ARMY, MARINE CORPS, NAVY, AIR FORCE

# NLW

## MULTI-SERVICE TACTICS, TECHNIQUES, AND PROCEDURES FOR THE TACTICAL EMPLOYMENT OF NONLETHAL WEAPONS


*FM 3-22.40*
*MCWP 3-15.8*
*NTTP 3-07.3.2*
*AFTTP(I) 3-2.45*

**AIR LAND SEA APPLICATION CENTER**

*October 2007*



MULTI-SERVICE TACTICS, TECHNIQUES, AND PROCEDURES

## FOREWORD

This publication has been prepared under our direction for use by our respective commands and other commands as appropriate.

**BARBARA G. FAST**
Major General, US Army
Deputy Director/Chief of Staff,
Army Capabilities Integration Center

**ANDREW W. O'DONNELL, JR.**
Brigadier General (Sel), US Marine Corps
Director
Capabilities Development Directorate

**CARLTON B. JEWETT**
Rear Admiral, US Navy
Commander
Navy Warfare Development Command

**ALLEN G. PECK**
Major General, US Air Force
Commander
Air Force Doctrine Development and
Education Center

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# PREFACE

## 1. Purpose

This publication provides a single-source, consolidated reference on the tactical employment of nonlethal weapons (NLW). This publication is not intended to restrict the authority of the commander from organizing his force and executing the mission in a manner deemed appropriate.

## 2. Scope

This publication describes multi-Service tactics, techniques, and procedures (MTTP) for consideration and use during the tactical employment of NLW in support of warfighting personnel conducting training and tactical operations. This publication—

a. Provides an overview of NLW.

b. Discusses fundamental concepts and training requirements involved with NLW.

c. Provides a description of NLW and employment considerations.

d. Discusses the use of NLW gleaned from lessons learned. These discussions are captured in the vignettes and factual examples.

**Note: In order to keep the content of this MTTP publication unclassified and to provide the widest distribution possible to the warfighter, the sources of the lessons learned were excluded.**

## 3. Applicability

This publication provides commanders and their staff unclassified guidance for NLW employment and planning. Commanders and staffs can use this publication to aid in the tactical employment of NLW during exercises and contingencies. The United States (US) Army, Marine Corps, Navy, and Air Force approved this multi-Service publication for use.

## 4. Implementation Plan

Participating Service command offices of primary responsibility will review this publication, validate the information, and where appropriate, reference and incorporate it in Service manuals, regulations, and curricula as follows:

**Army.** Upon approval and authentication, this publication incorporates the procedures contained herein into the US Army Doctrine and Training Literature Program as directed by the Commander, US Army Training and Doctrine Command (TRADOC).

**Marine Corps.**[*] The Marine Corps will incorporate the procedures in this publication in US Marine Corps training and doctrine publications as directed by the Commanding General, US Marine Corps Combat Development Command (MCCDC). Distribution is in accordance with the Marine Corps Publication Distribution System (MCPDS).

**Navy.** The Navy will incorporate these procedures in US Navy training and doctrine publications as directed by the Commander, Navy Warfare Development Command (NWDC)[N5]. Distribution is in accordance with Military Standard Requisition and Issue

[*] **Marine Corps PCN: 143 000057 00**

Procedure Desk Guide (MILSTRIP Desk Guide) Navy Supplement Publication-409 (NAVSUP P-409).

**Air Force.** The Air Force will incorporate the procedures in this publication in accordance with applicable governing directives. Distribution is in accordance with Air Force Instruction (AFI) 33-360.

