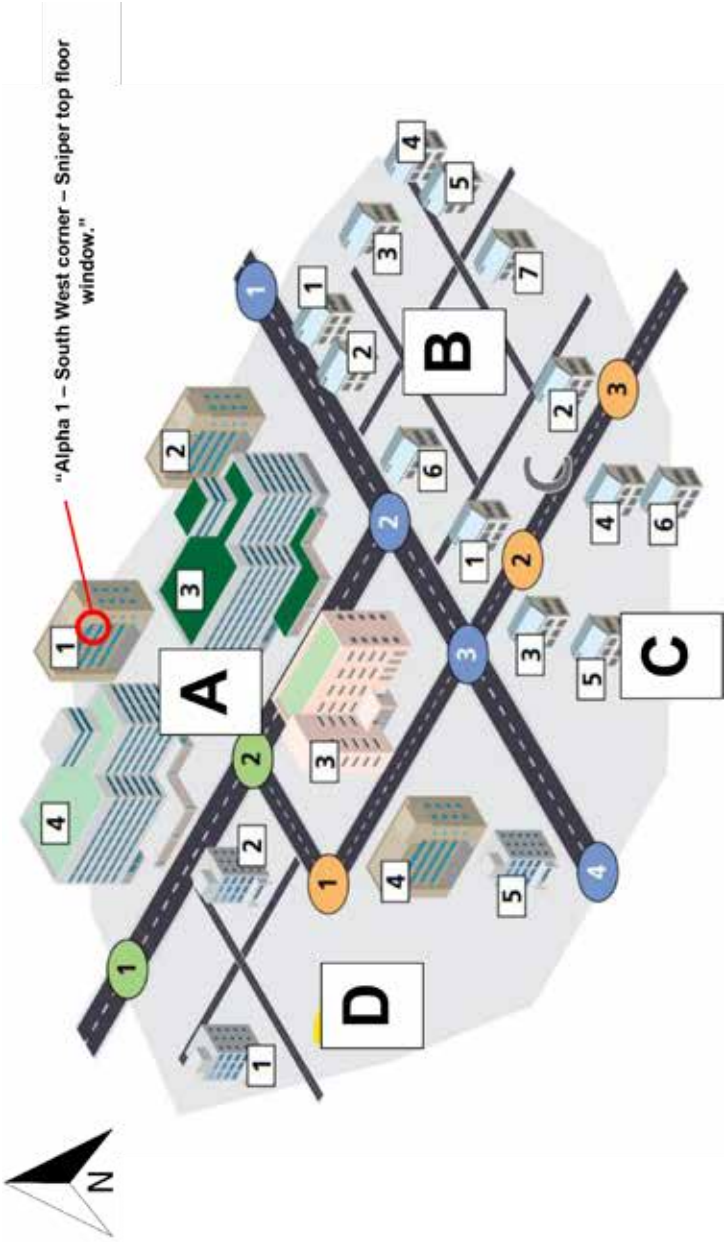


Fig 1-10. Urban Grid System

Fig 1-11. Target Indication of Buildings

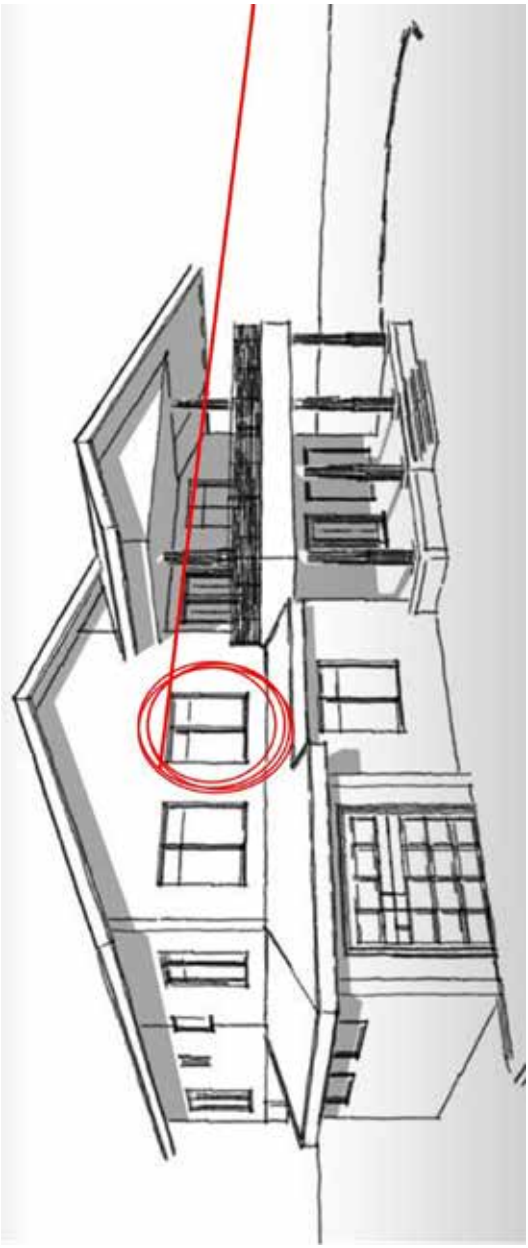


Fig 1-12. Laser Lasso Target Indication Using LLM

Fig 1-13. Enemy Firing Aperture

Lesson 3. Movement in the Urban Environment

1-60 ***Aim.*** *The aim of the lesson is to teach movement in the urban environment and methods of scaling obstacles and entering buildings:*

a. *Movement through the urban environment.*

b. *Scaling obstacles and entering buildings.*

1-61 ***Timings.*** *Two 40-minute periods.*

1-62 ***Method.*** *Basic instructional outdoor period. Can be delivered as a centralised, narrated demonstration.*

1-63 ***Stores.***

Rifle 1 per soldier
Magazine 1 per soldier
Fighting Order 1 per soldier
Combat helmet 1 per soldier
Cam cream as required
Lightweight infantry periscope as required
Demonstrators as necessary

1-64 ***Preparation.***

a. *Reconnoitre the training area and select positions to best illustrate the factors given and shown in the movement sections.*

b. *Rehearse the demonstrators, preferably immediately prior to the squad arriving.*

c. *For final practice, select and mark a route, and positions for observers, that facilitates practice of all elements of the lesson.*

1-65 ***Miscellaneous.***

a. *Practice the squad as a whole then divide them into two groups for final practice; movers and observers.*

b. *Movers must move as a fireteam applying the techniques taught during the lesson.*

c. *Observers conduct pear on pear review before becoming movers and movers becoming observers.*

Preliminaries

1-66 ***Safety Precautions.*** *Normal.*

1-67 ***Revision.*** *Methods of movement (Fieldcraft, Battle Lessons and Exercises).*

Introduction

1-68 *Explain:* Movement in urban areas is limited by poor communications and observation, buildings, rubble, obstacles and the enemy and their locations. All movement must be supported or capable of being supported by accurate direct fire support. The passage of good, clear information and intelligence on enemy positions is vital. This will reduce casualties and avoid the natural tendency to focus on the nearest buildings.

Movement Through the Urban Environment

1-69 *Explain and demonstrate*: **Individual Movement**. It is an individual soldier's responsibility to apply the following methods when moving through the Urban Environment (UE). Failure to apply these methods will leave the soldier exposed and increase their chances of becoming a casualty.

a. **Crossing a Wall.** Movement over a wall should be covered by fire and only conducted if the other side is clear. When moving, the soldier should roll over the wall, keeping a low silhouette. The speed of movement and a low silhouette will deny the enemy a target. This method of movement requires practice by all soldiers.

b. **Movement Around Corners.** The area around a corner should be observed before a soldier moves to it. A common mistake is to allow a personal weapon to extend beyond the corner, signposting the soldier's position and intention.

c. **Movement Past Windows.** Movement past windows presents hazards; the most common of which is the mistake of exposing the head. The correct technique to pass a window is to stay below the window level if possible. For basement windows the most common mistake is not being aware of it. The correct procedure for negotiating a basement window is either to avoid it or to stay close to the wall of the building and step or jump past the window and provide minimum exposure to view.

d. **Use of Doorways.** Doorways should be avoided if possible. They may be covered by fire or booby-trapped. If a soldier must use a doorway, they should move quickly through it to their next position, staying as low as possible to avoid silhouetting their self. Pre-selection of positions, speed, a low silhouette, and the use of covering fire should be employed when using doorways.

e. **Moving Parallel to Buildings.** Soldiers will not always be able to use the inside of buildings to advance, so movement forward may be necessary outside buildings. Movement should always be concealed and covered by smoke and covering fire. Correctly moving outside a building, the soldier 'hugs' the side of the building, stays in the shadow, present a low silhouette, and moves rapidly to their next fire position. If an enemy inside the building fires on a soldier, they expose them self to fire from other fire-team and section members. Enemy further away or to a flank should be engaged by flank sub-units or direct and indirect fire support.

f. **Crossing Open Areas.** Open areas, which includes streets and alleys, cannot be avoided. They are natural killing areas, but can be crossed safely if certain fundamental rules are applied:

(1) **Preparation.** Before moving, the next well covered position should be selected. At the same time, the best route to take to get to that position, which offers concealment and/ or speed of movement should be selected.

(2) **Least Exposure.** The shortest distance across streets and between buildings should be used covered by smoke from hand grenades to conceal movement. The cover provided by walls should be exploited for as long as possible. By doing so, the individual will reduce the evidence of their intentions and the time that they are exposed to enemy fire.

(3) **Fire Support.** Direct covering fire support is or can be provided.

1-70 *Confirm by practice.*

1-71 *Explain and demonstrate*: **Fire Team Movement**. Moving quickly as a fire team, from building to building or across a street, is the best method of tactical movement. Within buildings the fire team must ensure that every room is clear of enemy and should use the protection of the building as cover for as long as possible. Fire team movement between buildings must be covered by fire, preferably by another fire team. Bunching or stacking should be avoided to minimize the effect of automatic weapons and booby-traps. Movement can be made at street level or by using roofs and underground systems. The threat of an effective counterattack will be most real immediately after the successful capture of a building.

1-72 When moving from position to position, care must be taken to ensure that supporting fire is not masked. On reaching the next position the individual or fire team should be prepared to cover the movement of other members of the fire team or section.

1-73 The most common error made is to fire over cover rather than around it thereby silhouetting against the wall or building to the rear and provide the enemy with a clear target.

1-74 *Confirm by practice.*

Scaling Obstacles and Entering Buildings

1-75 *Explain:* Various means, such as ladders, assisted lifts, drainpipes, vines, helicopters, or the roofs and windows of adjoining buildings may be used to reach the top floor or roof of a building. In some cases, one soldier can climb onto the shoulders of another and reach high enough to pull themself up. All actions must be planned and coordinated utilising covering fire, smoke and/or diversionary measures before executing, regardless of the method used.

1-76 *Explain and demonstrate*: **The Use of Climbing Equipment**. The use of climbing equipment is heavily influenced by the amount, volume and weight of equipment the soldier is carrying.

a. **Ladders.** Ladders offer the quickest method to gain access to the upper levels of a building. Although ladders will not permit access to the top of some buildings, they will offer some security and safety through speed. Units deploying into an urban environment should be equipped with a lightweight, portable, collapsible ladder. Ladders can also be built with resources available throughout the urban area; for example, lumber can be taken from inside the walls of buildings.

b. **Grappling Hooks.** The grappling hook should be sturdy, portable, easily thrown, and equipped with hooks that can hold inside a window. The scaling rope should have knots tied in the rope at intervals to make climbing easier. The use of grappling hooks is the least preferred method for gaining entry to upper levels of buildings as it is physically demanding and time consuming, however once in defence they can be used to haul stores from ground level into defended positions.

1-77 *Explain:* **Scaling Walls**. When forced to scale a wall during exposure to enemy fire, all available concealment must be employed. Covering fire, smoke and diversionary measures improve the chances of a success. When using smoke for concealment, soldiers should plan for wind direction.

1-78 *Explain:* **Rappelling**. This is an entry technique for upper floors that soldiers can use to descend from the rooftop of a tall building into a window. However, this method of entry requires a safe and secure platform to operate from and some practice in the techniques of abseiling. A diversion will be needed to distract the enemy whilst abseiling is being conducted. Can be used for both offensive and defensive operations. *Rappelling is not to be conducted in training without a suitably qualified instructor and appropriate safety equipment.*

1-79 *Confirm by practice.*

1-80 *Explain and demonstrate*: **Assisted Lifts**. It is possible to scale the outside of buildings by team effort utilising 2 or 3 person lifts. Be mindful that glass can stick to soles of the boots and that the person supporting the soldier entering the building may get cut. Some examples of lifts are:

a. **Two Person Lift.** Entry person stands facing the wall with their palms against the building underneath the point of entry. Two lifters can lift the entry person by their heels, the use of a plank or weapon or allow the entry person to climb onto their shoulders. Once set the two lifters would stand fully up right and lift the entry person up (*see* Fig 1-14).

b. **Single Person Lift.** The simplest method is the stirrup lift where the lifter stands with their back against the wall underneath the point of entry with their legs slightly bent at the knee. The stirrup method is adopted as follows:

(1) The lifter cups their hands together and places them onto the supporting leg, just above the knee. *Fingers must NOT be interlocked. Interlocking the fingers will result in crush injury.*

(2) The entry person stands opposite the lifter and places one foot in the hands/stirrup. *The entry person must ensure to use the same foot as the lifters leg that is being used to support the stirrup: Left leg, left foot, right leg, right foot. Failure to do so may result in injury to the lifter*[2]*.*

(3) As the entry person steps into the stirrup the lifter lifts the stirrup upwards. This can be done at the double for momentum. Alternatively, instead of lifting from the foot the entry person can rest their shin in the lifter's hands.

(4) A second method is for the lifter to use a plank of wood to assist with the lift (*see* Fig 1-15).

c. **Combination Lifts and Top Assist.** If entry has already been made either a combination or top only assist can be used to assist subsequent soldiers to gain access (*see* Fig 1-16).

1-81 *Confirm by practice.*

1-82 *Confirm by final practice.*

2 Placing the right foot onto the left leg of the lifter may result in the entry person striking the lifter in the face with their left knee as they are lifted.

Conclusion

1-83 **End of Lesson Drill.**

a. *Questions to and from the squad on the lesson.*

b. *Confirm by questions and practice.*

c. *Normal safety precautions.*

d. *Pack kit.*

e. *Summary. Emphasise three or four main points from the lesson.*

f. *A forecast of the squads next lesson in this subject.*

1-84 - 1-89. *Reserved.*

Fig 1-14. Two Person Lifts

Fig 1-15. Single Person Lifts

Fig 1-16. Combination Lift and Top Assist

Lesson 4. House Clearing

1-90 ***Aim.*** *The aim of the lesson is to teach house clearing:*

a. *Building entry.*

b. *Exploitation*

c. *Creation and exploitation of a breach.*

d. *Section grouping.*

e. *Building clearance.*

1-91 ***Timings.*** *One 40-minute period.*

1-92 ***Method.*** *Basic instructional outdoor period. Can be delivered as a centralised, narrated demonstration or by remote demonstration using students.*

1-93 ***Stores.***

Rifle 1 per soldier
Magazine 1 per soldier
Fighting Order 1 per soldier
Combat helmet 1 per soldier
Cam cream as required
Lightweight infantry periscope as required
Demonstrators as necessary

1-94 ***Preparation.***

a. *Reconnoitre the training area and select positions to best illustrate the factors given for the section groupings.*

b. *Rehearse the demonstrators, preferably immediately prior to the squad arriving.*

1-95 ***Miscellaneous.***

a. *When using students for remote demonstration under 'Section Groupings' break the students down into groupings to explain and demonstrate their role.*

b. *Demonstrate the sequence of the building clearance by 'remoting' the demo using the students in their ' Section groupings'.*

Preliminaries

1-96 ***Safety Precautions.*** *Normal.*

1-97 ***Revision.*** *The five phases of an attack into a built up area.*

Introduction

1-98 *Explain:* All attacks on built-up areas involve gaining a foothold and then clearing the area systematically to prevent its re-occupation by the enemy as the advance progresses. The basic assault group for clearing a house is a section as part of a platoon. The complexity of the building, the enemy positions and defences will all affect how far the section can exploit. At all-time troops must be aware of overextending and leaving themselves vulnerable to counterattack. Commanders must set realistic targets that can be achieved.

Building Entry

1-99 *Explain:* **Breach**. An exploitable breach is one through which armed and equipped soldiers can move quickly, without hindrance and able to use their personal weapons as they move.

1-100 *Explain:* In conventional operations, breaches can be made through tiled roofs, or by using explosives or large calibre direct or indirect fire weapons, entry should be avoided through windows and doors that can be booby-trapped and covered by enemy fire.

1-101 *Explain and demonstrate*: **Top Down Entry**. Clearing a building from top down is the preferred method. Assaulting downwards drives the enemy out of the building and hinders their ability to counterattack. To get into a position to create such a breach, walls should be scaled, and use can be made of ladders (issued, purchased locally, or improvised) or grappling hooks to gain entry. Consideration can also be given to the use of vehicles or abseiling to assist entry and casualty evacuation. Careful consideration must be given to the weight of the soldier's individual load before they are tasked with a forced entry. Too heavy a burden will seriously limit their agility.

1-102 *Explain:* **Entry at Lower Levels**. Top-down entry may not be feasible or realistic, for instance when the building's upper storeys are either too high, exposed to enemy fire or destroyed. When entering at ground or lower levels from a stand-off position, the point of entry must be clearly identified and known by every member of the assaulting section. The approach of the assaulting section and its reinforcements to the building should be covered by smoke and small arms fire.

Exploitation

1-103 *Explain:* Entry must be exploited quickly. The following two points should be noted:

a. **The Entrance.** Rapid entry through a breach will maximise the effects of the blast, concussion and the shock of the unexpected direction of the assault. Nevertheless, on reaching the point of entry, the assaulting section should be prepared to enlarge the entry point. When the only entry to a building is through a window or door, supporting fire, including the use of grenade launchers, should be directed at it immediately prior to its breach.

b. **Grenades.** If the ROE permits, grenades should be used to clear the first room and reinforce the kinetic effect of the breach.

Creation and Exploitation of a Breach

1-104 *Explain:* Whether the breach will be made manually or using explosives, the breaching party must assemble as close as possible to the entry point to be able to exploit the breach immediately. The commander should confirm the positions of the assault team who should be in cover close to the entry point.

1-105 *Explain:* Whether making a manual or explosive breach to a building, the commanders pre-entry point recce must:

a. Clearly identify the entry point and safe route to it.

b. Clearly identify the position for the cover group.

c. Identify the method of entry and safe location (Explosive breach).

d. Confirm if possible, what is on the other side of the entry point.

e. Identify an alternate breach point incase primary is unsuccessful.

Section Groupings

1-106 *Explain and demonstrate*: The section should be organised into four groupings. Ideally, each assault group should be flexibly organised into pairs with a weapon mix appropriate to the task. The basic roles of each group are as follows:

a. **Command Group.** The section commander will control the speed of the clearance and tactics to be adopted as the clearance progresses.

b. **Cover Group.** The cover group is commanded by the section 2i/c and will deploy to provide fire support during the assault. The cover group may:

(1) Co locate with the fire support section.

(2) Be positioned, in cover, to provide flank protection and/or suppressing fire onto the objective or depth positions not covered by fire support.

c. **Assault Group 1 and 2.** Assault groups are commanded by a senior soldier.

Building Clearance

1-107 *Explain:* The drill for a section clearing a house is (*see* Fig 1-17):

a. Cover group deploys to a position to cover the point of entry (The group may need covering fire and smoke during their move).

b. Assault Group 1 make entry; Assault group 2 may be required to assist with the breaching equipment (If not required Assault group 2 should remain in cover, usually the previously secured building).

c. After UGL has been fired and/or a grenade, or a dummy grenade, has been 'posted' through the point of entry, assault group 1 enter and clear the first room. A pre-arranged signal will be made to the section commander outside, once this is done.

d. The command group remains in cover, away from the building; usually in a previously cleared building. Only once room clear is confirmed by assault group 1 does the Command group and assault group 2 approach the objective building and enter the cleared room, ensuring a linkman to the fire support group and the platoon commander is posted at the entry point.

e. The section commander then indicates next room to be cleared to assault group 2.

f. The linkman, or firer, mark the entry point with the relevant coloured flag (*see* Fig 1-18).

g. Any firers from assault group 1 and 2 not holding a threat stack and clear the third room.

h. Concurrently the cover group enter the building. Depending on weapon mix the cover group will join the stack ready to be tasked by the section commander or will take over tasks such as linkman or security.

i. The section continues to clear until it has run out of workforce or has reached the limit of exploitation. A message must be sent to the platoon commander that either the area is clear, or the next section needs to be echeloned through and continue the clearance. Radios will remain the primary method of communication but must be backed up by linkmen.

j. Regroup by the section may take place either inside or outside the house depending on the tactical situation. The section commander should: must cover likely enemy counterattack routes or take up a new position to cover the sections next move forward.

(1) Identify the next objective and provide fire support for the next assaulting section if required.

(2) Allocate arcs to each rifleman and support weapon.

(3) Check on casualties and ammunition and report (assist the 2ic if required).

(4) Identify any dead space and possible enemy counter attack routes.

(5) Lightly defend the building.

(6) Deal with CPers and captured equipment.

Conclusion

1-108 **End of Lesson Drill.**

a. *Questions to and from the squad on the lesson.*

b. *Confirm by questions and practice.*

c. *Normal safety precautions.*

d. *Pack kit.*

e. *Summary. Emphasise three or four main points from the lesson.*

f. *A forecast of the squads next lesson in this subject.*

1-109 - 1-119. *Reserved.*

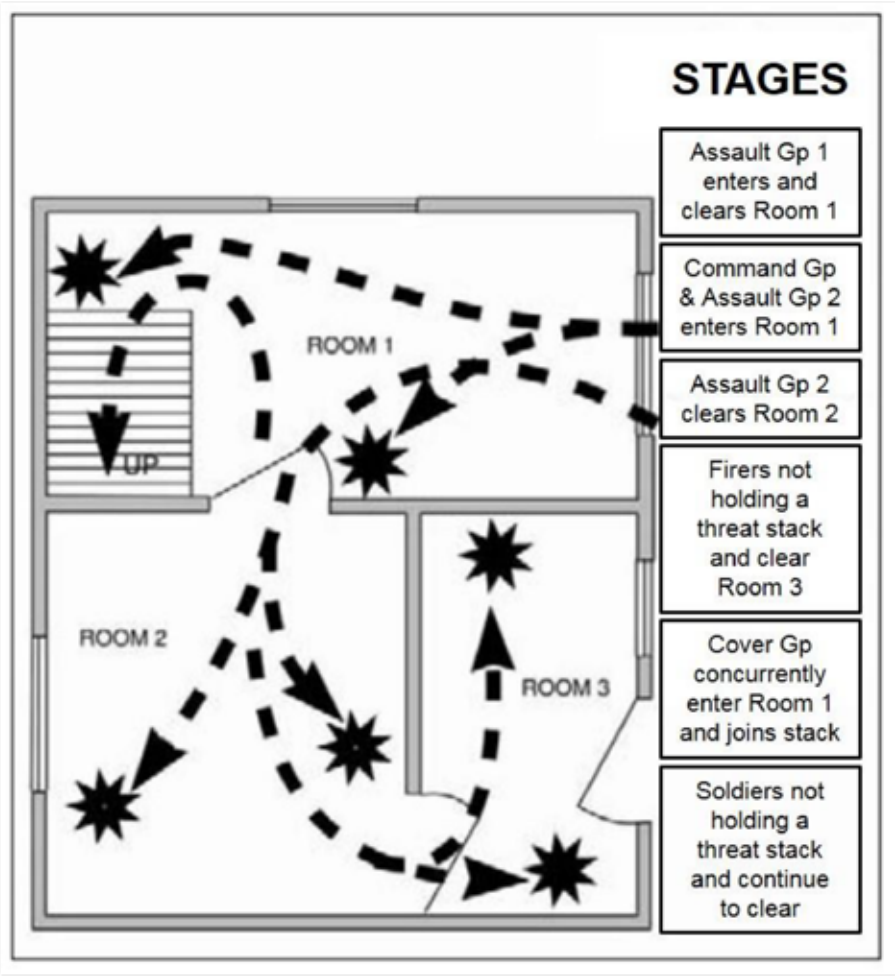


Fig 1-17. Building Clearance Sequence

	When Facing Forwards – FLOT When Facing Rearwards - Entry Point, Building Not Clear
	Medical Assistance/CASEVAC Required
	Entry Point/Room/Building Clear
	Booby Trap/ IED/ Obstacle in Building. Engrs Required
	Note: Any combination can be found at the entry point however only Red or Green can be placed rearwards at any one time
	Markings at night are two appropriately coloured glow sticks on a 2m length of masking tape hung out the window or door

Fig 1-18. NATO Marking

Lesson 5. Building Defence

1-120 ***Aim.*** *The aim of the lesson is to teach internal and external preparation of buildings for defence:*

a. Preconstruction.

b. Preparation of buildings - Internal.

c. Preparation of buildings - External.

d. Stages of Defence in built up areas.

1-121 ***Timings.*** *Two 40-minute periods.*

1-122 ***Method.*** *Basic instructional outdoor period.*

1-123 ***Stores.***

Defence stores As required
Screening / drape materials As required
PPE (glasses & gloves) As required
Demonstrators as necessary

1-124 ***Preparation.***

a. *The use of a Defended House will greatly enhance the delivery of this lesson.*

b. *May be delivered as a PowerPoint presentation where a Defended House and/or defence stores are unavailable.*

Preliminaries

1-125 ***Safety Precautions.*** *Normal.*

1-126 ***Revision.*** *Principles of defence and Urban defence groupings.*

Introduction

1-127 *Explain:* While buildings offer some degree of protection against small arms and indirect fire this protection will be limited and dependant on the type of structure. Simply building sandbag positions within a structure may ironically make the building more susceptible to collapse. Soldiers should therefore understand the methods and considerations of the preparation of buildings and external spaces for defence.

Preconstruction

1-128 *Explain:* Before work commences commanders must conduct a thorough Surveillance Target Acquisition Plan (STAP) and comprehensive recce. Only once these are conducted should positions be sited and work commence. When siting positions the considerations previously covered in Camouflage and Concealment must be adhered to. Those conducting the recce and subsequent siting of positions must consider the final location and height of a position to accurately understand the arcs once work is completed[3].

1-129 *Explain.* **Small Buildings**. Some buildings are too small affording insufficient space for troops who must occupy them and thus concentrating them. A single direct hit, on the building may destroy the whole group.

1-130 *Explain.* **Large Buildings**. Large buildings may force the defender to spread their defences' too thinly in terms of both workforce and resources.

1-131 *Explain.* **Obvious Buildings**. Obvious buildings should be avoided, such as buildings with steeples, since the enemy often observes these and targets them for destruction.

1-132 *Confirm by questions.*

Preparation of Buildings - Internal

1-133 *Explain and demonstrate*: **Use of Sandbags**. Sandbags are used primarily to give protection from blast, splinters and fragments, but also to create a suitable firing platform. The main problem with their use is their weight in relation to the strength of the floor on which they are placed.

1-134 *Explain and demonstrate*: Sandbags used for protection can be placed outside the building to overcome the weight problem, but they will not last as long and will indicate to the enemy which building is being defended.

1-135 *Explain:* It is not possible to say accurately how many sandbags can be laid on the floor of a building as it depends on the specification of the building. However, the following may be used as a guide:

a. **Modern Domestic Dwellings.** Modern domestic buildings were likely built to a building regulation standard and the floors should be able to take two layers of sandbags over the whole area, although if the floor span is greater than 4.0 m it would be advisable to place a prop to support the floor at midspan. As an alternative, a sandbag wall two sandbags wide may be built. If it is built close to an outside wall or where the floor is supported by

3 Standing at the window to a building and looking out will not give a true representation of the arcs covered once the position is constructed. Commanders must consider where the exact location of the position will be and the height and size of the aperture of the finished position when siting. Multiple positions may be required to achieve the desired affect/coverage.

a load bearing wall, a sandbag wall up to 2.0 m high should be possible, but elsewhere it should not exceed 1.0 m high unless it can be placed on a grillage to spread the load over about 1 m, in which case the wall might be increased to 1.5 m high.

b. **Older Domestic Buildings.** It is not possible to generalise on older buildings. Usually, the floors are weaker than in modern buildings so, unless advised otherwise by an engineer, the floors should not be so heavily loaded.

c. **Shops and Department Stores.** Shops and department stores are typical of buildings in which the public is encouraged to enter. In modern buildings of two or more storeys, the floors are likely to be about twice as strong as in a modern domestic building. It is not possible to generalise for older buildings but there is a good chance that the floors are as strong as in a modern building.

d. **Factories.** The types and designs of factories are many and their strength cannot be generalised. However, they should be at least as strong as modern domestic buildings and the type of machinery and equipment installed indicates the strength of the floors.

1-136 *Confirm by questions.*

1-137 *Explain and demonstrate*: **Shoring up Ceilings**. Rooms occupied by the defenders should be made strong enough to resist collapse. The aim should be to make a framework whose purpose is not to stop the plaster from the ceiling falling but to strengthen the ceiling so that the roof or other debris from higher up does not cause it to collapse on the occupants.

a. The ceilings should be held up by props or struts (*see* Fig 1-19), either purpose-made equipment, such as Acrow props, or wood. When using timber and where the ceiling is not more than 3.0 m from the floor, the props should be 120 mm square or 120 mm in diameter or larger. They should be spaced not more than 1.5 m apart. Wooden wedges are needed to ensure that the props are a tight fit when installed. In addition, timber spreaders must be used to ensure that the load is properly transmitted from ceiling to floor and to avoid point loading which over stresses the ceiling, particularly one that has timber joists.

b. When installing props, the floor on which the props are to be placed must be strong enough to carry the load. If the floor is not directly on the ground, additional props must be placed in the room or cellar below, immediately below the props in the room above. It may be possible to avoid having to put in these additional props if there are some party walls of sound construction in suitable positions in the floor below on to which the props can bear. The props must not be located such that they block the exits from the room.

c. If no props are available, an alternative means of protection is to use doors or similar pieces of timber. The doors into rooms are removed from their hinges and laid flat over the heads of the occupants, supported by wardrobes, packing cases, etc. They will not stop the ceiling falling but, if it does fall, the soldier beneath should be adequately protected.

1-138 *Explain and demonstrate*: **Fire Positions**. Build a small 'coffin' around a fire position. This will give protection against enemy grenades and enable a defender to throw his own inside the room. The Chatham Arch is part of the overhead protection system (OPS) and is used primarily as a means of providing overhead protection for the ATGW and GPMG (SF). However it can be used in FIBUA as an alternative means of constructing bunkers inside buildings. When used in a FIBUA environment the following mandatory safety criteria must be adhered to:

a. The Chatham Arch must be constructed on a flat surface to prevent lateral collapse.

b. The tensioning slings/cables must always be fitted in the correct manner.

c. Chatham Arch must either be fixed to the floor or well secured, by means of windlassing, to a solidly constructed base.

d. The Chatham Arch would normally be used free standing, that is unsupported by walls, and set back from any windows or mouseholing. It can either be constructed so that it stands at floor level or sits on a base in order to raise it to window level.

1-139 *Explain and demonstrate*: **Mobility**. Even though the defended building may be strong and well protected, the defender must maintain mobility. 'Mouse holing', which is the creation of holes between party walls of rooms or adjacent houses, is valuable and allows the defender to move unseen. A pickaxe, sledgehammer or crowbar are the best implements for making a mousehole; explosives should not normally be used. Each occupied room should have two exits in case one gets blocked. The route for reinforcement or evacuation of casualties should be planned and, if feasible, protected from blockage by rubble.

1-140 *Explain and demonstrate*: **Stairways**. The width of stairways should be reduced to about 0.30 m to prevent the enemy rushing up or down them. This can be achieved by laying coils of dannert wire on the stairs or by using nail boards. Nail boards are planks of wood with nails driven through and laid point upwards. The nails should protrude about 50 mm and be spaced about 120 mm apart. The use of these is illustrated in Fig 1-20. The boards must be secured so that the enemy cannot remove them. If the stairways are never to be used by the defenders, they can be blocked completely.

1-141 *Explain and demonstrate*: **Grenade Barriers**. Some form of screen, such as wire netting (chicken wire), should be placed over windows to prevent grenades being thrown into rooms. While these are most effective when fastened to the outside of the windows, they may indicate to the enemy which houses are being defended.

1-142 *Explain and demonstrate*: **Grenade Holes**. When defending upper floors, it may be desirable to have holes in the floor already prepared, particularly in concrete floors, through which grenades can be dropped on to an enemy who has penetrated the floor below (*see* Fig 1-21).

1-143 *Explain and demonstrate*: **Barricading Doors**. Internal doorways, even when used by the defenders, should have their width restricted to about 0.30 m, by using a chest of drawers or packing case filled with stones or a stop nailed to the floor. This reduces the possibility of the enemy rushing the entrance. Entrances not required, particularly through a basement, should be completely blocked and secured with nails.

1-144 *Explain:* **Fire Precautions**. Electricity or gas supplies should be turned off. Where possible, baths and any available tubs should be filled with water and buckets of sand made available. It is rarely feasible to provide firefighting equipment throughout a defended building, so action in the event of a serious fire must be pre-planned.

1-145 *Explain:* **Flooding**. A central heating system contains a large quantity of water, particularly in a large building. If damaged by enemy action the ensuing flood can make a cellar unusable. Flooding can also be caused by damage to the normal water supply system and by back-flushing of the sewage system. These systems should be isolated and cut off when possible.

1-146 *Explain and demonstrate*: **Internal Wire Obstacles**. On occasions, there may be entrances which cannot be effectively guarded or effectively blocked, such as ground floor windows. A barbed wire obstacle within the room, such as is illustrated in Fig 1-22, may not be expected by the enemy and so should help the defence.

1-147 A depiction of a building that has been prepared for defence can be found at Fig 1-23.

1-148 *Confirm by questions.*

Preparation of Buildings - External

1-149 *Explain:* The purpose of any external work on a building when preparing it for defence is to make it as difficult as possible for the enemy to enter the building. Some or all the actions given below may be relevant.

1-150 *Explain and demonstrate*: **Fields of Fire**. Obstacles blocking fields of fire should, where possible, be removed. For example, trees should be felled and buildings not of use brought down. There will always be some areas of ground around a building

into which the defenders will be unable to fire. These will often be close to the building itself and in the dead ground formed by adjacent buildings. The attacker must be prevented from reaching these areas. The use of barbed wire and other obstacles coupled with trip flares may be the best method. The employment of all obstacles and their cover by direct or indirect fire must be an integral part of the defensive plan.

1-151 *Explain:* **Fire Positions**. External fire positions should be sited to engage the enemy at up to the maximum effective range of the weapons deployed. If necessary, consideration should be given to demolishing infrastructure such as streetlights, pylons, and removing overhead wires in order to improve arcs of fire and ranges. Arcs should overlap and each position should be mutually supporting. Fire positions should have overhead cover where possible and withdrawal routes recce'd and rehearsed.

1-152 *Explain and demonstrate*: **Approaches**. As well as blocking the entrances to the defended building itself, it may be expedient to block approaches to the building, particularly if they are covered from view, eg where sewers and other services are connected.

1-153 *Explain and demonstrate*: **Withdrawal / Resupply Routes**. The construction of 'rat runs' will provide safety for friendly forces to withdraw, resupply, reinforce or for casualty evacuation. Where possible rat runs should provide cover from both view and fire. Rat runs can be constructed using six-foot pickets and hessian screen and should include dog legs to further obscure movement (this method will provide no protection from fire). Consideration must be given to the destruction of the rat run to deny its use by the enemy. Prepositioning smoke grenades along the rat run will assist to obscure the enemy's view. Rat runs should be subjected to continuous improvement during the preparation of the defensive position to provide cover from fire as well as view.

1-154 *Explain and demonstrate*: **Roadblocks**. Local materials and ingenuity should be used to deny routes to vehicles. Fig 1-24 shows some examples of roadblocks using logs/telegraph poles and vehicles.

1-155 *Explain and demonstrate*: **Windows**. Apart from grenade barriers, a grid of barbed wire across the ground floor windows assists in preventing access from the outside.

1-156 *Explain and demonstrate*: **Removal of Climbing Aids**. Anything that is attached to the building, such as fire escapes, drainpipes or thick creepers, any tree close to the building, or anything else which may assist the enemy in gaining access should be removed or otherwise made unusable.

1-157 *Explain:* **Protection from High Explosive Anti-Tank (HEAT) Rockets**. It is difficult to protect a building against the effect of a HEAT round. The jet from the round can penetrate, depending on the actual weapon, in the order of 1.0 m of brickwork and 1.25 m of sandbag wall. The best defence is to cause the projectile to detonate as far away from the building as possible. This is not easy to achieve as it requires

the erection of a screen into which the projectile impacts at a stand-off distance from the building. A chain link or chicken wire fence is a suitable screen. Ideally, it needs to be sited between 3 m and 6 m from the building; anything less than 1 m away is of little value. While this type of screen is useful, it is more applicable to semi-permanent defences against terrorist operations than to field defences.

1-158 *Explain:* **Protection from Enhanced Blast Weapons (EBW)**. EBW's are characterized by the production of a powerful fireball together with a relatively long duration pressure wave. The fireball, and its associated dust storm, will damage exposed skin and eyes over a wider radius than the blast effect, but most of the physical damage will be caused by the heave and push of the blast wave that may collapse brick or block built structures and cause internal bodily injuries. Such weapons are particularly effective when used against dismounted troops dug in or occupying fortified positions/buildings. Confined spaces will enhance the blast effect and, unlike fragments, blast can travel around corners and down passages/tunnels.

a. **General.** The lethality of a blast wave can be reduced significantly by using materials that absorb its energy or by physically blocking its path. The ultimate protection is to isolate personnel from the blast wave altogether, but this may not be practicable. Furthermore, a balance has to be struck between providing adequate protection and not hampering troops' ability to fight or to protect themselves against other threats. The first step is to prevent the munition / blast wave from entering a structure by providing a physical barrier. Failing that, the next step is to minimize the damage and injury caused by a blast munition within a structure by weakening and isolating its effect.

b. **Fortified buildings and bunkers.** Hastily prepared or temporary fortifications will be more difficult to protect against blast as time and resources may not be sufficient to provide the level of protection possible with purpose-built structures. Buildings liable to collapse, such as unframed masonry buildings with concrete floors, should be avoided (the floor dropping is likely to cause the most damage). Troops should be prepared to fight from below ground level, utilizing cellars; strong points can be built within buildings to provide additional protection. Physical barriers over openings, such as strong mesh over windows, should prevent unitary (but not tandem) warheads from penetrating. To reduce blast effects within a structure, unused openings inside buildings should be sealed to block the blast wave path whilst those openings to the outside should be sealed with panels that will 'blow-off', allowing the energy an escape route. Wet, heavy curtains hung over exit/entry points and firing ports will help to weaken the blast energy and any props used to shore up ceilings should be secured in such a way that a reversed force (e.g. ceiling being lifted rather than being pressed down) does not dislodge them.

c. **Trenches.** Trenches are designed to protect troops from fragments and therefore offer little protection from blast. Shelter bays can be protected to a certain extent by hanging a heavy curtain across the bay entrance.

d. **Fighting Outside Buildings and Structures.** Fighting from the outside of buildings reduces the effect of EBW but is only recommended if sufficient time is available for detailed preparation.

(1) The threat posed by collapsing buildings on friendly troops is key to the defence from EBW. The use of destroyed buildings reduces the effectiveness of EBW and will make it harder for the enemy to identify positions. Destroyed buildings will further confuse an enemy by altering mapped terrain and benefit the defender who has the time to conduct recce and rehearse movement in the urban area.

(2) Once the buildings are destroyed, fire positions can be dug into the rubble. Further destruction may be required to increase fields of fire but may also be used to quickly and effectively create dummy positions. Consideration must be given in the sighting of these positions so that mutual support and depth can be maintained. The fire positions have to be co-coordinated at the highest level practical and not in isolation.

(3) An alternative to digging into rubble may be to build a bunker in the cellar or ground floor of a building and collapse the building around it. This would increase the protection from conventional weapons in addition to EBW.

(4) Once the building is collapsed, rubble will need to be cleared from the areas of the fire positions and from the routes in and out. These positions could be used as HQs or perhaps patrol bases.

(5) It should be noted that protecting a strong point by surrounding it with sandbags and rubble may not be effective against blast weapons.

e. **Trenches.**

(1) EBW are effective against dug in troops but the casualties caused by one EBW will be reduced if troops are adopting a more traditional defence dug into fire trenches. These trenches could be used in conjunction with rubble or to the side of buildings. The use of a trench system linking the fire positions would give added protection and minimize the risk of troops moving in open ground.

(2) The trench system could be used to link buildings or routes to ambushes or counterattack positions. Experience shows that movement between buildings can result in heavy casualties, the use of covered routes would minimize casualties.

1-159 *Explain:* **Protection Against Helicopters**. Where a tall building has a flat roof, consideration should be given to the construction of a helicopter obstacle on the roof to prevent assault on the building from the air.

1-160 *Confirm by questions.*

Stages of Defence in Built Up Areas

1-161 *Explain:* The following are planning times for the preparation of defensive positions in FIBUA. They are subject to variation according to local circumstances, the condition of the troops and the availability of plant:

Stages of Defence in Built Up Areas	
a. **Stage 1**. Buildings occupied and cellars prepared. Fire and observation positions prepared. Defenders are able to survive, carry out essential admin and fight.	Up to 8 hours
b. **Stage 2**. Buildings prepared to withstand bombardment and infantry attack. Fields of fire cleared and mouseholing completed.	Up to 24 hours
c. **Stage 3**. Alternative buildings prepared to Stages 1 and 2 with connecting routes. Obstacles, wiring and booby trapping completed.	From 24 – 48 hours

Conclusion

1-162 **End of Lesson Drill.**

a. *Questions to and from the squad on the lesson.*

b. *Confirm by questions and practice.*

c. *Normal safety precautions.*

d. *Pack kit.*

e. *Summary. Emphasise three or four main points from the lesson.*

f. *A forecast of the squads next lesson in this subject.*

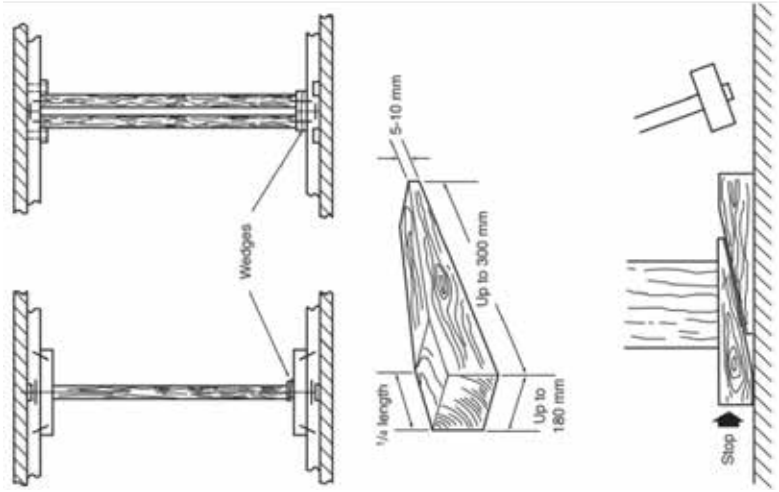


Fig 1-19. Props and Wedges

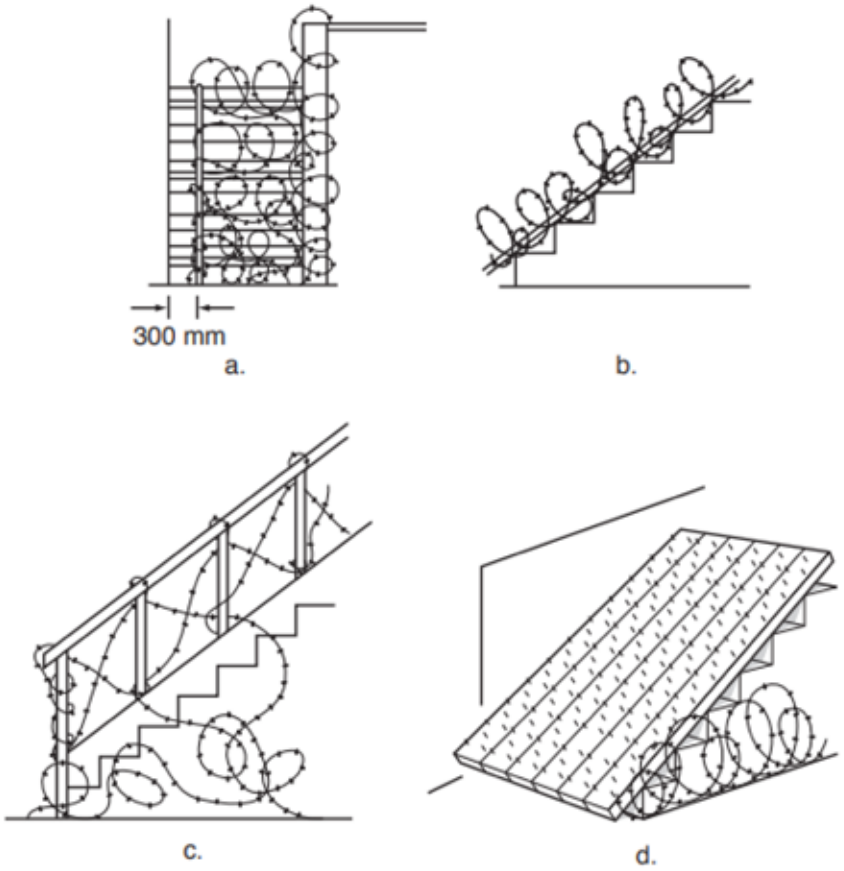


Fig 1-20. Blocking Stairways

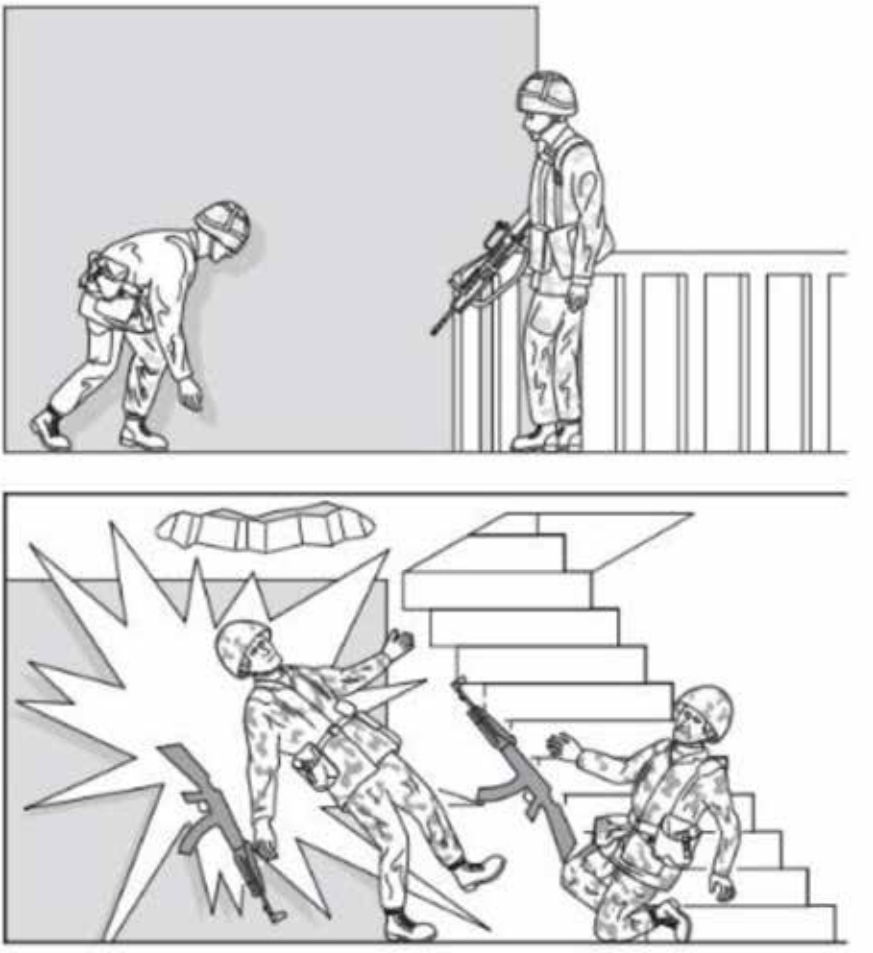


Fig 1-21. Grenade Holes

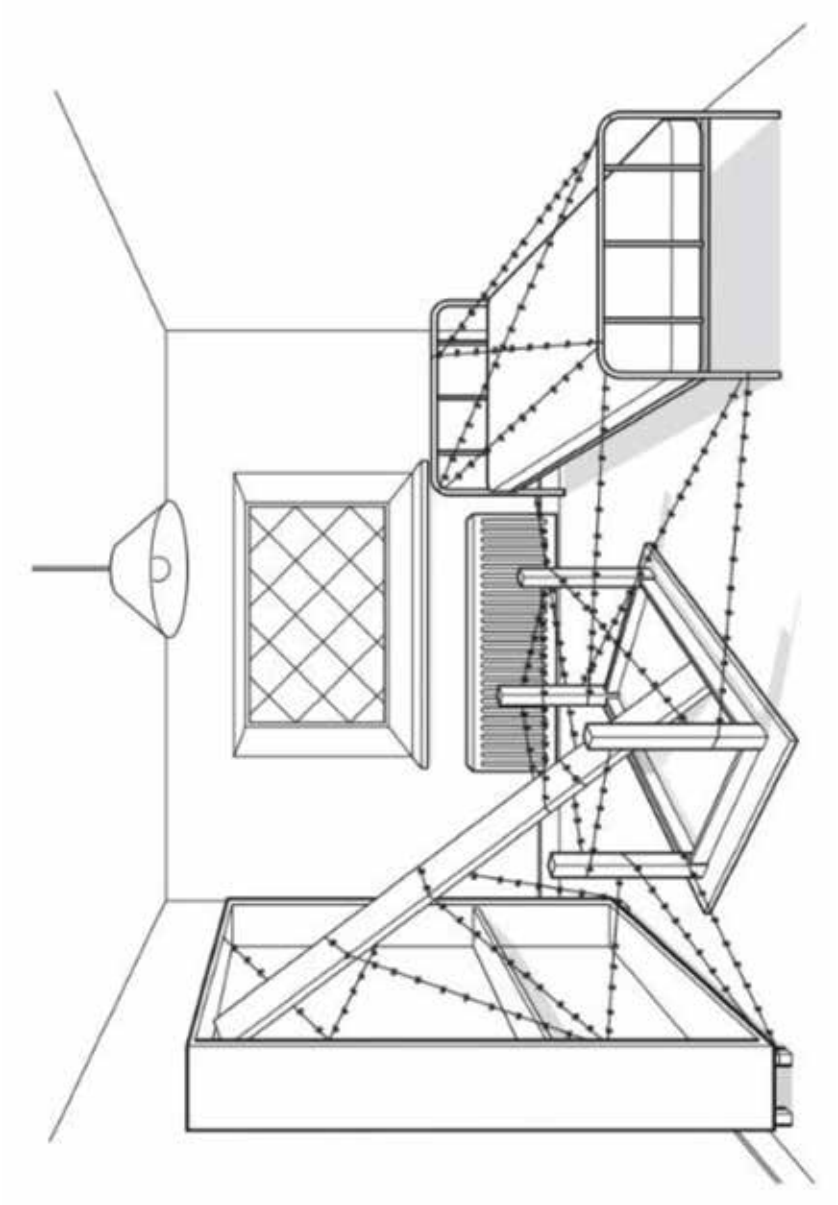
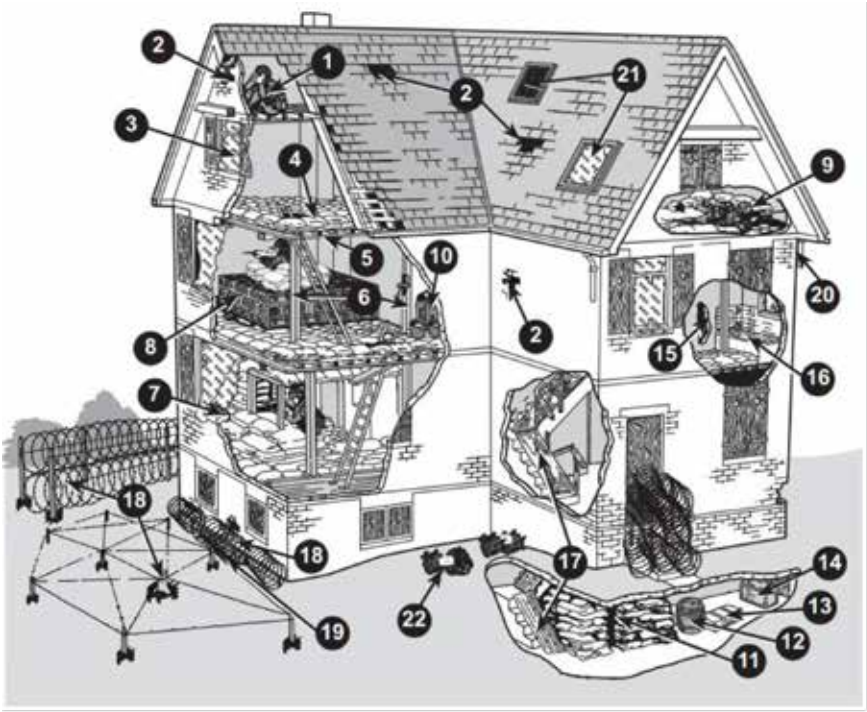


Fig 1-22. Wire Obstacles in a Room



KEY:

Internal Fighting Positions

1. OP in attic.
2. Different types of loopholes.
3. Grenade screen. Glass removed from all windows.
4. Sandbags on floors to prevent ricochets.
5. Plaster removed to eliminate dust.
6. Propping timbers or Acrow props, including wedges and spreaders.
7. Boards with nails behind sills.
8. Boxes/furniture filled with earth/stones (min 500mm thick).
9. Sniper firing through loophole.