## 5. User Information

a. TRADOC, MCCDC, NWDC, Air Force Doctrine Development and Education Center (AFDDEC), and the Air Land Sea Application (ALSA) Center developed this publication with the joint participation of the approving Service commands. ALSA will review and update this publication as necessary.

b. This publication reflects current joint and Service doctrine, command and control organizations, facilities, personnel, responsibilities, and procedures. Changes in Service protocol, appropriately reflected in joint and Service publications, will likewise be incorporated in revisions to this document.

c. We encourage recommended changes for improving this publication. Key your comments to the specific page and paragraph and provide a rationale for each recommendation. Send comments and recommendations directly to—

### Army

Commander, US Army Training and Doctrine Command
ATTN: ATFC-EJ
Fort Monroe VA 23651-1067
DSN 680-3951 COMM (757) 788-3951
E-mail: doctrine.monroe@us.army.mil

### Marine Corps

Commanding General, US Marine Corps Combat Development Command
ATTN: C427
3300 Russell Road, Suite 318A
Quantico VA 22134-5021
DSN 278-2871/6227 COMM (703) 784-2871/6227
E-mail: deputydirectordoctrine@usmc.mil

### Navy

Commander, Navy Warfare Development Command
ATTN: N5
686 Cushing Road
Newport RI 02841-1207
DSN 948-1070/4201 COMM (401) 841-1070/4201
E-mail: alsapubs@nwdc.navy.mil

### Air Force

Commander, Air Force Doctrine Development and Education Center
ATTN: DD
155 North Twining Street
Maxwell AFB AL 36112-6112
DSN 493-2256 COMM (334) 953-2256
E-mail: afdc.dd2@maxwell.af.mil

### ALSA

Director, ALSA Center
114 Andrews Street
Langley AFB VA 23665-2785
DSN 575-0902 COMM (757) 225-0902
E-mail: alsa.director@langley.af.mil

# *SUMMARY of CHANGE*

FM 3-22.40/MCWP 3-15.8/NTTP 3-07.3.2/AFTTP(I) 3-2.45
*Tactical Employment of Nonlethal Weapons*

This revision, dated October 2007 ——

- Changes and reorganizes overview of NLW in chapter 1.
- Changes chapter 2 incorporating chapter 4 training and revises content.
- Deletes old chapter 3 NLW capability requirements.
- Adds new chapter 3 containing NLW and employment considerations.
- Adds new chapter 4 containing factual examples and vignettes.
- Deletes chapter 5 incorporating content in chapter 3 and appendix A.
- Consolidates content from old appendix A into appendix B.
- Adds new appendix A containing riot control tactics.
- Deletes old appendix C INIWIC Course
- Adds new appendix C containing NLW capability and equipment item descriptions.
- Deletes old appendix D Sample Unit Training Schedules/Firing Tables.
- Adds new appendix D describing equipment currently under development.
- Changes appendix E with revised NLW capability set information.
- Adds appendix F describing the gradual response matrix.

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Fort Monroe, Virginia
MCWP 3-15.8 Marine Corps Combat Development Command
Quantico, Virginia
NTTP 3-07.3.2 Navy Warfare Development Command
Newport, Rhode Island
AFTTP(I) 3-2.45 Air Force Doctrine Development and Education Center
Maxwell Air Force Base, Alabama

24 October 2007

# NLW
## MULTI-SERVICE TACTICS, TECHNIQUES AND PROCEDURES FOR THE TACTICAL EMPLOYMENT OF NONLETHAL WEAPONS

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* This publication supersedes FM 3-22.40/MCWP 3-15.8/NTTP 3-07.3.2/AFTTP(I) 3-2.45, 16 January 2003.

**FIGURES**

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# EXECUTIVE SUMMARY

# NLW

## Multi-Service Tactics, Techniques, and Procedures for Tactical Employment of Nonlethal Weapons

### Overview of NLW

Chapter I describes the background, organization, and core capabilities associated with the development and employment of NLW.

### Training

Chapter II discusses the fundamental concepts and training requirements including a description of how to train the trainer and other NL training topics.

### NLW and Employment Considerations

Chapter III contains a list of DOD approved NLW in addition to some graphics depicting range overlays. The use of force is described in a graphic force continuum representing the constant decision process one experiences when assessing a given situation and the need to use lethal, NL, or any force at all. In addition, a baton striking chart describes preferred target areas and expected effects.

### Vignettes and Factual Examples

Chapter IV contains several vignettes, scenarios, and factual examples including a detainee operation, a presence patrol, a public order incident, a pier side challenge, an incident case study, and an escalation of force against perceived threats.