Internal Preparation

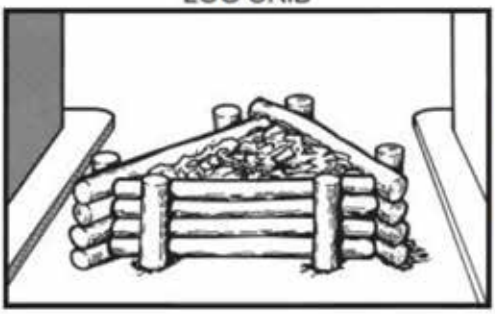
10. Firefighting equipment.
11. Section shelter.
12. Potable water.
13. Ammunition.
14. Rations.
15. Internal mousehole.
16. Water stored in bath.
17. Boards with nails or boxes/furniture and barbed wire as internal obstacles.

External Preparation

18. Wire obstacles.
19. Grenade sump.
20. Downpipe removed.
21. Entrances, windows, skylights, barricaded, all glass removed.
22. Command detonated mine (CLAYMORE).

Fig 1-23. Building Prepared for Defence

LOG CRIB



Notes

1. Interior of crib should be filled with rubble.

2. Logs of approximately 8" in diameter such as telegraph poles.

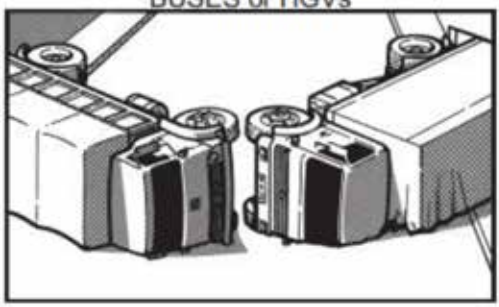
VEHICLE CRIBS

3. Vehicles chained together.

4. Wheels removed.

5. Centre filled with rubble.

BUSES or HGVs



6. Vehicles pointed towards enemy.

Fig 1-24 Roadblocks

Ser	Construction	Examples	Characteristics	Recommendation
1	Post & Frame	Old farm houses/ cottages	Weak walls and timber rafters offering no frontal protection. Stone or brick outer infill. Studded partition interior walls. High fire risk. Sway reinforcement probably necessary.	Avoid where possible
2	Masonry	Town halls, banks, public buildings and large houses	Probably solid walls. Usually two to four storeys high with wooden floor joists, or solid floors. Thickness of walls diminishes with height. Possible fire hazards. Floors may require props and shoring. Movement within buildings invariably easy.	Good choice
3	Good quality brick or concrete block	Detached or semi-detached houses	Buildings probably have cavity walls and may have reinforced concrete floors. Small fire risk. Sandbags needed to provide full protection. Props needed if floors have timber joists.	Good choice
4	Low quality brick	Terraced houses, shops	Buildings easily demolished by direct fire weapons. Medium fire hazard. Walls offer little protection, but may have cellars.	Avoid unless cellars can be used
5	Large Commercial	**Type A**: Modern department shops, factories or commercial offices	Solid concrete or steel frame buildings with strong floors but walls may be weak, frequently with large windows. Difficult to collapse building and frame resistant to sway. Likely to have cellars. Movement within building easy. Low fire risk.	A possible choice if protection can be achieved
		Type B: Older dept stores & commercial premises	Strong walls and floors. Fire hazard low to medium dependent on type of floor. Walls give good protection but additional sandbags desirable. Internal movement relatively easy.	Good choice
6	Medium/ High rise concrete block construction	**Type A**: Offices	Large windows, frame construction, reinforced concrete floors, weak walls. Probably low fire risk. Difficult to collapse building but walls and windows offer no protection. Movement between floors usually difficult. Tall buildings are conspicuous. Probably have cellars.	Possible choice if protection can be achieved
		Type B: Apartments	Small windows, reinforced concrete load-bearing outside walls. Probably good protection, but movement between floors probably difficult. **Usually low fire risk**. Tall buildings usually surrounded by open space with lack of covered routes for removal of casualties etc. **Note**: Some apartment blocks have prefabricated walls and are prone to vertical collapse. Difficult to identify.	Offer elevated fire positions and
7	Single Floor industrial	Warehouses & single floor factories	Usually steel or reinforced concrete frame construction with brick or lightly clad walls. Little overhead or frontal protection unless there are substantial dwarf walls, but floors are usually strong.	Minimal use for protection but likely offer manoeuvre options

Fig 1-25. Building Types and Characteristics

Chapter 2
Close Quarter Battle (CQB)

Introduction

2-01 The lessons in this chapter have been compiled and laid out in a manner to allow any instructor to deliver content, regardless of experience or cap badge. There are, however, many nuances that exist that cannot be covered within this publication. It is therefore advised that instructors wishing to deliver CQB training attend the Urban Operations Instructors course (UOIC) or Close Quarter Battle Instructors (CQBI) course[1].

2-02 The lesson content, sequence and time allocated have been designed so as not to over burden the student with information prematurely and to allow 'muscle memory' to be gained before continuing to the next lesson. Enclosures should initially be simple in layout/design and empty. Introducing complexities such as opposing doors, furniture, constricted space or occupants into training to early will place excessive cognitive burden on the soldier and result in a drop in performance and learning.

2-03 When conducting confirmation by practice the practice should incorporate all drills taught in previous lessons as well as the new skill. Expect a drop in performance. During practice soldiers will concentrate on the most recent drill taught to the detriment of skills learnt in previous lessons. This enforces the need for repetitive training and 'muscle memory', a competent soldier is concentrating on scanning and engaging threats, not how to conduct a drill.

2-04 Finally, there is a myriad of drills for Urban CQB. Most drills have utility for what they were designed but don't necessarily have the same utility for Field Army, others are style over substance. Instructors should not 'blindly' teach drills not included within the Urban Tactics Syllabus and should give serious consideration to their suitability for the role they are training for.

1 UOIC and CQBI are run by the Infantry Battle School, Brecon. UOIC open to All Arms Cpl – Capt. CQBI open to Infantry LCpl – CSgt.

Lesson 6. Rifle Positions of Carriage

2-05 ***Aim.*** *The aim of the lesson is to teach the various positions of carriage when operating in a CQB environment:*

a. *The low ready.*

b. *The compressed ready.*

c. *The high ready.*

d. *The index.*

e. *The low carry.*

2-06 ***Timings.*** *One 40-minute period.*

2-07 ***Method.*** *Basic instructional indoor or outdoor period.*

2-08 ***Stores.***

Rifle 1 per soldier
Magazine 1 per soldier
Fighting Order 1 per soldier
Combat helmet 1 per soldier
PPE (glasses & gloves) 1 per soldier
Demonstrators as necessary

2-09 ***Preparation.***

a. *Reconnoitre the training area and select a suitable area that offers clear line of sight to 25m.*

b. *Place targets at 25 metres in enough numbers to ensure that each student has a clear line of sight to at least one target without overcrowding.*

c. *If the lesson must be taken indoors, enough floor space must be provided so that the targets can be placed a minimum of five meters in front of firers.*

d. *Rehearse the demonstrators, preferably immediately prior to the squad arriving.*

Preliminaries

2-10 ***Safety Precautions.*** *Normal.*

2-11 ***Revision.*** *Rifle Lesson 13. Close Quarter Battle (CQB), CQB Positions.*

Introduction

2-12 *Explain:* Weapon carriage and handling must be of the highest standard when operating in a CQB environment. Poor carriage and handling slow reaction times when dealing with threats, obscures fields of view when covering and scanning for threats and can result in flagging of friendly forces. Every soldier must understand the positions of carriage, their limitations and when to employ them.

The Low Ready

2-13 *Explain and demonstrate, squad imitating*: The low ready position (*see* Fig 2-1) will be the default position for the No1 and anyone covering a threat. The low ready position allows the firer a maximum state of readiness to engage threats while allowing a clear field of view to scan and clear their arcs of fire. The low ready position is adopted as follows:

a. While adopting the usual CQB shooting stance the firer will bring the butt into the shoulder.

b. While maintaining a proper grip of the rifle and with the rifle pointing in the direction of threat, lower the muzzle to approximately 15 degrees; this allows clear observation of threats and arcs to be cleared visually.

c. The muzzle will be no higher than the lowest portion of the closest possible threat.

2-14 *Confirm by practice.*

The Compressed Ready Position

2-15 *Explain and demonstrate, the squad imitating*: The compressed ready (*see* Fig 2-2) can be adopted within the stack and is also used to allow safe passage into an enclosure. The compressed ready is adopted as follows:

a. From the low ready position and while keeping both hands on the weapon, ensure the safety catch is applied then lower the muzzle until it is pointing at the ground central and slightly forward of the operator's feet (safety circle).

b. As the muzzle is lowered the weapon pivots in the shoulder by the heel of the butt and is held tight against the body.

2-16 *Explain and demonstrate, the squad imitating*: **Modified Compressed Ready**. In confined areas the compressed ready can be modified. The modified compressed ready is adopted as follows:

a. From the compressed ready position keep the weapon tight against the body and move it higher until the butt of the rifle is slightly higher than the right shoulder.

b. From the low ready pivot the weapon at the pistol grip while pulling the weapon tight against the body.

c. The muzzle should remain pointed at the ground central and slightly forward of the firers feet (safety circle).

d. To adopt the aim or low ready, the left arm is forced to full extension towards the threat while pulling the butt of the weapon into the shoulder.

2-17 *Confirm by practice.*

The High Ready

2-18 *Explain and demonstrate, squad imitating*: The high ready (*see* Fig 2-3) is used in situations where waist high obstacles exist such as furniture or team members who have taken a knee. It can also be adopted as a method of carry within the stack. The high ready is adopted as follows:

a. Ensure the safety catch is applied and place the finger outside the trigger guard.

b. Keeping right hand on the pistol grip and left hand on the hand guard position the butt of the weapon between the right elbow and hip.

c. Allow the weapon to angle naturally away from the body keeping the flash eliminator in the line of site.

d. The weapon is held close to the body to make for a compact position, but consideration must be given to the position of the magazine release catch and any equipment located on the front of the body armour to avoid accidental operation of the release catch.

e. A proper firing position is gained by pushing the weapon away from the body, orientating it towards the threat before pulling the butt back in to the shoulder.

2-19 *Confirm by practice.*

The Index

2-20 *Explain and demonstrate, squad imitating*: Indexing (*see* Fig 2-4) the weapon allows a firer to control and operate their weapon while freeing their none firing hand to carry out tasks. This could be to move furniture, conduct a dead check or control an occupant. To index the weapon the firer should:

a. Keeping the weapon orientated towards the threat lower the weapon to waist height.

b. Clamp the butt of the weapon between the side of the body and inner right arm, the firer must be conscious not to foul the path of the cocking handle.

c. Once the weapon is clamped in position tasks can be carried out using the left hand.

d. The weapon can be fired from the index position in emergencies.

2-21 *Confirm by practice.*

The Low Carry

2-22 *Explain and demonstrate, squad imitating*: The low carry (*see* Fig 2-5) is generally used within a secure building as it allows the weapon to be carried in a manner that reduces fatigue while minimising flagging of friendly forces. The sling must be used to facilitate the low carry and is adopted as follows:

a. Safety catch must be switched to ON and index finger placed along the outside of the trigger guard.

b. The weapon is lowered, pivoting in the shoulder until it is running parallel down the right side of the firer.

c. The right hand remains on the pistol grip and holds the weapon against the body.

d. The heel of the butt should remain in the front crease of the armpit to allow the weapon to be pivoted back into the aim if required.

e. The left hand is now free to carry out tasks.

2-23 *Confirm by practice.*

Conclusion

2-24 **End of Lesson Drill.**

a. *Questions to and from the squad on the lesson.*

b. *Confirm by questions and practice.*

c. *Normal safety precautions.*

d. *Pack kit.*

e. *Summary. Emphasise three or four main points from the lesson.*

f. *A forecast of the squads next lesson in this subject.*

2-25 - 2-29. *Reserved.*

Fig 2-1. The Low Ready

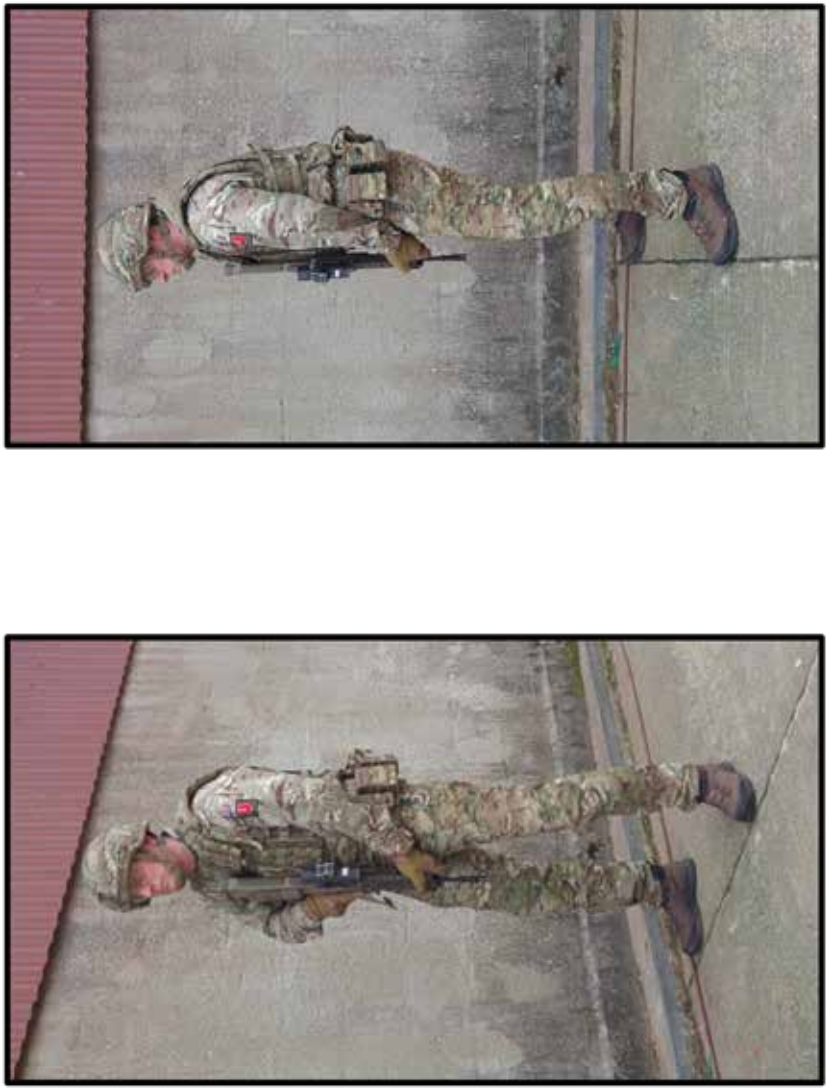


Fig 2-2. The Compressed Ready

Fig 2-3. The High Ready

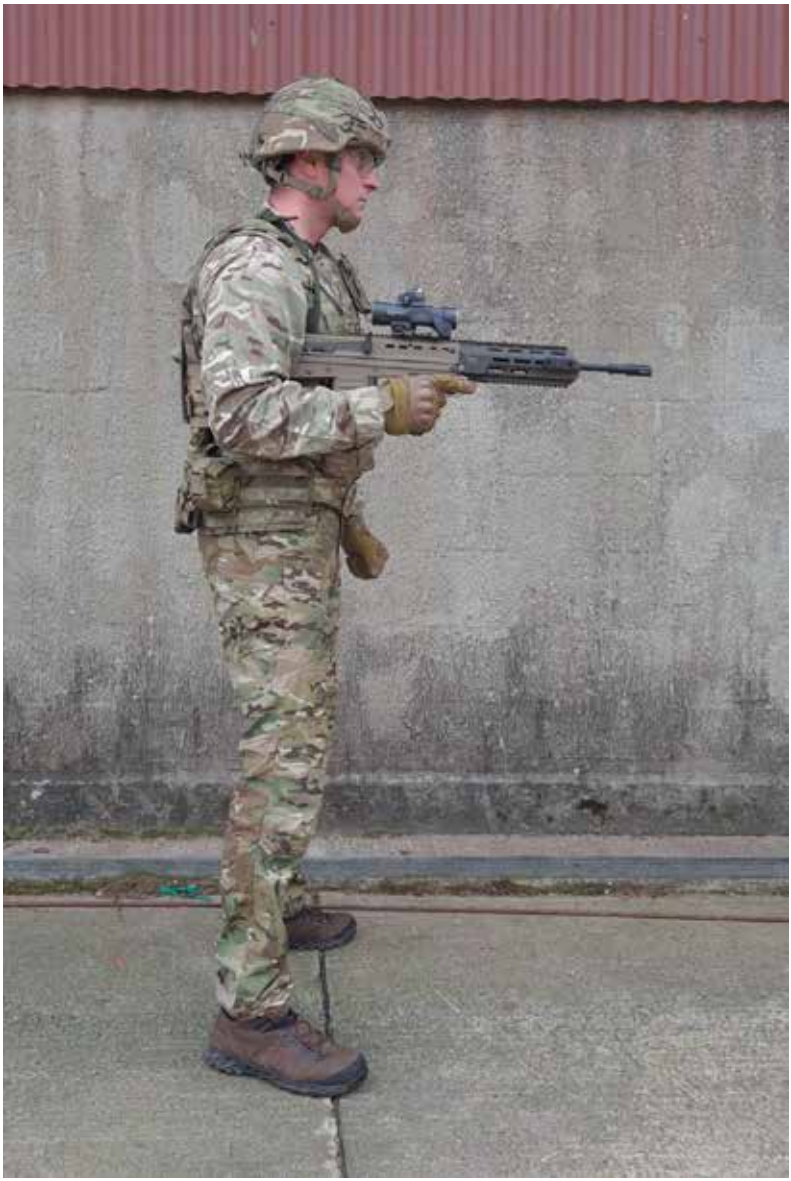


Fig 2-4. The Index

Fig 2-5. The Low Carry

Lesson 7. Urban CQB Fundamentals

2-30 ***Aim.*** *The aim of the lesson is to teach the fundamentals of CQB in the urban environment:*

a. *Principles.*

b. *Types of building clearance.*

c. *Verbal commands.*

d. *Other factors in building clearance.*

e. *The stack.*

f. *The stack organisation.*

g. *The stack principles.*

h. *The stack immediate action.*

i. *Use of light.*

j. *Marksmanship challenges in the UE.*

2-31 ***Timings.*** *One 40 minute period.*

2-32 ***Method.*** *Basic indoor lecture.*

2-33 ***Stores.***

PowerPoint Presentation as required
Whiteboard as required
Visual aids as required

2-34 ***Preparation.***

a. *Set up and rehearse PowerPoint presentation.*

b. *Prepare and layout visual aids/handouts.*

2-35 ***Safety Precautions.*** *Nil.*

2-36 ***Revision.*** *Nil.*

Introduction

2-37 *Explain:* Building CQB drills are used for combat within a building's hallways, stairs, rooms, enclosures and other forms of small constricted spaces. Urban warfare demands a high level of Situational Awareness (SA), requires collateral damage to be kept to the minimum, that precision marksmanship must be used, and a systematic and thorough clearance must be conducted to secure objectives or targets and information. It is essential that those conducting the clearance have in place a baseline knowledge of the techniques and drills which are common to all.

Principles

2-38 *Explain:* The following principles must be applied to affect a safe clearance of rooms and buildings:

a. **Surprise.** Surprise is key. Upon initial entry, the team has a few seconds to exploit surprise when the enemy is at their most vulnerable. Surprise is gained through deep Situational Awareness (SA), detailed planning, extensive rehearsals, and the proper application of stealth.

b. **Speed.** Speed is defined as the rate at which a team enters and moves through the objective. Speed will deny occupants the opportunity to fortify positions, construct barricades, or prepare kill zones. Speed is relative and the key is to be smooth and under control inside the building, moving only as fast as threats can be successfully identified and neutralised. To maintain speed and momentum in clearing a structure, concurrent activity must be maximised, and team members must be proactive in predicting team activity so that they can support it.

c. **Shock Action.** This is a sudden and explosive force that overwhelms any coordinated or planned reaction from the occupants. Aggressive, deliberate and positive actions will allow the team to dominate the situation. Explosive breaches, diversionary devices, good verbal commands and precision marksmanship are all key to achieving shock.

d. **Initiative.** Individual initiative is vital. Building and room clearance is a dynamic activity. Troops will face threats, situations, and changing layouts often with time at a premium. They must be able to react, adapt, improvise and understand the impact of their actions. The situation may develop far faster than the commander can control. In particular firers should be ready and flexible enough to respond to whatever confronts them. In any event, firers must:

(1) **Cover All Immediate Danger Areas.** A danger area is an area from which a firer may be engaged or an area that is yet to be cleared by the entry team, such as open or closed doors, small spaces, L-shapes, etc.

(2) **Neutralise All Threats.** The use of precision marksmanship and correct identification to determine and neutralise threats and non-threats.

(3) **Protect Other Firers.** Troops must protect team members throughout the clearance of the structure. A proactive approach is essential for team protection.

2-39 *Confirm by questions.*

Types of Building Clearance

2-40 *Explain:* There are 5 methods of conducting a building clearance.

a. **Dynamic.** Employs an explosive, ballistic or mechanical breach, a diversionary device, or use of fire support or sniper-initiated assault followed by rapid movement through the objective. This method overwhelms the occupants with its speed, surprise, and shock action, limiting their ability to plan, manoeuvre or reorganise.

b. **Stealth.** This method requires an unopposed initial entry without verbal commands. It utilises slow, silent movement, and the use of hand signals and barrel nods for coordination.

c. **Subdued.** A combination of the dynamic and stealth methods, using controlled speed with partial silence. It can be used to enter some buildings or rooms after, or combined with, a dynamic entry. Movement through the objective is quiet, not silent, and conforms to the actions of the point firer.

d. **Limited Penetration.** Troops can clear buildings or rooms without entering, particularly if there are numerous windows. Alternatively, a single section may be tasked to enter and seize a limited objective within the building and then hold, whilst the rest of the assault force makes entry elsewhere in the building.

e. **Coordinated Entries.** A coordinated entry is when two or more teams enter the building through different points of entry and levels at the same time or at separate timed intervals (*see* Fig 2-6).

2-41 *Confirm by questions.*

Verbal Commands

2-42 *Explain:* In order to maintain effective control and to ensure clarity of communication during room and building clearance a number of commands and prompts are used. These must be memorised, and their use frequently practiced during training (*see* Fig 2-7 for examples).

Other Factors in Building Clearance

2-43 *Explain:* **Use of Cover**. Individual soldiers should select suitable cover when moving through the building. They should keep to the walls and avoid windows, doors, floor and ceiling openings. They have to realise it is an individual responsibility to select the cover, not the section commanders.

2-44 *Explain:* **Booby Traps**. Booby traps and IED are common, simple weapons employed by all potential adversaries. Avoid the attractive, look for sign and avoid the ‘come on’. If found, they must be left alone for specialist attention. All other members of the section/platoon need to be warned of the presence of booby traps. The exact

location of the device should be marked and at the point of entry a blue flag or blue marker should be displayed to indicate the requirement for engineer assistance and to act as a warning that a booby trap is in that house.

2-45 *Explain:* **Automatic Fire**. Unless forced by the threat, automatic fire should be avoided. Most modern houses have concrete floors, walls and even ceilings and these may cause rounds to ricochet and cause fratricide. In addition, if automatic fire is used throughout the house, ammunition expenditure will be high and increase the demand for resupply. Ideally, most shooting inside a house should be instinctive double shots which will be far more accurate. Conversely, some houses have very thin internal walls, shots will penetrate these walls and could again cause fratricide. Pistols can be used where appropriate.

2-46 *Confirm by questions.*

The Stack

2-47 *Explain:* The team stack is one method of moving a section or team around in a controlled manner whilst still maintaining a good level of tactical awareness and security. The team stack provides an excellent means of command and control inside a building but can be vulnerable to a range of threats particularly when the team is closed up. The stack should not be used outside of a building when operating in a conventional environment (see Chapter 1 – Lesson 4. House Clearing)[2].

2-48 *Explain:* It should be noted that experience gained during raids and compound clearance operations in Iraq and Afghanistan has led to the widespread legacy use of the stack. A TTP which was useful in those types of operational scenarios (strike operations) and environments may not have the same utility in future operations. The stack should NOT be used while patrolling, crossing streets and open ground, and moving between buildings when fighting conventionally. The effects of direct and indirect fire and IEDs can be significantly greater on a stack than on a section using ground and fire and manoeuvre correctly.

The Stack Organisation

2-49 *Explain and demonstrate*: Soldiers roles within the stack will change as the movement / clearance progresses. Every soldier must remain alert at all times and be prepared to move forward in the stack to provide support or take over as a No1 or No2 when required. Firers should react to the situation ahead and not wait to be ordered, if support is called for or a stoppage incurred for example. When moving through a building the section will close within touching distance of each other and organise as follows:

2 In a non-conventional environment the stack may be useful when approaching a building as part of a strike operation when security is being provided by the inner and outer cordon.

a. **The No1.** The first firer in the stack is known as the No1 and has their weapon at the low ready, safety catch ON – finger resting on the safety catch while constantly searching for and assessing threats or danger areas ahead (*see* Fig. 2-8a). The safety catch should only be switched to OFF once a target has been Pre Identified (PID) and can then be engaged in line with ROE.

b. **The No2.** The second firer in the stack is known as the No2 and is the immediate support for the No1. The No2 moves up close to the No1 to where they are touching but not pushing. They mirror the stance of the No1; are alert with head up, looking ahead ready to react and support (*see* Figs 2-8b and c), a No2 is said to be in 'Close Support' when stacked with a No1.

(1) **Weapon Carriage.** There are two accepted weapon positions for the No2 (and the remainder of the stack); each position has pros and cons. The commander must decide which is to be used and that position adopted as a Standard Operating Procedure (SOP). The stack should not adopt a mix of weapon positions. The safety catch must be **ON** regardless of the position adopted.

(2) **High Ready.** The high ready greatly reduces flagging[3] (pointing of weapon at friendly forces) within the stack. The high ready can, however, cause fatigue amongst firers and affect initial accuracy on target (due to weapon weight and momentum causing overshooting the target as the weapon is brought into the aim) and the requirement to move the butt in to the shoulder.

(3) **Compressed Ready.** The compressed ready reduces flagging if maintained correctly[4]. The compressed ready also assists in keeping the soldiers mind focussed by maintaining two hands on the weapon without the additional fatigue experienced with the high ready. A weapon in the compressed ready, however, is more difficult to bring to bear against a threat in the firers immediate area and if not adopted correctly and rigidly enforced can increase the risk of flagging.

c. **Command.** The commander should be in the best position to control the team and maintain situational awareness, usually No3. The 2IC will be in the rear 1/3 of the stack, usually No 6.

d. All other firers will stack in the same manner as the No2. While firers in the centre of the stack may not have an immediate role they should still be alert and searching for threats. For example the fourth firer should be looking

3 Flagging refers to the pointing of a friendly muzzle at friendly forces. Flagging can occur with poor weapon handling, particularly when positioned within the stack.
4 When fatigued or under pressure soldiers will begin to adopt a 'patrol position' which results in flagging.

along the wall and floor for immediate threats (firing holes, booby traps etc). The fifth firer should be scanning for threats above (mouseholes, air vents etc).

e. **Breachers.** A two-person breaching team should bring up the rear of the section stack, equipped with an Enforcer and Haligan Tool/Crowbar. (manual breaching will be covered in later lessons)

f. **Attachments.** Sections operating in the UE may receive specialist assistance. Generally attachments should be located to the rear of the stack but their role should be considered when positioning.

(1) **Medic(s).** Fighting in the UE will require a higher standard of battlefield first aid. Having soldiers within the section with a higher level of training may be required. The infantry section could receive non organic assets to assist.

(2) **Engineers/Pioneers.** Explosive breaching will require Engineer or Pioneer support.

(3) **Military Working Dogs (MWD).** A MWD team consists of an MWD handler and MWD. The team increases a commander's freedom and flexibility in planning and prosecuting urban operations.

2-50 *Explain:* **Crowding**. Before adopting the stack commanders must always consider the threat. Teams are vulnerable when bunching in one room, hallway or stairwell for any longer than necessary. A single grenade or contact could cause numerous casualties. Once a room has been secured, assaulting teams should spread out as quickly as possible. This will be covered in more detail in later lessons.

The Stack Principles

2-51 *Explain:* The No1's eyes and weapon must work in unison and the method of target acquisition (EBS, LLM, Red Dot) well practiced so targets can be engaged with both eyes open, immediately.

2-52 *Explain:* The No1 must endeavour to maintain a stable fire position when moving or conducting any drills (The No1 may only fire when moving if trained to do so).

2-53 *Explain:* The No1 must endeavour to open and clear any arc from a position of cover, as much as possible, keeping the front of their body facing toward any threat (this is where the body armour offers most protection).

2-54 *Explain:* All firers within the stack must be able to accurately engage threats, at short notice. Movement must be planned, and carried out in a controlled, methodical manner to allow accurate fire, from stable fire positions whilst minimising the chance of fratricide (blue on blue).

2-55 *Explain and demonstrate*: **Muzzle Before Flesh**. It is impossible to predict the movements or actions of an individual, particularly when in contact. When in close proximity to other firers and engaging targets or adopting fire positions firers must think 'muzzle before flesh'; flesh referring to other firers and body parts. Failure to do so will inevitably result in fratricide.

2-56 *Explain and demonstrate*: Only point firers[5] are to adopt the stance of a No1 (weapon in the low ready) firers further back in the stack MUST adopt the stance of a No2 (compressed ready or Hi ready), see Fig 2-9 for examples of dangerous practice.

2-57 *Explain:* Soldiers can communicate within the stack by voice, hand signal or physical contact (shoulder squeeze). Whether static or moving, the soldiers are to always maintain maximum situational awareness and observation of arcs (head and eyes up).

2-58 The minimum manoeuvre unit is a No1 with a No2 in close support.

The Stack Immediate Action (IA)

2-59 *Explain and demonstrate*: **IA**. It is essential that all members of the stack are well-rehearsed and practiced in the actions to be taken if a stoppage is incurred. The following should take place in the event of a stoppage:

a. Unless committed (already began the 5 step entry) the individual should inform the remainder of the team by calling **"stoppage"** and immediately move out of the area via the safest route possible while creating space for the support firer to continue the task.

b. The firer should clear the stoppage while joining the rear of the stack.

c. If the firer is already committed (begun the 5 step entry) they should immediately call stoppage, transition to their secondary weapon and continue on task.

d. The call of stoppage should immediately initiate movement of a support firer into the enclosure.

e. The stoppage should be cleared once the 5 step entry has been completed and when safe to do so under cover of the support firer.

Post Firing Procedure

2-60 *Explain:* Post firing checks must be completed after each engagement to ensure the weapon is ready to fire. It is during this time that a potential stoppage can be identified and remedied. Once the engagement is over and it is safe to do so (once a dominant position has been established for example) the firer should carry out the following:

5 Point firer refers to the firer closest to the threat and in a position to engage (a No1). A point firer does not have friendly firers between them and the threat.

a. Ensure the safety catch is set to 'SAFE' and move the finger outside the trigger guard.

b. Conduct a reload if required. This must be conducted under the cover of a support firer.

c. Close the ejection opening cover. Failure of the cover closing may indicate that the cocking handle is not fully forward and further action is required.

d. Reset the LLM to the required default setting if required.

e. Ensure a magazine is still present in the speed reload pouch, replace if necessary.

Use of Light

2-61 *Explain:* The use of light will be unavoidable when clearing buildings at night or when entering dark enclosures. Where additional illumination is required firers should, where possible, utilise IR in conjunction with night vision devices (NVDs). If effectively clearing and/or searching a room using IR is not possible white light should be used. Any light, whether IR or white, should be switched off as soon as the search/task is complete.

2-62 *Explain:* The Laser Light Module (LLM) spot light can be affective at blinding enemy combatants when entering an enclosure, particularly when they are equipped with NVDs. The use of the spot light can also be an affective tool when controlling occupants within an enclosure[6].

2-63 *Explain:* Firers must treat light as an extension of their weapon and as such should not 'flag' other firers; flagging firers with light silhouettes them to the enemy making them an easier target[7]. In addition firers should not prematurely give away their position by switching on lights before they are needed.

2-64 *Explain:* In addition to the LLM firers should be equipped with a strong, handheld torch for use when clearing constricted spaces, lofts and for use in conjunction with the pistol.

Marksmanship Challenges in the UE

2-65 *Explain:* Typically surfaces in the UE will be hard, smooth or flat. This reduces the effect of ammunition and increases the chance of ricochets. Firers must consider arcs at all times and keep effectively spaced out and away from walls when stacking.

6 Illuminating an occupant with the LLM spotlight blinds and adds to their confusion which can help to subdue the individual.
7 Particularly pertinent to firers entering an enclosure. Firers must not initiate light until their arcs are clear of friendly firers.

2-66 *Explain:* 90% of all engagements in the UE will be 50m or less. Engagement times are short meaning deliberately aimed shots will be harder to achieve. Soldiers must be prepared to engage accurately at short notice.

2-67 *Explain:* Recent operations has shown wide use of firing apertures as small as 20cm in the UE. Effective engagement of these apertures at ranges up to 50m requires a high degree of accuracy.

2-68 *Confirm by questions.*

Conclusion

2-69 **End of Lesson Drill.**

a. *Questions to and from the squad on the lesson.*

b. *Summary. Emphasise three or four main points from the lesson.*

c. *A forecast of the squads next lesson in this subject.*

2-70 - 2-79. *Reserved.*

Fig 2-6. Coordinated Entryy

1. **“Clear”**. This command notifies the rest of the team that the room is clear and that they can enter and continue with the assault. “Clear” also allows the initial entry team to close with and control occupants or clear other danger areas inside the room. Outside the room the rest of the team can proceed with the clearance of the building, passing the room that has just been assaulted. No one should move forward before “clear” is given.

2. **“Support”**. “Support” is a call for assistance. The firer should indicate the number of firers that are required to provide support. Support firers require direction on arrival.

3. **“Go left / Go Right!”**. Used in conjunction with other commands such as “Support”. For example **“Support 1, Go left”**.

4. **“Coming In”**. “Coming In” is used when entering the marshalling area or when a firer enters a room in response to a call for support.

5. **“Coming Out”**. This is used by firers as they leave a cleared room. The firer ensures that his muzzle is pointing into the floor, checks left and right before exiting the enclosure whilst calling “Coming Out”. This ensures that the firer will not cross another firer’s line of fire or walk into crossfire.

6. **“Last Out”**. The last firer exiting a cleared room calls “Last Out” indicating that there are no firers left in the room. They should also check that the room has been correctly marked.

7. “**Standing/Stand”**. This command is given to coordinate movement before standing up inside an enclosure. The firer calling ‘stand’ waits to be told to stand by a standing firer already within that enclosure. A lone firer should check left, right, and rear before proceeding to stand. This will ensures that the firer does not stand up in front of another firer’s line of fire.

8. **“Big Room”**. This warning indicates that a firer has come upon a large enclosure. ‘Big Room’ automatically summons supporting firers.

9. **“Stack on me/ with me”**. This alerts firers holding, covering or moving to the same area, to drop their muzzles and stack up behind that firer giving the command.

10. **“Stoppage”**. This warns other firers that the caller has some form of stoppage with their weapon . On hearing the call, the closest firer must move to support.

11. **“Hold”**. This means “stop” or “no”. “Hold” stops all movement.

12. **“Shot”**. “Shot” is used when shooting from room to room, hallway to room, or room to hallway. If one firer calls out “shot”, all others stop and call out “shot”. If possible, the firer checks right and left to ensure that there is a clear line of fire and then takes the shot. After the engagement, “clear” is required to re-initiate movement.

13. **“Magazine / Up”**. When a firer calls “Magazine”, the firers to the left and right will confirm the call “Magazine” and cover the firer while they reload. The responding firer must cover the firer until completion of the reload. Once the firer has completed the reload, they will call “Up”. This indicates that they are ready to proceed.

14. **“Ready”, “Move!”**. These commands initiate action. The word “Move” is used rather than “Go” , which may be confused with “No” in the heat of the moment.

15. **“Coming through”**. Used when moving through a friendly held building.

16. **“Plate me”**. Usually called for by an individual conducting a search or dead check. Requires an additional firer to provide protection; back plate to side of person conducting the task.

17. “Clear corridor”. Used when a threat of over penetration exists. Clears all firers from the corridor.

Fig 2-7. Words of Command

a. The No1

b. The No2

c. No1 & 2 (No2 in 'Close support')

Fig 2-8. The No1 and No2

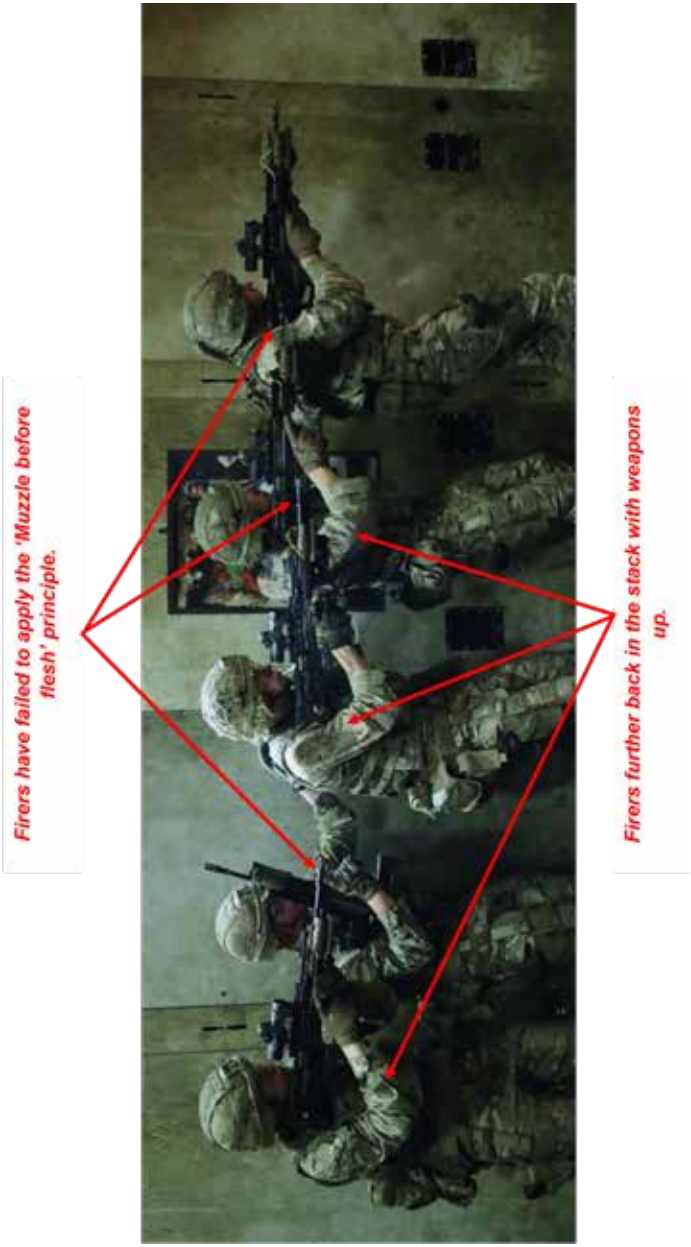


Fig 2-9. Examples of Dangerous Practice

Lesson 8. The Doorway (Entry Point Procedure)

2-80 ***Aim.*** *The aim of the lesson is to teach the methods used to assess the accessibility of a doorway and the actions taken at the entry point including fighting from the door or entry point and the use of grenades.:*

a. *Pre entry phases (PACE).*

b. *The fatal funnel.*

c. *Types of door.*

d. *'Rolling' the door.*

e. *Accessibility check.*

f. *Diminishing return.*

g. *Fighting from the door.*

h. *The use of grenades and distraction devices.*

2-81 ***Timings.*** *Two 40-minute periods.*

2-82 ***Method.*** *Basic instructional outdoor period.*

2-83 ***Stores.***

Rifle 1 per soldier
Magazine 1 per soldier
BFA 1 per soldier
Fighting Order 1 per soldier
Combat helmet 1 per soldier
PPE (glasses & gloves) 1 per soldier
Cam cream as required
Demonstrators as necessary

2-84 ***Preparation.***

a. *Reconnoitre the training area and select positions to best illustrate the drills.*

b. *Rehearse the demonstrators, preferably immediately prior to the squad arriving.*

2-85 ***Miscellaneous.***

a. *The principles of the stack must be enforced at all stages of training.*

b. *Students must master the 'high risk roll' before being permitted to conduct the 'low risk roll' during exercises.*

c. *Under no circumstances are L109 grenades to be used under instruction.*

d. *Under no circumstances are L107 Distraction Devices to be used for instruction and/or training.*

Preliminaries

2-86 ***Safety Precautions.*** *Normal.*

2-87 ***Revision.*** *Principles of the stack (particularly the No1 & No2).*

Introduction

2-88 *Explain:* While the actions of clearing an enclosure are important the actions conducted before making entry into an enclosure are equally as important. When conduced correctly 'fighting from the doorway' can clear, in some cases, as much as 90% of a room without setting foot through the door. For the ease of instruction 'doorway' will be used throughout the lesson. The drills, however, apply to any entry point; mousehole, window etc.

Pre Entry Phase

2-89 *Explain:* **PACE**. The pre entry phases can easily be remembered using the pneumonic PACE:

a. **Preparation.**

(1) Assess the type of door, the doorway and the area around it (specifically where troops stack up) for booby traps or obstacles.

(2) Position No1 and No2 if required for door check (this may require a preliminary roll of the door).

(3) The No1 and No2 correctly positioned.

(a) Firers should be as close as possible to the door without exposing their muzzle.

(b) Firers should be positioned away from the wall to achieve a 45-degree angle into the enclosure. This minimises the threat of fratricide when firers are stacked both sides of the door and best positions firers to observe and subsequently enter an enclosure (*see* Fig 2-10).

(4) Prioritise open doors before closed.

(5) Soldiers must plan and prepare according to the threat and type of door.

(6) Consider grenades and the suitability of employment.

b. **Access the Room.** Breach a locked door and remove any obstacles that block the doorway.

c. **Clear From the Doorway.** The No.1 will roll the door. A HE grenade can be used prior to the rolling of the door. Soldiers should always be prepared to enter the room as soon as the roll is complete, so as not to lose any initiative gained. The No.1 should make mental notes of the inside of the room for the subsequent entry.

d. **Enter the Room.** Conduct the 5-step entry and physically clear the room (minimum of two soldiers).

The Fatal Funnel of Fire

2-90 *Explain:* The fatal funnel of fire is an imaginary cone that starts in the centre of the door and extends between two to three feet on either side (see fig 2-11). This is the point at which a defender would fire at if entry were made into a room. This is especially true if the room is dark and the entry point is illuminated naturally or lit up by entry person's tac-light.

Types of Door

2-91 *Explain:* There are generic types of doorways that are prevalent in everyday life. Inward Opening, Outward Opening, Open Doorway and Closed Doorway. To be able to successfully identify and execute the correct formation to clear these doorways is key. The type of door that is encountered by the team will determine the decisions and actions that the team take to make entry into the enclosure.

a. **Inward Opening (Push).** Inward opening doors swing inward towards the interior of the room (away from you). Hinges will not be visible as the door will be set into the frame of the door (*see* Fig 2-12).

b. **Outward Opening (Pull).** Outward opening doors swing toward the exterior (toward you). Hinges will be visible (*see* Fig 2-13).

c. **Right / Left Hand Door.** Right hand doors have the locking mechanism/door handle on the right. Left hand doors have the locking mechanism/door handle on the left.

d. **Open Door.** A door is considered open when there is a visible crack between the door and the jamb (being able to see into the room) or the door is completely open.

e. **Closed Door.** The door is completely shut.

2-92 *Explain:* **Information Required on Each Door**. Whenever a door is encountered, the point firer will need to work out whether the door is closed/open, which side of the corridor it is on (left/right), whether it is inward/outward opening

(push/pull) and if it is a right or left opening door and then relay that information to the remainder of the team, for example: “Closed door right, pull right”. In this example the door is a closed door located on the right side of the corridor, the door will open into the corridor and the door handle is on the right-hand side of the door.

Rolling the Door / Entry Point (Closed Door)

2-93 *Explain and demonstrate*: The term ‘rolling’ the door is used to describe the technique of moving past a door that is forward of the FLOT. Rolling the door minimises the risk of potential shoot through from threats within the enclosure by taking maximum advantage of the protection provided by the combat body armour ballistic plate. It also ensures a maximum state of readiness to react to any unknown threats within the enclosure. Rolling a door may be required when bypassing rooms or to correctly position the assault team prior to entry (to conduct door checks and attack the crack) The ‘roll’ of a **CLOSED** door is conducted as follows:

a. A firer conducting a ‘roll’ of any door will be considered as a No1, and the doorway and the enclosure within, considered the direction of threat. The No1 always has their weapon at the low ready position.

b. The roll begins from the safe side of the doorway and moves in an arc around the door.

c. The No1’s body and feet must be perpendicular (face on) to the doorway throughout the roll.

d. Movement past the door can be conducted at speed but should be in a controlled manner while adhering to points a – c above.

e. A door roll can be carried out with two (or more) firers where multiple threats exist, for example within a corridor where a threat exists beyond the doorway. As the No1 rolls the door, the second firer moves behind them, using the No1 as cover, past the doorway. As soon as the second firer passes the door, they cover the long threat beyond the doorway. This drill is referred to as **“Roll with 2”** (*see* Fig 2-14) (If no long threat exists the words of command **“Roll with one”** will be used and the point firer will roll alone).

f. Once the No1 begins the roll the No2 immediately adopts the stance of a No1, covering the door.

2-94 *Confirm by practice.*

Accessibility Check

2-95 *Explain and demonstrate*: The point firer will inform the team that there is a Closed Door. The section commander will then order **“Roll with 1 / 2”** depending on the threat. On completion of the roll the following will take place:

a. **Direction of Opening.** Once the door has been rolled the firer that has the best view of the door opening (where the handle and locking mechanism meet the door frame and the opening of the doorway if the door were to be opened) will become the No1. For simplicity this is known as 'Attack the Crack'[8]. This can be communicated by the command **"I / you have the crack"** (with training both firers should be able to correctly identify who is holding the threat and conduct the check without the need for verbal confirmation). This ensures that any threat opening the door can be neutralised immediately (*see* Fig 2-15). The other firer, regardless of whether they conducted the roll, will become the No2 and will subsequently conduct the accessibility check on the door. The opposite firer will then conduct the door check.

b. The No2 will drop their muzzle and do the following:

(1) Quickly assess the entry point for booby traps and other obstacles.

(2) Check for door bolts. Door bolts are usually located in the upper and lower third of the door. On inward (push) opening doors the No2 should push against the top corner of the door (opposite the hinges) using the hand and the bottom corner of the door using the toe of the boot (*see* Fig 2-16). A door that fails to flex inwards when conducting this check usually indicates the presence of a deadlock and will require the assistance of the breaching team. On an outward (pull) door only a visual check is conducted; a pull door will not flex when pushed against as it is held in place by the door jam.

(3) After conducting the door bolt check the No2 will place their hand on the door handle and await a confirmatory nod to report ready from the No1. On receipt of the nod the No2 will try to open the door using the door handle.

(4) If entry is successful, the No2 will push or pull the door fully open (The Halligan bar can be used to prop open spring-loaded doors).

c. Once the door is open the assault team should carry out the drills for fighting from the doorway (covered later in this lesson).

d. If at any point the door is locked and does not open the firer conducting the door check will shake their head left and right to signify "No" the door is locked. The Section Commander will then, depending on their orders, decide to bypass or call for breaching equipment.

2-96 *Confirm by practice.*

8 Attack the crack has no bearing on the direction the assault team enter once the door is opened. Once the door is opened attack the crack has no relevance and open-door drills are to be conducted.

Diminishing Return

2-97 *Explain and demonstrate*: Diminishing return is the terminology used to describe the check conducted by both the No1 and No2 stacked on an open door prior to rolling the open door (fighting from the doorway) or prior to conducting a dynamic entry. The purpose of the check is to clear as much of the dead space immediately left and right of the door and as far into the enclosure as is possible without moving from their stack location / position of cover. A diminishing return is conducted as follows (*see* Fig 2-17):

a. Both firers stack as previously taught.

b. Keeping their feet fixed in position each firer leans their body to the left or right depending on which side of the door they are stacked (left side lean left, right side lean right weapon should be in the low ready position, with finger resting on the safety catch which is set to ON.

c. Firers clear as much as is possible of dead space immediately left / right of the doorway.

d. With feet still fixed in position firers now lean in the opposite direction to clear as much of the enclosure as is possible.

e. If a hostile threat is encountered firers will deal with the threat within the ROE and subsequently inform the commander. Non-hostile threats should be dealt with as per Occupancy Control drills. Under no circumstances are firers to enter the room unless a significant tactical advantage can be gained.

Fighting From the Door

2-98 *Explain and demonstrate*: **Open Door**. Fighting from the door offers great depth into an enclosure allowing the assault team to clear as much as 90% of the space without entering the room. After carrying out a diminishing return the No1 should, where possible, roll the door. In areas of high threat, the door roll should be a methodical and deliberate action allowing the enclosure to be cleared as thoroughly as is possible from outside the enclosure. In low threat areas the door can be rolled in a similar manner to that of a closed door; less deliberate and at an increased pace. A high threat roll is conducted as follows:

a. A firer conducting a ‘roll’ of any door will be considered a No1, and the doorway and the enclosure within, considered the direction of threat. The No1 always has their weapon at the low ready position with finger resting on the safety catch which is set to ON.

b. The person conducting the roll should not be the individual that conducted the door check and / or opened the door.

c. The roll begins from the safe side of the doorway and moves in an arc around the doorway.

d. The No1's body and feet should be perpendicular (face on) to the doorway throughout the roll.

e. Movement will be sideways by taking small sidesteps, moving the trailing foot to the instep of the leading foot and then moving the body, weapon and leading foot as one. Moving the leading foot first will cause the firer to "step out" (lead foot being ahead of body and weapon due to the need to maintain balance) and should be avoided.

f. When moving a conscious effort must be made to avoid 'stepping' out and prematurely alerting any potential threat within of your presence. Instead the upper body should be positioned over the leading foot as much as is possible (head, weapon and leading foot in alignment) while still maintaining a stable fire position (*see* Fig 2-18). This will allow immediate use of the weapon system to neutralise any threats within the enclosure.

g. If a hostile threat is encountered, the No1 will deal with the threat within the ROE and subsequently inform the commander.

h. If the No1 encounters enemy fire from within the enclosure they should immediately return to cover and consider the use of grenades.

i. If a non-hostile threat is encountered, the No1 will deal with this according to Urban Occupancy Control drills. Under no circumstances is the No1 to enter the room unless a significant tactical advantage can be gained.

j. The drill is complete when the firer has completely 'rolled' the door and is on the opposite side of the doorway.

k. A 'Roll with 2' should take place where a threat exists beyond the doorway.

l. The ability to fire from the left shoulder when rolling a door right to left will maximise the use of cover and minimise exposure of the firer prematurely. The following must be observed:

(1) Rifle sights must be fitted with the CQB (red dot) sight. Live firing practices are not to be conducted unless the CQB sight is fitted and zeroed.

(2) SUSAT and Iron Sights are not to be used when firing from the left shoulder. Attempts to do so will cause the head to become too close to the cocking handle during ejection and serious injury is likely.

(3) In training, eye protection and gloves are to be worn. Care must be taken to prevent ejected cases from hitting exposed skin: this may include rolling sleeves down and closing the collar on jackets to prevent burn injuries.

m. The assault team should carry out the 5-step entry drill as soon as the door roll is complete where possible lead by the No1 (the person that conducted the roll). This will be covered in the next lesson.

***Note**: The roll should be smooth and conducted at a speed that allows the firer to effectively scan the enclosure and engage threats accurately (failure to ID targets and/or effectively engage indicates the firer is moving too fast for their ability). Early in training the roll may feel slow and clunky, this is to be expected. With practice the firers pace and fluidity will improve.*

***Note**: Some firers may find it easier to adopt a 'boxing stance' (one foot forward, one rearwards). Lead foot should be forward, the remaining principles remain the same (body armour towards the threat, don't step out).*

2-99 *Confirm by practice.*

The Use of Grenades and Distraction Devices

2-100 *Explain:* **The L109 Grenade in Clearing a Structure**. The L109 can be a double-edged weapon and must be handled and used with care. The grenade can cause casualties and fatalities to you and or your assault team if not correctly employed. Primarily the HE grenade will be used when the assault force or entry team receive enemy fire from an enclosure within an objective structure.

2-101 *Explain:* **Considerations**. Before using HE grenades the following must be taken into consideration:

a. **Structure.** In lightly constructed buildings there is a risk that fragments may penetrate internal walls, risking injury to friendly forces in adjacent rooms. The overuse of grenades may also cause total, or partial, collapse of walls.

b. **Friendly Forces.** The location of friendly forces in conjunction with the structure of the building must be considered to avoid friendly casualties. A 5m lethal radius (protected) is likely to encompass friendly troops, resulting in potential fratricide through poor or modern walls (*see* Fig 2-19).

c. **Enclosure.** The size and layout of the enclosure and the presence of obstacles should be considered prior to deploying the L109 to prevent the grenade bouncing back to the assault group and to ensure maximum effect within the enclosure.

2-102 *Explain:* **Placement**. The grenade should be placed deep inside the enclosure to better contain the blast and to increase the distance between point of detonation and the entry team. The entry team need to be aware that this may drive any threats within the enclosure to the entry point. The detonation of the grenade can create a vast amount of dust and smoke making a thorough clearance of the room difficult.

2-103 *Explain and demonstrate*: **Deployment of L109**. The order to deploy the L109 will normally be given by the commander by adding the colour 'RED' to the order ("Door left RED", "Roll one RED (closed door)"). It can, however, be called upon by the No1 should they believe there to be a threat within the enclosure or after receiving fire from within an enclosure (particularly heavily defended enclosures). This will be done by issuing a signal to the remainder of the stack by raising the left hand with a closed fist (*see* Fig 2-20a) whilst still maintaining control of the weapon with the right. On receipt of the order or signal the following should take place:

a. The No2 in the stack removes the grenade, preferably from the pouch of the No1.

b. The No2 will adopt a grip of the grenade in the left or right hand as taught depending on the side of the doorway they are on (right side of doorway left hand, left side of doorway right hand).

c. The No2 will show the No1 the grenade by holding it far enough over their shoulder that it enters the No1's peripheral vision (*see* Fig 2-20b), the No1 must always observe the doorway.

d. The No1 will acknowledge the grenade by nodding the head to signify they are ready for the grenade to be deployed.

e. The No2 removes the pin from the grenade and then firmly grasps the No1's body armour by the collar with their free hand; this grip is maintained until the grenade has initiated to ensure the No1 does not follow the grenade into the enclosure.

f. The No2 manoeuvres the No1 to a position from which they can deploy the grenade taking maximum advantage of the protection afforded by the No1's body armour plate. The No1 maintains their weapon covering the enclosure.

g. The No2 places the grenade deep inside the enclosure whilst shouting **"FRAG OUT"** to alert other members of the assault force.

h. The No2 moves back into cover while maintaining a grip of the No1. *The No1 should only be pulled into cover by the No2 if they attempt to follow the grenade into the enclosure or if they fail to take cover.*

i. The No2 releases their grip as soon as the grenade initiates and the No1 conducts a roll of the doorway before conducting the 5-step entry.

2-104 *Explain:* **L107 Distraction Grenade**. The L107 distraction grenade is a bursting type grenade which is designed to distract and disorientate by producing six loud bangs at short intervals without a fragmentation hazard. Distraction Grenades produce a loud bang and a brilliant light which causes a great deal of confusion and disorientation. The confusion and disorientation are due to a 'sensory overload' of hearing and sight. This overload only lasts a couple of seconds and provides the assault team with a window of opportunity to enter and dominate the enclosure with little resistance. Distraction grenades should be used whenever possible to aid the entry team.

2-105 *Explain:* **Placement of the L107**. Threats within an enclosure are likely to be focused on the entry point so placement of the distraction grenade should be 3-5 feet inside the doorway for maximum blinding and concussive affect. It should be tossed below knee level and outside the swing of the door to avoid the possibility of the door closing and sweeping the distraction grenade back outwards the assault team.

2-106 *Explain and demonstrate*: **Deployment of the L107**. The order to deploy the L107 will normally be given by the commander by adding the colour 'AMBER' to the order ("Door left AMBER", "Roll one AMBER (closed door)"). It can, however, be called upon by the No1 should they believe there to be a threat within the enclosure. This will be done by issuing a signal to the remainder of the stack by raising their left hand and alternating between a closed fist and open hand several times whilst still maintaining control of their weapon with the right hand. On receipt of the order or signal the drill conducted are as per the L109 Grenade with the following differences:

a. The No2 will release their grip on the No1 immediately after deploying the L107.

b. The No1 will conduct the 5-step entry once the L107 begins to initiate.

2-107 *Confirm by practice.*

Conclusion

2-108 **End of Lesson Drill.**

a. *Questions to and from the squad on the lesson.*

b. *Confirm by questions and practice.*

c. *Normal safety precautions.*

d. *Pack kit.*

e. *Summary. Emphasise three or four main points from the lesson.*

f. *A forecast of the squads next lesson in this subject.*

2-109 - 2-119. *Reserved.*

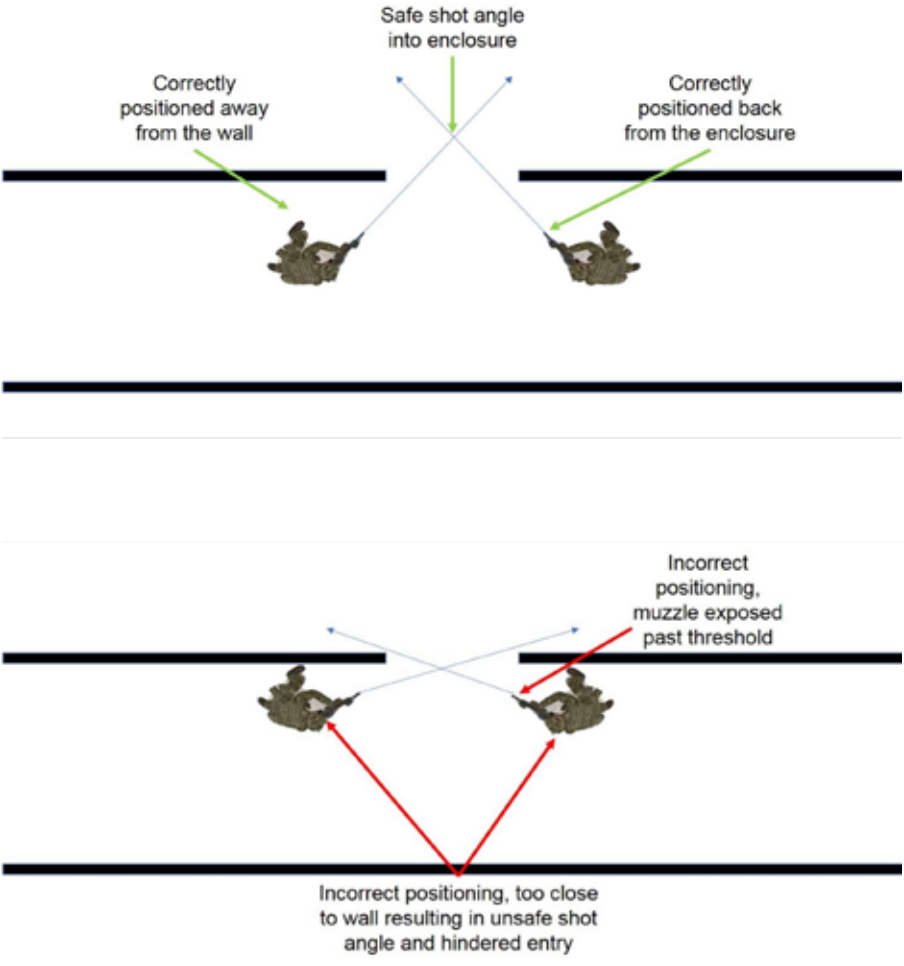
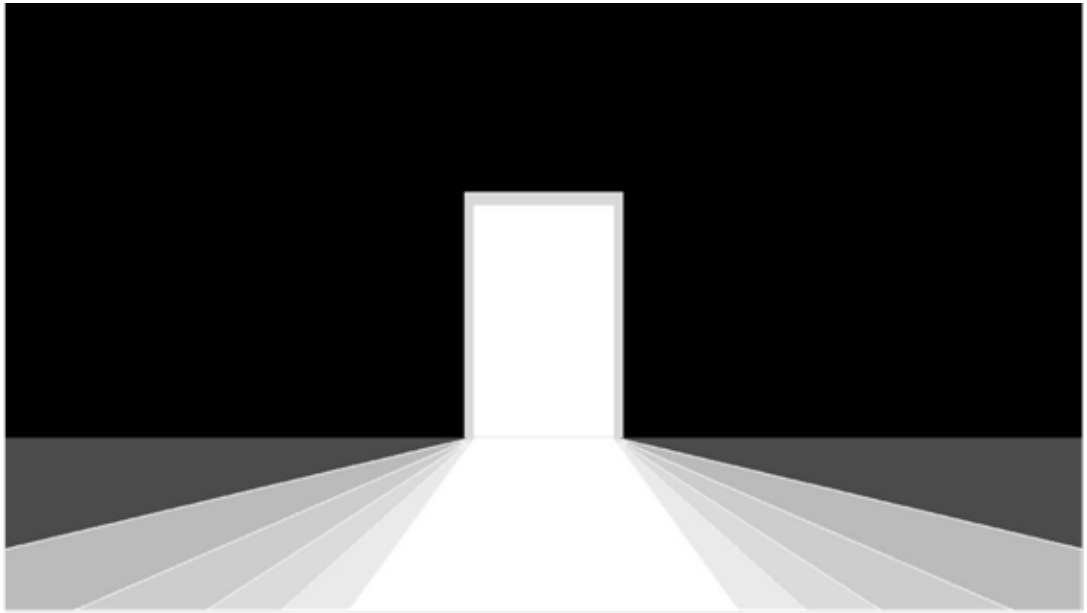


Fig 2-10. Positioning of No1 and No2 on an Entry Point



The fatal funnel can be described using the light entering a darkened room through an open door; the light being the fatal funnel. The shadow cast left and right of the door are the safest areas for stacking. The danger increases as you move through the graduated light towards the centre of the doorway.

Fig 2-11. The Fatal Funnel

Fig 2-12. Inward Opening Door (Push)

Fig 2-13. Outward Opening Door (Pull)

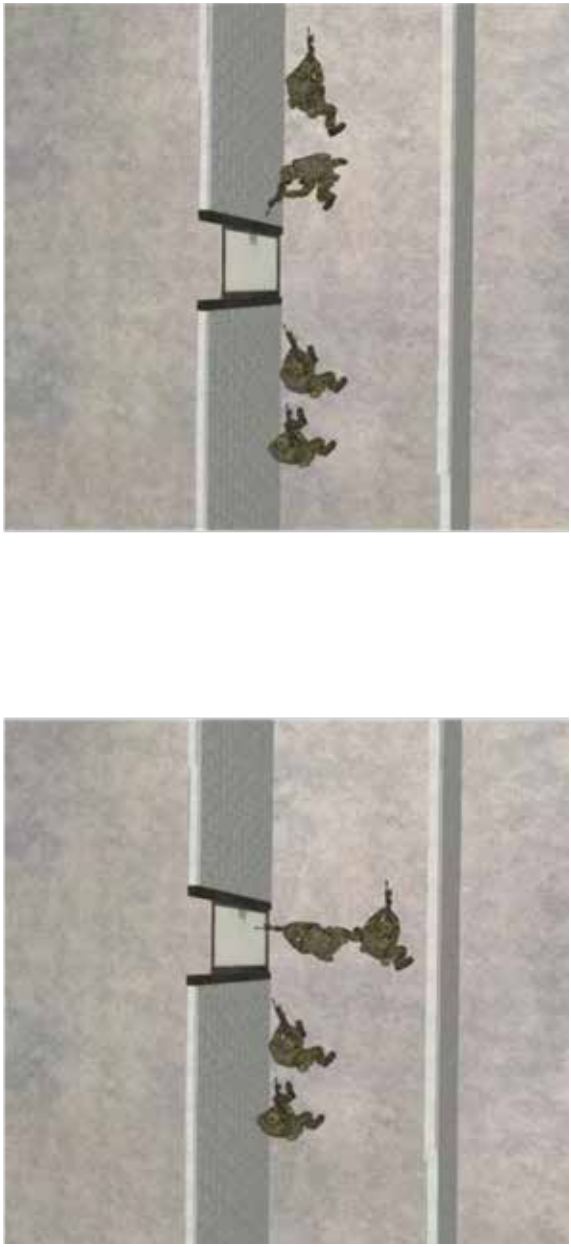


Fig 2-14. Roll With 2

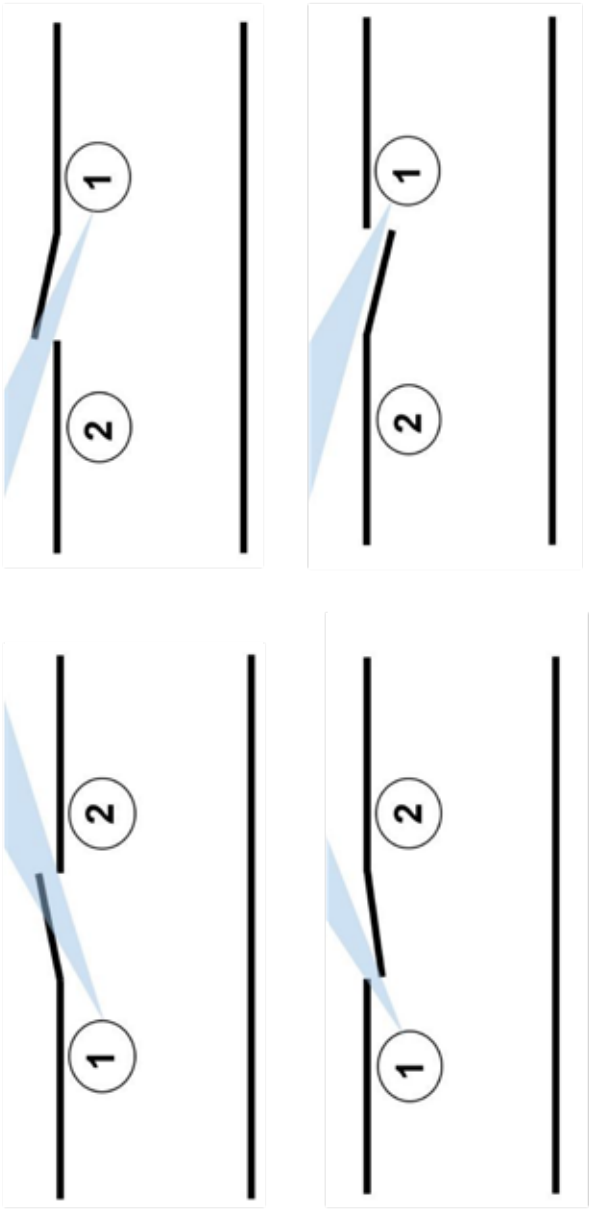


Fig 2-15. Attack the Crack

Checking for top door bolt

Checking for bottom door bolt

Fig 2-16. Door Check, Push Door

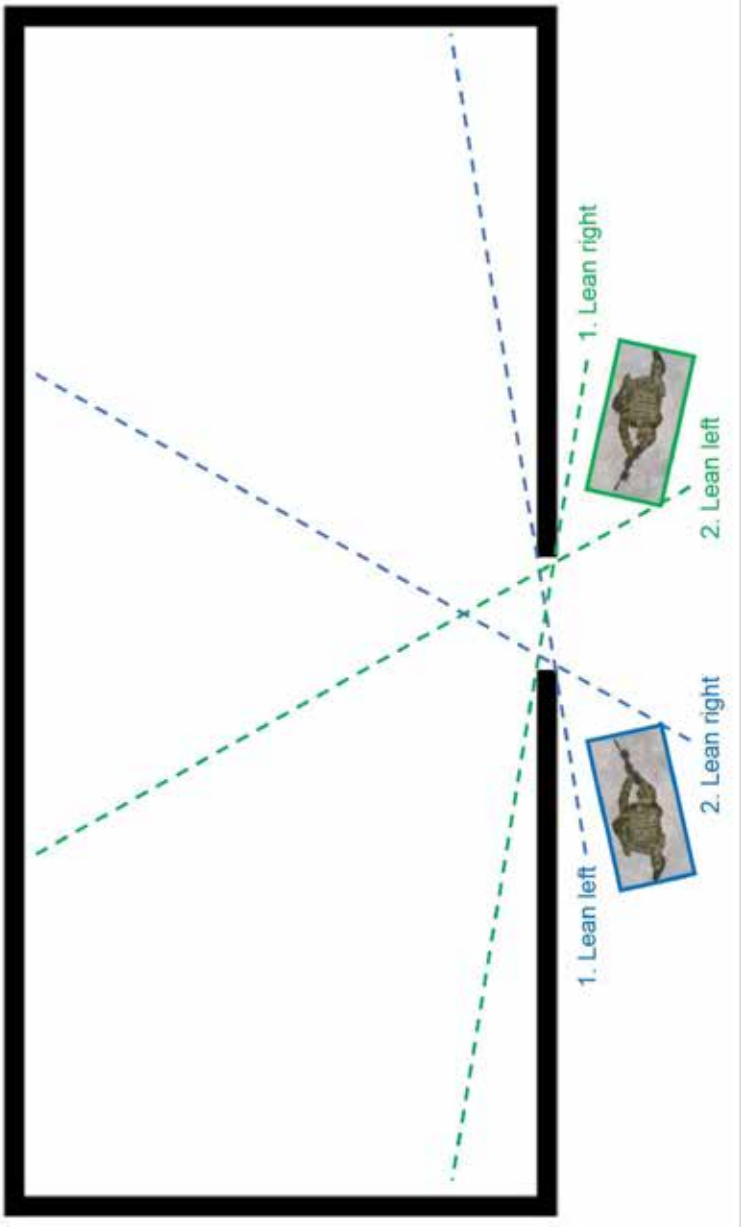


Fig 2-17. Diminishing Return

Rolling left to right

Rolling right to left

Fig 2-18. Foot and Body Position When Conducting a Door Roll

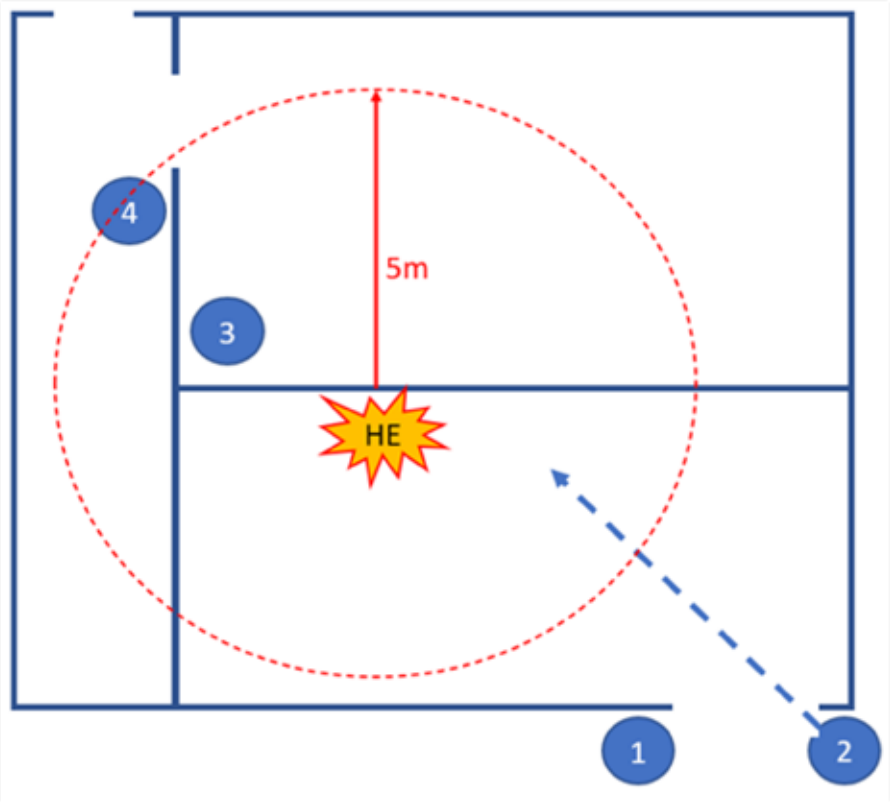


Fig 2-19. HE Grenade Dangers

Fig 2-20a. Hand Signal to Deploy L109 HE

Fig 2-20b. Confirmation of Grenade to No1

Lesson 9. 5 Step Entry

2-120 ***Aim.*** *The aim of the lesson is to teach the 5 Step Entry procedure and subsequent method for clearing a room/enclosure:*

a. *The immediate area.*

b. *Dominant position.*

c. *5 Step Entry.*

d. *The two-person clear.*

e. *Crisscross technique.*

f. *Buttonhook technique.*

g. *Combination technique.*

h. *Three-person and four-person entry technique.*

i. *Dynamic entry.*

2-121 ***Timings.*** *Two 40-minute periods.*

2-122 ***Method.*** *Basic instructional outdoor period.*

2-123 ***Stores.***

Rifle 1 per soldier
Magazine 1 per soldier
BFA 1 per soldier
Fighting Order 1 per soldier
Combat helmet 1 per soldier
PPE (glasses & gloves) 1 per soldier
Cam cream as required
Demonstrators as necessary

2-124 ***Preparation.***

a. *Reconnoitre the training area and select positions to best illustrate the drills.*

b. *Rehearse the demonstrators, preferably immediately prior to the squad arriving.*

2-125 ***Miscellaneous.***

a. *Consideration should be given to the inclusion of dead check drills (Occupancy Control) if targetry / enemy are to be used during the confirmatory exercise stage.*

b. *The principles of the stack must be enforced at all stages of training.*

c. *Practice and confirmation should include rolling of doors, door checks and fighting from the door to build muscle memory.*

Preliminaries

2-126 ***Safety Precautions.*** *Normal.*

2-127 ***Revision.*** *Rolling the door and door checks.*

Introduction

2-128 *Explain:* An assault team is at their most vulnerable when entering an enclosure. Threats could be hidden anywhere within the enclosure and will undoubtedly be focussed on the bottle neck of the doorway. Failure to understand and follow the 5-step entry will increase the risk of casualties and slow the clearance.

The Immediate Area

2-129 *Explain:* The immediate area is defined as the area just inside the doorway. It occupies a six-foot radius where a person or obstacle could impede the movement of the firer or assault team (*see* Fig 2-21).

Dominant Position

2-130 *Explain and demonstrate*: A dominant position is a position that allows the firer to gain positive control over the room and its occupants with mutually supporting fields of fire and maximum coverage of any dead space. Dominant positions will be dictated by several factors including type of room, entry points and other threats (windows, doors, mouseholes etc.). A list of the most common types of room encountered are below; *see* Fig 2-22 for dominant positions for each type of room.

a. **Centre Fed Room.** This is a room where the door is located centrally in one of the walls. The layout permits a rapid entry and clearance with all firers able to occupy the room.

b. **Corner Fed Room.** This room will have the door located on one of the corners of the room. Whilst the TTP for clearing the room remains unchanged the entry team will be forced initially to move deeper into the room to avoid the fatal funnel.

c. **Short Wall Room.** This is a room where the door is located on the end 1/3 of a rooms wall. Establishing a dominant position will be the same as any other room entry, albeit the No2 will have to clear their corner and then push deeper into the room to avoid the fatal funnel.

The Five Step Entry

2-131 *Explain and demonstrate*. When entering a room or building there are five steps that must always be taken to successfully dominate the enclosure. Where possible they should be conducted after fighting from the door with the person that conducted the door roll entering first as they will have better situational awareness of what is inside the enclosure. The five steps are:

a. **Clear the Doorway.** This is done by visually checking the door for any obstacles, IED's, or other forms of booby trap. On entry the firer must move smoothly through the doorway without stopping.

b. **Clear the Immediate Area.** This is done when entering the room, if an occupant, threat or an obstacle is in the path to the dominant position, it must be moved or cleared on the move to allow support firers to enter the enclosure[9].

c. **Clear Your Corner.** On entering the room, the priority, as an individual or pair, will be to clear the immediate corner of the room. This can be done visually on the move. Items of furniture located in the corner will require support to enable the threat to be held and the 5-step entry to be completed.

d. **Sweep Arcs of Fire.** This is done while on the move, starting from your corner and prior to establishing a good dominant position. You should collapse your arc of fire six feet off the deepest firer in the room. Any remaining threats should be identified/neutralised during the sweep.

e. **Establish a Dominant Position.** Any dominant position should be out of the fatal funnel and away from the wall. This leaves enough room for supporting team members to move in behind the initial entry pair and prevents them fouling arcs of fire.

***Note**: Early in training soldiers will rush when conducting the Five Step Entry. The entry should be smooth and conducted at a speed that allows the firer to effectively scan the enclosure and engage threats accurately on the move (failure to ID targets and/or effectively engage indicates the firer is moving too fast for their ability). Early in training soldiers should be encouraged to move slowly (walk). With practice the firers pace and fluidity will improve (speed should be a brisk walk).*

2-132 *Explain:* Once each firer has completed the 5-step entry, they must communicate any threats to each other. If no threats exist each firer will call "Clear left/right". There is no set sequence for the firers to call out, but arcs must be cleared before calling. "Room Clear" and the room layout must be communicated back to the section commander (doorway right, window left - using the entry point as reference) as soon as possible.

9 Loitering in the immediate area and fatal funnel is not only dangerous for the firer it also blocks the entry point for subsequent firers to enter and provide immediate support.

The Two-Person Clear

2-133 *Explain:* A structure is made up of several component parts: enclosures or rooms, L-Shapes, T-Shapes, hallways and stairs. Breaking a structure down into its component parts ensures that the clearance is methodical, systematic and thorough. The two-person clear is the first part in this systematic approach to building clearance and the minimum number of firers required to clear enclosures.

Methods of Room Clearance

2-134 *Explain:* There are three methods in which an assault pair can enter an enclosure, crisscross, buttonhook and combination method. Regardless of the method adopted the No1 and No2 must always remain flexible. For example, while the crisscross technique is the preferred method of entry the No1 may require to switch to a buttonhook manoeuvre during entry to neutralise a threat. The No2 must immediately react and complete the 5-step entry in the opposite direction of the No1.

Crisscross Technique

2-135 *Explain and demonstrate*: The Crisscross Technique (*see* Fig 2-23) is used by two team members to enhance control and facilitate entry into a room. This is the preferred method for entering an enclosure as it minimises exposure of the side of the body to any threats located in room corners that have yet to be cleared; the corners left and right of the doorway (the clearance of the far corners of the room having been conducted during the roll).

2-136 After entry is gained and a roll of the open door (fighting from the doorway) has been completed the No1 will immediately initiate entry by signalling via barrel nod to the No2. On receiving a barrel nod from the No1 the No2 must immediately lower their barrel to the compressed ready position. This movement signals ‘move’ to the No1 and allows safe entry into the enclosure. Should the No2 fail to adopt the compressed ready position they must be prompted using the word of command “Break”. Once the No2 lowers their barrel the No1 will carry out the following (*see* Fig 2-24a):

a. **Clear the Doorway.** If not already cleared during the roll.

b. **Clear the Immediate Area.** Crossover (Crisscross), through the doorway, clearing on the move.

c. **Clear Their Corner.** Movement through the doorway should allow the corner to be cleared as soon as is possible while maintaining body armour plate towards the threat (uncleared corner). The following is a suggested method of moving through the doorway (after a roll has been completed):

(1) Firer takes a step towards the doorway with the foot closest to the wall (when stacked to the right of the door the right foot, left of the door the left foot).

(2) Firer takes a second step forward; foot should be central to the doorway.

(3) Firer takes a sidestep through the doorway while leaning slightly over the leading foot. This ensures the firer can immediately clear the corner and engage any threats.

(4) Firer takes a forward step to immediately clear the doorway and allow entry of the No2.

(5) Weapon is in the low ready position throughout with muzzle trained towards the uncleared corner.

(6) Movement should be smooth and continuous.

d. **Sweep Arcs of Fire.**

e. **Establish a Dominant Position.**

2-137 *Explain and demonstrate*: The No2. On receiving the signal to initiate entry from the No1 (barrel nod) the No2 will immediately lower their barrel to allow safe entry and will then carry out the following (*see* Fig 2-24b):

a. The No2 will immediately follow the No1.

b. **Clear the Doorway.** On entry the No2 will clear the doorway.

c. **Clear the Immediate Area.** After clearing the doorway and once the No1 is clear of arcs the No2 readopts the low ready (adopting the stance of a No1). The No2 will crossover (crisscross), through the doorway, moving to the opposite side of the No1, clearing on the move in the same manner as the No1.

d. **Clear Their Corner.**

e. **Sweep Arcs of Fire.** As the No.2 moves toward their dominant position, they will reduce their arc of fire.

f. **Establish a Dominant Position.**

2-138 *Confirm by practice.*

Buttonhook Technique

2-139 *Explain and demonstrate*: The Buttonhook Technique (*see* Fig 2-25) is the least preferred method for room entry as it exposes the firers flanks to the uncleared portions of the enclosure. If conducting the roll of the door the No1 identifies a corner fed room, to avoid conducting a buttonhook manoeuvre, the No1 should allow the No2 to enter the enclosure first by carrying out the following drill (*see* Fig 2-26):

a. Once the final roll of the door has been conducted the No1 identifies a corner fed room.

b. The No1 lowers their barrel (compressed ready) to allow the No2 to enter the enclosure safely and to signal move.

c. The No2 immediately conducts the 5-step entry into the enclosure in a crisscross manoeuvre.

d. The No1 immediately follows the No2 into the enclosure and conducts the 5-step entry as previously taught.

e. Alternatively the No1 may stop the roll as soon as they identify a corner fed room and do one of the following:

(1) **Enter Immediately.** Their intent should be communicated via barrel nod. This must be practiced to avoid loitering in the fatal funnel.

(2) **Return to Their Start Position.** Rather than continuing the roll the No1 may return to their start position. Once there the No2 should confirm ready by shoulder squeeze or barrel nod. After receiving signal from the No2 the No1 moves into the enclosure in a crisscross manner clearing the remaining uncleared space.

2-140 *Confirm by practice.*

Combination Technique

2-141 *Explain and demonstrate*: The Combination Technique is used to assist control and facilitate room entry by two team members and is utilised when the assault pair are located on the same side of the doorway / entry point. The Combination Technique sees one firer moving in a crisscross manner and the other in a buttonhook manoeuvre. A combination technique entry is conducted as follows:

a. Once the No1 has conducted the final roll of the door the No2 will place their left hand on the shoulder of the No1 to indicate ready.

b. The No1 will immediately enter the enclosure conducting a crisscross manoeuvre where possible. This is the preferred method as it minimises exposure of the side of the body to any threats located in room corners that have yet to be cleared. The room layout or potential threat identified during the roll may require the No1 to conduct a buttonhook manoeuvre.

c. The No2 will enter immediately after the No1 and move in the opposite direction (*see* Fig 2-27).

2-142 *Confirm by practice.*

The Three- and Four-Person Clearing Technique

2-143 *Explain:* The use of a three-person or four-person team will provide a faster, more effective means to enter and clear large or complicated enclosures. The use of a third or fourth person can be planned and executed prior to entry by using the words of command **"Three/Four person clear"**. The two-person assault team may also request the support of additional team members after conducting a roll or after gaining entry by using the words of command **"Support 1"** or **"Support 2"**. The drills for the No1 and No2 are as previously taught.

2-144 *Explain and demonstrate*: **The No3**. Where possible the No3 should be positioned behind the No1 prior to entry, this may require the No3 to roll with the No1 as per the drill 'Roll with 2'. Where this is not possible due to threat or restricted space the No3 can be positioned behind the No2. On entry the No3 will conduct the following (*see* Fig 2-28a):

a. Follow into the enclosure after the No2.

b. As the No1 and No2 clear their immediate area the No3 clears the area to their front.

c. While the No1 and No2 move sideways towards their dominant positions the No3 moves to a position, inside the room, halfway between the door and the No1.

d. The No3 will not follow the route of the No1 if the No1s movement down the wall is impeded near the doorway.

e. If 'Support 1' is called for after a two-person entry is made the No3 will take up a position covering the number that called for support.

2-145 *Explain and demonstrate*: **The No4**. Where possible the No4 should be positioned behind the No2 prior to entry, this may require the No4 to roll with the No2 as per the drill 'Roll with two'. Where this is not possible due to threat or restricted space the No4 can be positioned behind the No3. On entry the No4 will conduct the following (*see* Fig 2-28b):

a. Follow into the enclosure after the No3.

b. As the No1 and No2 clear their immediate area the No3 clears the area to their front.

c. While the No1 and No2 move sideways towards their dominant positions the No4 moves to a position, inside the room, halfway between the door and the No2.

d. The No4 will not follow the route of the No2 if the No2s movement down the wall is impeded near the doorway.

e. If ‘Support 2’ is called for after a two-person entry is made the No4 will follow the No3 into the enclosure and move to support the opposite team member from the No3.

2-146 *Confirm by practice.*

Dynamic Entry

2-147 *Explain and demonstrate*: Situations will occur when fighting from the door is not possible and the safest option is to carry out a dynamic entry, opposing open doors for example. Dynamic entry employs an explosive or diversionary device-initiated assault followed by rapid movement into the enclosure. Due to the increased risk of entering a room that hasn’t been partially cleared by fighting from the doorway, the dynamic entry should be conducted using a 3-person clear as a minimum. A dynamic entry should be conducted as follows:

a. Firers stack on the door and carry out their diminishing returns.

b. Where possible deploy L107 Distraction or L109 HE as previously taught.

c. The 5-step entry should be conducted immediately on the L107 Distraction grenades first report.

d. The 5-step entry must only be conducted once the L109 HE has initiated.

e. Because a roll of the door has not been conducted firers will require to conduct a sweep of the centre of the enclosure during entry to neutralise any threats before clearing their corner. This should be conducted with body armour towards the threat and whilst on the move. Where possible this initial sweep should be conducted as the firer moves towards the threshold of the door. The following is a suggested method of moving through the doorway:

(1) Firer takes a step towards the door with the foot closest to the wall (when stacked to the right of the door the right foot, left of the door the left foot).

(2) Firer takes a second step forward, pivoting on the trailing foot and at the waist so that body is face on to the doorway. Leading foot should be central to the doorway.

(3) The firer should conduct the initial sweep of the centre of the room during steps (1) & (2), neutralising any threats on the move.

(4) Firer steps through the doorway, pivoting on the leading foot and at the waist (so that the body armour is face on to the corner / threat), moving through the doorway in a crisscross manner where possible.

(5) Firer takes a forward step to immediately clear the doorway and allow entry of the No2.

(6) Weapon is in the low ready position with finger resting on the safety catch which is set to ON until a target is PID.

(7) Movement should be smooth and continuous.

(8) The No2 enters immediately behind in the same manner, moving in the opposite direction of the No1.

(9) The No3 enters immediately behind the No2 and moves to a dominant position left or right of the entry point (the firer must make an assessment during entry where they can best provide support).

***Note**: The movement through the doorway should be smooth and continuous. If positioned correctly on the door pivoting on the foot should be minimal with most pivoting taking place at the waist and hips.*

2-148 *Confirm by practice.*

Conclusion

2-149 **End of Lesson Drill.**

a. *Questions to and from the squad on the lesson.*

b. *Confirm by questions and practice.*

c. *Normal safety precautions.*

d. *Pack kit.*

e. *Summary. Emphasise three or four main points from the lesson.*

f. *A forecast of the squads next lesson in this subject.*

2-150 - 2-159. *Reserved.*

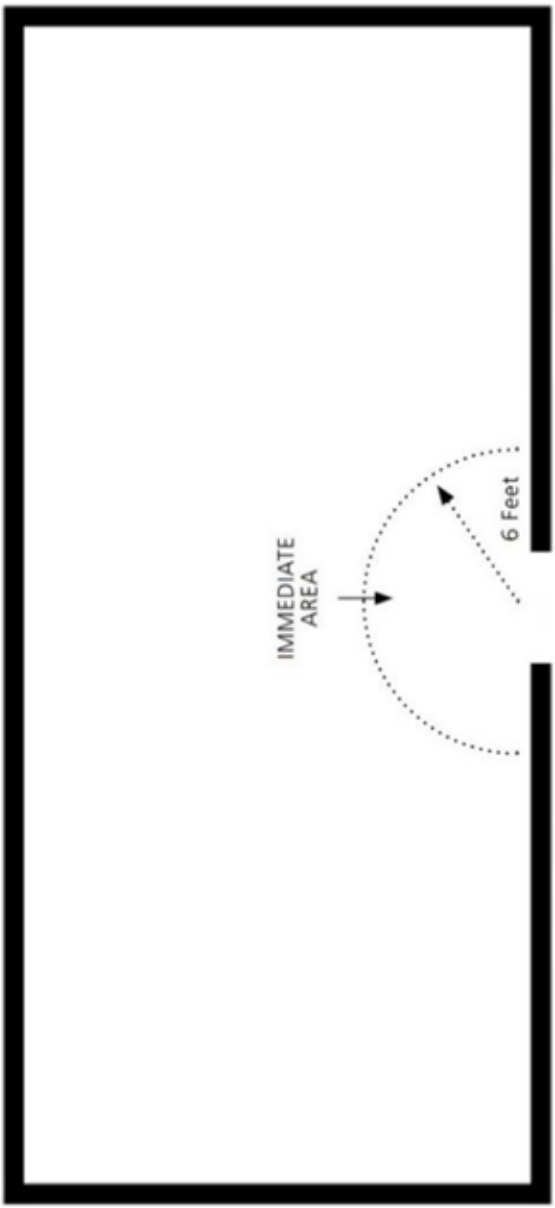


Fig 2-21. The Immediate Area

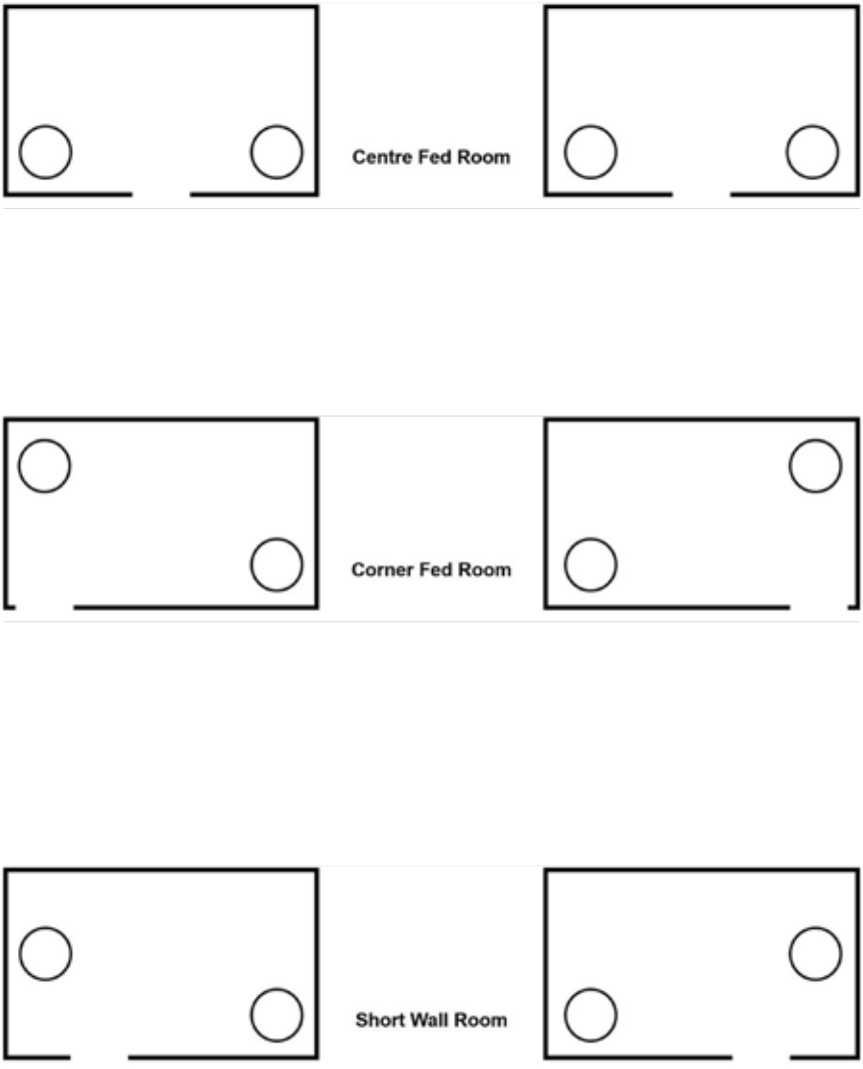


Fig 2-22. Types of Room and Dominant Position Within

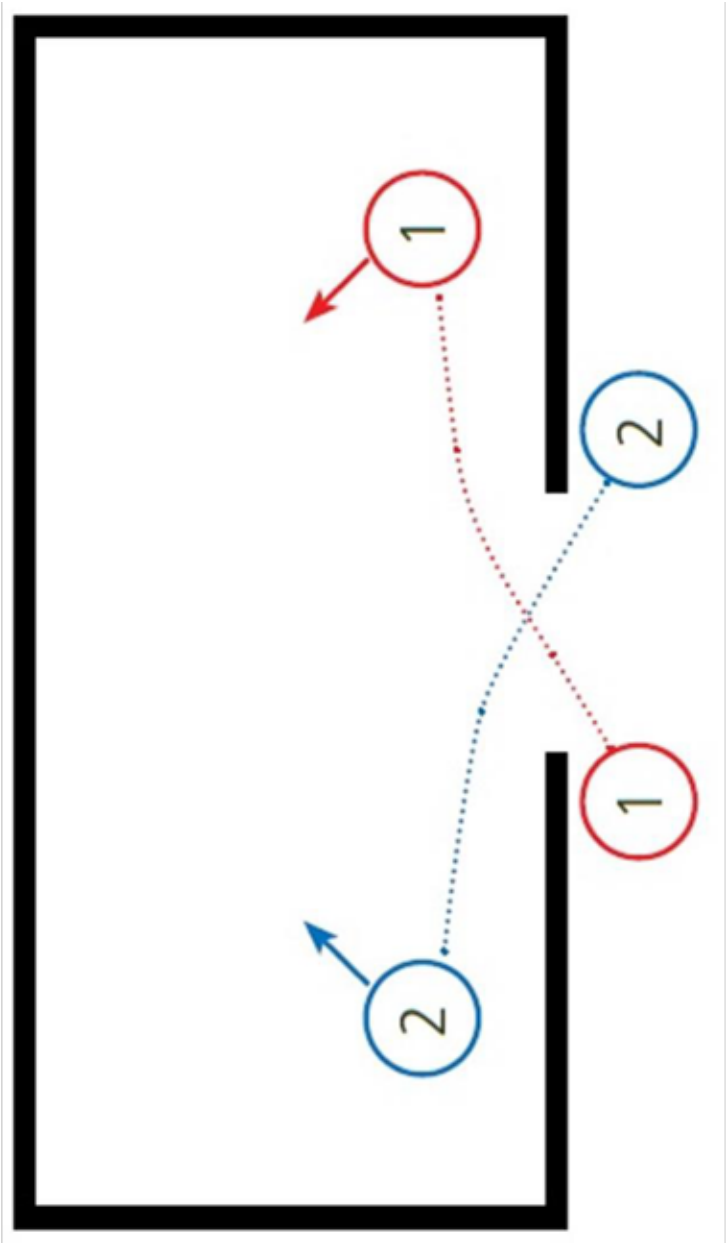
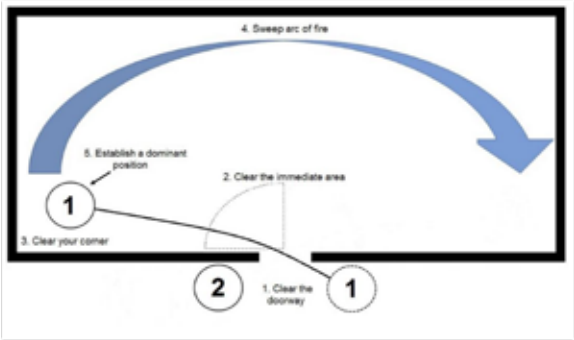
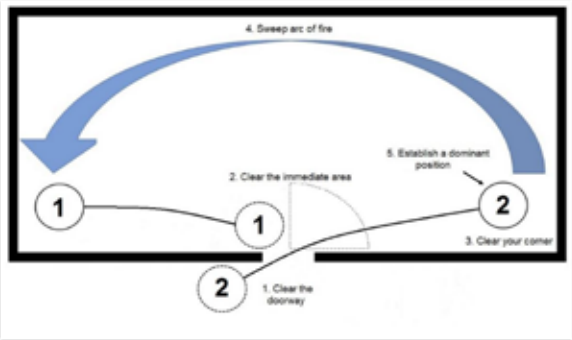