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**Note: In order to keep the material unclassified and to provide the widest distribution possible of this publication to the warfighter, the sources of the lessons learned were excluded.**

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# PROGRAM PARTICIPANTS

The following commands and agencies participated in the development of this publication:

### Joint

The DOD Joint Non-Lethal Weapons Directorate, Quantico Marine Corps Base, VA
Interservice Nonlethal Individual Weapons Instructor Course, Fort Leonard Wood, MO

### Army

US Army Training and Doctrine Command, Fort Monroe, VA
Army Capabilities Integration Center, Fort Monroe, VA
Army Nonlethal Scalable Effects Center, Fort Leonard Wood, MO

### Marine Corps

Marine Corps Combat Development Command, Quantico, VA

### Navy

Navy Warfare Development Command (Norfolk Detachment), Norfolk, VA

### Air Force

Air Force Doctrine Development and Education Center, Maxwell AFB, AL
Air Combat Command/A3Y, Langley AFB, VA
HQ AFSFC/SFXR, Lackland AFB, TX

# Chapter I
# OVERVIEW OF NONLETHAL WEAPONS

## 1. Background

a. History.

(1) In today's operational environment, US forces regularly perform missions that were almost inconceivable a few decades ago. In this environment, lethal firepower or the threat of its use is not the default solution to all crises or problems. Leaders face a high level of public and media sensitivity and scrutiny concerning the proper role of the military as an instrument of national power. Commanders must understand these sensitivities and attempt to achieve an appropriate level of military force. Leaders must also apply the resulting decisions wisely, often in changing situations filled with uncertainty and danger.

(2) Throughout history, changes in culture and technology have influenced the character of military force and the manner in which it is employed. These changes are an attempt to maximize military force options in the operational environment. NLW are an integral part of joint operational capabilities. Joint forces anticipate that NLW technology will advance and provide additional options for force commanders.

(3) Military forces use NLW to influence the behavior of adversaries. Examples of NLW include a show of force, physical obstacles, blunt impact munitions, noise to create or enhance psychological effects, and using light and directed energy systems to disorient combatants. Nonlethal (NL) means will remain relevant in future operations and are a part of an evolutionary process of weapons development. Joint operations in Somalia, RESTORE HOPE, provided increased awareness of the need to incorporate NLW into a force commander's tool box. (In October 1993, American forces were over-run by a mob consisting of two to three thousand militia commingled with civilian noncombatants. The situation resulted in 18 Americans and an estimated 1,000 Somalis killed.) Therefore, the Department of Defense (DOD) established the Joint Nonlethal Weapons Program (JNLWP) in 1996 to research, develop, and acquire NL capabilities.

(4) Increased interaction between US forces and civilian populations is a feature of the contemporary operational landscape and will remain so in the future. Three factors account for this forecast:

(a) Worldwide patterns of population growth and migration have resulted in an expansion of urban culture within established industrialized nations, as well as many pre-industrial and emerging third world societies. The prevalence of urbanization in many crisis-prone regions of the world creates the potential for large, vulnerable groups of civilians to be entrapped in volatile confrontations involving the deployment of military forces in military operations in urban terrain.

(b) US forces increasingly operate in missions such as humanitarian assistance, disaster relief, noncombatant evacuations, and various types of peace operations. These operations commonly involve close and continual interaction between US forces and noncombatant civilians. Some operational scenarios include the presence of paramilitary forces, armed factions, or rogue elements that present a constant, but uncertain threat to US forces. In these situations, the mission of US forces includes preventive tasks. In other words, US forces enhance mission accomplishment by preventing individuals or factions from carrying out specified undesirable activities, such as rioting, looting, attacking, harassing, or threatening. Often, the adversary blends in with the local population of innocent citizens. At other times,

sectors of the local population may rise against US forces and become active participants in acts of violence. Factional alignments, the level of violence, and the threat to mission accomplishment, may change frequently with little or no warning. Under such circumstances, the identity of adversaries is uncertain and the use of deadly force for purposes other than self-defense may be constrained by standing rules of engagement/standing rules for the use of force (SROE/SRUF) or the judgment of the on-scene commander.