Fig 2-23. Crisscross Technique



a. The No1



b. The No2

Fig 2-24. 5 Step Entry

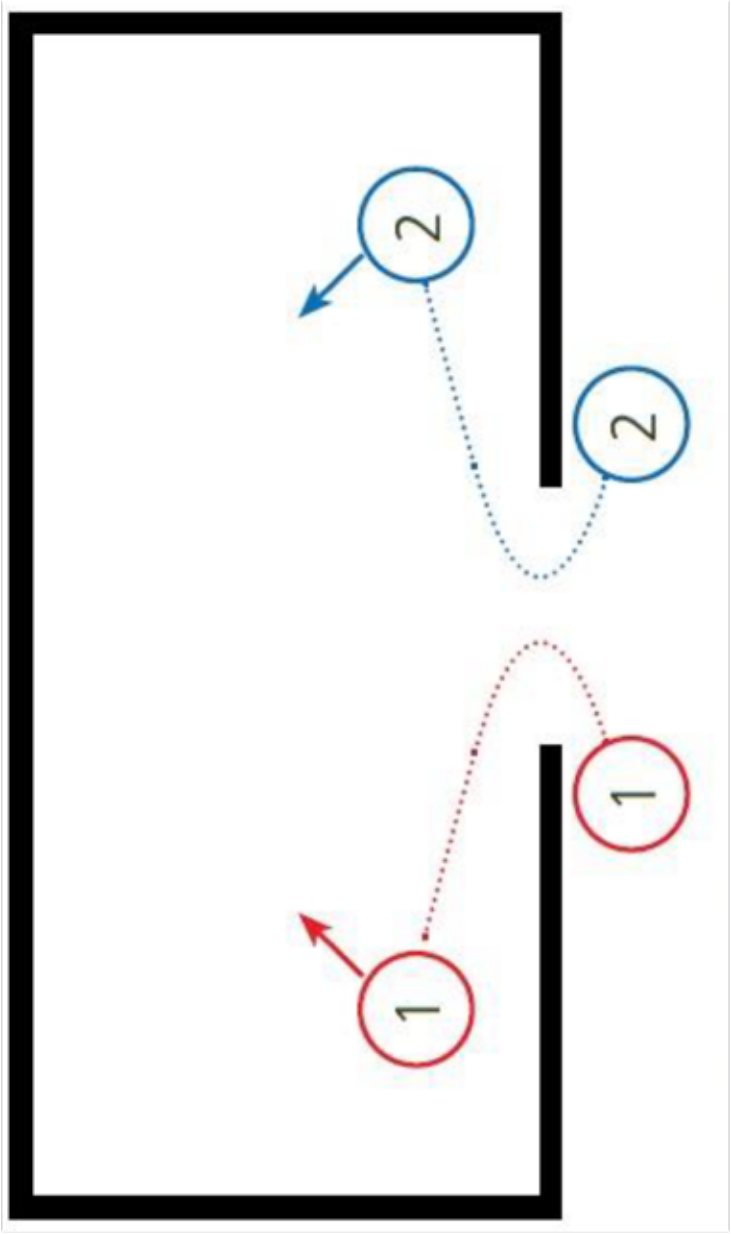


Fig 2-25. Buttonhook Technique

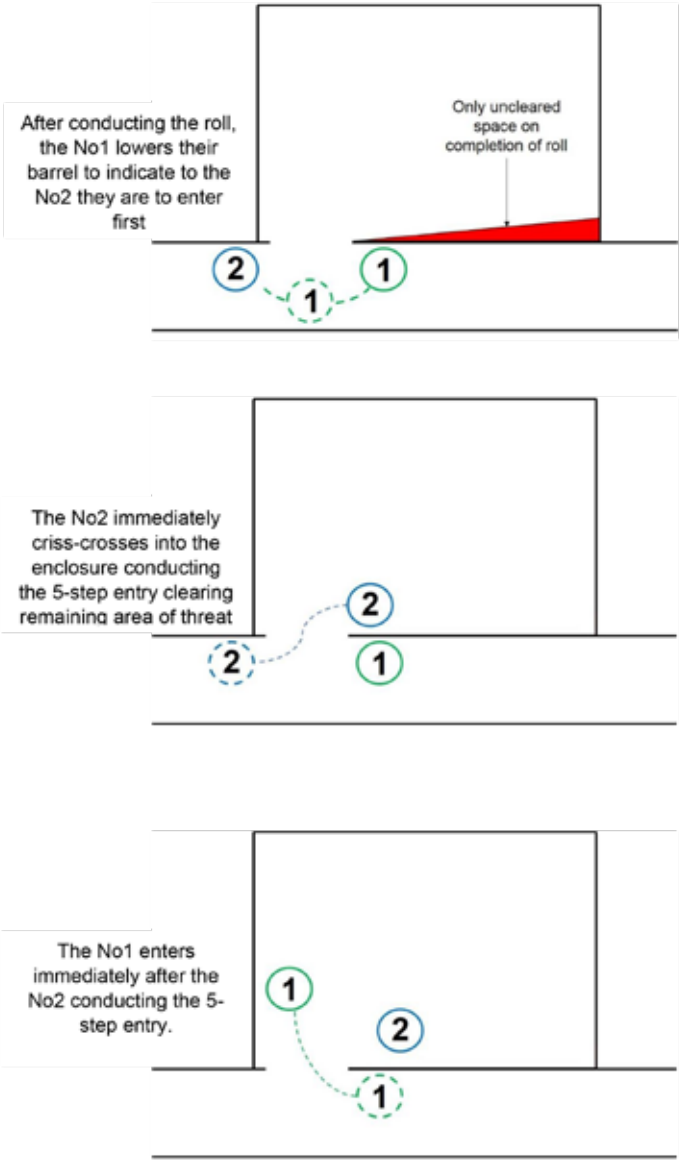


Fig 2-26. No2 Enters First

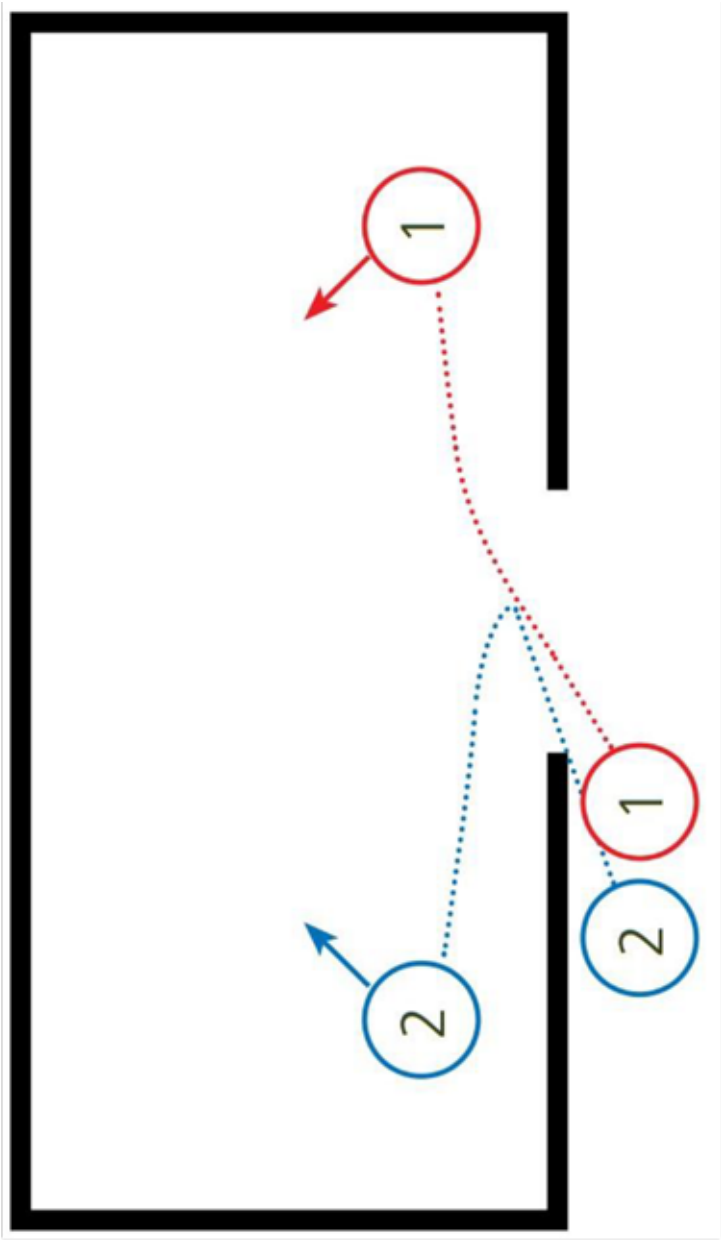


Fig 2-27. Combination Technique

Fig 2-28. 3 and 4 Person-Clear

Lesson 10. Room Clearance

2-160 ***Aim.*** *The aim of the lesson is to teach the sequence and priority of work when clearing an enclosure:*

a. *Room clearance sequence.*

b. *Room marking.*

c. *Clearance.*

d. *Secure points.*

2-161 ***Timings.*** *One 40-minute period.*

2-162 ***Method.*** *Basic instructional outdoor period.*

2-163 ***Stores.***

Rifle 1 per soldier
Magazine 1 per soldier
BFA 1 per soldier
Fighting Order 1 per soldier
Combat helmet 1 per soldier
PPE (glasses & gloves) 1 per soldier
Cam cream as required
Demonstrators as necessary

2-164 ***Preparation.***

a. *Reconnoitre the training area and select positions to best illustrate the drills.*

b. *Rehearse the demonstrators, preferably immediately prior to the squad arriving.*

2-165 ***Miscellaneous.***

a. *Consideration should be given to the inclusion of dead check drills (Occupancy Control) if targetry / enemy are to be used during the confirmatory exercise stage.*

b. *The principles of the stack must be enforced at all stages of training.*

c. *Practice and confirmation should include rolling of doors, door checks, fighting from the door and 5-step entry to build muscle memory.*

Preliminaries

2-166 ***Safety Precautions.*** *Normal.*

2-167 ***Revision.*** *5-step entry.*

Introduction

2-168 *Explain:* After conducting the 5-step entry the assault team may be faced with multiple problems or threats; enemy dead, occupants, constricted space and furniture. Failure to prioritise these threats when conducting the clearance of the enclosure will leave the assault team vulnerable and may result in problems/threats being missed. For these reasons the assault team should follow a logical work routine to ensure problems and threats are dealt with in the correct order of priority while facilitating a swift and systematic clearance.

Room Clearance Sequence

2-169 *Explain:* Once the 5-step entry has been completed the room should be cleared in the following sequence:

a. **Dominate the Room.** Surprise and speed are key. As entry is made, the firers conduct the 5-step entry, identify and eliminate threats on the move and then establish dominant positions.

b. **Neutralise All Threats.** A threat is any person who displays weapons or violence of action. A threat must be neutralised immediately. Threats can be identified by:

(1) Reading the body language of the individuals.

(2) The face may indicate intent.

(3) A weapon or threatening actions.

(4) Force must follow Rules of Engagement (ROE) but time for assessment will be very short.

c. **Control All the Occupants.** Control of the occupants begins immediately upon entering the room with the verbal command, “Get Down, Get Down, Get Down”, whilst sweeping the arc of fire. The occupants must be directed by command and gesture to the centre of the room. Once centralised there, they must be guarded as must the dead and wounded. Non-combatants should be treated correctly, reassured and if possible, questioned to identify other possible threats.

d. **Search the Living.** All occupants, including the wounded, should be hastily searched for weapons. On orders, all occupants of rooms should be marshalled into one room to ease their management, the preservation of evidence and the provision of security and protection.

e. **Check the Dead.** Before team members move through or past a room, the suspected dead should be thoroughly checked, and their status confirmed. They will also conduct a weapons sweep. Depending on the type of the operation, the preservation of forensic evidence may require to be conducted.

f. **Search the Room.** The room should be searched unless the plan is to move directly to a target.

g. **Situation Report.** The assault group commander reports the status of team members and occupants inside of the room.

h. **Consolidation.** During this stage, the room is secured, vulnerable points and enemy counter-attack options are covered, reorganisation occurs including marking the room clear, and, if part of a strike operation, exploitation commences.

i. **Evacuate on Command/Secure.** On clearing a room or floor the section commander will inform the platoon commander who will then decide whether to conduct a passage of lines with an echeloned section. Throughout a running commentary will be maintained until the whole building is cleared and secured. Manoeuvre forward or evacuation from the building will be controlled by the platoon commander or Coy HQ. It may be necessary for some of the assaulting platoon to remain on the objective to maintain security.

Marking

2-170 *Explain:* A comprehensive system of NATO standardised markings (*see* Fig 2-29) is used to indicate the buildings use or whether a building or room is clear of the enemy, whether booby traps or IED are present, or that casualties may have been gathered in a particular place. Marking the room or building is mandatory and must follow the unit SOIs. This aids SA and improves communication. Although there are many different methods used to mark a room or building, the most preferred is the cylume. Cylumes are highly visible during both daylight hours and periods of reduced visibility. There is also the ability to use IR cylumes for “black light” clearances.

a. The firer will mark the room by placing a cylume in the doorjamb furthest from the marshalling area; this is usually the direction that the team are going. Marking the room in this manner will assist with the echelon of friendly forces (*see* Fig 2-30).

b. **A Single Room.** Once the enclosure is clear and before the entry team leave the room, a nominated firer will announce, **“I have the mark”** and will be responsible for marking the room. The opposite member of the team will reply **“take it”**. As the team exit the room they will call, **“Coming out”**. When the last firer exits the room they will announce, **“Last out”**.

c. **Adjoining Rooms.** Once entry into the building has been achieved the section commander will control the move through the rooms and levels ensuring that momentum is maintained, the clearance is thorough, and marking is carried out. The room can be marked in several different ways:

(1) The entry team on the initial clear can call for support and the support firers can mark the room.

(2) If a three-person entry, the firer that does not have a job will mark the room.

(3) If the rest of the stack can mark the room if they are moving through it.

(4) Once the rooms are cleared, those firers can mark the rooms as they move back to the stack.

d. Rooms and buildings must be marked as clear and that members are nominated to carry this action out. If cylumes are not available, then marking must be improvised. Failure to mark a room or building may cause confusion and lead to the re-clearance of the structure.

e. **Forward Line of Own Troops (FLOT).** Consideration must be given to the marking of the FLOT to avoid fratricide from friendly forces, particularly when fire support is being provided throughout the clearance of the building. The FLOT should be marked on the friendly side of the building by hanging flags/markers out of windows and doors. A green and red cylume attached to each end of two meters of orange mine tape is an effective method of marking the FLOT as it is easy to carry, construct and deploy from windows and openings. The mixture of the green and red cylumes ensures the marker is not mistaken for the entry point marker.

Clearance

2-171 *Explain:* Each room needs to be completely cleared and secured before moving on to the next room, likewise each floor before moving on to the next.

Secure Points

2-172 *Explain and demonstrate*: Secure Points are established throughout the clearance to defend the building and protect from counterattack. As a room is cleared potential entry points that could be used by the enemy to counterattack or re infiltrate must be covered. Where possible strongpoints / chokepoints should be identified that allow multiple potential entry points to be covered by individuals thus freeing up workforce.

Conclusion

2-173 **End of Lesson Drill.**

a. *Questions to and from the squad on the lesson.*

b. *Confirm by questions and practice.*

c. *Normal safety precautions.*

d. *Pack kit.*

e. *Summary. Emphasise three or four main points from the lesson.*

f. *A forecast of the squads next lesson in this subject.*

2-174 - 2-179. *Reserved.*

	When Facing Forwards – FLOT When Facing Rearwards - Entry Point, Building Not Clear
	Medical Assistance/CASEVAC Required
	Entry Point/Room/Building Clear
	Booby Trap/ IED/ Obstacle in Building. Engrs Required
	Note: Any combination can be found at the entry point however only Red or Green can be placed rearwards at any one time
	Markings at night are two appropriately coloured glow sticks on a 2m length of masking tape hung out the window or door

Fig 2-29. NATO Marking

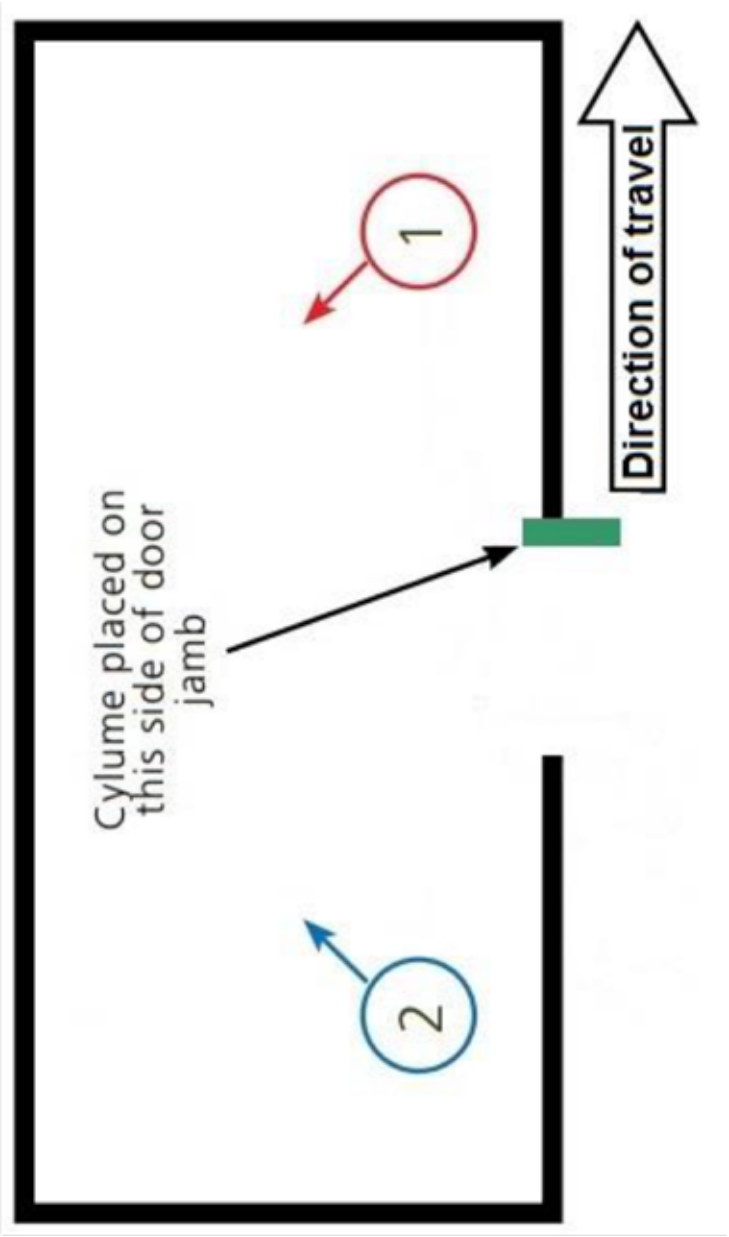


Fig 2-30. Marking a Room

Lesson 11. Shapes and Formations

2-180 ***Aim.*** *The aim of the lesson is to teach the formations and procedures for clearing corridors and shaped spaces:*

a. *Clearing corridors.*

b. *Formations.*

c. *Clearing L shaped spaces.*

d. *Clearing T shaped spaces.*

e. *Clearing intersecting corridors.*

f. *Clearing U shaped corridors.*

g. *Fighting from room to room.*

2-181 ***Timings.*** *Two 40-minute periods.*

2-182 ***Method.*** *Basic instructional outdoor period.*

2-183 ***Stores.***

Rifle 1 per soldier
Magazine 1 per soldier
BFA 1 per soldier
Fighting Order 1 per soldier
Combat helmet 1 per soldier
PPE (glasses & gloves) 1 per soldier
Cam cream as required
Demonstrators as necessary

2-184 ***Preparation.***

a. *Reconnoitre the training area and select positions to best illustrate the drills.*

b. *Rehearse the demonstrators, preferably immediately prior to the squad arriving.*

2-185 ***Miscellaneous.*** *The principles of the stack must be enforced at all stages of training.*

Preliminaries

2-186 ***Safety Precautions.*** *Normal.*

2-187 ***Revision.*** *5 Step Entry and room clearance sequence.*

Introduction

2-188 *Explain:* There are different types of generic shapes within a structure, the first being the two types of L Shapes (Left and right). Second are T Shapes and Intersecting Corridors (Cross Junction). All firers must be able to identify each of the different types of shape to enable a successful set up of the Stack Formation and subsequent clearance around that shape.

Clearing Corridors

2-189 *Explain:* Corridors provide the enemy with longer lines of observation and fire, routes for movement or the siting of obstacles to force delay and canalise the attacker into positions best suited to attack by IED or booby trap. A corridor must be secured, and that security maintain during the clearance of a building. Three factors are important to corridor clearance and maintaining all round security:

a. **Be Alert.** Firers must keep their head and eyes up while moving down a corridor with point firers scanning constantly to the front to identify threats. Identified threats, danger areas or areas to clear must be communicated quickly and clearly to the rest of the team.

b. **Control.** The rate of movement should be strictly controlled to ensure that threats are identified and engaged. Moving too fast could cause firers to miss danger areas, leaving a threat to the team's rear.

c. **Security.** Security must be maintained as the team progresses down the corridor. At least one firer should always maintain point security to protect the rest of the team. If there are two-point firers, they should employ interlocking arcs of fire and observation down the corridor.

Formations

2-190 *Explain:* Four types of formation can be used to clear a straight corridor and to subsequently prepare the team to clear various shapes (L, T and intersection). When selecting the type of formation to be used commanders must carefully consider the nature of the threat before the formation is adopted.

2-191 **Single Stack.** The team will be positioned in single file and can be adopted on either side of the corridor dependant on the threat; the stack should be formed along the same wall as any door encountered. The single stack is generally used in narrow corridors (*see* Fig 2-31).

2-192 **Heavy Stack.** A corridor may have all the doors into rooms on one side. When this happens the heavy stack formation can be employed to provide increased security and flexibility. The formation requires a team member to move onto the entrance free side of the corridor and become a second No.1. Working with the original No.1 they will provide increased corridor security and have the ability to observe into threat areas. The room entry techniques remain as before (*see* Fig 2-32).

2-193 **Split Stack.** The 'split stack' formation divides the formation equally to each side of the corridor. The point firer can see each other within their peripheral vision which improves SA and enables them both to identify and engage threats to their front. As point firers in their respective stacks, they are responsible for corridor security and employ interlocking arcs to cover a danger area (*see* Fig 2-33):

a. **Single Door.** The drill for clearing a single door will be conducted as previously taught by the team located on the same side as the door. The team on the opposite side of the corridor to the door will maintain long security down the corridor throughout.

b. **Two or More Opposing Doors.** Two opposing doors form opposing danger areas which must be cleared simultaneously. The clearing of these areas should be coordinated by the commander verbally or by hand signal. The doors and enclosures should be cleared as previously taught.

2-194 *Explain and demonstrate*: **V Stack**. The 'V Stack' formation is like the heavy stack with the addition of a third firer located slightly behind and central to the lead firers (just enough to allow the flanking firers to interlock their arcs. Too far rearwards risks fratricide – muzzle before flesh). Although slightly staggered behind the lead firers, this additional firer provides corridor security to the front. This enables the two lead firers to maintain interlocking arcs and gain observation into flanking rooms without sacrificing security down the corridor. With its maximum use of cross coverage and point security, the V is extremely effective method of dominating a wide corridor (*see* Fig 2-34). The V Stack can be formed from any stack. The word of command 'V Stack' can be given by the Commander or No1. On receipt of the command the following should take place:

a. If the command is issued by the Commander the No1 will immediately confirm the order and report ready, **"V Stack, Ready"**.

b. Next the second and third person in the stack (not the commander) will report ready; **"2 Ready", "3 Ready"**.

c. On receiving confirmation from the No3 the Commander will issue the word of command **"Move"**.

d. On receipt of the word of command **'Move'** the No2 will move to the other side of the corridor adjacent to the No1 and adopt the low ready position and interlock arcs with the No1 onto the opposite side of the corridor and into flanking enclosures.

e. The No3 will move with the No2 and take up a position central but to the rear of the No1 and No2. Once in position they are to adopt the low ready position and provide corridor security to the front.

f. Once the No3 is in position the No1 will change arcs to interlock with the No2 onto the opposite side of the corridor and into flanking enclosures.

2-195 *Explain: The V Stack is not suitable for narrow corridors or confined spaces and should only be utilised where there is enough space for a frontage of three firers (remember, muzzle before flesh).*

2-196 *Confirm by practice.*

Clearing L Shaped Spaces

2-197 *Explain:* There are two types of L shape and three techniques for clearing L-Shaped rooms / spaces. Teams must be able to recognise the type of L Shape, adopt the correct technique, and clear correctly. As firers move towards an L-Shape they should not over-expose themselves to it. The first firer to identify the L shape should inform the remainder of the team **"L shape left/right"**.

a. **L Shaped Room.** This is a single room with a partial wall or partition on one side and an opening on the other side. The corner created by the wall makes up the L-Shape. This type of room should be cleared as two different enclosures, with each enclosure being dominated and cleared separately. The initial entry and clearing techniques remain as described previously taught (*see* Fig 2-35a).

b. **L Shaped Hallway.** This is a hallway that turns off to either the left or the right. The corner where the hallway changes direction is the L-Shape. As the firers turn down the L-Shape, that section will be cleared as a separate enclosure (*see* Fig 2-35b).

2-198 *Explain and demonstrate*: **Barricade**. The barricade is used to clear an L-Shape. The barricade is initiated by the Commander and conducted by the No1. On receiving the word of command "barricade" the No1 will conduct the following (*see* Fig 2-36):

a. Move to a position just short of the corner of the L shape. When ready they will turn into the corner and position themself close to the wall opposite the corner to achieve the maximum arc of fire into the new space without exposing themself.

b. The No1 will then clear the new space in a manner like that of 'rolling the door', keeping their body, weapon and head aligned to avoid over exposure.

c. Once the new space is clear the No1 will use the corner as cover and report **"clear"**.

d. Once clear the No1 can call for additional support if multiple threats (doorways) or a particularly large hallway is identified. On receipt of the word of command **"support one"** the second firer should move across the corridor adjacent to the No1. Once in position the No1 and No2 should interlock arcs. In confined spaces this can be conducted using the 'bump' method where the support firer bumps the No1 across the corridor while adopting a fire position on the corner.

e. The barricade can be conducted in a dynamic movement in low threat areas by stopping short of the L shape and 'popping around the corner. The firer should still utilise the cover provided by the corner to scan the route ahead before continuing.

f. The barricade can also be used to clear around the corner of walls or buildings.

2-199 *Explain and demonstrate*: **The High/Low**. The high / Low technique (i.e. one firer standing, the other kneeling, is used when the hallway is too narrow to allow two firers to operate side-by-side or if enemy fire is received after conducting the barricade. By utilizing the High / Low technique the team can utilize two firers to observe or engage an L-Shape while utilizing the cover provided by the corner of the wall (*see* Fig 2-37). If after conducting a barricade the No1 identifies multiple threats or receives enemy fire the command "support one Hi/Lo" should be given. The following will then take place.

a. The No1 will drop to the kneeling position and continue to cover the threat.

b. The No2 moves immediately behind the No1 adopting the low ready position and reports **"ready"**.

c. The No1 will then cover the outside wall, the No2 will cover the inside wall.

d. The No1 must request to stand before standing. The No2 must ensure their safety catch is **ON** before giving the order to **"stand"**.

2-200 *Confirm by practice.*

Clearing T Shaped Space

2-201 *Explain:* A T-shape junction is created when a corridor ends and branches off to the left and right. The T-shaped junction is essentially two L-shapes that must be cleared simultaneously as there can be threats from both new directions. Once the junction is cleared a decision will be made on the direction to move to continue clearing the structure i.e. "hold left clear right", two firers should be left to maintain corridor security as the assault team move off in the new direction.

2-202 *Explain and demonstrate*: **Double Barricade**. A double barricade is like the barricade that is used to clear L-Shapes but is conducted by two team members and used to clear a T-shape. Both team members will begin the action side by side utilising interlocking arcs to clear opposing corridors. Clearing opposing corridors allows more of the corridor to be cleared without exposing team members around corners. The latter part of the drill must be coordinated between the No1 and No2 to clear the remaining space simultaneously (*see* Fig 2-38). The actions to be carried out on receipt of the words of command **"double barricade"** are:

a. No1 reports **"1 ready"**.

b. No2 Moves adjacent to the No1 and reports **"2 ready"**.

c. The No1 and No2, both in the low ready position interlock their arcs each covering their opposing corridor.

d. The order to move can be given by the Commander verbally or by the No1 using a barrel nod or word of command "move".

e. No1 and No2 move towards the junction, remaining level, clearing opposing corridors.

f. Firers should clear as much of the opposing corridors without exposing themselves or crossing muzzles. When they can clear no further one firer must report **"ready"** to coordinate the next movement.

g. On receipt of the command **"ready"** the second firer will order **"move"** to initiate the double barricade. The No1 and No2 then, in a dynamic movement, pivot simultaneously and clear the remaining uncleared space before adopting the barricade position on their own corridor.

h. Forward movement can be halted at any time by the commander or any of the clearing pair using the word of command **"Hold"**.

2-203 *Confirm by practice.*

Clearing Intersecting Corridors

2-204 *Explain and demonstrate*: Intersections are cleared in the same manner as a T-shape junction utilising the double barricade technique of clearing. The techniques difference is that the manoeuvre is conducted from the 'v stack' with the No3 providing protection on the long threat until the double barricade has been completed at which point the No3 will move across the intersection (*see* Fig 2-39).

2-205 *Explain and demonstrate*: The No3 should not move across the intersection if there is no safe location for them to move to. Instead they should stay in location and cover the long threat from the safe side of the intersection.

2-206 Once in position firers should report **"Clear"** and report any threats to their front. Once the Intersection is cleared a decision will be made on the direction to move to continue clearing the building.

2-207 *Confirm by practice.*

Clearing a U Shape Space

2-208 *Explain:* U-Shaped corridors are unusual but may be found in airports, hospitals, public buildings and underground systems, etc. In order to clear a U-Shape, firers must continuously maintain interlocking arcs of fire in the corridor as they move with either the V or Split Stack formation (*see* Fig 2-40).

Fighting From Room to Room

2-209 *Explain and demonstrate*: A team using the stack can be vulnerable in a high threat situation. To reduce this risk, entry teams can use rooms already cleared as short-term staging areas for the clearance of the next room. The team stack is still utilised but will form on the move towards the next room.

a. Once a room is cleared, the firer who is providing long security down the hall steps back (whilst continuing to cover their arc) and takes up a barricade position in the doorway of the cleared room and continues to maintain security to the front (*see* Fig 2-41).

b. If not already done so the firer holding the long threat will indicate the next threats to the section commander and the remainder of the section.

c. The second firer will receive a clear indication of the next enclosure/space that has to be cleared from the section commander. At this point any coordination will be done from within the enclosure before the team move back out into the hallway and advance to the next enclosure/space to be cleared. If the assault force is using the split stack hallway formation, then the move to clear the next enclosure will be coordinated across the hallway by the second firer. This coordination can be done either using verbal commands or using the squeeze method.

d. The assault team forms the stack on the move as it exits the enclosure; this ensures that any opposing danger areas can be cleared simultaneously. When the next enclosure/space has been cleared, the procedure is repeated until the structure has been cleared.

Conclusion

2-210 **End of Lesson Drill.**

a. *Questions to and from the squad on the lesson.*

b. *Confirm by questions and practice.*

c. *Normal safety precautions.*

d. *Pack kit.*

e. *Summary. Emphasise three or four main points from the lesson.*

f. *A forecast of the squads next lesson in this subject.*

2-211 - 2-219. *Reserved.*

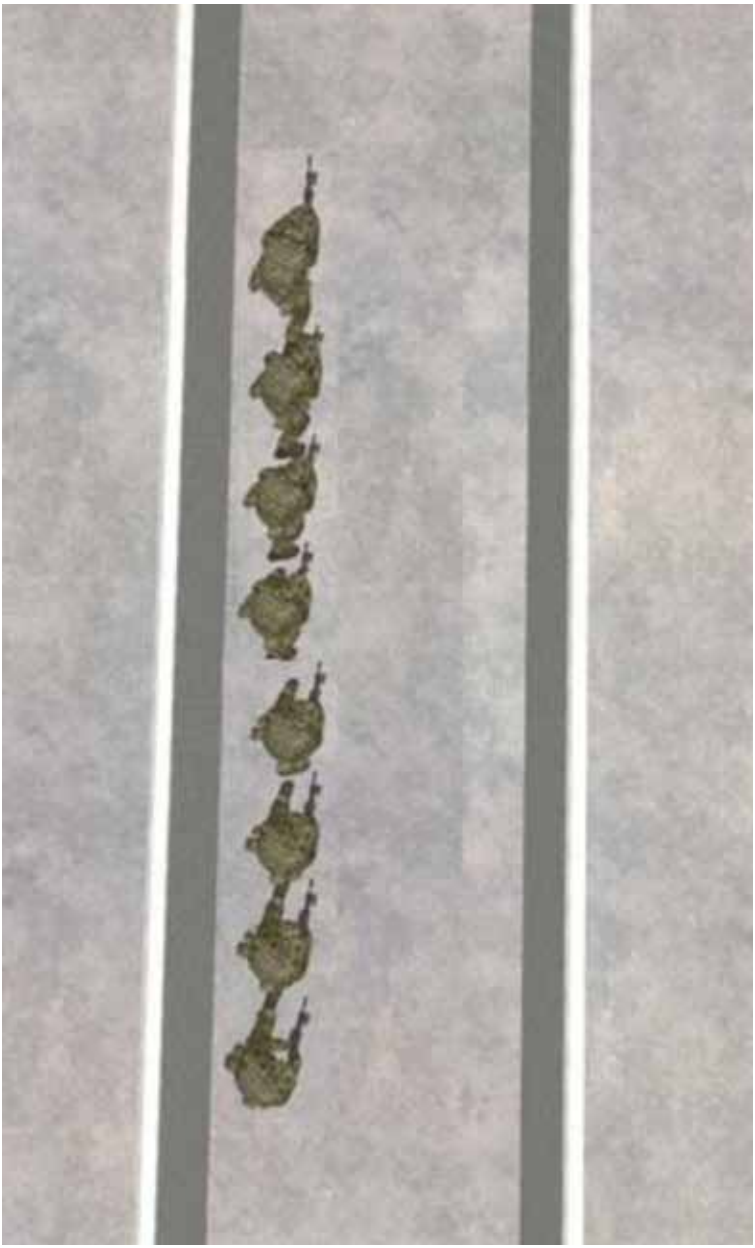


Fig 2-31. Single Stack Formation

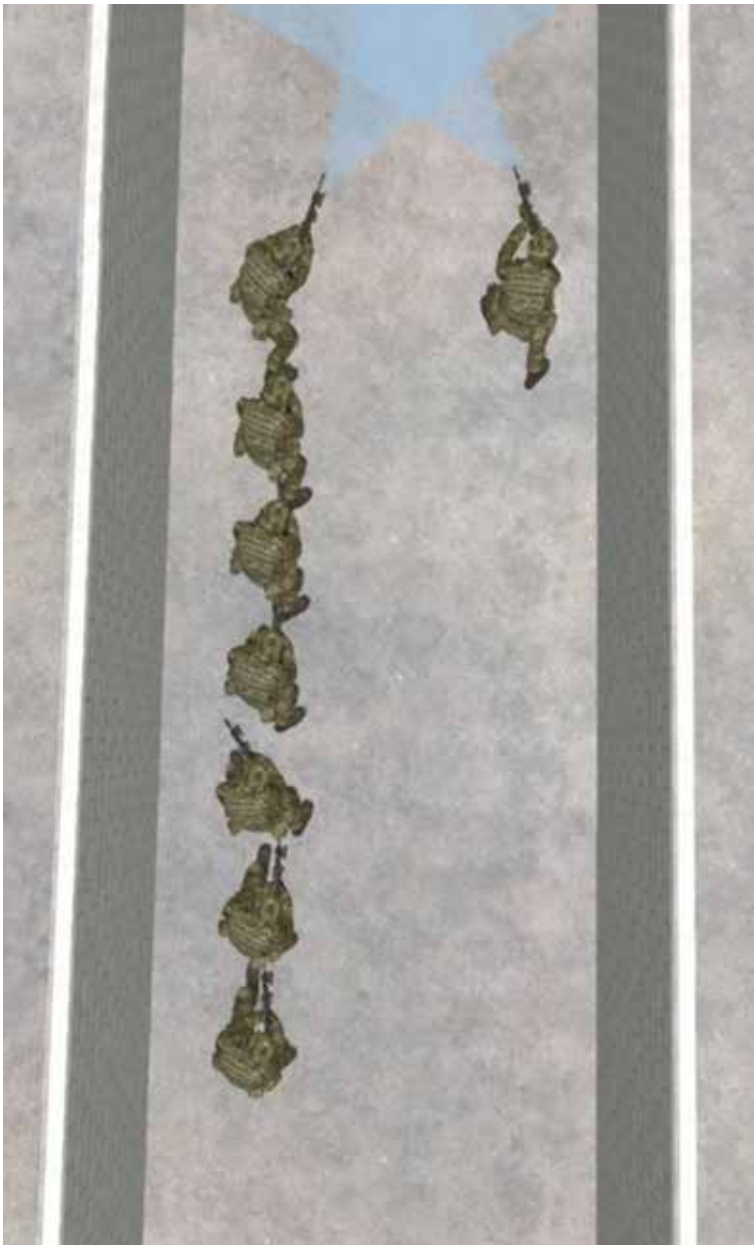


Fig 2-32. Heavy Stack (Left) Formation

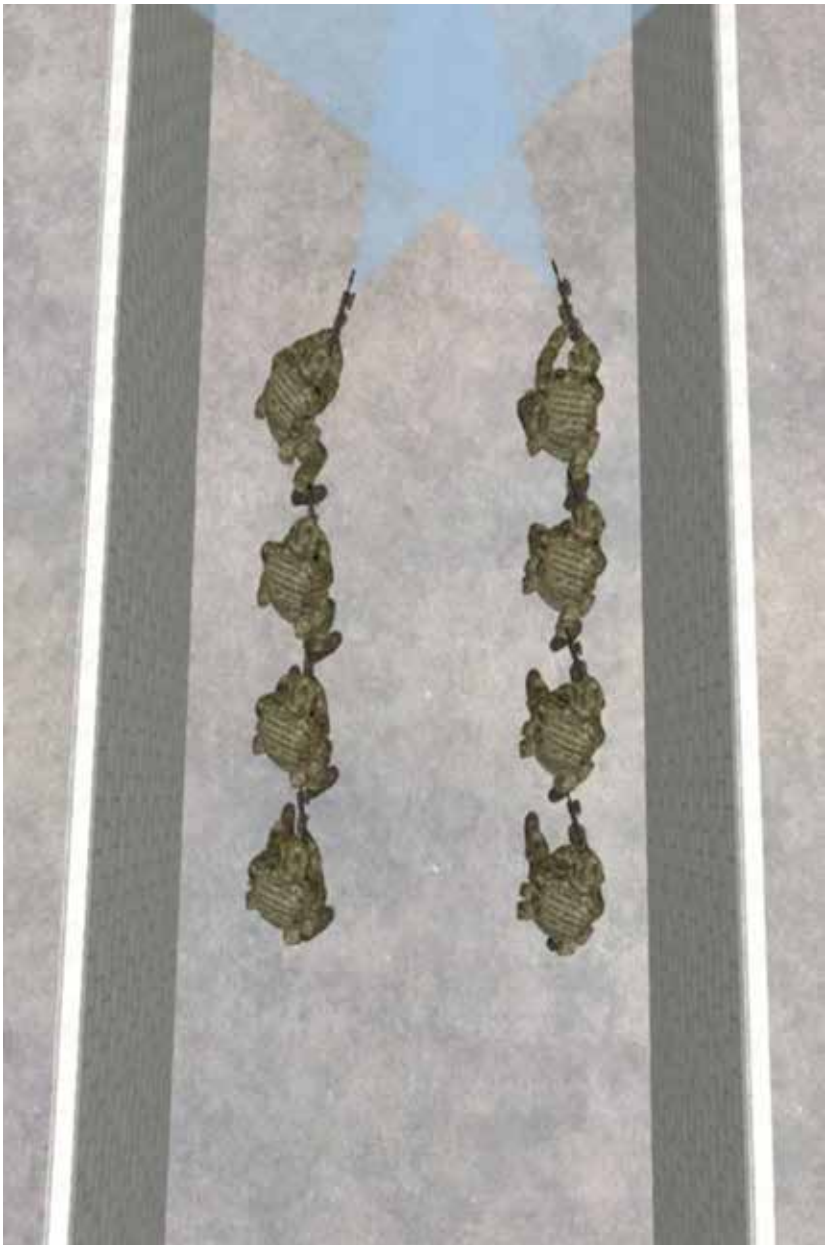


Fig 2-33. Split Stack Formation

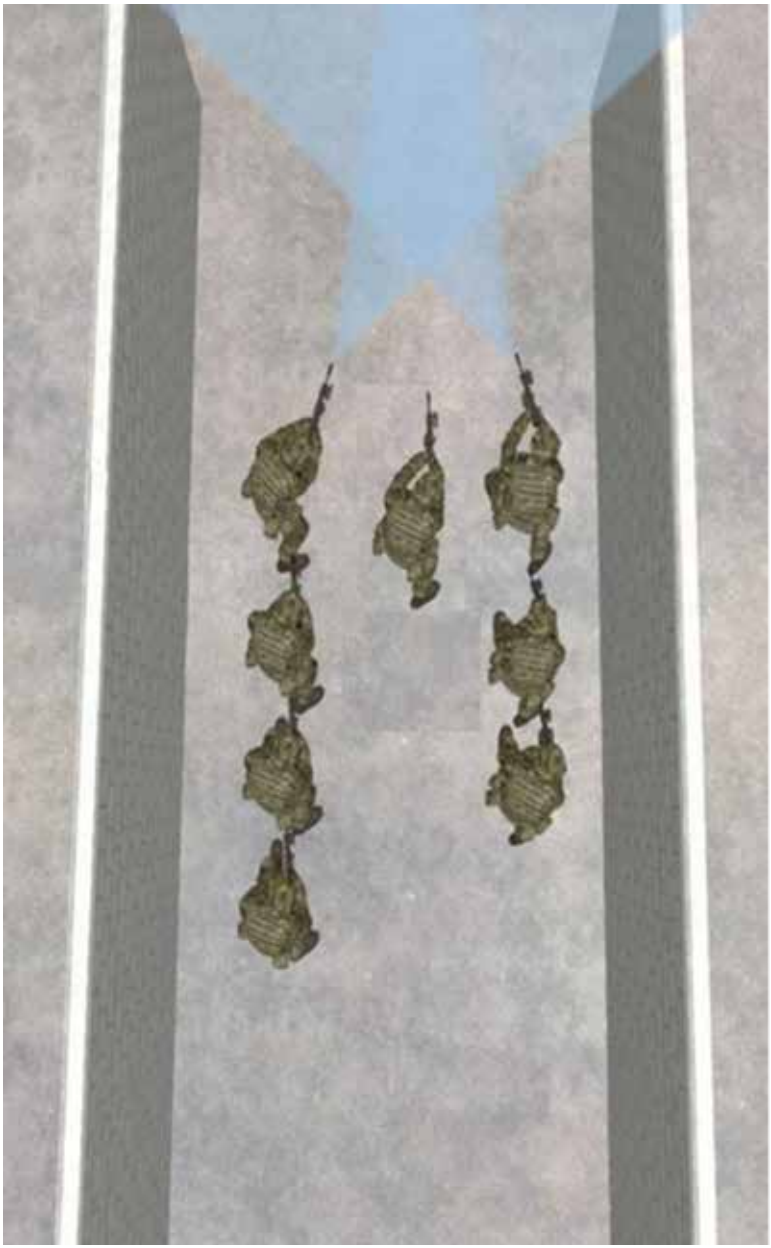


Fig 2-34. V Stack Formation

Fig 2-35. L-Shapes

Fig 2-36. The Barricade

Fig 2-37. The Hi – Lo Formation

Fig 2-38. Double Barricade

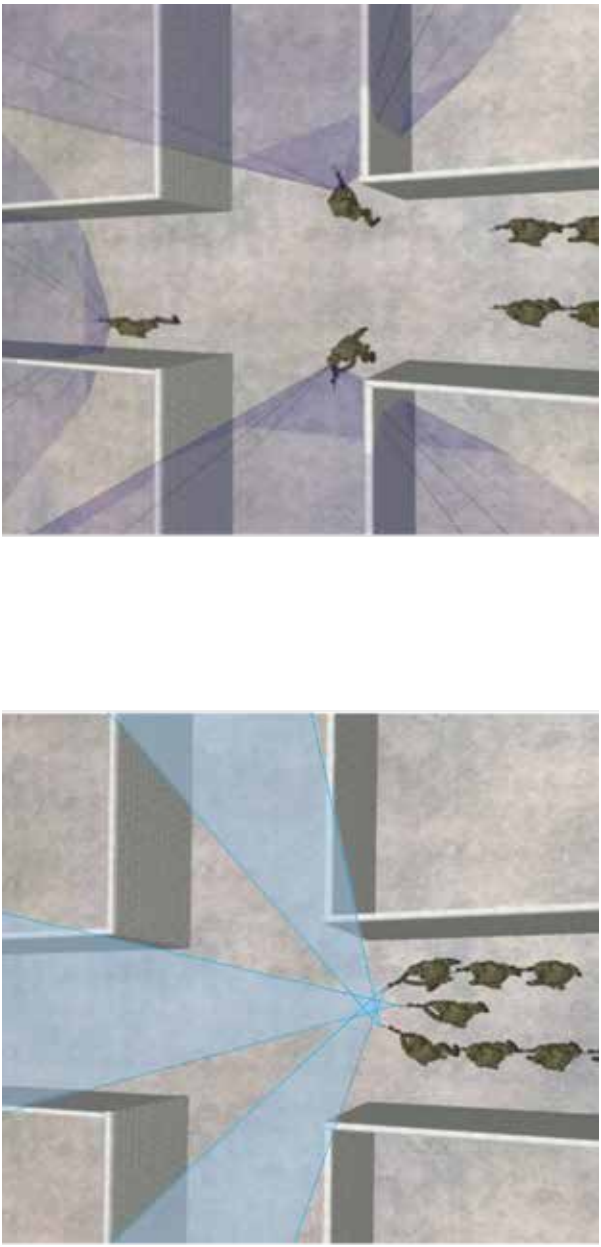


Fig 2-39. Intersection Clearance (V Stack)

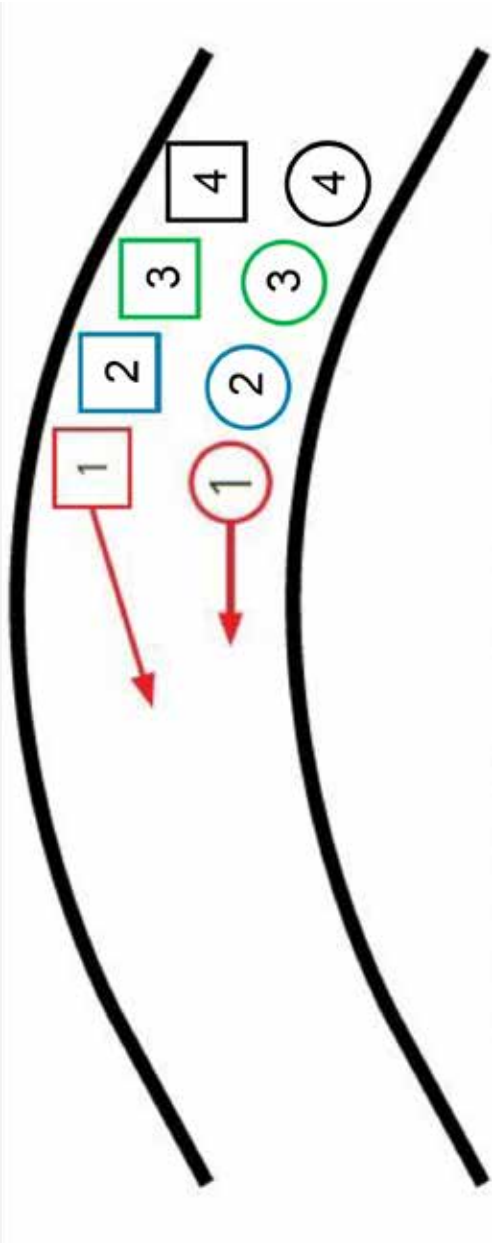


Fig 2-40. Clearing a U-Shape

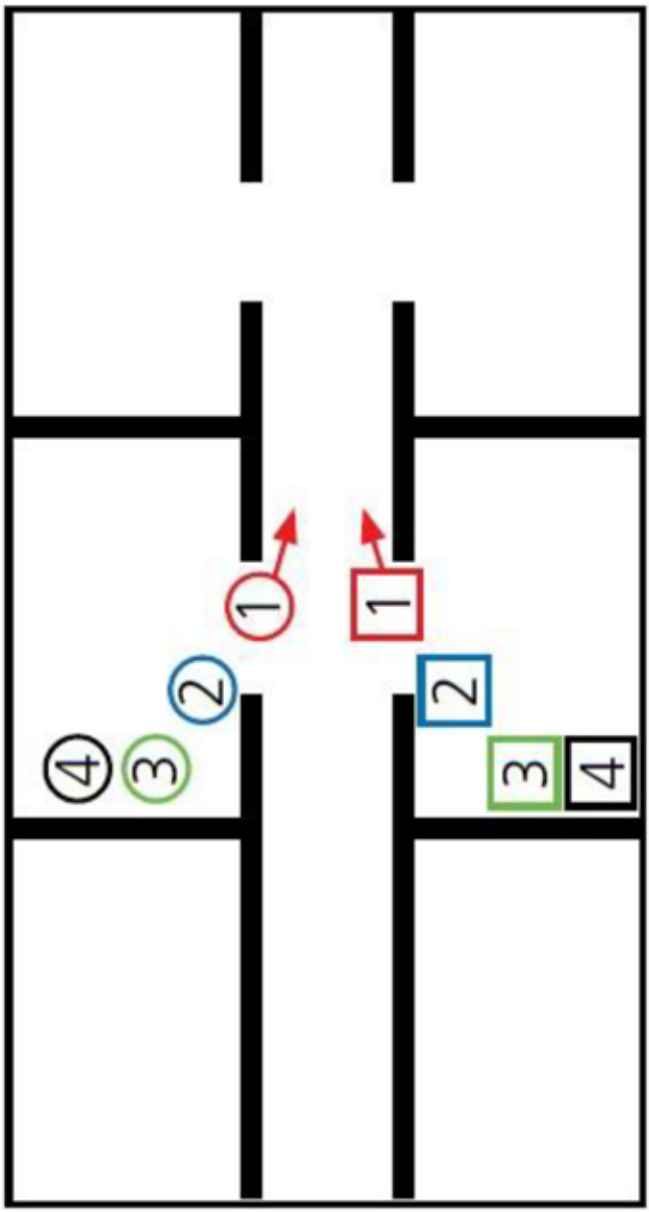


Fig 2-41. Use of Doorways of Cleared Enclosure

Lesson 12. Stairs and Ladders

2-220 ***Aim.*** *The aim of the lesson is to teach the clearance of stairs and the use of ladders:*

a. *Stairs.*

b. *Open staircase.*

c. *Closed staircase.*

d. *Ladders.*

2-221 ***Timings.*** *One 40-minute period.*

2-222 ***Method.*** *Basic instructional outdoor period.*

2-223 ***Stores.***

Rifle 1 per soldier
Magazine 1 per soldier
BFA 1 per soldier
Fighting Order 1 per soldier
Combat helmet 1 per soldier
PPE (glasses & gloves) 1 per soldier
Ladders as necessary
Demonstrators as necessary

2-224 ***Preparation.***

a. *Reconnoitre the training area and select positions to best illustrate the drills.*

b. *Rehearse the demonstrators, preferably immediately prior to the squad arriving.*

c. *Different types of ladders should be used.*

2-225 ***Miscellaneous.*** *The principles of the stack must be enforced at all stages of training.*

Preliminaries

2-226 ***Safety Precautions.*** *Normal.*

2-227 ***Revision.*** *5-step entry.*

Introduction

2-228 *Explain:* Stairs are found in all buildings of two or more levels and will also feature in buildings with cellars. They are used for communication between floors and as a means of escape in an emergency. They can be open or closed in design and may be a major feature of buildings such as hotels. The stairs can have open or closed treads and bannisters and will have landings with doors which provide entry onto the building's various levels. Clearing stairs is extremely challenging, particularly when clearing up. All soldiers must know the procedure to clear stairs to enable them to be cleared quickly and to avoid friendly casualties.

2-229 *Explain:* In the case of multi storey buildings, the clearance and holding of the stairwell will be necessary to deny the enemy vertical and horizontal manoeuvre opportunities and to prevent a counterattack. The clearance and holding of the stairwell will be required before the clearing of the first and subsequent floors commences.

Stairs

2-230 *Explain:* Stairs are extremely problematic to clear when held by a determined enemy. Where possible, clearing into upper or lower levels should be conducted by mouse holing through floors and ceilings or by entering through upper level windows and roof tops.

Open Staircase

2-231 *Explain and demonstrate*: An open staircase has at least two sides of which are open except for a banister or wall of a maximum nominal height of 4ft. This usually results in an open space in the centre of the staircase which runs from the bottom to the top floor. This open space must be considered a fatal funnel and avoided. Fig 2-42 shows the view an enemy would have from the upper levels. The following considerations should be applied when clearing an open staircase:

a. Movement should be along the outer wall as far from the open space as is possible.

b. Cover should be provided to the next level only and not all the upper levels, remember one problem at a time. Trying to cover multiple levels will expose the firer and result in casualties.

c. The covering firer should utilise the stairs as cover as much as possible, covering the next level from the right angle corner of the stairs of the next level (positions A of Fig 2-42) and not the centre of a run of steps (position B of Fig 2-42).

d. The covering firer should consider adopting a kneeling position or leaning forward to observe. This will allow line of sight to the next level while minimising exposure of their legs and lower body to the upper levels.

e. Large stairs leading to multiple levels are often constructed with windows at each level to provide light. UGL fired through these windows at the upper levels by fire support can greatly assist in the clearance.

f. A determined enemy is likely to utilise grenades to greater effect on open staircases. Strict actions on for grenades and casualties must be briefed and rehearsed by all.

2-232 *Explain and demonstrate*: **Clearing Up Stairs**. A minimum of three firers will be required to clear up a stairwell. As previously taught a minimum of two firers will enter and clear the bottom landing carrying out the 5 Step Entry. No1 will cover up the stairwell to the next floor while the No2 calls for “support 1” (Known as the No3 for the purposes of this explanation) (*see* Fig 2-43).

a. No2 and No3 will move up the stairwell. The outside firer’s (No3) focus will be checking for occupants or IED’s lying on the stairs. The inside firer’s (No2) focus will be towards the upper landing, covering any door or constricted space that is visible. The pair will coordinate the move up the stairs with the use of the commands **“Ready”** and the response **“Move”** (*see* Fig 2-44).

b. Where an open staircase exists the No2 will first clear the switchback. Once cleared the No2 will begin to clear to the upper level by sweeping their arc through the banister.

c. Where a closed staircase exists the No2 will conduct the Barricade drill at the switchback before continuing the clearance to the next level.

d. Once the No2 and No3 reach the switchback the No1 moves their muzzle away from the two firers moving up the stairs. If there are several levels the No1 will continue to cover up the centre of the stairwell to the next level only, ensuring not to expose themselves to the multiple threats of the upper levels.

e. Where multiple levels exist the No2 will call for **“Support 1”** once the first switch back has been cleared. The support firer will move immediately to the switch back and cover the level above the point firers allowing the No2 and No3 to clear to the first landing (*see* Fig 2-45). The support firer must take care not to expose them self to upper levels unnecessarily.

f. As the No2 and No3 clear the first landing they will call out threat areas to allow the commander to formulate the sections next movements. Once **“Clear”** has been called the rest of the stack must start to move up the stairs. Coordination should be done on the move so that the team does not spend too long on the stairwell.

2-233 *Confirm by practice.*

2-234 *Explain and demonstrate*: **Clearing Downstairs**. A minimum of three firers will be required to clear down a stairwell. As previously taught a minimum of two firers will enter and clear the upper landing carrying out the 5 Step Entry. No1 will then cover down the centre of the stairwell while the No2 calls for **"support 1"** (Known as the No3 for the purposes of this explanation).

a. No2 and No3 will move down the stairwell. The outside firer's (No3) focus will be checking for occupants or IED's lying on the stairs. The inside firer's (No2) focus will be towards the lower landing, covering any door or constricted space that is visible. The pair will coordinate the move down the stairs with the use of the commands **"Ready"** and the response **"Move"**.

b. Where an open staircase exists the No2 will first clear to the switchback. Once cleared the No2 will begin to clear to the lower level by sweeping their arc through the staircase.

c. Where a closed staircase exists the No2 will conduct the Barricade drill at the switchback before continuing the clearance to the next level.

d. Once the No2 and No3 reach the switchback the No1 moves their muzzle away from the two firers moving down the stairs. If there are several levels the No1 will continue to cover down the centre of the stairwell to the lower levels.

e. Where multiple levels exist the No2 will call for **"Support 1"** once the first switch back has been cleared. The support firer will move immediately to the switch back and cover the next level down allowing the No2 and No3 to clear to the first landing.

f. As the No2 and No3 clear the first landing they will call out threat areas to allow the commander to formulate the sections next movements. Once **"Clear"** has been called the rest of the stack must start to move down the stairs. Coordination should be done on the move so that the team does not spend too long on the stairwell.

2-235 *Explain and demonstrate*: When beginning a clearance of a staircase from the middle levels a minimum of four firers will be required to begin the clearance, one will cover the upper levels, one will cover the lower levels and two to conduct the clearance. The drill to clear up or down is then as previously taught.

2-236 *Confirm by practice.*

Closed Staircase

2-237 *Explain and demonstrate*: A closed staircase is closed on both sides, often by walls or partitions. Closed staircases are less exposed than open staircases and are cleared by conducting the barricade drill at each switchback until the next floor is reached.

Ladders

2-238 *Explain:* Ladders are an essential piece of equipment in the UE and can be used to assist entry into a building or into upper levels through mouse holes or into loft spaces. Use of ladders, however, comes with inherent risks. Use of primary weapon systems will be hindered and firers will be exposed, particularly when moving up a ladder. For these reasons the drills employed when utilising ladders must be known and practiced by all to ensure swift movement and clearance while minimising risk to firers.

2-239 *Explain and demonstrate*: **Clearing Up a Ladder**. The following drill should be carried out when clearing up a ladder:

a. A member of the breaching team deploys ladder, holding it in position. The ladder should not be held by the rungs as this is likely to result in injury.

b. Once the ladder is in position the assault pair will move to the bottom, No1 will transition to their secondary weapon. Keeping their secondary weapon pointed upward to the top of the ladder-well, they will begin to climb. As soon as there is room on the ladder, No2 will transition to their secondary weapon and start climbing. Only No1 will maintain security up the ladder.

c. No1 will crouch as they near the opening ensuring not to expose themselves into the space/opening above. When they can go no further, they will remove their torch if they have not done so already.

d. Where available a periscope should be employed to conduct a preliminary clearance of the space.

e. Once ready, the firer will “Pop” their head and weapon (using a compressed hold) through the opening and conduct a preliminary clearance of the space.

f. Should the firer receive fire whilst conducting the preliminary clearance they should immediately drop back out of view and consider the use of HE to facilitate the clearance.

g. Supporting fire can be directed through the ceiling where the construction and FF locations prohibits the use of HE. This must be strictly controlled to avoid fratricide.

h. Depending on the opening and the balance of the firer the torch can be held with the left hand or placed on the edge of the hatch pointing into the enclosure.

i. Once the preliminary clearance has been conducted the No1 will continue the 5-step entry as taught ensuring to make room for the No2 as quickly as possible.

j. The No2 will immediately follow the No1 and conduct the 5-step entry to the opposite direction from the No1 as previously taught.

k. Follow on firers will remain at the bottom of the ladder-well until “Clear” has been called. They may either transition or control their primary weapon until they are at the top.

l. The rifle can be indexed during the climb if a secondary weapon is not available.

m. Confined space may only allow one person to conduct the drill. Speed and accuracy will be required.

2-240 If conducting a room clearance, the assault team identify a ladder well / loft opening the firer that identified the ladder well / loft opening will immediately call for **“support 1 loft / mousehole”** while continuing with the 5-step entry. The support firer will immediately move into the enclosure and cover the opening while the assault team clears the enclosure. Once the enclosure is clear the space above can be cleared as previously taught.

2-241 Use of grenades should be avoided when fighting into lofts / roof spaces. When used consideration must be given to the ceiling construction to avoid penetration, collapse and fire. Firing through the ceiling may support a successful entry/clearance into the space where the use of grenades/distraction grenades is not advisable. Clear control measures must be in place to avoid fratricide.

2-242 *Confirm by practice.*

2-243 *Explain and demonstrate*: **Clearing Down a Ladder**. Two firers move up to the ladder-well. No1 holds cover as No2 deploys a distraction grenade as previously taught. Immediately on initiation of the distraction grenade, both firers make entry down the ladder-well and conduct a five-step entry as taught. Whether using a diversionary device, or not, speed is the only effective way to clear down a ladder.

2-244 The use of periscopes or improvised periscopes may, if light allows, be used to clear the space below prior to entering down the ladder.

Conclusion

2-245 **End of Lesson Frill.**

a. *Questions to and from the squad on the lesson.*

b. *Confirm by questions and practice.*

c. *Normal safety precautions.*

d. *Pack kit.*

e. *Summary. Emphasise three or four main points from the lesson.*

f. *A forecast of the squads next lesson in this subject.*

2-246 - 2-249. *Reserved.*

Fig 2-42. Open Staircase

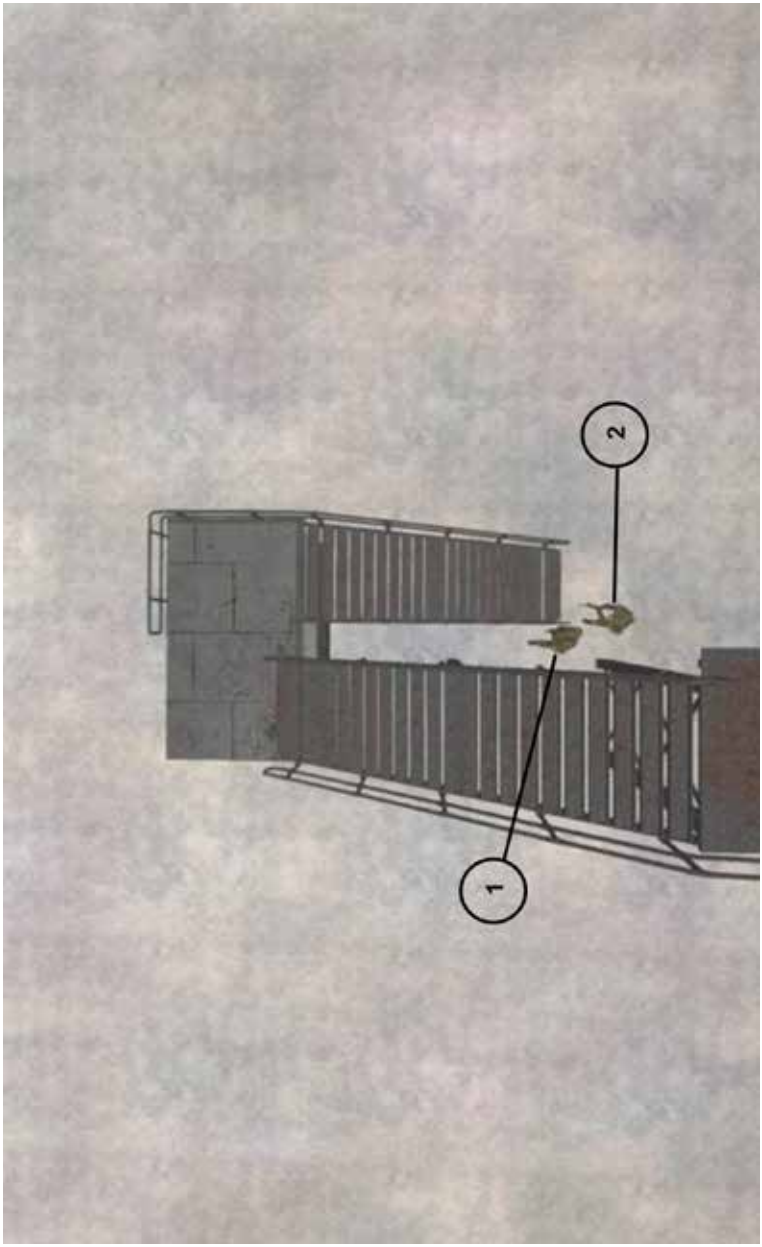


Fig 2-43. Two Firers Clear Bottom Landing

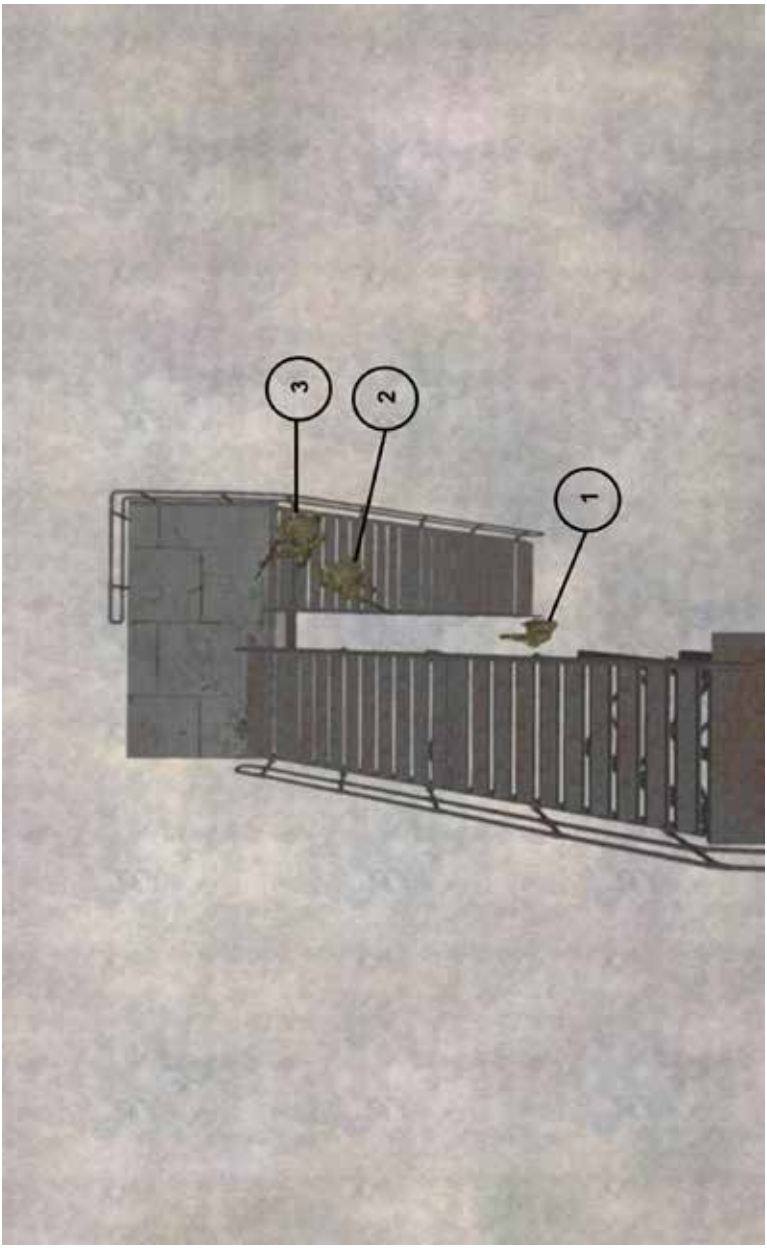


Fig 2-44. Two Firers Clear Stairs to the First Switchback

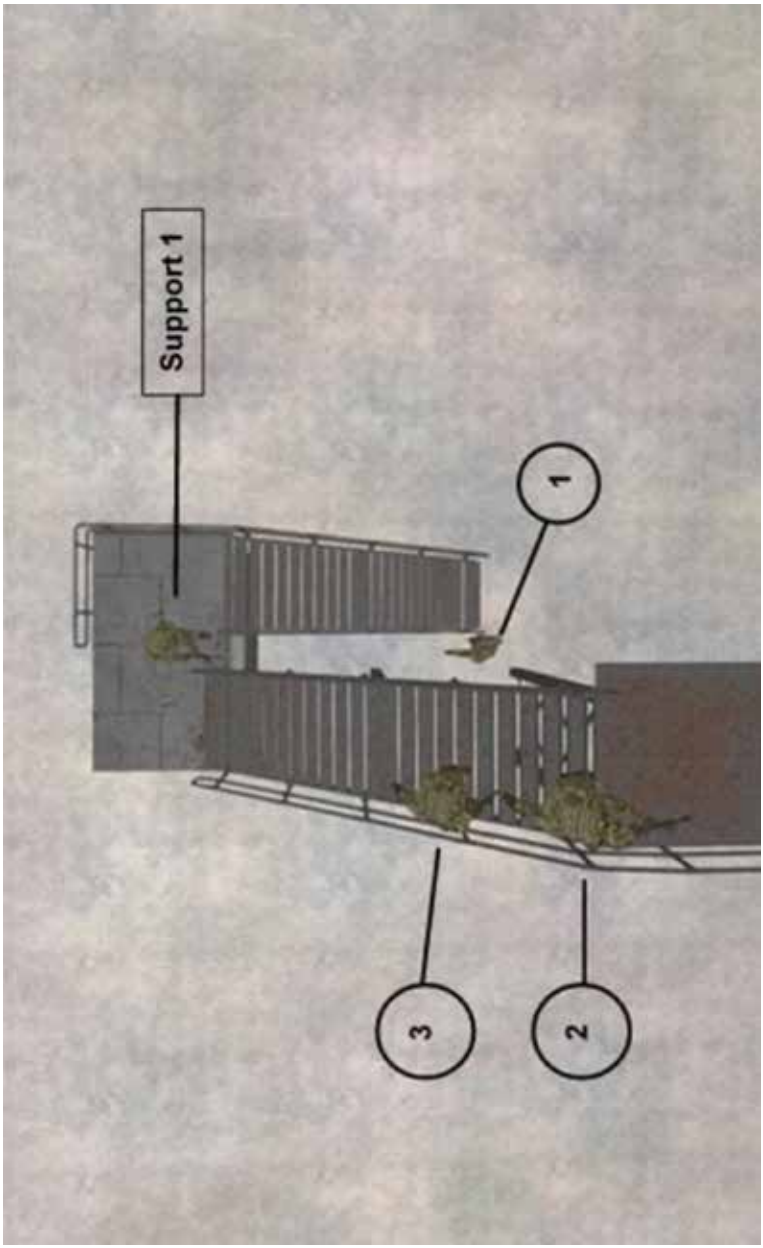


Fig 2-45. Stairs Cleared to Next Level

Lesson 13. Occupancy Control

2-250 ***Aim.*** *The aim of the lesson is to teach how to deal with and control occupants during urban CQB:*

a. *Controlling an occupant.*

b. *Closing on an occupant.*

c. *Conducting a person search.*

d. *Conducting a dead check.*

2-251 ***Timings.*** *One 40-minute period.*

2-252 ***Method.*** *Basic instructional outdoor period.*

2-253 ***Stores.***

Rifle 1 per soldier
Magazine 1 per soldier
BFA 1 per soldier
Fighting Order 1 per soldier
Combat helmet 1 per soldier
PPE (glasses & gloves) 1 per soldier
Demonstrators as necessary

2-254 ***Preparation.***

a. *Reconnoitre the training area and select positions to best illustrate the drills.*

b. *Rehearse the demonstrators, preferably immediately prior to the squad arriving.*

Preliminaries

2-255 ***Safety Precautions.*** *Normal.*

2-256 ***Revision.*** *Person search – Initial and detailed.*

Introduction

2-257 *Explain:* When conducting CQB operations within the urban environment the possibility of encountering occupants inside rooms and buildings is extremely high. Occupants will not always be hostile and may be local civilians and even hostages. To that end a robust set of actions are required to enable the swift management and control of occupants when clearing through buildings and enclosures.

Controlling an Occupant

2-258 *Explain:* There are two types of occupancy control used during CQB operations, these are verbal and physical. The key to both types is to get the occupant into the centre of the room/space so that searches can be conducted without impeding the flow of movement through the enclosure.

2-259 *Explain and demonstrate*: **Verbal**. The occupant is controlled using a loud, firm and commanding voice and clear direction. Contact should not be made with the occupant until necessary for search purposes. Verbal commands that will be used are:

a. **"Get Down, Get Down, Get down!".** Immediately controls the occupant and places them into a position that is less threatening to the assault team.

b. **"Crawl/Move Towards Me (or Designated Area)!".** This command is used when an occupant is in a small space or an area of the enclosure where the firer does not want the occupant to be. The firer should always attempt to move an occupant into an area that is safe enough to conduct a search.

c. **"Head Down, Arms Out, Cross Your Legs!".** Given once the occupant is in the sitting position ready to be searched and secured.

d. **"Look Away/Left/Right!"** The occupant should not be allowed to look or make eye contact with the team.

e. **Hand Signals.** Verbal commands should be kept clear and simple. Hand signals should be used in conjunction with verbal commands in situations the occupant may not speak the same language. For example, a gesture with the left hand pointing towards the ground will generally be understood by most to get down.

f. **Room Clearance.** Verbal control of an occupant should take place immediately upon entering an enclosure and continue throughout the clearance of the enclosure. The assaulting team may require additional support to control the occupants to allow the enclosure to be cleared as previously taught.

2-260 *Explain and demonstrate*: **Physical**. Physical control is the use of physical force to control/move an occupant. This may be required when the occupant is none compliant to verbal commands. Physical control will also be required when there is insufficient time or space to control the occupant verbally. This is likely to take place within the immediate area after making entry, dependant on the threat the occupant can be pushed out of the immediate area and towards the centre of the room or physically pinned against the wall.

a. **Immediate Area Low Threat.** An unarmed occupant believed to be of low threat within the immediate area should be pushed out of the way and towards the centre of the enclosure. The firer should:

(1) Index the weapon.

(2) Use the non-firing hand to push the occupant into the centre of the room.

(3) Immediately call for support if conducting a two-person entry.

(4) Continue to complete the 5-step entry ensuring the occupant remains within the peripheral vision as they sweep their arc of fire.

b. **Immediate Area High/Unknown Threat.** An occupant encountered within the immediate area that is believed to be an immediate threat should be pinned against the wall to stop them bringing a weapon to bear or interfering with the clearance of the enclosure. The actions to be carried out are

(1) Index the weapon.

(2) With the non-firing hand, strike the occupant in the chest and ride your arm up the body to the chin.

(3) Push the occupant and pin them up against the wall.

(4) If a two-person entry was conducted call for support.

(5) Keep the occupant pinned to allow the other firers in the enclosure to carry out the clearance.

(6) Once the room is clear the occupant is moved to the ground and secured.

Closing on an Occupant

2-261 *Explain and demonstrate*: 'Closing' refers to reducing the space between firer and occupant and must be conducted systematically to ensure the occupant is covered throughout. Closing should be conducted as a pair with communication throughout. Both firers may require to close on the occupant in larger enclosures, this should be done ensuring one foot on the ground using the words of command 'move' and 'hold'. At no point should firers cross in front of another.

Conducting a Person Search

2-262 *Explain:* The location and time of search will be determined by orders and the current threat but as a guide the following should be adhered to:

a. **Initial.** The initial search must be conducted immediately and before moving the occupant to the marshalling area.

b. **Detailed Search.** A detailed search must take place at the earliest and safest opportunity. This can be done in the room the occupant was encountered but unlikely possible due to the threat. A detailed search must take place in the marshalling area if not conducted already.

2-263 *Explain and demonstrate*: **Initial Person Search Conduct**. A minimum of two firers will be required to conduct the initial search, one to search and one to provide cover. Three or more firers will be required where there are multiple occupants; one to search, one to cover the search and one to cover the remainder of the occupants. The initial search should be conducted as follows:

a. Occupants are moved into the centre of the room or to an area where the search will be conducted.

b. The occupant should be face down on the ground, arms extended out with palms uppermost, legs crossed at the ankles.

c. Covering firer should be positioned at a 90-degree angle to the searcher, ideally located at the head, covering down the body. The covering firer must maintain this angle throughout the search, moving position if required.

d. Searcher positions them self to the side of the occupant (left or right) and conducts a weapon sweep, removing any weapons from the area around the occupant and placing them in a safe area.

e. The searcher then informs the covering firer of their intention to sling/ holster their weapon and waits for a response before doing so to ensure the covering firer is ready. The searcher must ensure their safety catch is on before slinging.

f. After slinging their weapon, the searcher takes control of the occupant's closest hand, locks out the arm and rests the back of the hand against their chest. This frees both hands to conduct a hasty search of the closest side of the body before loosely applying a plasticuff to the wrist.

g. Once the plasticuff is applied the searcher places the occupant's arm back on the ground and moves behind the covering firer to the opposite side of the occupant.

h. The searcher takes control of the occupant's other arm in the same manner as before and completes the hasty search of the occupant.

i. Once complete the searcher maintains control of the arm and moves to the head of the occupant.

j. The covering firer immediately moves around the occupant to maintain a 90-degree angle from the searcher.

k. The searcher then brings both the occupants' hands together and applies the second plasticuff ensuring the occupants hands are cuffed to the front and that the plasticuffs are not overly tightened to maintain circulation.

l. Once plasticuffed the occupant should be moved into a kneeling position to allow the initial search to be completed paying attention to the waist and front of the body.

m. Once the initial search is completed the occupant should be marked with a red and green cylume.

n. At no point should the searcher step over or straddle the occupant as this will render the covering firer ineffective.

o. Where multiple occupants are present, they should be grouped together, face down on the floor with a firer controlling/covering. Individual occupants should then be moved from the group to an open space to allow the initial search to be conducted.

Conducting a Dead Check

2-264 *Explain:* Any threat encountered and engaged when entering an enclosure must be considered a threat until such time it has been confirmed neutralised. The firer that engaged the threat must keep the threat within their peripheral vision throughout the 5-step entry. Calling **"Support 1"** will allow the threat to be covered by the support firer while the 5-step entry is completed. Once the 5-step entry has been completed the following should take place:

a. The firer conducting the dead check will announce **"I have dead check"**. They will wait for a response **"take it"** from a second firer who can provide cover and provide plate protection throughout the check[10] (plate me). Once the response is given the firer will close on the threat.

b. The firer will then switch to the index keeping the weapon orientated on the threat.

c. Any weapons are removed from the body and surrounding area.

d. Suspected dead must be thoroughly checked, and status confirmed by checking for vital signs.

e. Once confirmed dead communicate to the remainder of the assault team **"Dead check clear, marking"**.

10 The firer providing plate protection should be positioned between the person conducting the dead check and any present threat (uncleared windows/doors etc), adopting the stance of a No1 until the check is complete.

f. Mark the dead with a cylume as per unit SOP's to indicate to other firers that it has been searched.

g. If vital signs are found first aid must be given and the combatant extracted through the CasEvac chain.

h. The remainder of the enclosure is cleared once the status of all dead has been confirmed.

2-265 *Confirm by practice*

Conclusion

2-266 **End of Lesson Drill.**

a. *Questions to and from the squad on the lesson.*

b. *Confirm by questions and practice.*

c. *Normal safety precautions.*

d. *Pack kit.*

e. *Summary. Emphasise three or four main points from the lesson.*

f. *A forecast of the squads next lesson in this subject.*

2-267 - 2-269. *Reserved.*

Lesson 14. Constricted Space

2-270 ***Aim.*** *The aim of the lesson is to teach the clearance of constricted spaces and furniture:*

a. *Constricted space.*

b. *Severely constricted space.*

c. *Occupancy control.*

d. *Clearing furniture.*

2-271 ***Timings.*** *One 40-minute period.*

2-272 ***Method.*** *Basic instructional outdoor period.*

2-273 ***Stores.***

Rifle 1 per soldier
Magazine 1 per soldier
BFA 1 per soldier
Fighting Order 1 per soldier
Combat helmet 1 per soldier
PPE (glasses & gloves) 1 per soldier
Demonstrators as necessary

2-274 ***Preparation.***

a. *Reconnoitre the training area and select positions to best illustrate the drills.*

b. *Rehearse the demonstrators, preferably immediately prior to the squad arriving.*

c. *Where possible furniture should be positioned within enclosures.*

2-275 ***Miscellaneous.*** *The principles of the stack must be enforced at all stages of training.*

Preliminaries

2-276 ***Safety Precautions.*** *Normal.*

2-277 ***Revision.*** *Occupancy control.*

Introduction

2-278 *Explain:* Each type of structure encountered in the urban environment has its own characteristics and constricted spaces. Commercial buildings will have store cupboards and toilet cubicles while residential dwellings will have wardrobes and furniture. These constricted spaces are large enough to hide any potential threat but too small to clear with a conventional assault team. Communication, practice and teamwork are key to the clearance of these spaces while minimising the danger from threats hidden inside.

Constricted Space

2-279 *Explain:* A constricted space is defined as any space that is too small for two firers to carry out the 5 Step Entry. Some examples of a constricted space are a small toilet, storeroom, certain types of attic spaces and wardrobes.

2-280 *Explain and demonstrate*: The constricted space should be considered a room and cleared like any other enclosure using the 5-step entry. Once the main enclosure has been cleared the following actions will take place:

a. Firer identifying a constricted space communicates to the remainder of the assaulting team “Constricted space”.

b. Once the remainder of the room has been cleared the firer that identified the space will move closer maintaining an alert position.

c. If the enclosure is fitted with a closed door the assault team stack and carry out the drills for a closed door.

d. Once the door is open the enclosure within will be cleared by the No1. Wardrobes and extremely small enclosures can be cleared visually. Larger enclosures such as cupboards may require the No1 to enter the enclosure.

e. The No2 remains outside the constricted space but alert and ready to provide immediate support if required.

f. Diversionary devices should not be used in small constricted spaces as the smoke produced may prevent the firer from identifying a danger area or threat within.

2-281 Small rooms such as storerooms would usually be identified prior to the 5-step entry unless a dynamic entry had been conducted. If during the 5-step entry the No1 identifies a room is smaller than expected they should immediately call “small room” or “constricted space”. The No2 should then hold their position outside the enclosure but alert and ready to provide immediate support if required.

2-282 *Confirm by practice.*

Severely Constricted Space

2-283 The small confines of a constricted space may limit manoeuvrability and restrict employment of the rifle, in such conditions the firer should conduct the following drill to allow a safe transition to their secondary weapon:

a. On identifying a severely constricted space the firer should alert the No2 using the words of command **"constricted space, transitioning"**.

b. On hearing the command the No2 should take a sidestep left or right (depending on which side of the space they are), bring the weapon in to the low ready position (remembering 'muzzle before flesh') and adopts the stance of a No1; covering the threat.

c. Once the No2 is covering the threat the No1 transitions to their secondary weapon and then removes their torch, holding it in their left hand.

d. Once the transition is complete the No1 will report **"Ready"**.

e. On receipt of the command the No2 ensures their safety catch is ON, lowers their weapon and moves back into the position of No2 before reporting **"Move"**.

f. The No1 then clears the enclosure as previously taught.

g. *If already committed the No1 should transition immediately and continue the clearance.*

2-284 *Confirm by practice.*

Occupancy Control

2-285 *Explain and demonstrate*: The lack of space when clearing constricted areas means that occupants are likely to be extremely close and will require rapid identification and actions to neutralise or control occupants. Civilians and non-combatants are likely to hide in these confined spaces so strict fire discipline must be maintained when conducting the clearance. Consideration should be given to the following:

a. **Armed Threat.** The threat should be neutralised in line with the rules of engagement. Once neutralised the No1 should call for support from the No2. The No2 should drag the body clear of the enclosure to allow the No1 to complete the clearance.

b. **Unarmed Occupant.** The No1 will verbally or physically control the occupant until they are out of the constricted space. The No1 will most likely need to take a rearward step to put space between them and the occupant to allow verbal control. Whichever method is used the No1 must control the occupant and move them out of the enclosure to allow the No2 to take over the clearance of the constricted space.

2-286 *Confirm by practice.*

Clearing Furniture

2-287 *Explain and demonstrate*: When carried out correctly the 5-step entry allows a systematic and methodical clearance of an empty enclosure. Most rooms, however, are likely to contain furniture. Commercial buildings may contain desks, filing cabinets and lockers whereas residential properties are likely to contain beds, wardrobes and sofas. Each of these items of furniture has the potential to hide a threat and as such must also be cleared systematically. As with most actions' communication and teamwork are key. Once the 5-step entry has been completed and the members of the assault team have reported clear they will conduct the following (*see* Fig 2-46):

a. The No1 will indicate which item of furniture is to be cleared first. Furniture should be cleared methodically starting closest to the firers before moving deeper into the enclosure.

b. Movement towards the furniture should be coordinated. Once an item of furniture has been identified the person clearing will report **"ready"**. The person covering will order **"move"**.

c. Should the person covering feel they need to move position to provide better cover they will order "hold". The person clearing will then hold their position and provide cover while the person that was covering moves. Once in a better position to provide cover the cover person will order **"move"** to allow the clearance to continue.

d. The item of furniture will then be checked and reported "clear" when complete.

e. **"Room clear"** is only given once all items of furniture have been checked.

f. The firer conducting the clearance of the furniture may choose to switch to secondary weapon while clearing.

g. Support may be required to clear larger items of furniture.

h. Smaller items of furniture may be cleared by a single firer moving down their respective wall.

Conclusion

2-288 **End of Lesson Drill.**

a. *Questions to and from the squad on the lesson.*

b. *Confirm by questions and practice.*

c. *Normal safety precautions.*

d. *Pack kit.*

e. *Summary. Emphasise three or four main points from the lesson.*

f. *A forecast of the squads next lesson in this subject.*

2-289 - 2-299. *Reserved.*

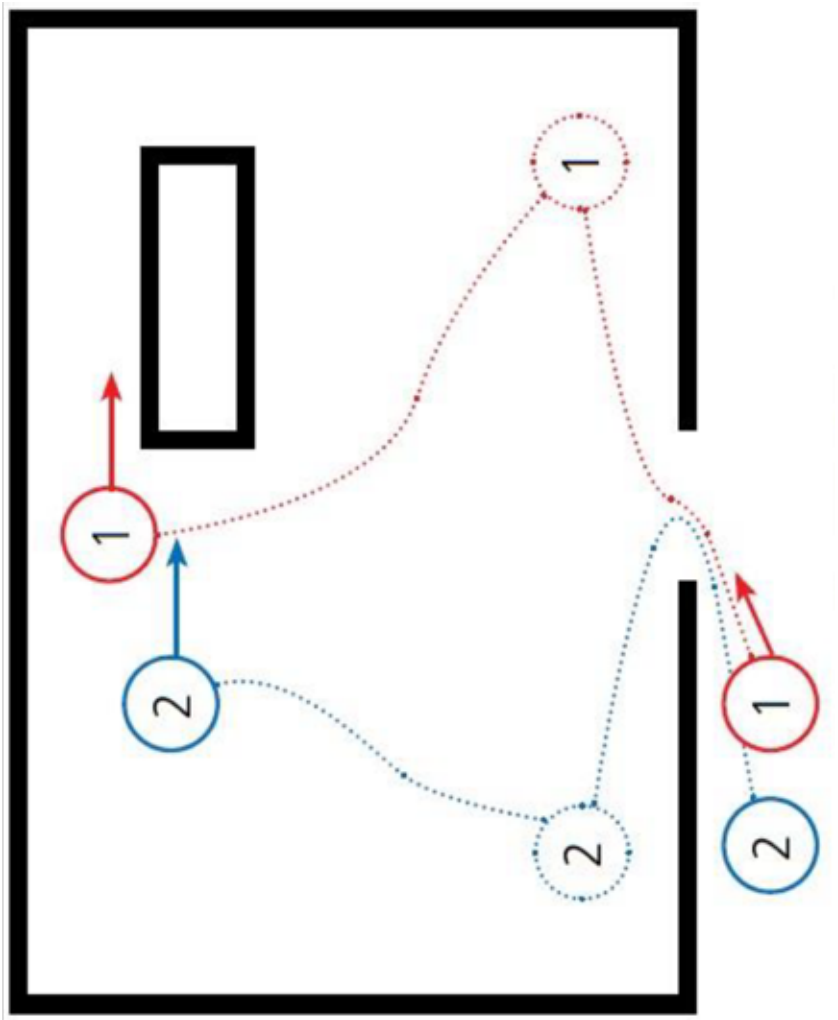


Fig 2-46. Clearing Furniture

Lesson 15. Manual Breaching

2-300 ***Aim.*** *The aim of the lesson is to teach the tools and methods of manual breaching:*

a. *Manual breach tools.*

b. *Defeating an inward opening door.*

c. *Defeating an outward opening door.*

d. *Defeating windows.*

2-301 ***Timings.*** *Two 40-minute periods.*

2-302 ***Method.*** *Basic instructional outdoor period.*

2-303 ***Stores.***

Rifle 1 per soldier
Magazine 1 per soldier
BFA 1 per soldier
Fighting Order 1 per soldier
Combat helmet 1 per soldier
PPE (glasses & gloves) 1 per soldier
Enforcer as necessary
Halligan tool as necessary
Sledgehammer as necessary
Crowbar as necessary
Demonstrators as necessary
Rhino Rig if available
Wooden chocks for Rhino Rig
Spanner for Rhino Rig

2-304 ***Preparation.***

a. *Reconnoitre the training area and select positions to best illustrate the drills.*

b. *Rehearse the demonstrators, preferably immediately prior to the squad arriving.*

c. *The use of a Rhino Rig or similar will greatly enhance this lesson.*

Preliminaries

2-305 ***Safety Precautions.*** *Normal.*

2-306 ***Revision.*** *The Doorway – Door check.*

Introduction

2-307 *Explain:* Manual Breaching has a significant role in Urban Operations. When entry teams are denied access to their chosen entry point it is vital the tools needed to gain access are readily available, and the chosen breacher is fully competent in the carriage and use of these tools so the entry team can make entry into the enclosure as quickly as is possible to minimise exposure to the fatal funnel and to allow the assault team to conduct the clearance.

Manual Breaching Tools

2-308 *Explain and demonstrate*: **The Enforcer**. The Enforcer (*see* Fig 2-47) is a single person operated tool, designed for use in confined spaces for inward opening doors. It is the original most reliable door opener. It is 16Kg of hardened steel combined with a unique design that impacts at approx. 3.5 tons which means that it will, defeat most residential doors even those reinforced. With the correct technique of striking the door and the full understanding of where to strike, most doors can be defeated within several seconds. A sling can be fitted to aid carriage. The use of the Enforcer is critical in gaining access to structures or enclosures when inward opening doors are locked and therefore obstruct the entry team gaining access. It is vital that the breacher knows exactly what their role is within the stack, how to hold and operate the Enforcer so a successful breach can occur fast with the minimum of fuss and as smooth as possible.

2-309 *Explain and demonstrate*: **Holding the Enforcer**. The Enforcer is held with the arms at right angles to the floor with a firm grasp of the handles. The door is struck with power and motion from the hips and shoulders for optimum results. The Enforcer has two handles one rear and one front of the centre designed for the correct hold and grip to make the best effect when striking the contact point on the door. The stance of the Breacher before and during the strike is critical for optimum results. Depending on which way the door opens dictates which way the Breacher faces to strike, as the door frame must be considered due to the risk of the Breacher catching and potentially causing damage to their wrists on the door frame (*see* Fig 2-48).

2-310 *Explain and demonstrate*: **The Halligan Tool**. The Halligan Tool (*see* Fig 2-49) is a single person operated tool. It has been designed and manufactured for levering, puncturing and glass breaking which makes it a very effective tool for defeating locked outward opening doors, grills and windows. There are several parts to the tool including a spike, a duckbill and the metal cutter or claw which all contribute to the tools other uses of breaking and raking glass, breaking padlocks hasps, defeating hinges and lifting floorboards. The Halligan Tool comes in various lengths, sizes and weights. The head and claw are forged from high alloy steel which is heat treated for maximum strength and this is attached to a stress proof bar which can be made electrically non-conductive. This tool is extremely durable and virtually unbreakable. For tactical reasons it can come coloured in black or alternative chrome finish. A sling

can be made with bungee cord and fitted to aid in the carriage. There is however purpose made slings that provide adjustable straps, non-slip grip and comfortable for the carrier. Care must be taken when handling the Halligan Tool due to the sharp edges. These should always be considered when it is slung on the carrier for their and others safety. *When placed on the ground the Halligan Tool must be placed with the spike pointing down.*

2-311 *Explain and demonstrate*: **The Sledgehammer**. The Sledgehammer is a single person operated tool and is available in different sizes and weights. The way it is constructed varies too. The handle is either made from the conventional wood or a durable, fibre glass core with a polypropylene jacket for greater strength and substantial weight reduction to that of the wood. The head is drop forged from high carbon steel which is hardened and tempered. The Sledgehammer compliments the Halligan Tool well by allowing the operator to bang the back of the claw to gain purchase into the gap being used for leverage to open the door. Depending on the Sledgehammers length, it can be carried in the Tactical Breaching Backpack.

2-312 *Explain and demonstrate*: **The Crowbar**. The crowbar is a single person operated tool. It is a very useful tool for method of entry and can have multiple purposes, the main one being able to aid in opening outward opening doors and windows. It can be used alongside the Halligan Tool to force apart two objects such as a door and its frame acting as a lever. The most typical choice of material for a crowbar is steel or iron, as these materials are strong and resilient. They can also be made from titanium which has the advantage of being lighter, non-magnetic and spark resistant. The most common Crowbars are forged from a hexagonal or sometimes cylindrical stock. This tool can be carried in Tactical Breaching backpack.

2-313 *Explain and demonstrate*: **Tactical Breaching Backpack**. The Tactical Breaching Backpack Is a system designed to hold and secure breaching tools. The hook and loop cover keep tools quiet and hidden while allowing instant access. It is padded with fully adjustable shoulder straps, so the operator can keep it on the back whilst colleagues can easily reach and gain access to the tools. Each tool is fully secured in its own compartment and the strap system. There are also under the leg straps to keep the pack in place during running and climbing. The straps prevent the pack from falling to one side or going over the head during extreme body movements.

Defeating an Inward (Push) Opening Door

2-314 *Explain:* Many doors, whether commercial or residential, are likely to be fitted with locks; in some cases, several. Failure to identify the position and number of locks can result, needlessly, in a failed entry; at the very least it will slow down the assault and fatigue the entry team. There are many types of lock ranging from a standard mortice lock to multi-point locking systems which are often found in PVCu doors. Understanding how these locks work and their week points will aid in defeating them swiftly with minimum effort.

2-315 *Explain:* As a rule of thumb Non-PVCu doors locking mechanisms will be in three locations, the top, centre and bottom of the door opposite the hinges. The main locking mechanism usually being located centre section of the door opposite the hinges and can usually be identified by the door hardware (handle) and potentially a keyhole. In addition, door bolts may be fitted in the top and bottom corner of the door (*see* Fig 2-50).

2-316 *Explain and demonstrate*: **Assault Team**. When conducting the door check the assault team must identify the position of any locking mechanisms and communicate this to the Breach team. As the Breach team move forward the No1 must continue to cover the threat while the No2 indicates where to strike the door and attack the correct lock first. Once a lock is defeated the No2 will indicate the next point to strike.

2-317 *Explain and demonstrate*: **Top Lock**. If, after conducting a door check, there is believed to be a top lock on an inward opening door the Breach team will require to attack the lock with the Enforcer. Attacking the top lock of a door with the Enforcer is the most arduous for the operator. If all three contact points need attacking i.e. top, middle and bottom then start at the top and work downwards. The position of the Enforcer is turned upside down 180 degrees and raised above the head. The Breacher stands side on to the door with either their left or right shoulder towards, depending on position of the locks. Their feet are shoulder width apart in a strong firm stance and the power and movement comes from the hips as the enforcer is directed towards the strike point. This is repeated until the lock is defeated.

2-318 *Explain and demonstrate*: **Centre Lock**. Attacking the centre lock on most doors is the main focus point as this is where the strongest locks are usually positioned. It is very important that the strike point, to defeat the lock is identified quickly. Ideally the strike should be between the handle of the door and the door frame, causing optimum stress to the locking mechanism. If this is not possible then the door should be struck just above the door handle in line with the lock. The door frame and centre of the door should be avoided as these are strong points which will hinder and delay entry. The side on stance is adopted. The person that conducted the door check can place a foot and apply pressure to the bottom of the door, to aid the Breacher. This method keeps the tension on the door and lock and ensures the maximum transference of kinetic energy to the locking mechanism.

2-319 *Explain and demonstrate*: **Bottom Lock**. Attacking the bottom lock, holds the same principals as the centre lock with the added advantage of having a lower centre of gravity so more power can be produced to defeat the lock quicker.

2-320 *Explain and demonstrate*: **Successful Entry**. As soon as the Breacher has defeated the lock and the door opens, making it accessible for the entry, the Breacher must turn and move away from the immediate area of the doorway negating any hindrance of the entry team and return to the rear of the stack.

2-321 *Explain and demonstrate*: **Halligan Tool**. While the Halligan tool is predominantly used to lever pull doors it can also be used to assist breaching push doors by removing the flex from the door and applying additional pressure to the locking mechanism. To attack a push door with the Halligan tool the claw should be wedged between the door and frame as close to the locking mechanism so that the curve is away from the user (*see* Fig 2-51). With correct purchase pushing the halligan tool towards the door will now apply pressure to the locking mechanism.

2-322 *Confirm by practice.*

Defeating an Outward (Pull) Opening Door

2-323 *Explain and demonstrate*: **Defeating the Locking Mechanism**. The Halligan Tool is multi-purpose; its main role is to aid the entry team to defeat a locked outward opening door. It's perfectly forged to lever open a door when used correctly. The assault team, having conducted their door assessment will direct the Breacher to the correct side and part of the door to be attacked. The Breaching team will then carry out the following:

a. **Door Check.** The Breacher must conduct their own check of the door gap before inserting the Duckbill making sure the locking system does not obstruct the tool (*see* Fig 2-52).

b. **Insert the Duckbill.** The No1 Breacher must insert the duckbill of the tool between the door frame and the door directly above the locking mechanism with the bar of the tool running horizontally along the door (*see* Fig 2-53). The duckbill must be hammered into the gap until it hits the door stop to ensure enough purchase on the door for leverage. The No1 must hold the Halligan tool in position while the No2 uses the enforcer or sledgehammer to strike the duckbill into position.

c. **Levering.** Once the Duckbill is in place the No1 will then lever the tool outwards, forcing the door away from the frame and putting pressure on the lock to defeat it. If the lock is weakened but not broken the Duckbill can be inserted at any point up and down the gap, depending on where the hold is on the door, to achieve the aim.

d. **Successful Entry.** Once the lock or locks have been defeated and the door comes free, the Breacher using the duckbill is to pull the door completely open and hold it, if possible, with themselves flush against the wall, in order for the assault team to make an unobtrusive entry. The Halligan tool can then be slung for later use as the Breacher joins their place in the stack for the assault.

2-324 *Explain and demonstrate*: **Defeating the Hinges**. The main use of the Halligan tool claw when making entry is defeating the hinges on an outward opening

door which are clearly visible to the Breacher. The gap of the claw can be inserted over the hinge and levered upwards to weaken and pull out the hinge. Once the hinges have been defeated the duckbill can be used in the gap above the top hinge to lever the door out of its frame and pull it open as much as possible giving the assault team a clear entry point.

2-325 *Explain and demonstrate*: **Defeating Padlocks**. The Hallogan tool spike is a very good tool to defeat padlocks by inserting between the bars, twisting and levering away to snap the lock. It is also made to insert into locks and latches without slipping out.

2-326 *Confirm by practice.*

Defeating Windows

2-327 *Explain and demonstrate*: Entering through windows has inherent risks that, if not cleared correctly, can result in deep lacerating wounds and potentially fatal injuries. Before deciding to utilise a window for entry consideration must be given to the enemy threat and type of glass to be defeated; toughened, laminated glass is difficult and time consuming to defeat. To clear a sheet glass window a breacher should:

a. Using the wall as cover strike the glass in the lower corner, near to the frame with the spike (*see* Fig 2-54).

b. Use the halligan tool to strike any remaining large shards of glass.

c. Forcefully run the web of the tool (between the spike and duckbill) along the sides and bottom of the frame several times to clear any remaining small shards (*see* Fig 2-55).

d. With downwards force run the machined grooves of the grips back and forth in a sawing motion along the full length of the bottom of the frame. This sawing action clears any smaller shards from the frame.

e. If possible, a ballistic blanket or thick cover should be placed over the bottom of the frame to further protect soldiers as they enter.

f. When attacking laminated glass, the upper corner should be struck with subsequent strikes seeking to elongate the hole to the bottom of the frame. This should be done on both sides of the window before finally attempting to break the glass away from the top of the frame.

g. A specific risk assessment must be carried out prior to any glass defeating training taking place. The following PPE must also be worn:

(1) Glasses.

(2) Gloves (leather gloves minimum).

(3) Respirator (glass releases fine particulates when broken).

(4) Kevlar protective arm sleeves (further Kevlar protection required if entering through window).