(c) From a defense-in-depth or situational understanding perspective, force protection, homeland security, and antiterrorism missions require that US forces assess the use of NLW as a response to potential asymmetric attacks. Asymmetric threats run the spectrum of adversarial use of innovative or nontraditional strategies, tactics, or technologies to exploit vulnerabilities and strike a decisive blow while avoiding the strengths of US forces. The objectives of these strikes are intended to undermine national will. Terrorist attacks such as those directed against the USS *Cole*, World Trade Center, and Pentagon, highlight the severity of the asymmetric threat and its resultant effects.

b. Definitions.

(1) NLW. Department of Defense Directive (DODD) 3000.3, *Policy for Nonlethal Weapons*, 9 July 1996 (certified current as of 21 November 2003), defines NLW as "weapons that are explicitly designed and primarily employed so as to incapacitate personnel or materiel while minimizing fatalities, permanent injury to personnel, and undesired damage to property and the environment." Furthermore, "unlike conventional lethal weapons that destroy their targets principally through blast, penetration, and fragmentation, nonlethal weapons employ means other than gross physical destruction to prevent the target from functioning. Nonlethal weapons are intended to have relatively reversible effects on personnel and materiel."

(2) Nonlethal. The term "nonlethal" does not mean zero mortality or nonpermanent damage; these are goals and not guarantees of these weapons. NLW are systems primarily designed and employed to prevent the target from functioning or taking effective action while minimizing casualties and collateral damage. NLW achieve tailored target responses using means other than gross physical destruction to provide target discrimination and mitigate collateral concerns through dimensions of precision not only in terms of accuracy, but also in type, magnitude, and duration of effect as well as degree of reversibility/recovery.

c. NLW Attributes.

(1) Incapacitation: Incapacitation disables, inhibits, or degrades one or more functions or capabilities of a target to render it ineffective.

(2) Reversibility: The ability to return the target to its pre-engagement level of capability.

(3) Discriminating: The ability to limit collateral damage and undesirable effects.

(4) Nondestructive: Nondestructive is the intended effect on materiel that is less than gross physical destruction.

d. Description. NLW provide US Armed Forces additional tools to assist in the incapacitation of threats in accordance with the SROE/SRUF. These capabilities can be applied over the entire range of military operations (ROMO).

e. Policy.

(1) DODD 3000.3 provides policy guidance for the development and employment of nonlethal weapons. Nonlethal weapons should enhance the capability of US forces to accomplish the following objectives:

- Discourage, delay, or prevent hostile actions.
- Limit escalation.

- Take military action in situations where use of lethal force is not the preferred option.
- Better protect our forces.
- Temporarily disable equipment, facilities, and personnel.

(a) DODD 3000.3 continues by stating, “The availability of NLW shall not limit a commander’s inherent authority and obligation to use all necessary means available and to take all appropriate action in self-defense. Neither the presence nor the potential effect of NLW shall constitute an obligation for their employment or a higher standard for employment of force than provided for by applicable law. In all cases, the US retains the option for immediate use of lethal weapons, when appropriate, consistent with international law.”

(b) DODD 3000.3 further states, “Nonlethal weapons shall not be required to have a zero probability of producing fatalities or permanent injuries. However, while complete avoidance of these effects is not guaranteed or expected, when properly employed, nonlethal weapons should significantly reduce them as compared with physically destroying the same target.”

(c) “Certain nonlethal weapons may be used in conjunction with lethal weapon systems to enhance the latter’s effectiveness and efficiency in military operations. This shall apply across the range of military operations to include those situations where overwhelming force is employed.”

(d) Some NLW, although designed to minimize fatalities and serious injuries, may have effects that could actually discourage their use. Therefore, the basic decision to employ military force in defense of national interests is usually a matter of intense public concern. The manner in which nonlethal force is exercised is subjected to the same scrutiny.

(e) The presence of NLW on the battlefield does not mean they must be used. In all cases, the commander retains the option for immediate use of lethal weapons when deemed appropriate, in accordance with the SROE/SRUF.