Conclusion

2-328 **End of Lesson Drill.**

a. *Questions to and from the squad on the lesson.*

b. *Confirm by questions and practice.*

c. *Normal safety precautions.*

d. *Pack kit.*

e. *Summary. Emphasise three or four main points from the lesson.*

f. *A forecast of the squads next lesson in this subject.*

2-329 - 2-339. *Reserved.*

Fig 2-47. The Enforcer

Attacking top door bolt (side view)

Attacking centre lock (side view)

Fig 2-48. Holding the Enforcer

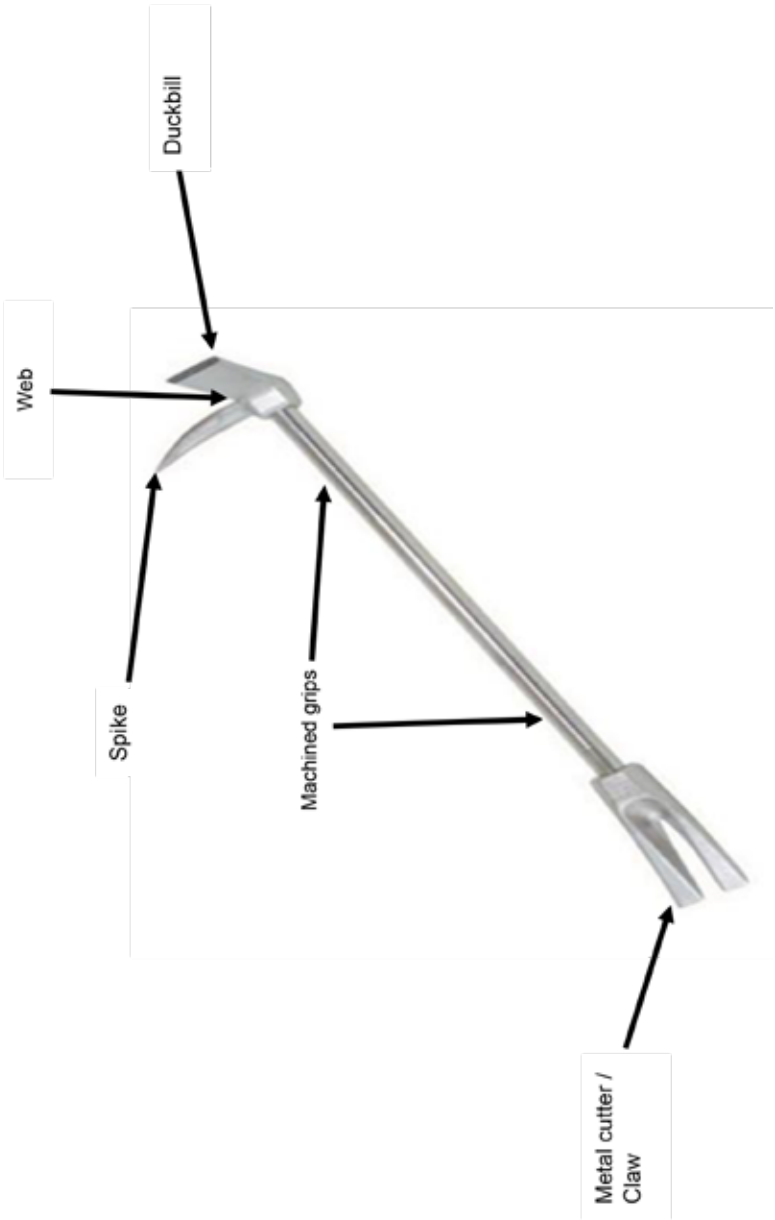


Fig 2-49. The Halligan Tool

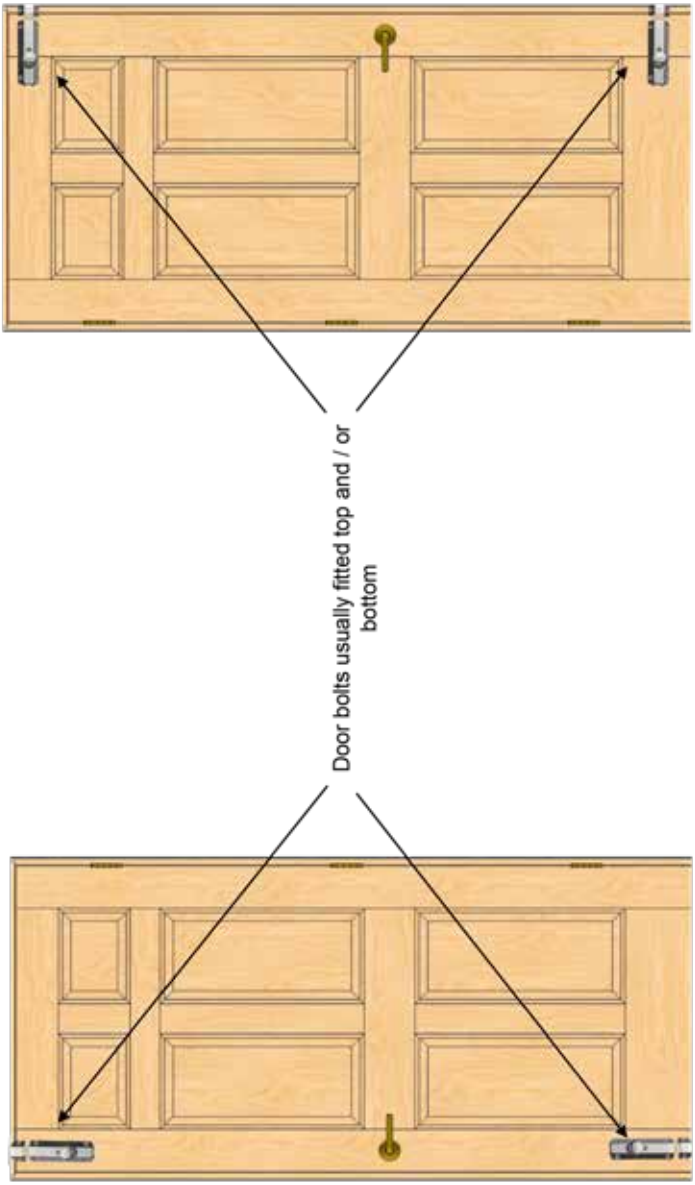


Fig 2-50. Door Bolts

Fig 2-51. Halligan Tool Levering a Push Door

Fig 2-52. Halligan Tool Duckbill Lever Points

Fig 2-53. Halligan Tool Levering a Pull Door

Fig 2-54. Defeating Sheet Glass Window with the Halligan Tool

Fig 2-55. Clearing Shards from the Frame with the Web of the Tool

Commanders Building Clearance Considerations

Introduction

2-340 The aim of this section is to demonstrate the section commanders thought processes when clearing a building. The sequence of clearing through a building will be dictated by many factors such as floorplan, size of building and threats, to name a few. There are so many variables it is impossible to cover all in this publication.

Considerations

2-340 When conducting building clearances, it is important the Section Commander remains calm. The ability to remain calm will help the Commander remain situationally aware, assimilate information and make informed choices. The section will often be faced with multiple threats so the ability to think clearly and prioritise threats quickly is critical to success.

2-340 To assist in decision making the section commander must simplify what is presented to them. Failure to do so will result in excessive cognitive burden, hesitation when making decisions and exposing soldiers unnecessarily to threats. When deciding which threats/enclosures to clear first the commander should consider:

a. **Shapes.** Infrastructure in the urban environment predominantly forms angular shapes. Buildings and rooms are square or rectangular, corridors form L shapes and intersections. Breaking the environment down into simple shapes allows the commander to identify the method required to deal with them. For example, a corner in a corridor forms an L shape, cleared by conducting the Barricade drill, opposing doors in a corridor form an intersection and cleared using V-Stack or split stack.

b. **Prioritising Threats.** Rarely will the section be faced with a ‘perfect scenario’. L shapes will be complicated by opposing threats. Opposing threats will be complicated by constricted space. When prioritising threats the commander must consider:

(1) **The Floor Plan.** While the exact floorplan may not be known the Commander should have an idea of the overall size and shape of the building. Where possible the Commander should use the layout of the building to their advantage. For example, understanding where the external walls are situated and clearing along them reduces the risk of the section becoming over extended and surrounded by multiple threats.

(2) **Maintain Balance.** The commander must ensure the section remains balanced. Failure to remain balanced leaves the section exposed and can result in fratricide.

(3) **Fatal Funnels.** Movement through a fatal funnel is inevitable. Where movement through a fatal funnel is unavoidable, opposing threats for example, the commander should prioritise the safest option; clearing open doors before closed[11]. Where opposing open doors exist the commander should aim to clear both enclosures simultaneously where possible.

c. **Friendly Forces.** The location of friendly forces must be considered. Understanding the floorplan and maintaining balance will help to avoid fratricide, particularly where the threat of over penetration exists. The location of non-organic fire support must also be considered, particularly accurate marking of the FLOT.

d. **Holding Threats.** Once the commander has prioritised threats and identified the next area to be cleared all remaining threats must be held by posting firers to cover those threats.

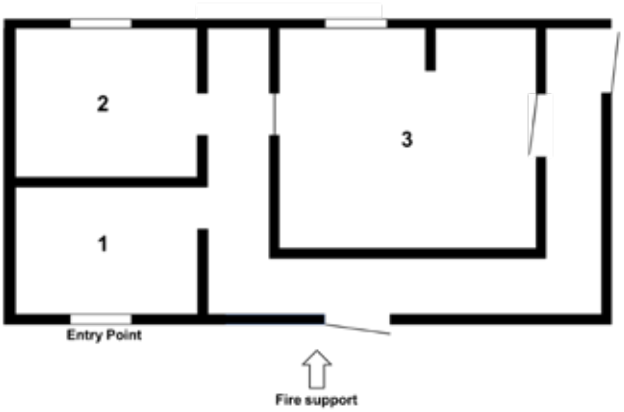
e. **Speed.** While speed is a principle of CQB, speed is relative, and a commander should not sacrifice safety for speed. Rushing the estimate, failing to properly brief or pressuring firers to hurry is certain to result in friendly casualties. If a section commander cannot account for the location of their soldiers or their progress through the building, they are moving too fast and have lost or run the risk of losing control of the attack. A commander should not be afraid to hold all movement to regain situational awareness.

Scenarios

2-340 The following scenarios highlight some of the common problems a commander may face when conducting building clearances and explains the thought processes when dealing with them. The solutions represent a method to the given problem to demonstrate the thought processes highlighted earlier in this section, other solutions will exist, and commanders must use their own initiative when conducting their estimate.

11 Clearing a closed door before open exposes the team to view and fire from the open door.

Scenario One



Room 1

- Assault group 1 enter and clear room 1 and hold threat (doorway). Section Commander and assault group 2 are in cover, away from the building during clearance and only move forward and enter the building once room clear is given.

- Only one threat exists (doorway). Internal walls are masonry, so commander indicates doorway as next objective to assault group 2. Conscious the doorway opens into a corridor with the potential of multiple threats beyond the commander indicates the door and orders **"3 person, clear AMBER"**.

Corridor

- Assault group 2 and firer from assault group 1 stack, deploy L107, enter and clear the corridor. Firer to the left reports **"clear left, short corridor, opposing doors – open door left, closed right"**. Firer to the right reports **"right clear, L shape left"**.

- To secure the corridor the commander orders **"Hold left, Barricade right"**.

- Firer to the left holds the opposing threats while the firer on the right conducts a Barricade with the third firer in close support. On completion of the Barricade the assault team report **"Clear, long corridor, open door right 3 metres"**.

- The commander has now secured the first section of corridor and is faced with several threats, two opposing doors and a long corridor. The commander now considers:

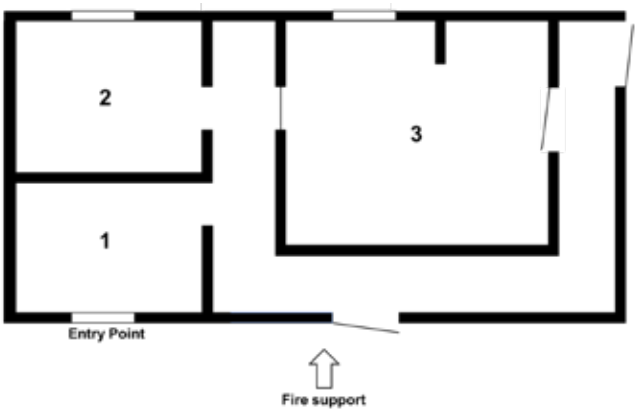
    - **The Floor Plan**. Before entering the building, the commander assessed the size and shape of the building. While clearing right would keep the team against the external wall it would require stretching the section along the length of the building, unnecessarily overextending the section.

- **Maintain Balance**. Not an issue at this point of the assault.
- **Fatal Funnels**. While the threats to the left are opposing one of the doors is closed. The commander prioritises the open door.

- Having prioritised the threats the commander now issues his QBO's.

"Hold right (firers maintain barricade), **Roll 1 open door** (firer from room 1 now moves to support firer holding opposing threats and becomes the assault pair, no long threat), **hold closed door** (second support firer moves forward from room 1 to cover closed door)"

- Commander remains in room 1 throughout.

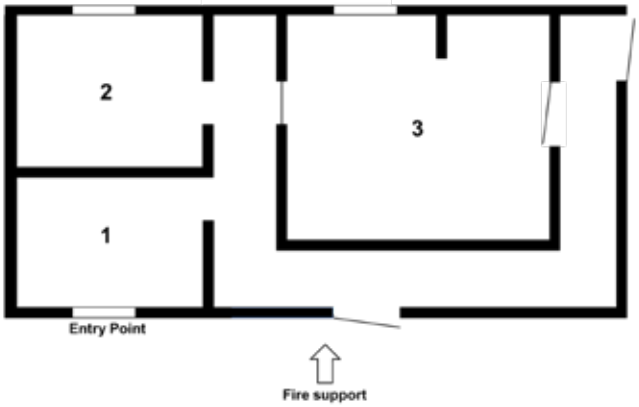


Room 2

- Assault pair enter and clear room 2 and report "Room clear, window right".
- Remaining in room 1 the commander considers:
  - **The Floor Plan**. The commander now knows that they have cleared the gable end of the building and that the section is protected by the external walls on three sides.
  - **Maintain Balance**. Clearing the long corridor on the right would overextend the section and risk fratricide when clearing room 3.
  - **Fatal Funnels**. Moving a firer from room 2 to assist the clearance of room 3 would require movement through the fatal funnel of room 3. Commander has enough workforce to push support forward from the rear.
- Having prioritised the threats the commander now issues QBO's for the next clearance:

"Hold room 2 (assault pair hold in room 2, covering window), **Roll 1 closed door** (support fire moved forward to support firer covering closed door who now becomes the No1 for the clearance)."

- Section commander remains in room 1 throughout.



Room 3

- Assault pair conduct door check and gain entry. During fighting from the doorway the No1 calls **"large room"**.

- Firer from room 2 immediately joins the assault team leaving one firer behind to cover the window.

- Assault team enter room 3, left firer reports **"Window left, door front, dead space left 3 metres"**. Right firer reports **"Right clear, hold left"** then proceeds to move along the wall on their right to clear the dead space from depth. Once dead space is cleared firer reports **"Room clear"**.

- Moving into the corridor between rooms 2 and 3 the commander now considers:

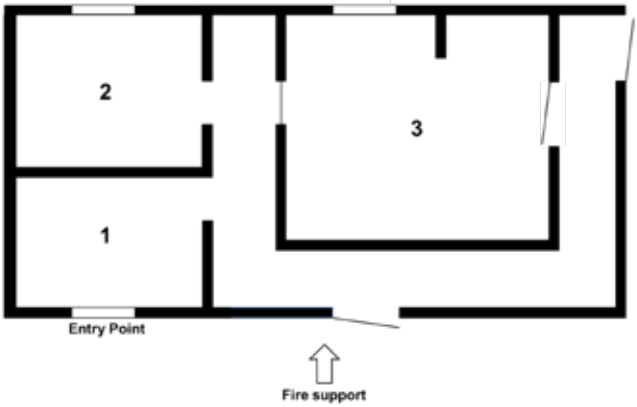
    - **The Floor Plan**. The section has now cleared most of the floor and has two potential entry points that need to be covered.

    - **Maintain Balance**. The section has moved forward on the left, continuing forward (clearing through the door at the end of room 3) will result in the section being unbalanced.

    - **Fatal funnels**. End of room 3, movement through can be avoided.

- To maintain balance the commander decides to hold room 3 and to clear along the corridor on the right and issues QBO's:

"Hold left (room 3 held by two firers, one covering the window the other the door), **advance right** (person barricading the corridor plus support firer advance along the corridor)."



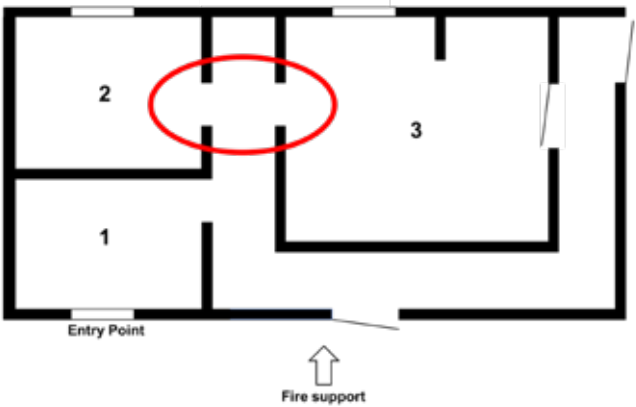
Corridor Cont

- Assault team clear along the corridor ignoring the door on the right which is covered by fire support from neighbouring building.
- Commander reports progress to fire support and prompts a support firer to mark the FLOT to the fire support.
- As the assault team approaches the corner the lead firer reports **"L Shape left"**.
- Commander orders **"Barricade left"**, remaining a tactical bound behind with any firers not holding a threat.
- Assault team conducts barricade and reports **"short corridor, open door left 2 metres, open door right end of corridor".**
- Understanding the floorplan of the building the commander is certain the door to the left leads to room 3 and the door on the right leads outside. For confirmation laser handshakes are conducted between room 3 and the corridor. Once confirmed the corridor is then cleared to the external door.

Consolidation

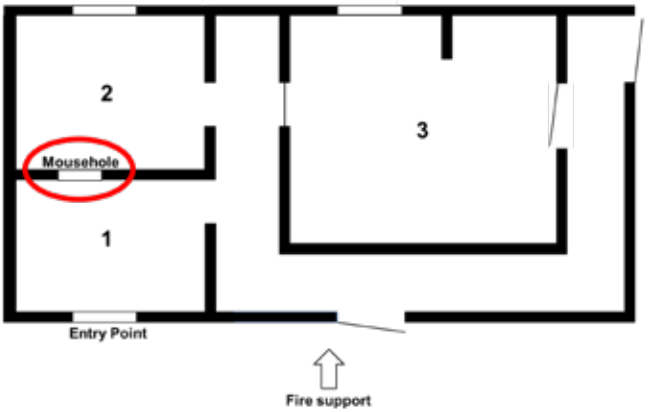
- Once the floor is cleared the commander ensures all threats are covered (potential entry points, windows etc) and reports clear to the Pl Comd.

Scenario Variation – Opposing Open Doors



- In this scenario the opposing threats are both open. This leaves the commander several options:
    - **Roll One Enclosure Then the Other**. This option should be avoided as it exposes the first assault team to the fatal funnel of the second enclosure.
    - **Simultaneous "Roll with 1"**. While simultaneously fighting from the door avoids committing forces into uncleared rooms there is likely to be insufficient space to facilitate firers rolling back to back unless operating within a commercial building.
    - **Simultaneous Dynamic Entry**. Both assault teams enter simultaneously after deploying L109 or L107 (additional synchronisation necessary if deploying L109). This option, however, commits forces into unknown spaces and leaves them particularly vulnerable to any threats within.
    - **Dynamic Entry into the First Enclosure Then Immediate Roll of the Second**. Minimises the use of dynamic entry.
    - **Barricade One Enclosure While Rolling the Other**. Essentially holds one threat while the other is cleared using fighting from the door. Still exposes firers to opposing fatal funnels but minimises exposure.
- While some options are more favourable than others it would be wrong to assume that one option will suit all situations. The commander and point firer must make an assessment based on the current situation and enemy threat and then decide which method is the safest.

Scenario Variation - Mousehole



- In this scenario a mousehole is present from room 1 into room 2 (or the commander created one).
- While the mousehole may create additional problems for the initial entry into room 1 it makes the subsequent clearance of the building easier. In this scenario the commander should clear into room 2 from room 1 for the following reasons:
    - Clearing into room 2 allows the section to form a secure area across the gable end of the building from which they can clear along the length.
    - Clearing into room 2 avoids clearing into a corridor and exposing the section to multiple threats.
    - Once room 2 is cleared the section will be able to clear a lot of the corridor from depth before committing.
    - Once cleared the section can remain balanced by pushing forward on two fronts (left and right) in a caterpillar fashion – Room 2 (Left) into corridor then holds door to room 3, Room 1 (Right) into corridor then barricades long threat corridor, Left then clear room 3 and holds, Right then clears to end of corridor and barricades then holds.

Chapter 3
Subterranean

Introduction

3-01 While subterranean systems are not unique to the urban environment the physical systems that support urban areas create many varied subterranean systems. No two subterranean systems are the same but they usually share common characteristics.

3-02 While the thought process of many may be to avoid and/or deny subterranean systems recent conflicts have shown that both state and non-state adversaries possess the will and engineering expertise to extend/connect existing passageways and excavate entirely new ones to exploit the concealment and protection provided by the existing urban subterranean systems. Urban subterranean systems cannot therefore be abandoned for the enemy to exploit or treated as a discrete terrain.

3-03 Training in the subterranean environment should not be thought of as niche or conducted just to provide a 'change of scenery'. It should be held in the same regard as training in the urban surface space, only then will soldiers become proficient with the TTP's specific to this terrain.

3-04 While the subterranean space is represented in most urban training facilities it is generally of a basic standard and only facilitates movement from one building to the next. Units wishing to conduct a thorough subterranean training package should seek to use training areas such as Corsham Mines Training Area or Gibraltar Tunnels.

a. **Corsham Mines Training Area (CMTA).** CMTA is a 35-acre Bath stone quarry (Cat 1) made up of over 60 miles of tunnels that were converted to a 'cold war city' (Cat 3) in the late 1950's. The mines are now available for military training and facilitate training across varying types of subterranean categories.

b. **Gibraltar Tunnels.** Gibraltar contains approximately 34 miles of tunnels, a small percentage of which can be used for military training.

Lesson 16. Subterranean Categories and Hazards

3-05 ***Aim.*** *The aim of the lesson is to teach the categories of subterranean systems and the inherent threats and hazards of operating in the subterranean environment:*

a. *Categories.*

b. *Threats and hazards.*

3-06 ***Timings.*** *One 40-minute period.*

3-07 ***Method.*** *Basic instructional indoor or outdoor period.*

3-08 ***Stores.***

Rifle 1 per soldier
Magazine 1 per soldier
BFA 1 per soldier
Fighting Order 1 per soldier
Combat helmet 1 per soldier
PPE (glasses & gloves) 1 per soldier
Demonstrators as necessary

3-09 ***Preparation.***

a. *Reconnoitre the training area and select positions to best illustrate the drills.*

b. *Rehearse the demonstrators, preferably immediately prior to the squad arriving.*

Preliminaries

3-10 ***Safety Precautions.*** *Normal.*

3-11 ***Revision.*** *Nil.*

Introduction

3-12 Knowledge of the nature and location of subterranean systems is of great value to both the attacker and defender in the urban environment. Recent operational experience has shown that adversaries possess the will and engineering expertise to extend/connect existing passageways and excavate entirely new ones to exploit the concealment and protection provided by existing urban subterranean systems. Urban subterranean systems cannot therefore be abandoned for the enemy to exploit.

Structure Categories

3-13 *Explain:* **Categories**. Subterranean structures are divided into the following three categories:

a. **Category One - Caves, Natural Cavities and Tunnels.** Many of these features were formed by natural processes but may have been developed for human use. Tunnels may have been constructed for a range of uses including burial (catacombs) or mining minerals or water supply. Category one structures are further subdivided by the extent to which they have been developed:

(1) **Rudimentary.** Rudimentary structures lack basic infrastructure or even engineered support to reduce the risk of structural collapse (*see* Fig 3-2a).

(2) **Sophisticated.** Sophisticated structures will have some form of structural reinforcement to enhance the natural support of the surrounding ground, to reduce the risk of collapse, or damage by earthquakes or flowing groundwater. These structures will also usually be larger and have life support infrastructure such as ventilation shafts, electricity power supply and therefore potentially lighting and powered drainage and ventilation.

b. **Category Two - Urban Subterranean Systems.** Urban subterranean systems are built to support the civilian population and will be the most common category in the urban environment. Their location, foundation, design and depth will be determined by the subterranean geological conditions. Some may be able to withstand military strikes due to their depth and/or construction materials but are not designed to. It is important to remember that civilians who have not been able to escape will seek protection from combat by occupying urban subterranean systems. Category two structures are further subdivided into substructures and civil works:

(1) **Substructures.** These include basements, shelters and car parks. These may appear like sophisticated category one structures but usually have explicitly designed structural reinforcement or shoring and are therefore more robust.

(2) **Civil Works.** These works include aqueducts, sewers, passageways, underpasses, rail and road transportation and utility tunnels.

c. **Category Three - underground facilities.** Underground facilities are sophisticated, complex structures specifically designed and built to provide maximum concealment and protection for the people and equipment within them (*see* Fig 3-2b). They are generally hardened and protected using a variety of means including bomb traps, blast doors, blow throughs and strongpoints. Underground facilities usually rely on ‘umbilical structures’ to function. For example: electrical power generators and supply lines; communications

antennas, satellite dishes and connecting wire or fibre optic cables; life support and environmental controls such as heating, ventilation, water storage, supply and waste disposal; means of descent such as escalators, lifts or even narrow-gauge rail. The effectiveness of underground facilities can potentially be reduced if the critical umbilical structures can be made inoperable. Back-up facilities may, however, have been installed to enable the facility to continue operating for extended periods without support from umbilical structures. Construction standards vary, but they are subdivided into shallow and deep based on the depth and amount of overburden (soil and rock) above them.

(1) **Shallow.** An underground facility with 20 metres or less overburden. Examples include silos, cut-and-cover facilities and basement bunkers.

(2) **Deep.** An underground facility with more than 20 metres overburden. Examples include protection sites for government officials, military operations facilities and research and production facilities for weapons of mass destruction.

3-14 *Explain:* **Supporting Infrastructure**. Underground facilities may include the following external umbilical structures with some having robust internal redundancies:

a. Power, such as above-ground power lines, buried power lines, substations, transformers, power generators and batteries.

b. Communications, such as: landline wire and fibre optic cables, buried antennas, surface antennas, satellite dishes, internal and external networks.

c. Life support and environmental controls, such as heating, ventilation and air conditioning, water lines/pipes or storage tanks, vents, water chillers, sewage disposal, dehumidifiers, carbon dioxide scrubbers, chemical, biological, radiological and nuclear filters, blast vales and air handlers.

d. Transportation, such as access ways, vehicles, trains, conveyors, escalators and elevators.

Threats and Hazards

3-15 *Explain:* The threats and hazards of the subterranean pose greater danger and challenges than surface operations. These challenges are grouped into the following four categories:

a. Environmental and atmospheric hazards.

b. Material and chemical, biological, radiological and nuclear hazards.

c. Structural hazards.

d. Psychological hazards.

3-16 *Explain:* **Environmental and Atmospheric Hazards**. Environmental and atmospheric hazards are the most complex and dynamic of the four categories and, next to the enemy and structural failure, pose the greatest hazard. Every action that any actor takes underground may make the environment worse. Everything from weapons fire to breathing (consuming oxygen and exhaling carbon dioxide) can make the environment more dangerous. Without understanding and planning for the environment, units may suffer casualties before contacting the enemy.

a. **Air Quality.** Many contributing factors may result in dangerously poor air quality within subterranean systems. Poor air quality can physically stress personnel and reduce their stamina and effectiveness. There can be significant differences in air quality between the floor and the ceiling of a subterranean space due to the layering of gases. These potential differences are important to understand when monitoring air quality. Personnel need to be alert to the symptoms that may indicate poor air quality and be aware of the danger percentages of gases so that they understand air monitor readings. The most common factors that cause poor air quality are:

b. **Fire.** Subterranean fires rapidly consume oxygen, are a direct hazard to personnel and equipment and can cause combustibles such as explosives or fuel containers to explode. Carbon dioxide extinguishers should not be used in the subterranean terrain.

c. **Overpressure.** The overpressure created inside subterranean spaces using explosives and weapons can be significantly higher than on the surface.

d. **Radio Communications.** Strained communications, degraded position, navigation and timing systems and confined space in unknown terrain combine to make navigation, command and control and battlespace management extremely difficult.

e. **Obscurants.** Obscurants such as smoke and dust from explosive breaching of barriers, fire, weapons discharges and explosions tend to persist for much longer due to reduced air movement. Obscurants rapidly degrade the ability to see and make sense of the immediate surroundings.

f. **Water.** Water can be especially dangerous in underground systems. In addition to natural or deliberate flooding, water traps may have been constructed to deny access to other parts of a subterranean facility or to reduce the effects of gases and explosives. Drowning is a real risk when attempting to traverse a water trap which may be deliberately or inadvertently become electrified due to collateral damage.

g. **Movement Hazards.** Category one structures can contain numerous hazards to movement: vertical shafts, steep slopes, uneven flooring, holes, deadfalls and natural and manufactured obstacles. Category two structures

will have movement hazards related to their civil functions including fuel, steam or water pipes, valves, and cables. Category three structures will have obstacles designed to attrite and delay attacking forces. All movement hazards will be difficult to detect in low or no light or obscured conditions.

h. **Vermin.** Subterranean systems may be inhabited by venomous insects, reptiles, bats or rodents. Some systems may also be inhabited by larger land, most notably feral dogs, or aquatic animals.

i. **Human waste.** Construction standards for the removal of human waste vary enormously, but damage may stop even the best from working. Operating in such conditions may expose friendly forces to dangerous hygiene issues and bacterial infections.

3-17 *Explain:* **Materiel, Toxic Industrial and Chemical, Biological, Radiological and Nuclear Hazards**. Items of materiel located in storage areas, laboratories or missile launch sites are dangerous to handle and operate around. Extreme caution is needed as rocket fuels or toxic chemicals can combust and contribute to poor air quality and they also prevent or limit the use of certain munitions and explosives within these facilities. If chemical, biological, radiological and nuclear agents are used in tunnels, concentrations would be higher and persist longer than on the surface as they would not be dissipated by air movement.

3-18 *Explain:* **Structural Hazards**. Construction standards of subterranean facilities vary. Caution is required when breeching or using weapons inside a subterranean structure to avoid an inadvertent collapse. Engineer advice should always be sought on the type of munitions that may be used and those that should be avoided when clearing a subterranean complex. Tunnels and passageways can, however, be deliberately collapsed to deny access or to trap attacking forces inside, but this should be avoided without a clear understanding of the rock mass. A sudden collapse may lead to wider unintended consequences that thwart the commander's intent.16 Before entering and while inside a subterranean system, personnel need to be alert for the signs that may indicate instability and may cause a collapse: loose rocks or dislodged construction materials overhead; damaged, cracked or dislodged shoring; indications of fire damage to the support structure; water running down the walls. When a structural hazard is identified, its location and description must be relayed to the whole team and to the surface support team. The hazard must be marked and avoided.

3-19 *Explain:* **Psychological Hazards**. Descending into dark and unknown subterranean spaces increase feelings of isolation, claustrophobia and fear. These can combine to affect soldiers' psychological well-being and self-confidence even before direct contact with the enemy. Commanders must account for these psychological hazards when planning, conducting and after the operation as they influence the unit's ability to accomplish their subterranean mission and may have medium to long-

term effects. Measures to mitigate these psychological hazards include leadership training, mental resilience training, sleep discipline and by minimising the time spent underground by rotating teams on a regular basis.

3-20 *Confirm by questions.*

Conclusion

3-21 **End of Lesson Drill.**

a. *Questions to and from the squad on the lesson.*

b. *Confirm by questions and practice.*

c. *Normal safety precautions.*

d. *Pack kit.*

e. *Summary. Emphasise three or four main points from the lesson.*

f. *A forecast of the squads next lesson in this subject.*

3-22 - 3-29. *Reserved.*

Fig 3-1. Training in Gibraltar Tunnels

a. CMTA Cat 1 Rudimentary.

b. CMTA Cat 3 Underground facility

Fig 3-2. Corsham Mines Training Area (CMTA)[1]

1 CMTA is a 35-acre Bath stone quarry (Cat 1) that was converted to a 'cold war city' (Cat 3) in the late 1950's. The mines are now available for military training.

Lesson 2. Patrol Techniques and Procedures

3-30 ***Aim.*** *The aim of the lesson is to teach the techniques and procedures when operating in the subterranean environment:*

a. *Subterranean operations considerations.*

b. *Access point.*

c. *Patrol techniques and procedures.*

3-31 ***Timings.*** *One 40-minute period.*

3-32 ***Method.*** *Basic instructional PowerPoint.*

3-33 ***Stores.***

Rifle 1 per soldier
Magazine 1 per soldier
BFA 1 per soldier
Fighting Order 1 per soldier
Combat helmet 1 per soldier
PPE (glasses & gloves) 1 per soldier
Demonstrators as necessary

3-34 ***Preparation.***

a. *Reconnoitre the training area and select positions to best illustrate the drills.*

b. *Rehearse the demonstrators, preferably immediately prior to the squad arriving.*

Preliminaries

3-35 ***Safety Precautions.*** *Normal.*

3-36 ***Revision.*** *Subterranean categories and hazards.*

Introduction

3-37 *Explain:* Patrolling in the subterranean environment can be extremely dangerous. The unknown terrain, structure, lack of ambient light and available support due to restricted access and routes can soon become disorientating putting patrol members under extreme pressure, both physically and psychologically. It is important that all patrol members are aware and rehearsed in the specific risks and patrol techniques to enable a safe and efficient patrol.

Subterranean Operations Considerations

3-38 *Explain:* **Weapon Systems in Tunnels**. The confined space of tunnels and sewers amplifies the sounds of weapons firing to a dangerous level. The overpressure from explosive natures exploding in a sewer or tunnel can have adverse effects on friendly troops such as ruptured eardrums and wounds from flying debris. Additionally, gases found in sewers can be ignited by the blast effects of these munitions.

3-39 For these reasons, small-arms weapons should be the principal weapon systems employed in tunnels and sewers. To be fully effective firers require to be well practiced in CQB shooting and firing from different positions and firing whilst closing.

3-40 Friendly troops should be outside tunnels or out of range of the blast and pressure effects when mines or demolitions are detonated. The provision of additional ear protection for subterranean operations should be considered.

3-41 *Explain:* **Clothing**. Movement underground will soon degrade a soldier's personal equipment and clothing. Simple 'over clothing' without buttons and zips (such as coveralls) is preferable to standard combat kit that is easily destroyed by abrasion. Protection on elbows and knees should be considered essential. In natural cave systems with water, cold injuries are a very real risk due to the wind-chill factor. In dryer or manufactured systems heat injuries are equally likely due to the increased heat and level of physical activity required.

3-42 *Explain:* **Load Carrying**. The use of standard VIRTUS in confined spaces may be considered impractical. Multiple low volume drag bags (attached to an individual's belt) (for example, small 'canoe bags') with a reduced number of straps and buckles should be used in preference to webbing and bergens that would soon be rendered useless.

3-43 *Explain:* **Lighting**. Some form of illumination is essential in any underground environment. Head or body mounted illumination sources will free up an individual's hands. A secondary source of illumination is also essential as light failure underground has serious implications. Light sources become a natural target; IR illumination with NVGs should be considered.

3-44 *Explain:* **Communications**. Traditional HF and VHF equipment may be virtually useless underground. The only reliable means of communication to the surface is therefore to lay line or via link men. PRR remains an effective means of communication at PI level if line of site is maintained.

3-45 *Explain:* **Navigation**. Although a compass works efficiently underground navigation within an unfamiliar three-dimensional environment is extremely time consuming. Groups entering a complex system are left with no alternative other than to draw a simple sketch map with bearings and approximate distances to maintain their own orientation and to find their way out again. Consideration may be given to

the use of way-markers or laying cord although these could be repositioned, if left unattended, by a defending force. On very rare occasions the use of a compass can be impossible due to local magnetic anomalies. Such situations would be obvious before venturing underground.

3-46 *Explain:* **Resupply**. It is extremely difficult to secure a resupply route within a three-dimensional environment. Troops operating underground should therefore be as self-sufficient as possible. This practical limitation reduces the duration which troops can operate underground.

3-47 *Explain:* **CASEVAC**. The evacuation of casualties from an underground environment provides some practical problems. Cave rescue organisations around the world use a simple rule of thumb 'for every 1hr you walk into a tunnel it will take up to 10hrs to carry a stretcher out'. In a tactical setting, evacuation may be more complex. Careful consideration must be given to the method of evacuation for casualties – specialist or improvised stretcher systems may be necessary. Even with what would be considered minor injuries, constricted sewer passages and complicated tunnels often make movement extremely difficult.

3-48 *Explain:* **Ladders / Rope**. In complicated natural and sewer systems it will often be necessary to use rope and ladders to gain access and to move underground. This practical limitation will also apply to any defending forces underground. Fixed or in situ ropes and ladders found in any underground environment should be treated with caution as such locations often channel assaulting troops. Rope descent techniques may be required to descend shafts more than 10m, and a practical method of return considered.

3-49 *Confirm by questions.*

Access Point

3-50 *Explain:* The access point to a subterranean system can vary in complexity depending on the type of subterranean system. For example, a natural cave system may have an unrestricted opening allowing easy access while a secure underground facility may have large, thick, steel security doors. While access is ordinarily achieved by breaching such barricades, consideration must be given to achieving surprise by gaining entry from an unexpected direction. For example, via a ventilation shaft. Whatever the type of access point it must be secured prior to entering the subterranean system.

Patrol Techniques and Procedures

3-51 *Explain:* Patrols of subterranean passages within a platoon or company area should normally be the responsibility of a patrol of section size. Only in extremely large subterranean features should the size of a patrol be increased. All patrol members must be adequately equipped before conducting a subterranean patrol (an equipment

list can be found at Fig 3-3). Once organised, rehearsed and equipped the following should take place:

a. The area around the entrance is secured and any maintenance hole covers are removed / doors opened. This should be conducted by a supporting callsign or the Platoon HQ group.

b. A 15 minutes listen, and watch is maintained to detect for human activity within the tunnel and to allow any concentrations of hazardous gas to dissipate.

c. If available, air quality monitors mounted on ground reconnaissance vehicles should be deployed to check the air quality further into the tunnel.

d. Alternatively, the first assault pair descends into the tunnel and clears the first enclosure / length of tunnel. Once secure they use their personal air quality monitor to check the air is safe and determines how much the patrols movement will be restricted, observing each other for signs of harmful effects of gasses.

e. The assault pair should be attached to a safety rope to allow them to be pulled to safety should they become ill or is exposed to danger.

f. Once clear the patrol commander enters the tunnel with the remainder of the patrol and begins to move along the chosen route.

g. Dependant on the type of subterranean system consideration should be given to the use of a safety rope linking all patrol members, particularly within mines, cave systems and tunnels with fast flowing water. Should any patrol member lose their footing or fall the remainder of the patrol act as anchors and pull the patrol member to safety.

h. The lead scout should always be supported by a No2 with both patrol members following the principles of the No1 and No2. This will be covered in more detail in the next lesson.

i. The commander should be a tactical bound behind. Positioned to enable control of scouting group while navigating and recording information on the passageways[2].

j. The remainder of the patrol should maintain five-meter interval spacing. If water in the tunnel is flowing fast and/or there are slippery obstacles, the intervals should be increased to reduce the risk of everyone falling if one person slips.

2 Dimensions, changes in construction and shoring, footing, slopes, changes in direction and junctions.

k. The rear soldier is tasked to provide rear security and marks the route with chalk or spray paint and infra-red cylumes to help navigate the way back and mark the route taken for friendly forces should the patrol require assistance.

l. The patrol commander notes the bearing and distance/pace counts for each leg of the route, possibly from one turn to another. When a utility access hole cover to the surface is found, it should be opened to determine its location – which the patrol commander records. The use of recognition signals must be used to prevent a friendly fire incident when the cover is exposed. While the utility access hole is open, the patrol should attempt to establish radio communications and send a situation report.

m. Once the patrol has returned and submitted its report, the commander needs to decide how to defend or deny the tunnel. If the tunnel is used, patrol members should act as guides.

3-52 *Confirm by practice.*

Conclusion

3-53 **End of Lesson Drill.**

a. *Questions to and from the squad on the lesson.*

b. *Confirm by questions and practice.*

c. *Normal safety precautions.*

d. *Pack kit.*

e. *Summary. Emphasise three or four main points from the lesson.*

f. *A forecast of the squads next lesson in this subject.*

3-54 - 3-59. *Reserved.*

All patrol members must carry:	
1	A sketch map of the subterranean passageways with magnetic north, the patrols route, bearings and distances marked. This provides all patrol members with the means to find their way back to the surface if they become separated. If the patrol route crosses into an adjacent unit's battlespace, the boundary(ies) must also be marked on the sketch map. This will enable the patrol commander to tell the surface team when they are approaching a boundary and seek clearance to move into the adjacent unit's battlespace and reduce the risk of a friendly fire incident.
2	Compass – noting that its accuracy may be affected by magnetic rock, metal construction materials or electrical cables.
3	Respirator
4	Personal air quality monitor
5	Personal Oxygen Generator (POG)
6	Protective gloves and knee pads
7	Hearing protection
8	Whistle
9	Chicken or screen wire to wrap around boots to improve footing on slippery surfaces
10	Night vision devices and IR source.
11	Thermal optics
12	Head torch
13	Cylumes – IR and coloured
14	Carabiners
15	Water and rations
In addition, the patrol must carry:	
1	A safety rope – to which each patrol member is clipped on with their personal carabiner
2	Radio or field telephone and 500m line. The line should be marked every 10m and 100m to aid navigation
3	Tools to open utility access hole covers
4	Means to mark features along the route: chalk, spray paint or IR cylumes
5	Spare batteries for all items
6	Feelers for detecting tripwires

Fig 3-3. Patrol Equipment

Lesson 3. Subterranean CQB

3-60 ***Aim.*** *The aim of the lesson is to teach the employment of urban CQB when operating in a subterranean environment:*

a. *The stack variations.*

b. *Fundamentals.*

c. *Complex terrain.*

d. *Tunnels.*

e. *Shapes.*

f. *Chambers.*

g. *Equipment.*

3-61 ***Timings.*** *Two 40-minute periods.*

3-62 ***Method.*** *Basic instructional outdoor period.*

3-63 ***Stores.***

Rifle 1 per soldier
Magazine 1 per soldier
BFA 1 per soldier
Fighting Order 1 per soldier
Combat helmet 1 per soldier
PPE (glasses & gloves) 1 per soldier
Demonstrators as necessary

3-64 ***Preparation.***

a. *Reconnoitre the training area and select positions to best illustrate the drills.*

b. *Rehearse the demonstrators, preferably immediately prior to the squad arriving.*

Preliminaries

3-65 ***Safety Precautions.*** *Normal.*

3-66 ***Revision.*** *Patrol techniques and procedures (Subterranean entry drills).*

Introduction

3-67 *Explain:* In larger cities, subterranean features include sunken garages and multi-level car parks, underground passages, railway lines, utility tunnels, sewers and storm drains. Many of these features will allow the movement of troops. Even in smaller European towns, sewers and storm drains permit soldiers to move beneath street level during operations. While the stack and building clearance drills still have utility in this environment it is important to know and understand their limitations and the variations specific to this terrain.

The Stack Variations

3-68 *Explain and demonstrate*: The principles of the stack still hold relevance in the subterranean environment and must always be enforced[3]. The increased risk of trip wires and boobytraps does, however, require additional consideration with the responsibility resting with the No2 (unless space allows for a dedicated firer to be nominated). The No1 and No2 stack as previously taught with the following variation.

a. The No1 position and stance is as previously taught. Primary focus is always the threat. The use of low ready is particularly important in the subterranean environment where low light levels and the increased risk of trip hazards, holes and drops is present.

b. The No2 will be positioned slightly left or right of the No1 to allow scanning of the immediate area in front of the No1. Primary focus will be the identification of hazards, trip wires, booby traps and holes. The No2 must always be prepared to adopt or support the position of No1.

c. The No2 may require to utilise the laser of the LLM to assist in identification of trip wires[4]. If using the LLM the No2 must ensure their safety is on and that they are positioned appropriately to negate 'flagging'.

d. Should the No2 identify any threats or areas of concern they should halt forward movement using the word of command **"HOLD"**.

Fundamentals

3-69 *Explain:* Tunnels, just like corridors, provide the enemy with longer lines of observation and fire, routes for movement or the siting of obstacles to force delay and canalise the attacker. As with clearing corridors there are three factors important to tunnel clearance:

a. **Be Alert.** Firers must keep their head and eyes up while moving down a tunnel with point firers scanning constantly to the front to identify threats. Identified threats, danger areas or areas to clear must be communicated quickly and clearly to the rest of the section.

3 Chapter 2, Urban CQB Fundamentals.
4 The trip wire will break the beam of the laser making it identifiable to the No2.

b. **Control.** The rate of movement should be strictly controlled to ensure that threats are identified and engaged. Moving too fast could cause firers to miss danger areas, leaving a threat to the team's rear.

c. **Security.** Security must be maintained as the team progresses down the tunnel. At least one firer should always maintain point security to protect the rest of the team. If there are two-point firers, they should employ interlocking arcs of fire and observation down the tunnel.

Complex Terrain

3-70 *Explain:* The subterranean environment, just like the urban, is extremely complex which precludes a 'one size fits all' approach to TTP's. For example, the drills for Urban CQB still hold relevance but so too do the drills for other complex environments such as trench clearance and fighting in woods and forests (FIWAF).

3-71 *Explain and demonstrate*: Subterranean systems may consist of short, winding tunnels or long straight tunnels. Just like FIWAF, contacts within the subterranean environment should be categorised as long or short:

a. **Short Contact.** Short contacts are predominantly categorised by contacts under 50m. Due to the short distance and restrictions on manoeuvre short contacts should be cleared using closing whilst firing and cadence firing. Consideration must be given to the level of training of the soldier and type of position (50m may increase or decrease in relation to the level of training and type of position; a bunker will require more accurate suppressive fire).

b. **Long Contact.** Contacts from more than 50m away are generally classed as long contacts and will require to be cleared using conventional fire and manoeuvre. The confines of the subterranean system will dictate the length of bounds; narrow tunnels will require shorter bounds to avoid fratricide and cutting off the suppressing fire. The type of subterranean system, light levels and going under foot will dictate the rate of advance. The prone position should be avoided due to the increased risk of casualties from ricochet[5].

Movement

3-72 *Explain and demonstrate*: The use of stack formations is as previously taught. For example, heavy stack left should be used for a tunnel that curves to the left, split stack for long straight tunnels and V-Stack for wider tunnels.

3-73 *Explain and demonstrate*: The extreme darkness makes it easy to miss and bypass adjoining tunnels, particularly when in contact. All tunnels must be cleared or held. A minimum of two firers should be used to 'hold' a tunnel (threat) and allow the patrol to continue their current task or route. Soldiers must bring any tunnels to the attention of the commander if not cleared or being held.

5 Rounds ricochet off flat surfaces, such as concrete floors, and travel along them.

Marking

3-74 *Explain and demonstrate*: While cylumes remain the easiest method of marking excessive use can affect the image of NVG's. Marking should follow the same convention as urban with the following considerations:

a. Cylumes should be used to mark routes and cleared areas.

b. While cylumes are one of the easiest methods of marking their use can affect NVG's and illuminate friendly forces. Cylumes should be taped leaving only a 10mm hole or strip exposed. This minimises disruption to NVG's and avoids illuminating friendly forces. The cylumes must be placed so that the exposed part of the cylume faces away from the direction of enemy threat.

c. All cylumes appear green through NVG's so consider a marking convention for specific indicators. Two cylumes on the back of the helmet to indicate a commander for example.

Tunnels

3-75 *Explain:* **Narrow Tunnels**. A narrow passage (*see* Fig 3-4) is a passage that only allows movement in single file. The funnelling effect of the passage increases the effectiveness of enemy fire whilst restricting the number of friendly firers to a single barrel.

3-76 *Explain and demonstrate*: **Narrow Tunnel Clearance**. Narrow passages devoid of cover should be avoided and denied where possible. Where movement through such passages is unavoidable strict actions on must be in place to neutralise any threats swiftly. To clear a narrow passage, drills, similar to those used for trench clearance, should be employed (*see* Fig 3-5):

a. Movement should be from cover to cover where possible with the scouting / assaulting pair a tactical bound ahead of the remainder of the section.

b. The lead scout will be the No1 and act accordingly; weapon in the low ready position.

c. Any enemy should be engaged as per the ROE. The No1 must close whilst firing to swiftly neutralise the threat (*see* Fig 3-5a).

d. Should the No1 encounter a stoppage or need to change magazine they should immediately inform the No2 while dropping to the prone position.

e. The No2 must immediately move past the No1 and continue to close whilst firing, taking over as the No1 (*see* Fig 3-5b).

f. The No1 stacks on the No2 while concurrently clearing their stoppage or changing magazine (*see* Fig 3-5c).

g. This continues until the threat has been neutralised or the position has been cleared (*see* Fig 3-5d).

h. If a casualty is sustained it must be communicated back to the section commander while continuing to advance.

i. Support firers should be launched forward to support the advance only. Casualties will be treated and backloaded once the section arrives at the casualty's position.

j. *Where available ballistic shields will greatly enhance survivability during such clearances.*

k. *Longer tunnels may require the section commander to launch an additional assault pair to provide support, a tactical bound behind the assault pair. The remainder of the section should remain in cover until it is safe to move forward.*

3-77 *Explain and demonstrate*: **Narrow Tunnel Break Contact**. Extracting out of a narrow tunnel in contact is extremely difficult. Suppressive fire as you extract will be less accurate and the ability to swap between firers more difficult. In addition, the funnelling nature of the tunnel makes inaccurate enemy fire affective due to ricochet making casualties highly likely. It is for these reasons that movement along narrow tunnels should be avoided; particularly long tunnels devoid of cover. If in contact and closing whilst firing onto the enemy is not an option and extraction is necessary, the following drill should be employed:

a. Point firer should seek to regain the initiative by laying down a heavy rate of fire. Consideration should be given to the use of UGL if safe to do so.

b. The point firer, guided by the No2 will begin to take rearward steps, body armour remains face towards the enemy, firing whilst moving.

c. The No2 guides the No1 by holding the collar of the body armour and is always prepared to assume the position of the No1.

d. If a stoppage is incurred the No1 immediately calls "Stoppage!" while dropping to the prone position.

e. Once stoppage is called the No2 must immediately step over the No1 and resume suppression.

f. Once suppression has continued the No1 stands up and immediately rectifies the stoppage/reloads and assumes the position of the No2 guiding the No1 rearwards.

3-78 *Explain:* **Medium Tunnels**. A medium tunnel (*see* Fig 3-6) is similar in size to that of a corridor found in a commercial building, the smaller allowing two firers to operate comfortably side by side with larger tunnels accommodating the employment of the V-Stack. The employment of these formations is as previously taught.

3-79 *Explain and demonstrate*: **Medium Tunnel Clearance**. Clearance of medium tunnels can be achieved by utilising individual fire and manoeuvre (Long contact) and / or closing whilst firing at close quarters (short contact).

3-80 *Explain and demonstrate*: Medium tunnel break contact. Breaking contact in a medium sized tunnel can be achieved by utilising the tunnel break contact drill as previously taught[6]. The following considerations should be applied:

a. If not already adopted the section should move into a split stack formation and conduct the tunnel drill as previously taught (see fig 3-7).

b. In narrower tunnels the section may require to adopt a single stack to provide a movement corridor for extracting troops (see fig 3-8).

3-81 *Explain:* **Large Tunnels**. Large tunnels (*see* Fig 3-9) are similar in size to roads and streets, wide enough to support vehicle movement and in some cases wide enough to accommodate a full section in extended line. While split stack and V stack can still be utilised to great effect larger tunnels will allow the employment of more conventional formations such as extended line, arrowhead and half attack.

3-82 *Explain:* **Large Tunnel Clearance**. The size of large tunnels allows fire and manoeuvre to be conducted at pairs up to fire team level and the employment of more conventional tactics for clearance (*see* Fig 3-10). Consideration must be given to fire control and strict anti-fratricide measures.

3-83 *Explain:* **Large Tunnel Break Contact**. Breaking contact in a large tunnel can be achieved using conventional baseline break contact drills. Where the tunnel is only wide enough to facilitate pairs fire and manoeuvre the fire team not suppressing should extract any casualties and move directly to the rally point in single file against the safest side of the tunnel.

3-84 *Explain:* **Severely Restricted Tunnels**. A severely restricted passage is a passage that only allows soldiers to crawl or walk but with head, possibly trunk, hunched forward. Their ability to fire personal weapons or use protective equipment may be reduced.

3-85 *Explain:* Severely restricted, passages should be avoided and denied where possible as any form of fire and manoeuvre is extremely difficult; impossible in the case of a severely restricted narrow passage. The following actions should be considered when movement through such passages is unavoidable:

6 Close Combat - Survivability. Fieldcraft, Battle Lessons & Exercises Lesson 28. Section Break Contact Drills.

a. The point firer should consider switching to secondary weapon to assist with movement. Consideration must be given to the use of IR torch or IR flood with night vision.

b. A thermal sight, attached to the body via a sling, will assist scanning deeper into the tunnel.

c. The lead scout should be attached to a safety rope so that they can be retrieved from danger. This must be practiced and rehearsed.

Shapes

3-86 *Explain:* The clearance of shapes is as previously taught[7] with the additional considerations below.

3-87 *Explain and demonstrate*: **Barricade**. The barricade is conducted as previously taught. The shape and curve of the tunnel may require the firer to 'roll' further into the opening of the tunnel (*see* Fig 3-11a). Alternatively, the firer can request support and 'bump' across the tunnel opening (*see* Fig 3-11b).

3-88 *Explain and demonstrate*: **Intersection and Use of V-Stack**. The clearance of an intersection and use of V-Stack are as previously taught. Larger tunnels may, however, allow the employment of additional firers (*see* Fig 3-12).

Chambers

3-89 *Explain:* Chambers are common spaces found in tunnel networks used for a multitude of purposes. They can either be single chambers or interconnected with other chambers of similar or varying size. Chambers may be empty or may be cluttered with furniture, vehicles, stores and structural columns (*see* Figs 3-13 and 3-15). Chambers must be cleared and never bypassed. The size and shape of the tunnel and chamber will determine the method of clearance.

3-90 *Explain and demonstrate*: **Small Chamber**. The following is a suggested method of clearing a small chamber:

a. No1 identifies chamber, T junction, L shape left / right and informs the remainder of the team.

b. The commander maintains long security by ordering heavy, split or V stack.

c. Once the appropriate stack is adopted the commander orders **"Double Barricade or Barricade left / right".**

d. The No1 conducts the Barricade (*see* Fig 3-14a) then reports back threats, small chamber etc. Smaller chambers may be cleared visually from the position of barricade.

7 Chapter 2, CQB – Shapes and formations.

e. Where the chamber cannot be cleared from the position of barricade, due to size, infrastructure or structural columns for example, the commander will order **"2 or 3 person clear"** (3 person clear preferred).

f. Assault team stack on the No1 and signal ready from the rear verbally or via left shoulder squeeze (3 to 2, 2 to 1).

g. On receiving the signal ready the No1 initiates entry into the chamber and conducts the 5-step entry.

h. No1 and No2 move along the strong wall[8] and adopt a dominant position. No3 moves into the chamber and holds just past the corner. Dominant position being both closest corners if possible (*see* Fig 3-14b) No 2 holds centre between No1 and No3.

i. Additional workforce can be requested using **"Support 1/2"**.

j. Enclosure is cleared as previously taught.

k. Anti-fratricide measures and communication must be maintained between the assault team and cover team, particularly as the assault team approaches the opposite side of the chamber.

3-91 *Explain:* **Large Chamber**. A chamber that is too large for a single assault team to clear is classed as a large chamber (*see* Fig 3-15) and can, in some instances, be larger than a football pitch. The size of the enclosure will determine the number of troops required to effectively clear the space. A simple method for clearing larger chambers is detailed below (*see* Fig 3-16):

a. Point firer identifies an enclosure (T or L shape) and communicates it to the remainder of the section.

b. The commander maintains long security by ordering heavy, split or V stack. In a larger tunnel the commander may order a fire team into extended line.

c. Once the appropriate stack is adopted the commander orders **"Barricade left / right"**.

d. After conducting the Barricade the No1 reports back threats, large chamber etc. Where possible an approximate size of the chamber should be given. This will allow the commander to assess the number of troops required.

e. The Section Commander must liaise with the Platoon Commander should they feel the enclosure is too large to clear alone.

8 Strong wall is the term used to describe the closest wall to the assault team.

f. While maintaining long security the commander orders **"fire team or 5/6 person clear"**.

g. Assault team stack on the No1 and communicate ready from the rear forwards via verbal or left shoulder squeeze.

h. The commander should be positioned third in the stack, the 2ic should be located with the cover group.

i. Once the No1 receives the signal 'ready' they enter the enclosure and move along the strong wall until they reach their dominant position or until told to hold by the commander.

j. The No2 moves in support of the No1. Firers behind the No2 have their weapons trained into the enclosure.

k. The last person in the stack holds just passed the first corner (position of barricade).

l. Remainder of the assault team spread out between the first and last firer.

m. Under control of the commander the assault team clear to the opposite side of the enclosure, this should be done in extended line utilising fire and manoeuvre where required (high threat).

n. Anti-fratricide measures and communication must be maintained between the assault team and cover group. The section commander must move the cover group forward throughout the clearance. This must be conducted keeping one foot on the ground.

o. The above drill can be conducted at section or platoon level. Section commander controlling fire team fire and movement, platoon commander controlling section fire and movement.

Equipment

3-92 *Explain:* Consideration must be given to the type of subterranean environment the section will be operating in and the equipment required. For example, breaching equipment is likely to be less useful if moving through a sewer system. Below are items that may be required and carried in place of the breaching equipment:

a. Safety rope, harnesses and carabiners.

b. Additional cylumes.

c. Field telephone and 500m line (marked at 50m intervals to aid judging distance).

d. Comms cord – 500m para cord (marked at 50m intervals to aid judging distance).

e. Medical pack

3-93 *Explain:* **Night Vision**. The advancement in technology has made NVDs readily available to all. It must be assumed that any force, regardless of type, will also be equipped with NVDs. Due to the lack of ambient light most Night Vision Devices will require additional illumination (Infra-Red (IR)). The use of the Laser Light Module (LLM) will greatly enhance the effectiveness of NVDs and can also assist in blinding the enemy if they too are equipped.

3-94 *Explain:* **Thermal**. Not as readily available as IR NVDs thermal sights are likely to be equipped by a regular force or well-equipped irregular force only. Not limited by low light levels thermal sights offer a huge advantage over IR NVDs and should be utilised to clear passages prior to movement, particularly longer tunnels where they can view well beyond the capability of IR NVDs.

3-95 *Explain:* **Drones and Remote Vehicles**. The use of drones and remote vehicles can increase the survivability of the section by locating obstacles and clearing areas such as long narrow tunnels. The operator will require to maintain line of sight due to the signal degradation produced by the terrain.

3-96 *Explain:* **Weapons**. The type of subterranean system should be considered when orbatting / employing support weapon systems. The GPMG, for example, will have little utility in confined, winding rudimentary tunnel systems but may be useful in complex subterranean systems with long and wide tunnels. In addition to the type of subterranean system the risk of ricochet should also be considered and may restrict the use of automatic fire.

a. **GPMG.** Predominantly used to hold / suppress adjoining tunnels while clearing (*see* Fig 3-17). The use of 1B1T and 4B1T ammunition should be avoided due to the increased ricochet hazard associated with tracer.

b. **Sharpshooter.** Useful for clearing longer tunnels and neutralising enemies positioned at the end of long tunnels prior to friendly force movement. Can also be used to suppress positions in longer tunnels by bounding forward with the assault group.

c. **Grenades.** The use of grenades must be considered at all stages of Sub T operations. During planning the type of subterranean system should be considered; rudimentary tunnels with no structural support or type 2 tunnels with utility pipes (gas and water) may restrict the use of HE. Excessive use of grenades (HE and Distraction) will also affect visibility drastically due to poor ventilation.

Conclusion

3-97 **End of Lesson Drill.**

a. *Questions to and from the squad on the lesson.*

b. *Confirm by questions and practice.*

c. *Normal safety precautions.*

d. *Pack kit.*

e. *Summary. Emphasise three or four main points from the lesson.*

f. *A forecast of the squads next lesson in this subject.*

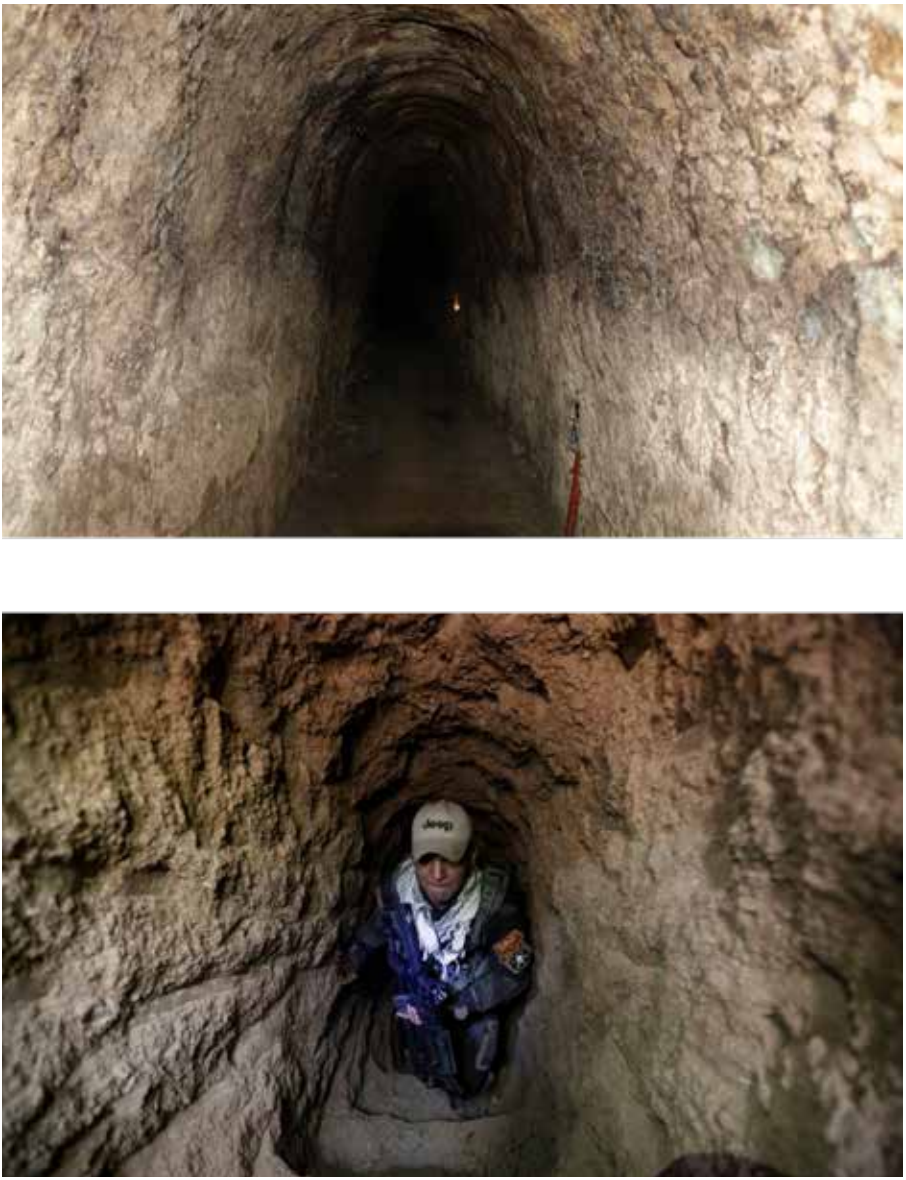


Fig 3-4. Narrow Tunnel

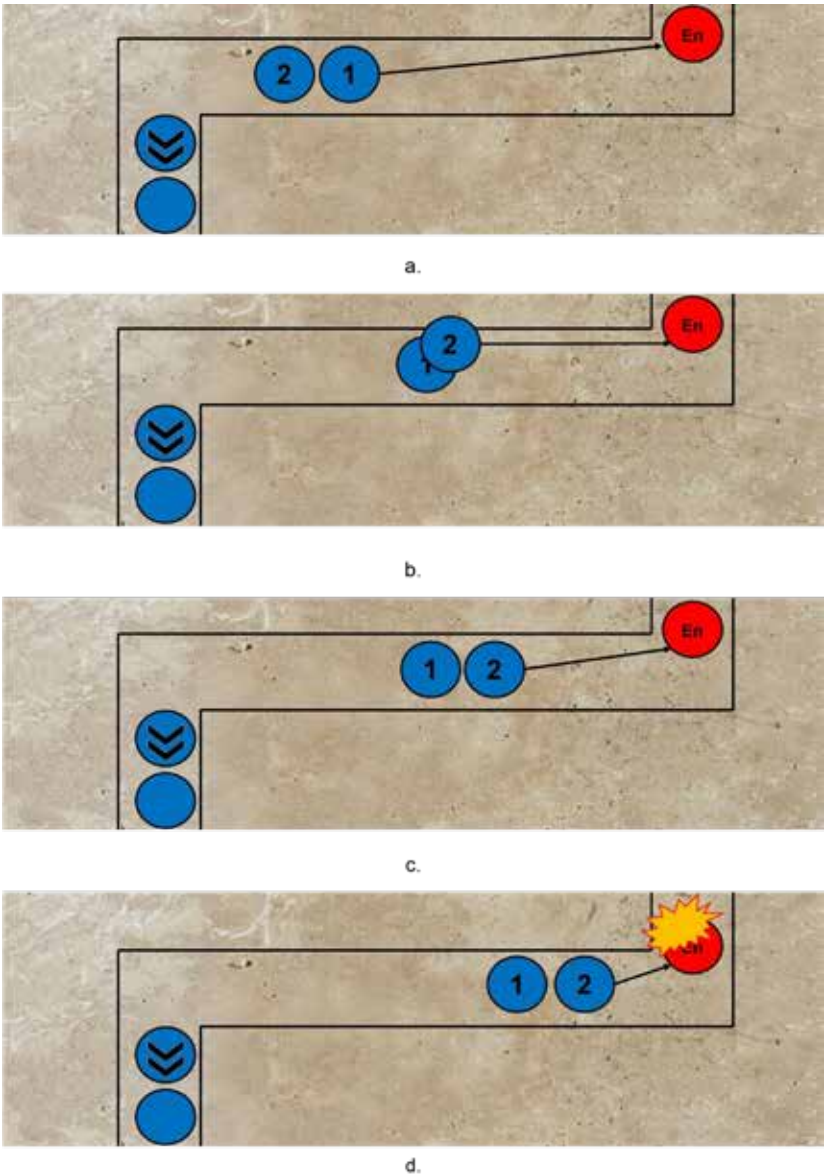


Fig 3-5. Narrow Tunnel Clearance

Fig 3-6. Medium Tunnel

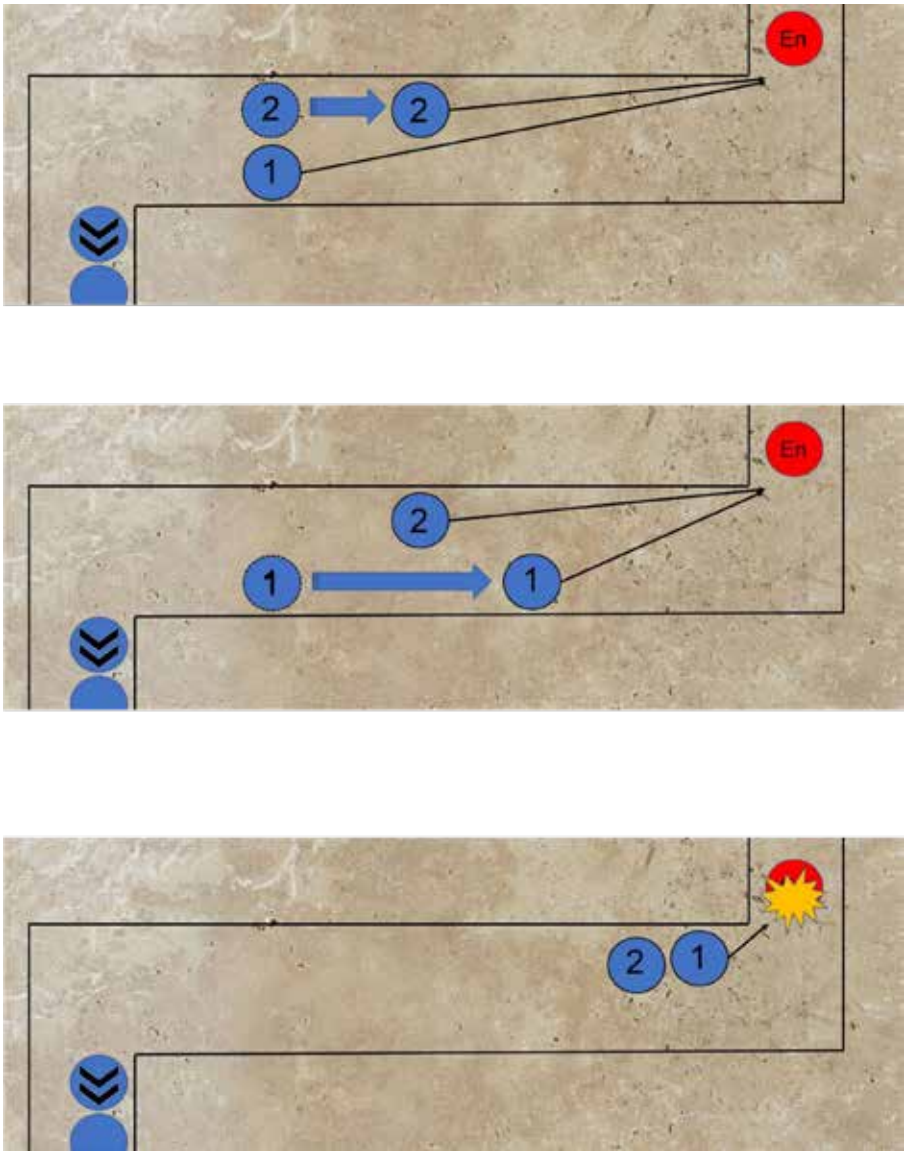
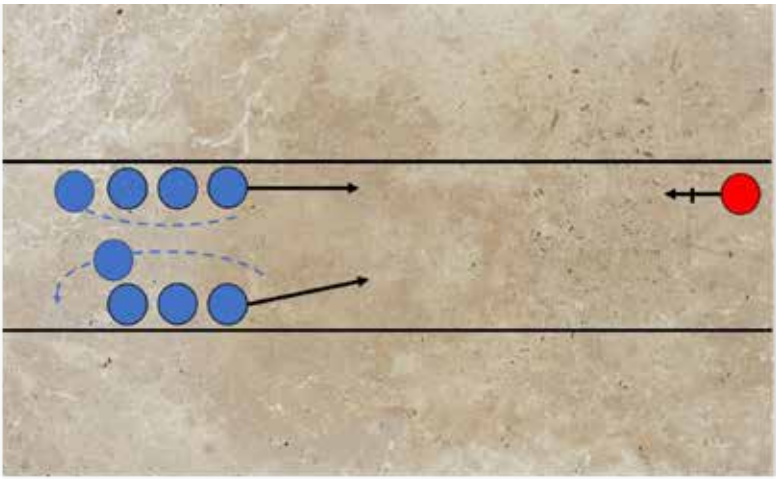
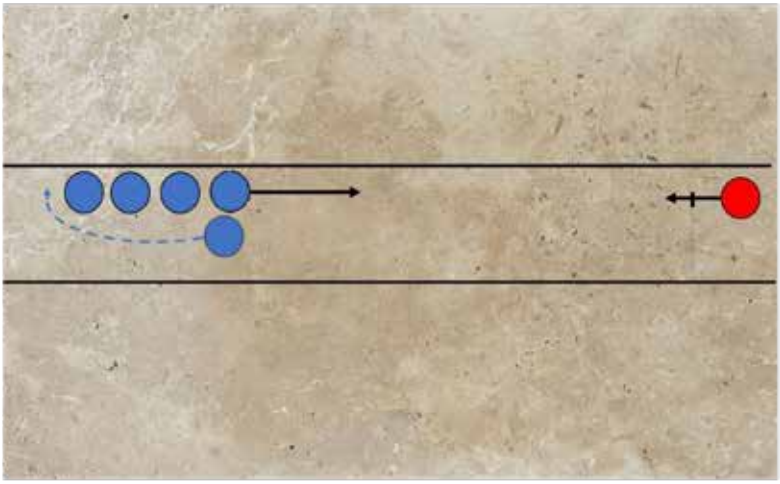


Fig 3-7. Medium Tunnel Clearance



Wider medium tunnels will allow firers to extract from the split stack using the previously taught break contact drill.



Narrower tunnels may require the section to adopt a single stack to provide a movement corridor for extracting firers.

Fig 3-8. Medium Tunnel Break Contact Drill Variations

Fig 3-9. Large Tunnel

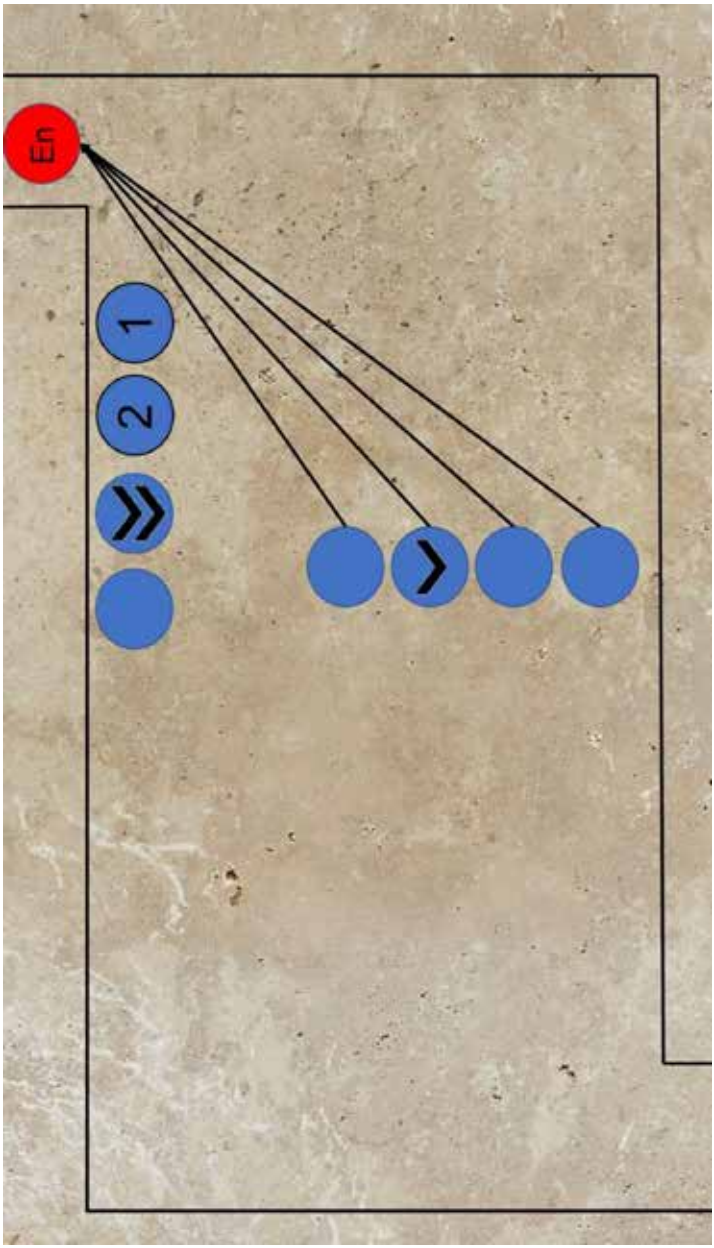
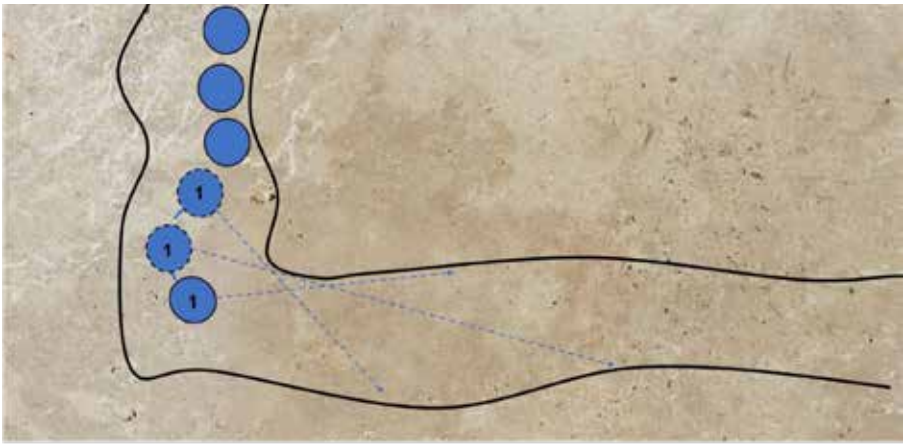
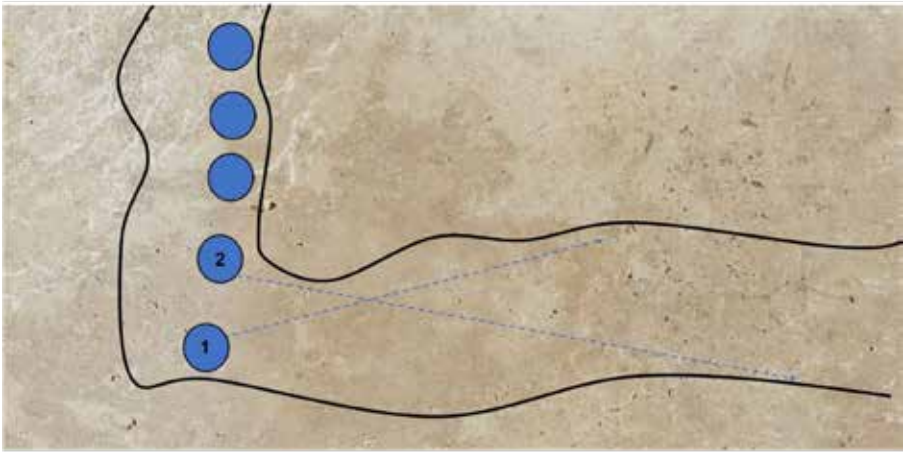


Fig 3-10. Large Tunnel Clearance



a. Barricade – No1 rolls further to see beyond/into contours of tunnel.



b. Barricade. **"Support one bump".** No1 is 'bumped across by the No2, firers then interlock arcs.

Fig 3-11. Barricade Variations

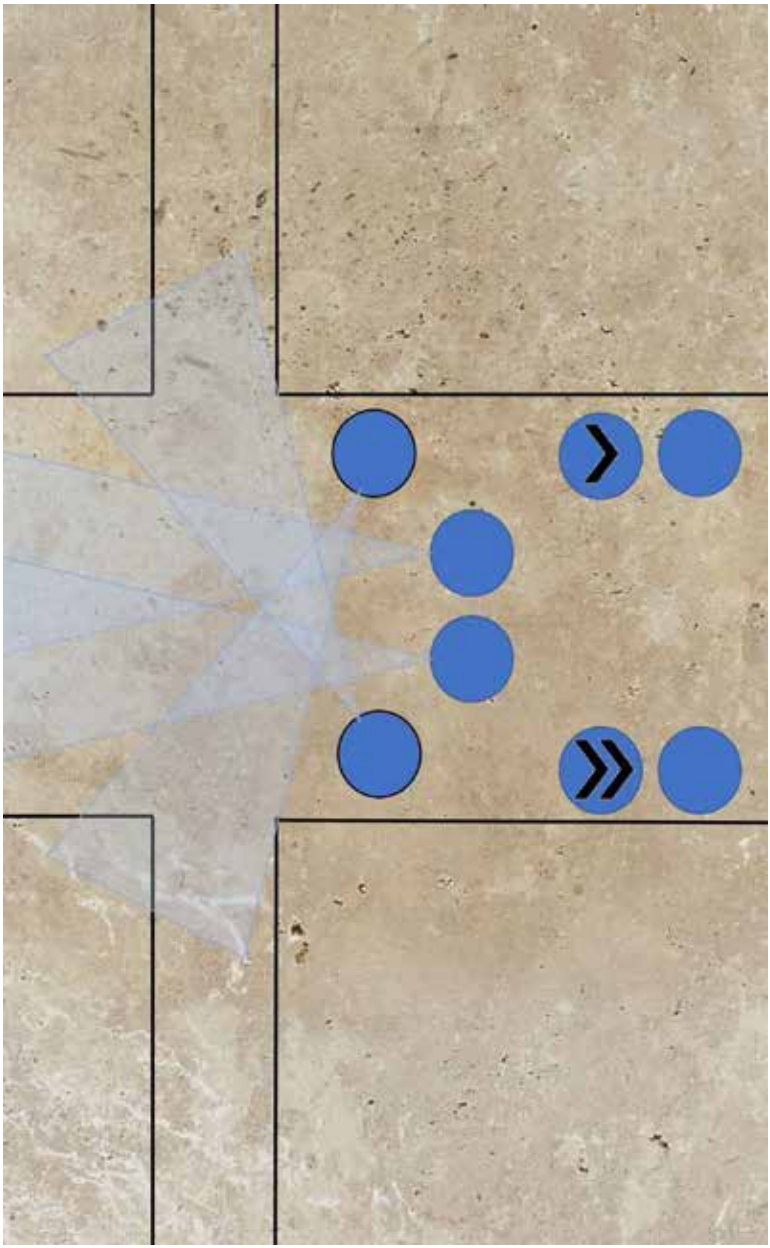


Fig 3-12. Clearing an Intersection with Additional Firers

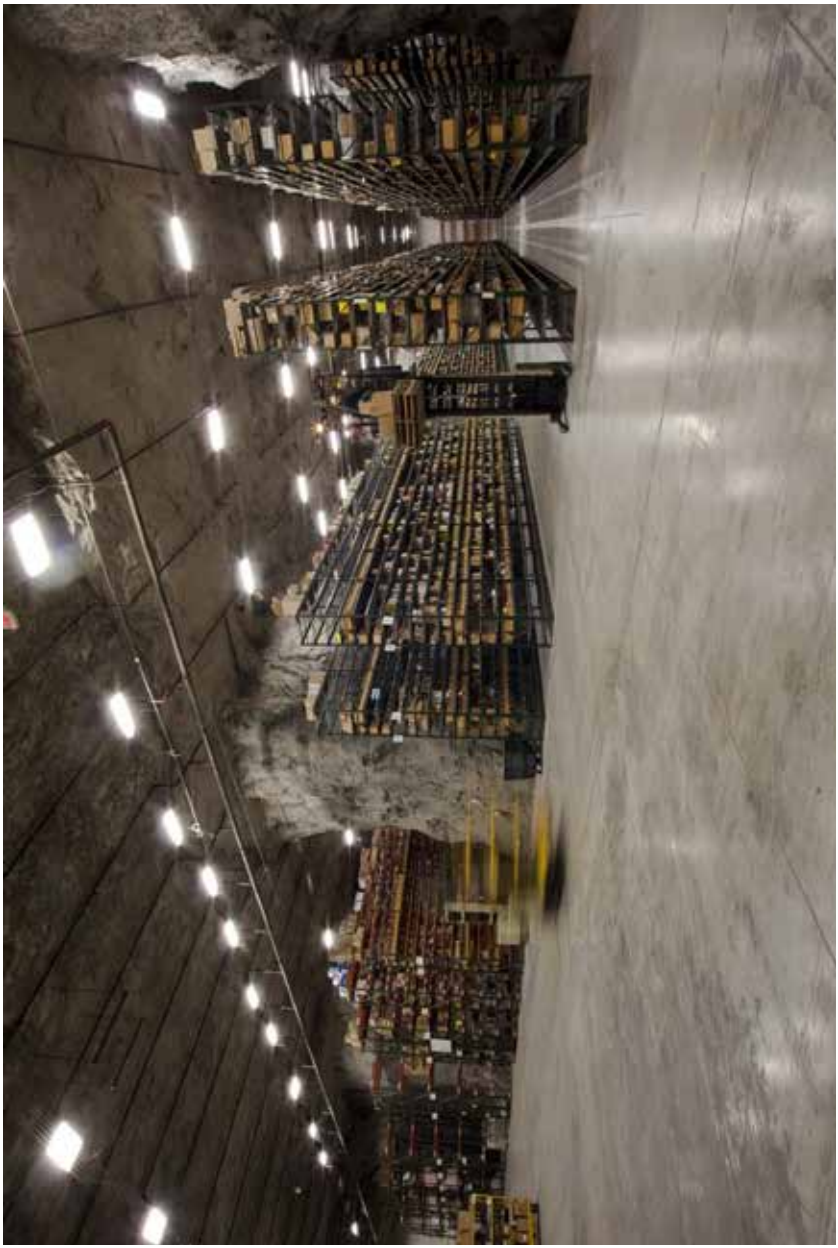
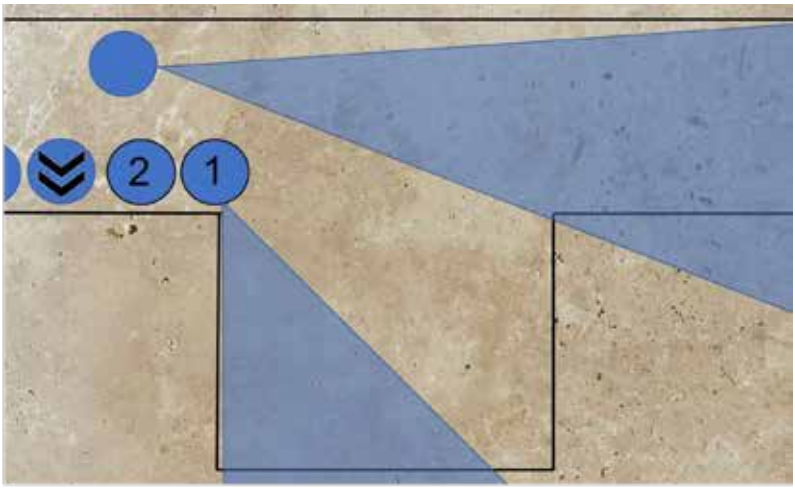
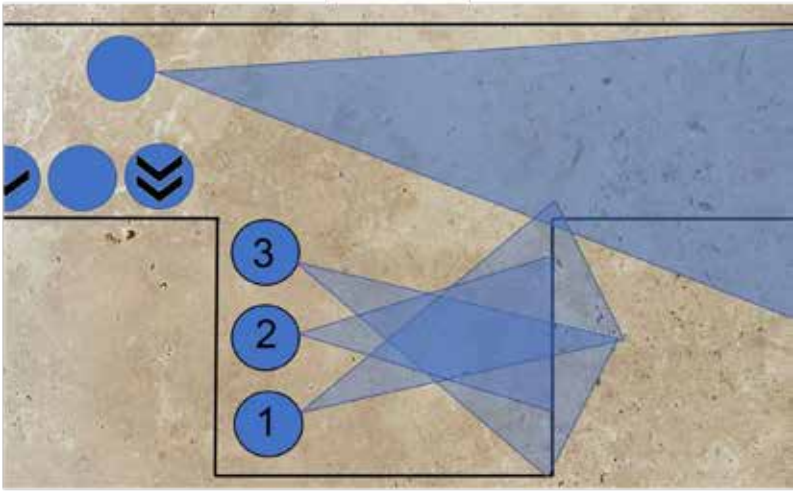


Fig 3-13. Chamber with Clutter



a. The No1 conducts the barricade drill.



b. Assault team adopt dominant positions along the strong wall.

Fig 3-14. Small Chamber Clearance

Fig 3-15. Large Chamber

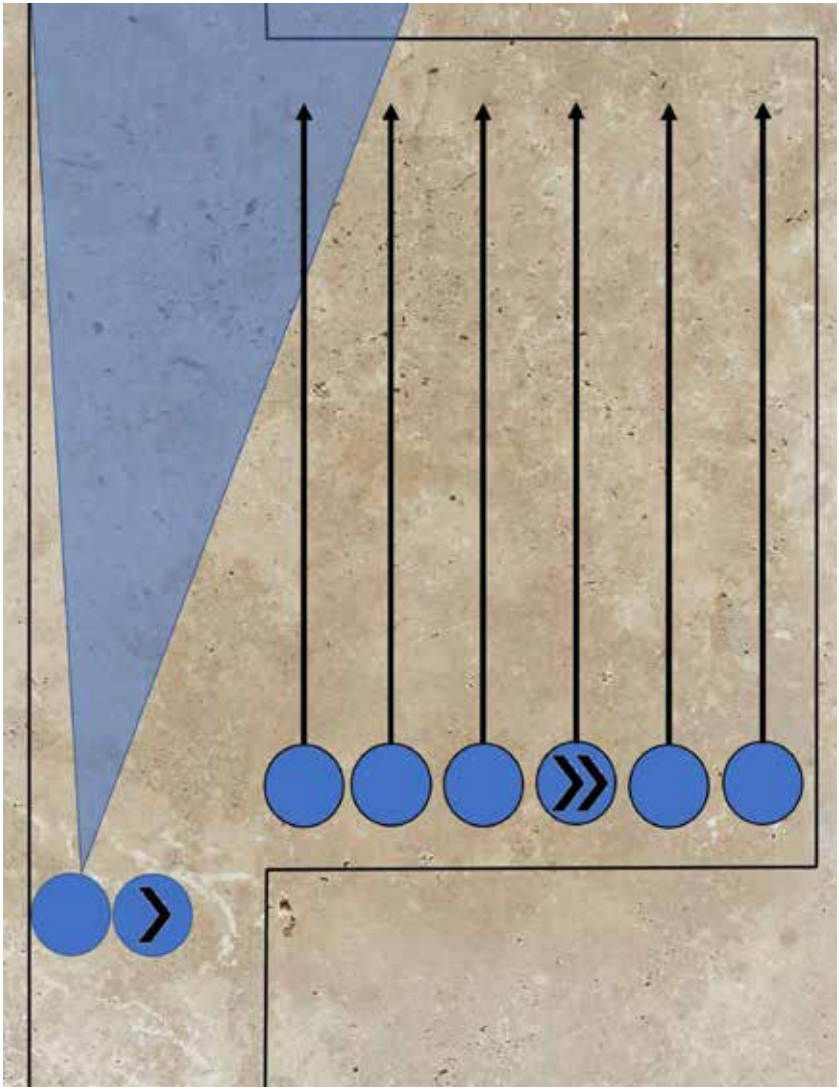
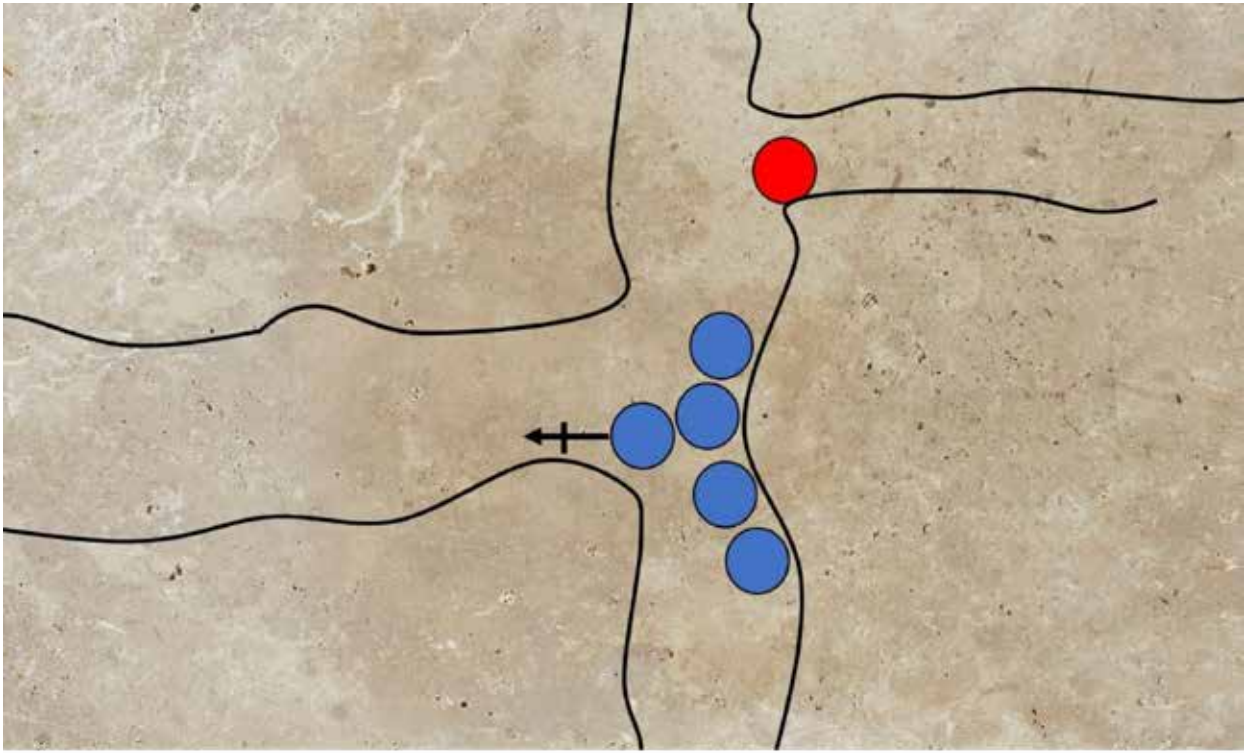


Fig 3-16. Large Chamber Clearance



GPMG gunner placed to cover adjoining tunnel to allow En position to be cleared.

Fig 3-17. Employment of GPMG

Chapter 4
Weapons and Weapon Effects

Section 1. Weapons

Lesson 19. General Employment of Next Generation Light Anti-Tank Weapon (NLAW) in the Urban Environment (UE)

4-01 ***Aim.*** *The aim of this lesson is to teach the general employment of the NLAW in the Urban Environment (UE):*

a. *General.*

b. *Employment.*

c. *Firing.*

d. *NLAW Team.*

e. *Tasks.*

4-02 ***Timings.*** *One 40-minute period.*

4-03 ***Method.*** *Basic instructional outdoor period.*

4-04 ***Stores.***

Rifle 1 per soldier
Magazine 1 per soldier
BFA 1 per soldier
Fighting Order 1 per soldier
Combat helmet 1 per soldier
PPE (glasses & gloves) 1 per soldier
NLAW as necessary
Demonstrators as necessary

4-05 ***Preparation.***

a. *Reconnoitre the training area and select positions to best illustrate the lesson content.*

b. *Rehearse the demonstrators, preferably immediately prior to the squad arriving.*

4-06 ***Miscellaneous.*** *Further information on the tactical employment of NLAW can be found in DISMOUNTED CLOSE COMBAT. The tactical employment of Anti-Tank Guided Weapons.*

Preliminaries

4-07 ***Safety Precautions.*** *Normal.*

4-08 ***Revision.*** *NLAW characteristics.*

Introduction

4-09 *Explain:* Enemy armoured vehicles will form the building block around which tactical groups are formed. They may operate independently or in small numbers. They will be used to breach obstacles and buildings and apply firepower. Dismounted enemy are particularly vulnerable in the Urban Environment (UE) without the support of armoured vehicles making the early destruction of enemy armour critical to success. For these reasons it is important that all soldiers know how to affectively employ the NLAW in the UE.

General

4-10 *Explain:* NLAW is a fire and forget anti-tank weapon which can be employed by all members of the Battle Group. NLAW has a maximum range of 400m and 600m for moving and stationary targets respectively, and a minimum engagement range of 20m and is particularly effective in close terrain; it weighs 12.4kg and is suited to 'stalking' armoured targets at close ranges. NLAW should be deployed with all groups operating in the close battlefield. All units receive high scaling of NLAW for anti-armour tasks in urban operations. NLAW should be deployed with rifle platoons and the anti-tank platoon for offensive and defensive action, and to other elements of the battlegroup, including attached CSS elements, for self-defence.

Employment

4-11 *Explain:* The following points should be considered when employing NLAW in the UE:

a. NLAW is most effective when firing from upper storeys, or from the flanks and rear. Where possible armour should be engaged from elevated flanking positions.

b. When firing at main battle tanks, these weapons should always be employed against weaker areas in volley or paired firing as they normally require a number of hits to achieve a kill on a tank.

c. Firing from upper stories protects the firer from tank main armament and coaxial machine gun fire since tanks cannot sharply elevate these armaments. In addition the top armour on a tank is normally much thinner than elsewhere, thus greatly improving the chance of an effective mobility kill.

d. Buildings/Bunkers are usually engaged in Direct Attack (DA) mode, the POA should be an opening such as a window, doorway or a firing slit. This will ensure the weapons' effect is maximised.

4-12 *Explain and demonstrate*: NLAW may be employed very effectively in urban areas. It is suitable for short range engagements and the relative ease with which it can be moved enhances its value to dismounted forces. The NLAW has been designed to be perfectly safe to fire from a confined space with the following minimum dimensions (*see* Fig 4-1a):

a. Inside Area: 2.5 m (width) x 4.0 m (length) (minimum).

b. Height: 2 m.

c. Firing Opening: At least 1m x 1m and 0.5 m from the nearest wall.

d. Back blast Opening: At least 1m x 2 m on the opposite wall to the firing opening.

Firing

4-13 *Explain using diagrams*: The following must be taken into account when firing:

a. Always wear ear defence.

b. Ensure that whatever firer position you use has the necessary ground and aperture clearance.

c. When firing, keep the muzzle a maximum of 500 mm inside the outer edge of the firing aperture (*see* Fig 4-1b).

d. Ensure clearance of 300mm from the bottom of the launcher tube and any windowsill or the ground out to a distance of 50 m.

e. When firing at an angle left or right the rear of the launcher must not be any further round than the opposite rear corners of the room (*see* Fig 4-1c).

f. The highest vertical angle over the horizontal plane is 455 mils. The lowest vertical angle under the horizontal plane is 800 mils. This must not be exceeded if using Overflight Top Attack (OTA) mode (*see* Fig 4-1d), any angle in excess of these figures will reduce the effect considerably.

g. Nobody but the gunner must be in the room when firing.

h. Unless equipment is protected in the room, weapons, radios, etc., when firing takes place it will be exposed to spray from the countermass container. As soon as practicable any exposed equipment and personnel should be rinsed down with clean water.

NLAW Team

4-14 *Explain:* Although NLAW can be carried and fired by a single soldier it is more efficient when used by a team of two as follows:

a. The Number One carries, aims and fires the NLAW.

b. The Number Two carries and prepares the second NLAW, spots for the Number One and provides close protection.

4-15 *Explain:* **Mutual Support**. Experience has shown that enemy armour manoeuvres to present its frontal armour to LAW threats, making it hard to guarantee a flank shoot from a single static position. Therefore, two mutually supporting NLAW teams should be sited to cover the predicted enemy approach route. The primary team should cover the MLCOA while the secondary team will cover the MDCOA (often the head on approach) as shown in Fig 4-2. When sited to support the Anti-Tank detachment, they are likely to be used to cover gaps in the AA plan, and to engage at short ranges to cover the enemy MDCOA, often to the flank, as shown in Fig 4-3.

4-16 *Explain:* **Movement**. During movement to and from firing positions NLAW teams should move as part of a fire team. Once a firing position has been identified, the commander and GPMG gunner should provide fire support / overwatch while the NLAW team moves forward to occupy the firing point.

Tasks

4-17 *Explain:* NLAW can be used for the following tasks in all phases of war:

a. **Stalk.** NLAW is manoeuvred to engage either static or slow-moving armour.

b. **Ambush.** NLAW is sited in a well concealed position, with maximum defilade[1], covering an Engagement Area (EA), into which it is predicted the enemy will move.

c. **Self-Defence.** NLAW will be the primary means of defence against enemy armour and will be issued to all elements of the Battle Group, including CSS elements.

4-18 *Explain:* **Authority to Fire**. All soldiers must be confident in deciding when to engage en armour without direction so it is critical that ALL know and understand who holds the authority to fire and the priority of engagement. Constant reiteration of rules of engagement as well as freedoms and constraints will ensure better, timely decision making and initiative at the lowest level.

1 Defilade - the protection of forces against enemy observation or gunfire.

Conclusion

4-19 **End of Lesson Drill.**

a. *Questions to and from the squad on the lesson.*

b. *Confirm by questions and practice.*

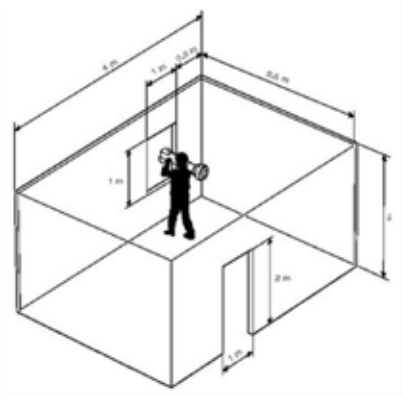
c. *Normal safety precautions.*

d. *Pack kit.*

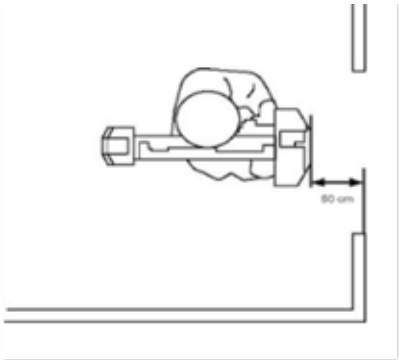
e. *Summary. Emphasise three or four main points from the lesson.*

f. *A forecast of the squads next lesson in this subject.*

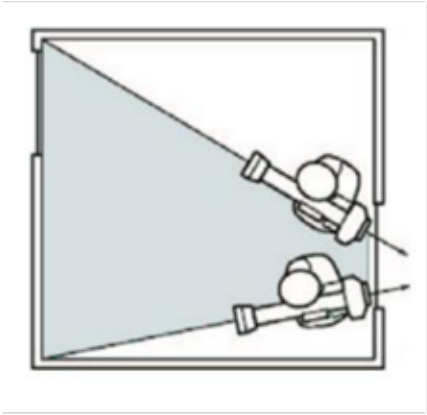
4-20 - 4-29. *Reserved.*



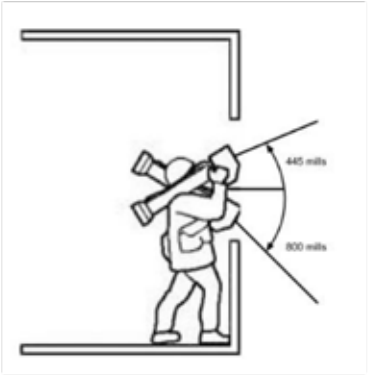
a. Room dimensions



b. Muzzle clearance



c. Rear clearance



d. Vertical clearance

Fig 4-1. Firing from Inside a Building

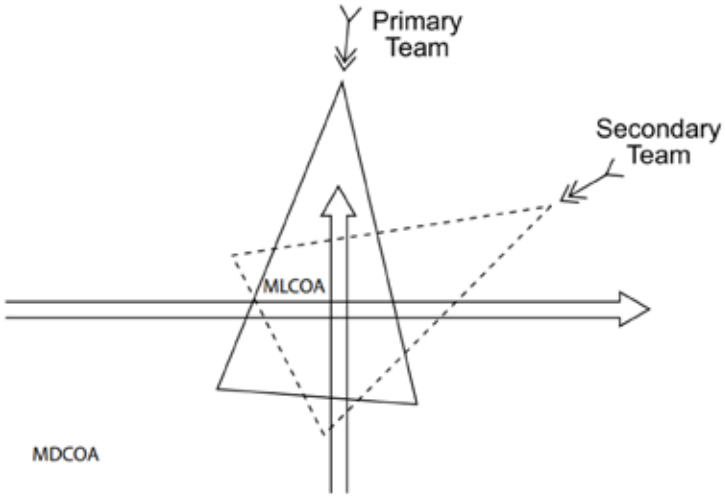


Fig 4-2. NLAW Sited for Maximum Effect

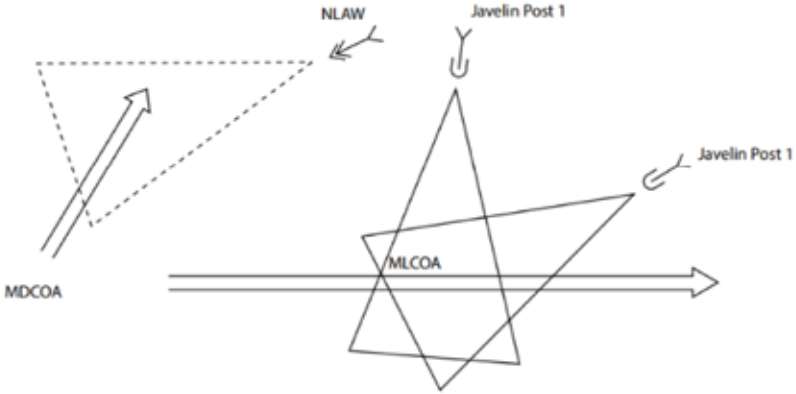


Fig 4-3. NLAW Sited in Support of the Anti-Tank Detachment

Lesson 20. Tactical Employment of Next Generation Light Anti-Tank Weapon (NLAW) in the Urban Environment (UE)

4-30 ***Aim.*** *The aim of this lesson is to teach the employment of the NLAW in the Urban Environment (UE):*

a. *Offensive operations.*

b. *Defensive operations.*

c. *Tank Stalking.*

d. *Anti Armour Ambush.*

4-31 ***Timings.*** *Two 40-minute periods.*

4-32 ***Method.*** *Basic instructional outdoor period.*

4-33 ***Stores.***

Rifle 1 per soldier
Magazine 1 per soldier
BFA 1 per soldier
Fighting Order 1 per soldier
Combat helmet 1 per soldier
PPE (glasses & gloves) 1 per soldier
NLAW as necessary
Demonstrators as necessary

4-34 ***Preparation.***

a. *Reconnoitre the training area and select positions to best illustrate the lesson content.*

b. *Rehearse the demonstrators, preferably immediately prior to the squad arriving.*

4-35 ***Miscellaneous.*** *Further information on the tactical employment of NLAW can be found in DISMOUNTED CLOSE COMBAT. The tactical employment of Anti-Tank Guided Weapons.*

Preliminaries

4-36 ***4-26 Safety Precautions.*** *Normal.*

4-37 ***Revision.*** *General Employment of NLAW in UE.*

Introduction

4-38 *Explain:* The employment of NLAW in the UE differs in relation to the type and/or phase of the operation. When employed correctly the NLAW has proven to be an extremely effective means of immobilising even the most advanced armoured platforms. Failure to apply the NLAW tactically, however, will result in the unsuccessful destruction or immobilisation of enemy armour and will leave the NLAW teams susceptible to heavy direct weapon fire and enemy follow up.

Offensive Operations

4-39 *Explain:* During offensive operations the use of NLAW differs as the urban attack develops:

a. **Investment.** During the investment phase the commander attempts to isolate the built-up area from enemy withdrawal and reinforcement. NLAW will mainly be utilised by the reconnaissance force. The main EAs will be covering enemy routes to and from the towns.

b. **Break In.** The break-in force can utilise NLAW for shock action. It has been designed to be effective against troops in buildings and field fortifications. The POA should be an opening such as a window, door or firing slit in order to maximize the weapons effect.

c. **The Securing of Objectives and the Clearance.** These phases will be both time consuming and ammunition intensive. NLAW should be used to ensure that:

(1) The three-dimensional nature of the battlefield is used to engage the weakest parts of enemy armour, whilst enhancing the NLAW team's survivability.

(2) HQs and echelons are properly defended. Due to the nature of the operation HQs and echelons will probably move closer to the built-up area. This increases their vulnerability to direct attack by enemy forces and as such they require NLAWs and a coherent defensive framework.

d. **The Reorganisation.** During the ReOrg NLAW will be used in a defensive framework and the weapon system should be pushed out to the flanks and conform to the considerations for defensive operations.

Defensive Operations

4-40 *Explain:* During the defence of a built-up area NLAW has a varied tasking dependent on the stage of the battle and makes an excellent partner to Javelin. A possible positioning for the use of NLAW and Javelin in the defence of the urban environment is shown in Fig 4-4:

a. **The Perimeter Force.** Within the perimeter force NLAW can be used to cause early attrition of the enemy. Destruction of reconnaissance and command vehicles will disrupt the enemy's preparation for the break-in. A clear plan of action and withdrawal route is required to ensure the force is not cut off from the main defensive area.

b. **The Disruption Force.** NLAW should be used in the disruption force as follows:

(1) In ambush positions firing from well concealed positions away from buildings. Maximum use should be made of rubble or vehicles to provide concealment and protection. NLAW teams should prepare two or three such positions to increase depth and survivability.

(2) Against an armoured threat or from the line of march the use of elevated positions is advantageous to the firer. Firing from elevated positions protects the firer from tank main armaments and coaxial machine guns. Using flank and rear shots also enhances survivability. Against a convoy, destroying the front and rear vehicles will trap the rest of the enemy in the EA. An ambush position like this should be planned in conjunction with snipers, infantry sections and GPMGs.

c. **The Main Defended Area.** NLAW would be particularly useful if sited in defilade to cover the approaches to and between the defended localities. Pre-dumping will aid the rapid redeployment of NLAW teams withdrawing from earlier phases of the battle.

d. **The Central Reserve.** The central reserve needs to consist of mobile forces with an anti-armour capability. A thorough knowledge of the built-up area is required and the ability to move to pre-reconnoitred positions would be beneficial.

4-41 *Explain using diagrams*: **Firing Position Preparation**. In defence if time permits when preparing the firing position, carry out the following:

a. Check the size of the room. The length of the weapon can be used (it is 1m in length).

b. Ensure that the firing and back blast opening dimensions are sufficient.

c. If in a room open all windows and doors.

d. Remove any loose objects that could be affected by pressure from behind the weapon except padded furniture, mattresses, cushions and pillows etc., or other objects that absorb pressure.

e. The countermass can pierce a hole through a very weak wall immediately behind the weapon. Ensure that no personnel or equipment is located behind the wall.

f. A blanket hung 1.5 to 2 m behind the launcher and 150 to 300 mm from the rear wall reduces the sound pressure considerably.

g. If the room meets the minimum requirements and time is short then the weapon can be fired without any preparation.

Tank Stalking

4-42 *Explain:* During offensive operations NLAW teams may need to stalk both slow moving and static targets so that they can be successfully engaged. Stalking is generally carried out at section level but may be incorporated into higher level offensive patrols. The basic unit for a stalk is a section with two NLAW teams.

4-43 *Explain:* **Preparation**. Before starting a stalk, the Section Commander must identify the general area of the objective. During quick battle orders the NLAW teams should be divided into primary and supporting teams.

4-44 *Explain:* **Confirm the Objective**. The patrol should move forward using scouts until the commander can confirm the objective. The commander must make a quick estimate to determine the best firing position for their NLAW teams and issue quick orders. The following should be considered:

a. The attack mode to be used. For this type of operation OTA is generally used, but the commander must consider the use of DA if it is appropriate. They must also consider the effect of any Defensive Aide Suites (DAS) the enemy vehicle is fitted with, and how to best neutralise the effect of these. If firing at troops in behind defences, they must assess where their supporting positions are likely to be, and any obstacles that they are likely to have deployed, and site their firing position accordingly.

b. They must identify the primary NLAW firing positions, firing positions for the supporting team, routes to and from firing positions and an FRV for the withdrawal.

4-45 *Explain and demonstrate*: **Execution of the Stalk**.

a. The supporting team occupies its position as quickly as possible and is prepared to:

(1) Engage the target with Offensive Support (OS) assets to close-down the crew if required, whilst keeping their own position concealed.

(2) Engage the target with NLAW if an opportunity presents itself.

(3) Cover the movement of the primary team.

(4) Suppress any supporting positions.

b. The primary team should move to a position from which it can engage the target, prepare its NLAWs and engage the enemy, firing no more than two NLAWs.

c. Once the primary team has engaged the objective, it should withdraw from the area. If the target has not been destroyed, then the primary team should take up a supporting position. Once clear of the firing point, the secondary team manoeuvres to engage the target. If all NLAWs are expended without destroying the target, at least one of the stalking teams should endeavour to keep observing the target while the other team re-arms for further offensive action.

Anti-Armour Ambush

4-46 NLAW teams can be highly effective when used in ambush from well concealed positions, with maximum defilade, covering an EA into which it is predicted the enemy will move. NLAW anti-armour ambushes can be conducted at section and platoon level in accordance with either the company or Battle Group anti-armour plan and can also be conducted using the Anti-Tank Platoon.

4-47 **Factors in Planning Anti-Armour Ambushes.** The following should be considered when planning an anti-armour ambush:

a. **Enemy Vehicles.** IFVs may be supported by dismounted infantry. Reconnaissance vehicles will invariably move using stealth, avoiding obvious routes; they may also be supported by MBTs. Their weaknesses should be exploited:

(1) Restricted vision when closed down.

(2) Limited depression of main armament. A tank is particularly vulnerable when crossing a ridge.

(3) Limited elevation of main armament. 1 in 3 rule – gun can elevate 10m at 30m, 20m at 60m (10m equivalent to house top, 20m 6-7 storey)

(4) The lightly armoured areas of the tank hull. The sides, rear and top are less well protected than the front.

(5) Difficulties in protecting themselves when replenishing or at rest.

b. **Weather.** Poor visibility will degrade TI sights, hampering both our use and the enemy's. They are still subject to the limitations on thermal imagery, and these limitations should be exploited wherever possible. Poor weather will also affect cross-country movement and assist in channelling armour along predicted routes.

c. **Darkness.** With the introduction of thermal imagery and image intensification devices, the advantages of darkness to the ambush are considerably reduced; skilful use of ground and cover will offset this.

d. **Available Weapons.** The ambush plan must consider the weapons to be used, and the characteristics and siting requirements of each. Attention should be paid to:

(1) **NLAW.** The back-blast area; arming distance of the projectile, fields of fire and attack mode to be used.

(2) **Friendly Indirect Fires.** Although unable to engage AFVs directly, they can be used to enhance confusion, to provide cover for friendly forces extraction and to engage dismounted troops when ambushing IFVs.

(3) **GPMG SF.** GPMG SF can be used against dismounted troops and for local protection. Maximum use must be made of the beaten zone to cover a withdrawal. It can be used against tank vision blocks and sighting but to limited effect. This has the potential to expose friendly positions to enemy fire, especially against vehicles fitted with direction finding and automatic firing devices as part of their defensive aide suites.

e. **Obstacles.** The ambush should be sited to make maximum use of obstacles to channel the enemy into the EA. Obstacles could include a combination of the following:

(1) Minefields.

(2) Low wire entanglements or farm fencing.

(3) Booby traps.

(4) Cratering.

(5) Tree felling/collapsing buildings.

(6) Natural features.

4-48 **Composition of Anti-Armour Ambush Parties.** The composition of anti-armour ambush parties will depend upon the number of weapons to be used for the particular task. Only rarely will the ambush group be less than section strength (eight persons). An eight-person section ambush might form four groups as follows:

a. **Command team.**

(1) Commander. Plans, sites, prepares initiates and commands ambush.

(2) Signaller / Runner.

b. **NLAW.** Two teams of two. Two NLAW per team, both people work in pairs, one-person firing, the other as assistant and protection. At least two NLAWs should be kept in reserve (to counter any enemy follow up), if necessary, by pre-positioning extra NLAW on the planned withdrawal route.

c. **GPMG Team.** The Platoon Commander may allocate one of their GPMG teams to support the ambush. This team is responsible for protecting the front of the ambush and covering the withdrawal.

Conclusion

4-49 **End of Lesson Drill.**

a. *Questions to and from the squad on the lesson.*

b. *Confirm by questions and practice.*

c. *Normal safety precautions.*

d. *Pack kit.*

e. *Summary. Emphasise three or four main points from the lesson.*

f. *A forecast of the squads next lesson in this subject.*

4-50 - 4.59. *Reserved.*

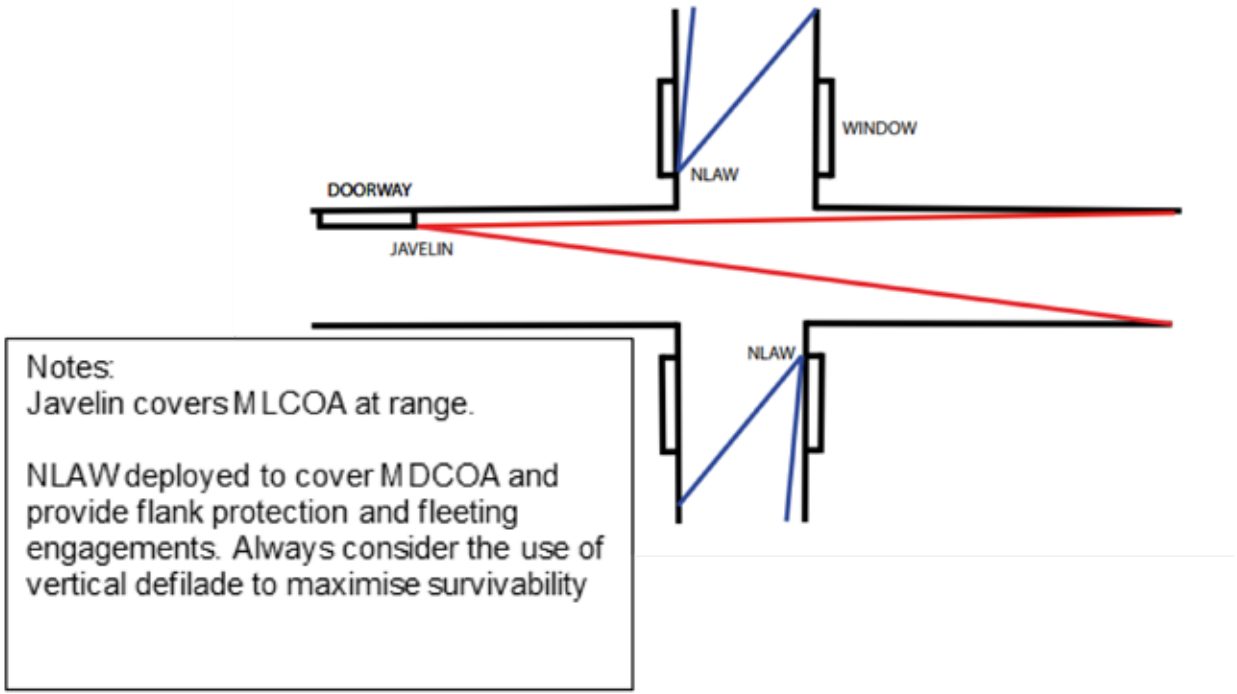


Fig 4-4. NLAW and Javelin Positioning Defence

Section 2. Weapon Effects

Introduction

4-60 The characteristics and nature of combat in built-up areas affects the choice of weapon required. Commanders at all levels should consider the following factors when selecting the effect, they need:

a. Hard, smooth, flat surfaces are characteristic of urban targets. Rarely do rounds impact perpendicular to these flat surfaces. This reduces the effect of a round and increases the threat of ricochets. The tendency of rounds to strike glancing blows against hard surfaces means that up to 25% of impact fused explosive rounds may not detonate.

b. Engagement ranges are close. Studies and historical analyses have shown that only five percent of all targets are more than 100 metres away. About 90 percent of all targets are located 50 metres or less from the identifying soldier. Few personnel targets are visible beyond 50 metres and usually occur at 35 metres or less. Minimum arming ranges and troop safety from back-blast or fragmentation effects should be considered.

c. Engagement times are short. The enemy presents only fleeting targets. Enemy held buildings or structures are normally covered by fire and often cannot be engaged with deliberate, well-aimed shots.

d. Conventional urban fighting often becomes confused mêlées with several small units attacking on converging axes. The risks from friendly fire, ricochets, and fratricide must be considered during the planning phase of operations and control measures continually adjusted to lower these risks. Commanders and soldiers alike must be aware of the locations and intentions of friendly forces and clearly mark their own progress to avoid the potential for fratricide.

e. The enclosed nature of combat in built-up areas means that the weapon's effect, such as muzzle blast and back blast, must be considered as much as the round's impact on the target.

f. Modern engineering and design improvements mean that most large buildings constructed since WW2 have some resilience to the blast effects of bomb and artillery attack. Corners or parts of floors may collapse but the core of the building will retain its strength. Even though modern buildings may burn easily, they often retain their structural integrity and remain standing. Once high-rise buildings burn out, they are still useful for combat purpose and are almost impossible to damage further. A large structure can take 24 to 48 hours to burn out and become cool enough for soldiers to enter.

Small Arms

9MM Pistol

4-61 The pistol enables the individual to engage targets at close range, to an effective range of 45m. It is effective in buildings and room clearance.

Rifle

4-62 Close combat is the predominant characteristic of urban engagements and the rifle is the most common weapon fired in built-up areas. Small, fleeting targets are difficult to hit from bunker apertures, windows, and loopholes. This requires pinpoint accuracy with weapons fired in the semi-automatic mode. Killing an enemy through an 20cm loophole at a range of 50 metres is a challenge, but one that may be common in combat in built-up areas.

4-63 The performance of ball ammunition is affected by several variables including range from the target, material against which it is fired, manufacture quality and age. The penetrative effect of ammunition depends on both the velocity and stability of the round; the greater the range, the lower the velocity. Consequently, at very short ranges a round will not be fully stable, and this may lessen the effect of the greater velocity.

4-64 **Weapon Penetration.** The penetration that can be achieved with 5.56mm rifle significant numbers of rounds are fired. Nevertheless, inside buildings the 5.56mm round may penetrate interior walls and furniture. Consideration should be given to the risk of ricochet to friendly forces both when firing at enemy positions ammunition round against exterior walls of brick or concrete is limited unless.

4-65 **Protection.** The following common barriers in built-up areas stop a 5.56mm round fired at less than 50 metres:

a. One thickness of sandbags.

b. 5cm concrete wall (not reinforced).

c. 55-gallon drum filled with water or sand.

d. Small ammunition can filled with sand.

e. Cinder block filled with sand (block will probably shatter).

f. Brick veneer.

g. Car engine block.

Medium and Heavy Machine Gun

4-66 **Weapon Penetration.** Like the 5.56mm round, the ability of 7.62mm and 12.7mm (0.5 inch) rounds to penetrate is affected by the range to the target and type of material it is fired against. The 7.62mm round is affected less by range than the 5.56mm, whilst the 12.7mm's penetration is reduced least of all. The table below explains the penetration capabilities of a single 7.62mm (ball) round at closer ranges:

Range (metres)	Pine Board	Dry Loose Sand	Cinder Box	Concrete
(a)	(b)	(c)	(d)	(e)
25	33cm/13 inches	13cm/5 inches	20cm/8 inches	5cm/2 inches
100	46cm/18 inches	11cm/4.5 inches	25cm/10 inches	5cm/2 inches
200	104cm/41 inches	18cm/7 inches	20cm/8 inches	5cm/2 inches

Fig 4-5. 7.62mm Penetration Chart

4-67 For hard targets, 12.7mm penetration is affected by obliquity and range. Both armour piercing and ball ammunition penetrate 36cm/14 inches of sand or 71cm/28 inches of packed earth at 200 metres, if the rounds impact perpendicular to the flat face of the target.

4-68 **Weapon Effects.** It should be noted that the AK47 (7.62 x 39mm) is the most common assault rifle in the world and that the penetrative qualities of its ammunition are significantly greater than those of 5.56mm ball. The 12.7mm heavy machine gun can be fitted to several different platforms, and in view of the excellent penetrative capacity of its ammunition, it can be the weapon of choice in the urban environment.

Sniper Rifle (L115A3 8.59mm)

4-69 Snipers exploit the long range, high hit rate probability and penetrative effect of the 8.59mm round fired from the L115A3 rifle to achieve significant physical and psychological effect. Commanders should understand the effects of the weapons and optics that a sniper carries in order to fully utilize this capability. The table following summarises the capabilities of the equipment employed by snipers.

System	Weapon	Capability
(a)	(b)	(c)
Sniper Rifle	L115A3 8.59mm Accuracy International	Probability hit rate: Under 600m - 70% 600m-800m -50% 800m-1000m 30% Harrasing fire from 1500m+
Ammunition Type	8.59mm Ball	Defeat CRISAT man at 800m
	8.59mm Armour Piercing	
Optics	5 x 25 x 56 Schmitt and Bender Telescopic Sight	Excellent daytime optics with large zoom capability
	x 40 Leopold Spotting Scoope	
	SIMRAD KN203 Image Intensifier Sight	Sniper Engagement range 400m upwards
	Sniper Thermal Imaging Capability (STIC) (Weapon and Spotter)	Detect heat source: Man size target: 1200m-1400m MBT size target: 2500m-3000m

Fig 4-6. Sniper Capabilities

Grenades

4-70 **Grenades.** Grenades, whether thrown by hand or projected by a weapon, provide a useful method of delivering significant effect very quickly. HE hand grenades are an essential weapon for assaulting and clearing buildings. Grenade ammunition expenditure is likely to be heavy. The overuse of HE grenades in lightly constructed buildings may cause total, or partial, collapse of walls. There is a risk that fragments may penetrate internal walls, risking injury to friendly forces in adjacent rooms.

4-71 **Effects.**

a. **L109A1, Hand Grenade.** The hand grenade L109A1 incapacitates a protected person at five metres and an unprotected person at 20 metres.

b. **Under-Slung Grenade Launcher (UGL).** On impact, the UGL projectile explodes and is designed to penetrate up to 45mm of steel, 300mm of concrete and cause casualties to 5m from the explosion. The UGL burst safety distance of 450m in the open may be reduced by the nature of urban terrain.

c. **Grenade Machine Gun (GMG).** On impact, the projectile explodes and is designed to penetrate up to 50mm of steel, 350mm of concrete and cause casualties to 5m from the explosion. The GMG burst safety distance of 165m in the open may reduce by the nature of urban terrain.

d. **L13 Grenade Hand, Anti-Riot, Irritant.** The anti-riot, irritant hand grenade (CS) is effective at 25-35 metres (dependent on wind) from burst.

e. **L107 Grenade, Hand, Distraction.** The L107 distraction grenade is a bursting type grenade which is designed to distract and disorientate by producing six loud bangs at short intervals without a fragmentation hazard.

Heavier Infantry Direct Weapons

Anti-Tank Weapons

4-72 **Javelin.** The primary role of Javelin is to defeat main battle tanks and other armoured vehicles, although it is also effective against structures. The warhead will penetrate 1500mm of concrete or sandbag structure and create an over-pressure effect inside. If fired against soft surfaces (i.e. glass, wood, etc.) the larger secondary charge may not detonate. Against a robust structure the penetration will only create a fist size hole. Although such a hole cannot provide access for a person, it may provoke collapse.

4-73 **NLAW.** NLAW is primarily used to defeat light armoured vehicles and neutralize fortified firing positions. Because the shaped charge warhead has a narrow blast effect, NLAW has limited anti-structure effect. However, blast and shock may be enough to neutralize the personnel within a building for a short period. Against structures, shaped- charge weapons such as NLAW should be aimed about six inches below or to the side of a firing aperture to increase the probability of killing the enemy behind a wall.

Anti-Structure Munitions (ASM)

4-74 The ASM is a one-person disposable, fire and forget weapon for use primarily against urban structures and bunkers and in a secondary role against light AFVs and soft skinned vehicles. With a combat effective range of between 15m-400m, the ASM has a tandem warhead break-in charge (BIC) and a follow-through bomb (FTB) that will penetrate concrete structures and enable physical access. The purpose of the BIC is to create a hole sufficiently large to enable the FTB to detonate within a wall, thereby both neutralizing any occupants and creating access for fighting troops.

40mm Cannon Fire

4-75 **General.** The CT40 40mm cannon and 7.62mm coaxial machine gun, mounted on Ajax, can provide substantial firepower to the infantry. The 40mm cannon can be utilised from either a stand-off or from an intimate support position. Two types of ammunition are available as follows:

a. **Armour Piercing Fin Stabilised Discarding Sabot (APFSDS).** Is suitable for engaging light armoured vehicles and soft-skinned vehicles out to 1500m, penetrating 150mm armour (BMP 3) multiple hits.

b. **General Purpose Round – Point Detector Tracer (GPR).** Is designed for use in the Urban Environment against light targets and non-protected light vehicles. Range up to 3KM.

4-76 **Limitations.** There are several limitations to the use of 40mm cannon in the urban environment:

a. 40mm cannon may be restricted in elevation and traverse within a built-up area.

b. GPR rounds can have limited effect against harder structures, i.e. concrete or reinforced buildings.

c. The weapon platforms may have difficulty in manoeuvring in an urban environment due to size restriction and weight. Obstacles will also prove more difficult to negotiate in an urban setting.

Tank Weapons

4-77 Despite the tank's vulnerability to short-range anti-tank weapons, the physical and psychological impact and the shock effect of armour, at close range, in conjunction with infantry, can be overwhelming in urban close combat. The range, accuracy, destructive potential and absence of minimum range of the tank armament are enhanced by the tank's protection and mobility.

4-78 Armour Piercing Fin Stabilised Discarding Sabot (APFSDS) is the principal anti- armour round for the L30 120mm rifled gun and is designed for engaging enemy armoured vehicles out to a range of >2000m. Its utility against buildings and bunkers is limited.

4-79 High Explosive Squash Head (HESH). HESH rounds are suitable for engaging bunkers, armoured and soft-skinned vehicles out to a range of 1500m or area targets out to 8000m. HESH has great utility in an urban environment due to its explosive effect and is particularly useful against concrete reinforced urban structures in support of assaulting troops.

4-80 The smoke round has a range of up to 8000m and provides excellent cover for defiles and choke points in urban areas. However, the smoke is generated by white phosphorus and the use of such ammunition may therefore be restricted by extant ROE.

4-81 The two 7.62mm machine guns mounted on the Challenger II tank, one coaxially mounted with the main armament and one located above the loader's hatch, are particularly effective for suppressive fire. The loaders GPMG should be used with care as the firer will be exposed to direct and indirect fire.

Fig 4-7. The Boxer (Left) and Ajax (Right) Armoured Fighting Vehicles

Fig 4-8. Challenger 2, Iraq 2003

Indirect Weapons

4-82 **General.** The urban environment greatly restricts low angle indirect fire. Mortars and artillery operating in the high angle are less affected. For low angle artillery fire, dead space is about five times the height of the building behind which the target sits. For mortars and artillery operating in the high angle, dead space is only about one-half the height of the building. Both mortars and artillery firing in the high angle can therefore provide effective indirect fire support during urban operations.

4-83 **Lethality.** In open terrain the 105mm shell has a lethal radius of 40m (ground burst) and 50m (air burst), and the 155mm shell 55m (ground burst) and 85m (air burst). GMLRS rockets have a lethal radius of 80m for ground burst, but which varies with altitude for air burst. In built up areas the range of the blast and fragmentation of the shell or rocket may be lessened by the physical obstruction of the buildings, although hard surfaces may increase the ricochet range and effect of the explosion.

Mortars (81mm)

4-84 The multi-option fuze on mortar rounds makes them particularly effective weapons in urban terrain. Delay settings can slightly increase penetration and proximity bursts can increase the lethal area covered by fragments. Tall buildings can cause proximity-fused mortar rounds to detonate prematurely if they pass too closely.

Fig 4-9. Gun Equipment 155mm L131, AS90

Chapter 5
Battle Lessons and Battle Exercises

Section 1. Introduction

Aim

5-01 *The aim of this chapter is to give guidance on the planning, preparation and conduct of Battle Lessons and Battle Exercises.*

Definitions

5-02 **The Battle Lesson.** A Battle Lesson is a lesson which combines previously taught individual skills of fieldcraft, weapon handling and minor tactics. It may be given using demonstration troops followed by practice or as a tutorial, but always stopping at various stages to emphasize weaknesses in a particular aspect by individuals or the squad as a whole. It should always be progressive. Battle Lessons will invariably be conducted 'dry' or with the use of blank and/or pyrotechnics.

5-03 **The Battle Exercise.** A Battle Exercise is a test to confirm that a Battle Lesson has achieved its aim. It may be run in the form of a competition but should be allowed to run its course before debriefing individuals or the squad as a whole. Where it is determined that live ammunition is needed in order to bring out the training objectives it would be normal practice to progress to live via the use of blank; this would depend on the state of training of the individuals/squad to be exercised.

Scope

5-04 This chapter gives guidance to company level officers, WOs and NCOs and those in the training organisation, who have responsibility for individual, section and platoon level training where Battle Lessons and Exercises will be needed to achieve particular training objectives in the following areas:

a. The handling of personal or section or platoon weapons in various tactical situations.

b. Basic individual skills and drills e.g. use of cover and rolling the door.

c. Minor tactics.

5-05 This chapter seeks to bridge the gap between the information and skills contained in this publication and the individual weapon training and tactical doctrine pamphlets. It explains how the tactical skills/drills should be taught initially as a Battle Lesson and gives some examples; and later how these Battle Lessons can be practised, and soldiers tested in a Battle Exercise to confirm previous lessons and assess performance standards. Examples of Battle Exercises are also given. The examples are illustrative and do not attempt to cover all the subjects that need to be taught and tested.

5-06 The information in this chapter is to be used as a guide to plan and conducting a BL / BE. Detailed information is found in Chapter 3 to Reference C, which must be read and fully understood.

5-07 **Night Training.** Night training forms a very important stage in the training of all soldiers. Although no particular Battle Lesson or Exercise is designed specifically for night training, selected lessons or exercises may be used. As this form of training carries more constraints than training in daylight Planning and Conducting Officers must be familiar with all the safety aspects applicable to it and especially where live firing is involved.

5-08 - 5-19. *Reserved.*

Section 2. Planning for a Battle Lesson or Battle Exercise

5-20 The scope and success of each lesson or exercise will depend on the imagination, ingenuity and initiative of the Planning and Conducting Officers. For a lesson/exercise to be successful it must be realistic, interesting, progressive and demanding, both physically and mentally. The essentials are:

a. **A Clear Aim.** The aim of each lesson/exercise should be kept simple and its purpose borne in mind throughout the planning, preparation and conduct.

b. **Precise Training Objectives.** (A clear appreciation of the lessons to be learnt.) In order for the aim to be achieved, various aspects of a soldier's performance must be exercised. The lesson/exercise should be constructed or geared so that these aspects are emphasized. Due consideration must be given as to whether it is better to use blank ammunition rather than live. For example, the training objectives concerned with minor tactics are more likely to be achieved on a two-sided Battle Exercise using blank ammunition rather than having the constraints of live firing safety imposed.

c. **Thorough Preparation.** There are no short cuts when preparing a lesson/exercise. Its value will usually be in direct proportion to the amount of planning and preparation put into it. The tactical and administrative preparations are equally important. If administration is not sound the lesson/exercise will not flow properly and valuable lessons and time will be lost.

d. **Simplicity.** A complicated lesson/exercise is difficult to organize and conduct and only serves to confuse those being taught or exercised.

e. **Realism and Interest.** The lesson/exercise should be made as realistic as is possible but always within the regulations imposed by Pamphlet No 21 (Reference C) and the AOSP pamphlets. Correct use of camouflaged targets, effects guns, pyrotechnics or live enemy is of major importance. Annex A gives some suggestions about the use of targetry and how fire can be simulated.

f. **Supervision.** The enemy and supervisory staff need to be fully briefed on all aspects of the lesson/exercise and must know what to do in any situation. Soldiers will learn by their mistakes if they are properly supervised and are not allowed to get away with faults in such fundamental drills as weapon handling, use of cover and movement. Supervisors need to comply with the dress of the exercising soldiers if they are to play an active part in the exercise scenario.

g. **Qualifications and Standards.** Planning and/or Conducting Officers must hold the qualifications they need in order to plan and conduct any lessons/exercises involving blank, pyrotechnics or live ammunition. They must also be aware of the qualifications required for all safety supervisory

staff; the regulations are to be found in Pamphlet No 21 (Reference C). Also, planning must take account of the standard of training of those to be exercised as this may prohibit their participation in certain exercises involving live firing; in all cases reference C is to be read and the rules contained complied with.

h. **The Written Instruction.** The production of a written instruction is mandatory and detailed guidance can be found in Reference C. Further information is found in Section 3 para 1009 sub para d.

5-21 - 5-29. *Reserved.*

Section 3. Preparation of a Battle Lesson and a Battle Exercise

5-30 Preparation should be considered in the following sequence:

a. **The Aim.** This should have been established at the planning stage and may well have been stated by the company commander/Exercise Director. If a broad aim has been given to cover a training session where several Battle Lessons/Exercises are to take place the person responsible for the planning and preparation must ensure that each Battle Lesson/Exercise is given its own clear and simple aim.

b. **Considerations.** Think how you will achieve the aim or aims and consider the following factors:

(1) An area suitable for the lesson/exercise. Then, in sequence, a briefing/ administrative area, a battle preparation area and a re-exercise area.

(2) The training objectives that need to be covered to achieve the aim. Consider how certain situations may be incorporated in the lesson/ exercise to bring out these points.

(3) The standard and number of soldiers to be exercised.

(4) Where applicable, the availability and qualifications needed for any range safety staff.

(5) Time available.

(6) Dress, weapons, ammunition, pyrotechnics, equipment and other stores that may be required.

(7) Enemy; live or targetry of various natures.

(8) What part you are to play; i.e. to act as the patrol/section commander, act a part in the battle picture or remain as an exercise supervisor and instructor.

c. **Reconnaissance.** The following guidelines are given and should be given due consideration where applicable:

(1) The area should be:

(a) Realistic and suitable for the lesson/exercise.

(b) Away from distractions.

(2) Arrange your area or route so that you retain as much flexibility as is possible. For example, try to select a different return route so that, provided it does not detract from realism or impinge on safety, the next run of the lesson/exercise can start immediately the previous one has finished.

(3) Ensure that:

(a) None of the background areas affect the lesson/exercise by sight or sound.

(b) You are able see faults front to rear without detracting from realism or constraining those being exercised.

(4) Select sites for:

(a) An administrative/briefing area.

(b) A battle preparation area.

(c) An ammunition point (if applicable).

(d) A concurrent activities area.

(5) Assign instructor/supervisory/administrative staff as necessary.

(6) Work out a system of work for the various stands; i.e. how the rotation of those being exercised will be organized.

(7) Walk the route/s and have a dry run of the lesson/exercise. If live firing is involved, then a live firing rehearsal should be conducted whenever possible. From the information you have collected jot down enough notes so that you can subsequently write a brief to cover the practical phase/s of the lessons/ exercises.

d. **Briefing/Written Instructions.** To ensure that all personnel involved are fully conversant with their responsibilities a written instruction should be produced and/or a verbal briefing given. Where the use of blank, pyrotechnics or live ammunition is being used or in any other setting where a risk assessment is involved (e.g., any planned water obstacle crossing) an EASP/RASP is mandatory (see reference C for detailed guidance and examples). An EASP is also mandatory if BATSIMs are being employed or the ECO is using a written instruction produced by another person. The amount of detail to be included in an EASP/RASP will depend on the training and administrative complexity of the Battle Lesson or Exercise concerned. It should contain enough detail to allow another officer or NCO to take over and run the exercise/lesson at short notice. Where safety is concerned it must, as a minimum include a comprehensive set of safety orders. For a very simple

'dry' lesson/exercise where only a verbal briefing is considered necessary an EAM may be produced and should contain as a minimum, the aim and lessons to be learnt and the method in which it is to be conducted.

e. **Post Lesson/Exercise Considerations.** After the lesson/exercise is over, and in order to ensure that training is progressive, the instructor should consider:

(1) To what extent the aim/training objectives have been achieved.

(2) If not, what further lessons/exercises are necessary to achieve them and what aspects must be covered in greater detail.

(3) Could the lesson/exercise have been organized better, or the subject matter have been better presented to make the learning process easier.

5-31 - 5-39. *Reserved.*

Section 4. The Battle Lesson

General

5-40 The definition of the Battle Lesson is given in the Introduction to this Chapter, which together with Sections 1 and 2 should be read before studying this Section.

Examples

5-41 Examples of three Battle Lessons are given at the end of this Section. These are for illustrative purposes only. It is the responsibility of the instructor to ensure that the drills and/or tactical doctrine are updated where necessary.

Conduct

5-42 The length of each lesson/demonstration will vary with the subject being taught and the time available. The teaching phase can be conducted using normal lesson/lecture techniques or by a demonstration. On some occasions a combination of both may be applicable. It is often best to teach a stage of the subject then confirm by practice before moving onto another stage. Phase 2, the final practice, should be run once all the stages of instruction have been completed. The importance of the final practice must be emphasized. It serves as a confirmation of the subject taught and ensures that the soldiers or sub-unit's skills are enough to tackle a Battle Exercise in the same subject. The sequence listed below should be followed.

Sequence

5-43 The sequence of a Battle Lesson should be, where applicable, as follows:

a. **Preliminaries.**

(1) On arrival of demonstration troops:

(a) Layout stores and ammunition.

(b) Carry out normal safety precautions — demonstration troops and enemy; a thorough physical check of all weapons, magazines, ammunition pouches, pockets, helmet linings and other personal clothing and equipment is to be conducted.

(c) A declaration is to be taken from all troops that they have no live ammunition in their possession.

(d) Remind all troops they are responsible for ensuring that every round they fill into a magazine, ammunition stowage bin, clip or belt, is blank.

(e) The ECO and Exercise Assistants are to ensure that BFAs and associated equipment are correctly fitted.

(f) Brief and rehearse demonstration troops and enemy.

(2) On arrival of troops:

(a) Carry out normal safety precautions.

(b) A declaration is to be taken from all troops that they have no live ammunition in their possession.

(c) Remind all troops they are responsible for ensuring that every round they fill into a magazine, ammunition stowage bin, clip or belt, is blank.

(d) The ECO and Exercise Assistants are to ensure that BFAs and associated equipment are correctly fitted.

(e) The ECO is to sign the AFB 159B

(f) Check all weapons, blank magazines and blank firing attachments. A thorough physical check of all weapons, magazines, ammunition pouches, pockets, helmet linings and other personal clothing and equipment is to be conducted.

(g) Issue safety brief applicable to the lesson.

(h) Give out the squad organization and detail command appointments.

(i) Number off, if it is a team lesson.

(j) Describe how the instruction will progress, how it will be covered in stages and, if applicable, how a scoring system will work.

(k) Distribute stores and ammunition (if required at this stage).

(l) Carry out initial battle preparation if required.

b. **Revision.** Revise only those skills or knowledge that have a direct bearing on this lesson.

c. **Introduction.** This must include:

(1) The aim — the subject matter to be taught.

(2) The ‘reason why’ — which should be related to the battle purpose.

(3) An incentive — something that will affect the soldiers personally if possible.

d. **The Lesson.**

(1) **Phase 1 — The Teaching Phase.** Teach each stage of the lesson in the following sequence:

(a) Explain and/or demonstrate the new knowledge or skills (the squad imitating).

(b) Confirm by practice by means of a walkthrough/talk through and/or questions.

(c) If necessary, carry out a short quick-time practice to confirm and fault check.

(2) **Phase 2 — The Final Practice.** This is confirmation of all stages of the lesson as an exercise. The following considerations apply:

(a) Re-issue stores; and ammunition if required.

(b) Confirm squad organization and brief on the conduct of the final practice.

(c) **Initial Battle Picture**. To introduce realism into the exercise. This should give a brief background to the forthcoming operation and give the following details to assist in battle preparation: i. Place. Where battle preparation is to take place. ii. Time. How long they have to complete it. iii. Threat. The direction of the enemy.

(d) **Final Battle Preparation**. Carried out in the preparation areas. This allows refurbishment of camouflage and preparation of the group, their weapons and equipment issued specifically for the final practice.

(e) **Final Battle Picture**. This should be given as a tactical brief. Give the student(s) the task they are to carry out. It should be given from a concealed position overlooking the exercise area.

(f) **Exercise**. This confirms your lesson. Consider:

i. Control. Enough to ensure that the exercise runs smoothly.

ii. Fault checking. Only when repeated faults are made.

iii. Interference. Never, unless safety is involved.

(g) **Debrief**. At the end of exercise stage soldiers should:

i. Clear weapons (where applicable) by being given the following order: “Stop”, “Unload”.

ii. Be reminded of the aim.

iii. Have their faults discussed from the critique sheet. Prior to the debrief the enemy should be asked for points on the performance of the troops.

iv. Be given encouragement and praise where due.

(h) **Re-Exercise**. It is unlikely that there will be time to carry out a re-exercise phase. If there is, it should be carried out on a new area with a new Battle Picture. Feedback should again be given comparing both exercises, noting good and bad points.

Conclusion

5-44 **End of Lesson Drill.**

a. Questions from and to the squad.

b. Unload, clear weapons, empty magazines and centralize ammunition (where applicable).

c. Carry out normal safety precautions to include a thorough physical check of all weapons, magazines, ammunition pouches, pockets, helmet linings and other personal clothing and equipment.

d. Pack up all stores.

e. Declaration. (Where applicable but only if not done as a central declaration — see paragraph below).

f. Sign AFB 159A. g. Summary and look forward.

5-45 **Concurrent Lessons.** When lessons are running concurrently the following drills are to be carried out at the end of the training period in addition to the individual lesson sequence:

a. Normal safety precautions and declaration (where applicable).

b. Sign AFB 159A (where applicable)

c. Pack up all stores.

d. Summary by OIC on lessons as a whole.

e. Look forward to Battle Exercises on the subject.

5-46 - 5-49. *Reserved.*

Section 5. The Battle Exercise

General

5-50 The Battle Exercise is the logical follow-on from the Battle Lesson. It gives individual soldiers, the team, or group, opportunities to show their ability and use their initiative in realistic situations covering all phases of war.

5-51 The key to success when planning the Battle Exercise is realism. Realism depends upon the imagination, involvement and planning of the officer or NCO concerned.

5-52 The definition, detailed planning considerations and preparation of a Battle Exercise is explained in the Introduction to this chapter and at Sections 2 and 3. These should be read before studying this Section.

Examples

5-53 Examples of Battle Exercises are given at the end of this Section. It is stressed that these are for illustrative purposes and it is the responsibility of the Planning and/or Conducting Officer to ensure that the detail is both current and safe.

Conduct

5-54 The Battle Exercise may be conducted at two different levels:

a. **The Practice Exercise.** This is designed to improve the soldier's performance in a particular skill or tactic. The following aspects are to be noted:

(1) Concurrent activity may be related to the exercise.

(2) The 'remind' phase is to be included in the initial brief, indicating to the soldier what is expected of them during the exercise.

(3) The exercise should be run on a competitive basis and the soldier's progress assessed.

b. **The Test Exercise.** This is designed to assess the soldier's performance in an aspect of training which, if satisfactory, will enable them to progress onto the next stage. A soldier may be tested in this manner at any stage of their service. The following aspects are to be noted:

(1) Concurrent activity must be planned so that it does not affect the fair assessment of all troops.

(2) There is no 'remind' phase.

(3) The soldier must be made aware that the exercise is a test of skills and that they will be assessed throughout.

Sequence

5-55 The sequence of the Battle Exercise is as follows:

a. **Preliminaries.**

(1) On arrival of demonstration troops/safety supervisors:

(a) Carry out normal safety precautions and checks.

(b) Layout stores and ammunition.

(c) Brief and rehearse demonstration troops/enemy/safety supervisors.

(2) On arrival of troops to be exercised:

(a) Carry out normal safety precautions to include a thorough physical check of all weapons, magazines, ammunition pouches, pockets, helmet linings and other personal clothing and equipment.

(b) A declaration is to be taken from all troops that they have no live ammunition in their possession.

(c) Remind all troops they are responsible for ensuring that every round they fill into a magazine, ammunition stowage bin, clip or belt, is blank.

(d) The ECO and Exercise Assistants are to ensure that BFAs and associated equipment are correctly fitted.

(e) Sign AFB 159B.

(3) Issue a safety brief.

(4) Give out squad organization, command appointments and number off if it is a team exercise.

(5) Explain (where applicable): (a) The Layout of the Exercise, Ammunition Point, Battle Preparation Area, Line of Departure, Administrative Area, Concurrent Activity Area. (b) The System of Work. Who will be exercised first, who will start concurrent activity first and how the changeover will work. (c) The Competition. Outline the subjects to be exercised and tested and the scores to be attained.

(6) Distribute stores.

(7) Carry out initial battle preparation

b. **Revision.** Remind and revise points applicable to the particular exercise. This does not apply if the exercise is being conducted as a test.

c. **Introduction.** (1) Approach. (a) The ‘reason why’ which should be related to the battle purpose. (b) Incentive. Plan something that will affect the soldier personally if possible. (2) Aim. The aim of the exercise.

d. **Battle Picture.** Include orders/brief.

e. **Final Battle Preparation.**

f. **Conduct Exercise or Test.** Include individual debrief.

g. **End of Exercise Drills.** As per The Battle Lesson — see Section 4.

h. **Re-Exercise.** Only if necessary and preferably on a new area.

Battle Preparation and the Battle Picture

5-56 Battle preparation and the battle picture stages help to introduce realism into the exercise which must be maintained throughout. As a general rule remember that the battle picture is often the method used for explaining the situation to the soldiers. The following factors should be considered when carrying out these stages:

a. **Battle Preparation.** A separate area should be designated for battle preparation. When briefing soldiers for the battle preparation phase include the following:

(1) Indicate the area where the preparation is to be carried out.

(2) Say how long is available.

(3) Point out the direction of the enemy.

(4) State the time and place for orders/brief.

b. **Assessment.** If a soldier’s or sub-unit’s battle preparation is to be marked as part of the overall performance competition, it is recommended that the marks allocated for this subject be divided in half. Half should be awarded prior to the exercise and the remainder at the end. This allows the soldier’s preparation to be tested under exercise conditions and will reveal weaknesses such as the attachment of camouflage and serviceability of weapons and equipment.

c. **Battle Picture.** In all situations especially for sub-unit exercises the battle picture should be given from a concealed position overlooking the exercise area so that it can be related to the ground.

Duties of the Instructor and Safety Supervisor — Live Firing

5-57 The duties and role of the Instructor will vary with the type of exercise being run. Where the exercise is conducted as a ‘dry’ run practice, they will be primarily concerned with giving encouragement and advice to the soldier. However, advice

should only be given when strictly necessary as soldiers should be allowed the maximum scope for making their own decisions and mistakes. For all exercises involving live firing the regulations contained in Pamphlet No. 21 (Reference C) are to be followed. During such firing the instructor acts as a Safety Supervisor where his primary concern is that of safety. The Conducting Officer must decide if a Safety Supervisor is to be detached from the exercise setting and purely act in a safety supervisory role or whether they are also to play a part within the battle picture.

5-58 In all cases the Instructor's role can be summarized as follows:

a. **Briefing of Firers.**

(1) Check or mark preparation for battle.

(2) Instil a sense of urgency.

(3) Repeat the vital safety points.

(4) Remind soldiers of the battle picture and indicate the route.

(5) Supervise the loading and 'making ready' of the soldiers' weapons.

b. **Accompany the Firers.**

(1) Ensure the safety of the exercise.

(2) Channel the soldiers along the correct route.

(3) Check faults. This may be done verbally during a practice battle exercise but it should be kept to a minimum. During a test exercise the points should only be noted for the debrief.

(4) Encourage and advise but only in the case of the instructional exercise.

(5) Order "Unload" and clear all weapons before moving to the debrief area.

c. **Debrief Firers.**

(1) Remind them of the aim.

(2) Discuss faults and award scores as necessary.

(3) Encourage and praise where due.

(4) Summarise.

Competition

5-59 Whenever possible all exercises should be made competitive by awarding or deducting marks in accordance with the Instructor's or Safety Supervisor's

assessment of the performance achieved. For the majority of exercises a selection of the following headings may be used:

a. Battle Preparation.

b. Weapon Handling.

c. Streetcraft.

d. Observation.

e. Tactics.

f. Use of Cover.

g. Reaction.

h. Fire Positions.

i. Fire Effect.

j. Control. Use of hand signals and communication.

5-60 Instructors (or Safety Supervisors) should allocate points for the soldiers' performance under several selected headings. A suggested balance for marking is given below:

Headings	**Points**
a. Battle Preparation	15
b. Weapon/Equipment Handling	15
c. Fire Position and Movement	15
d. Skills/Technique or Fire Effect to be Achieved/Tested	50
e. Instructor's Discretion, e.g., Bonus points for achieving HPS in sub-paragraph d. above	HPS 100

5-61 **Standards**

a. Pass Standards for Recruits or young soldiers. 50%

b. Pass Standards for Trained Soldiers. 70%

c. Soldiers are to achieve pass standards under each heading/stage in order to pass the whole test/exercise.

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