(2) According to DODD 5000.1, *The Defense Acquisition System*, 12 May 2003 (certified current as of 24 November 2003), the acquisition and procurement of DOD weapons and weapon systems must be submitted for legal review and must receive favorable findings before they can be employed. This review includes examination for consistency with applicable international and domestic laws, including the laws of war, various arms control treaties, and protocols. US forces can be assured that all military capabilities issued have passed this critical test. Medical and policy reviews should also be considered prior to fielding any new weapon systems. Commanders and operators should consult their supplemental ROE/RUF for additional guidance.

(3) The US is a signatory to the "Protocol on Blinding Laser Weapons to the 1980 Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects." This treaty has been submitted to Senate for advice and consent, but has not yet been ratified. However, as a matter of US policy the US adheres to this protocol (SECDEF Memo 29 Aug 95 per JAO). Again this type of action should be covered within any ROE/RUF, but commanders should be aware that using some capabilities in their “tool box” could violate international law and / or US policy. For example, laser designators for various weapon systems could be employed “nonlethally” (to blind targets), but could result in permanent blinding. Additionally, if those targets are engaged in activities such as operating aircraft, they could lose control of the craft and suffer lethal consequences. Aside from these practical considerations, there are legal

implications to this action. The US is a signatory to the "Protocol on Blinding Laser Weapons to the 1980 Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to be Excessively Injurious or to Have Indiscriminate Effects." Although the Protocol has not yet been ratified, the US adheres to this protocol.

(4) Prior to the use of riot control agents (RCAs), commanders are encouraged to become familiar with the Chemical Weapons Convention (CWC) of 1997, local and host nations rules for use of RCAs, theatre specific rules of engagement in regards to RCAs, and Executive Order (EO) 11850, *Renunciation of certain uses in war of chemical herbicides and riot control agents.*

(a) EO 11850 states that the United States renounces, as a matter of national policy, first use of herbicides in war except use, under regulations applicable to their domestic use, for control of vegetation within US bases and installations or around their immediate defensive perimeters, and first use of riot control agents in war except in defensive military modes to save lives such as:

- Use of riot control agents in riot control situations in areas under direct and distinct US military control, to include controlling rioting prisoners of war.
- Use of riot control agents in situations in which civilians are used to mask or screen attacks and civilian casualties can be reduced or avoided.
- Use of riot control agents in rescue missions in remotely isolated areas, of downed aircrews and passengers, and escaping prisoners.
- Use of riot control agents in rear echelon areas outside the zone of immediate combat to protect convoys from civil disturbances, terrorists, and paramilitary organizations.

(b) Source: The provisions of EO 11850 of Apr. 8, 1975, appear at 40 FR 16187, 3 CFR, 1971-1975 Comp., p. 980, unless otherwise noted.

f. Employment.

(1) Relationship of NLW to Deadly Force.

(a) The commitment of military power to resolve crises has traditionally involved the implicit or explicit threat or use of deadly force. Military units are trained, organized, and equipped for this purpose. A force armed only with traditional military weapons normally has two options for enforcing compliance: threatening deadly force and applying deadly force. This limitation creates a critical vulnerability that belligerents may quickly discern and use to their advantage.

(b) NLW provide a wider range of options that augment, but do not replace, traditional means of deadly force. The option to resort to deadly force must always remain available when the commander believes it is appropriate to the mission. DODD 3000.3, states "the availability of NLW shall not limit a commander's inherent authority and obligation to use all necessary means available and to take all appropriate action in self-defense." The existence of NLW does not represent the potential for "nonlethal war," and unrealistic expectations to that effect must be vigorously avoided. Noncombatant casualties, to include serious injuries and fatalities, are often an unavoidable outcome when employing military power, regardless of NLW availability.

(c) The integral relationship between lethal and NLW is often misunderstood. In order for NLW to achieve their maximum potential, this relationship must be fully understood, accepted, and exploited. This requires careful consideration.

(d) To illustrate, employing certain NLW as an intentional prelude to lethal engagement may at first be perceived as counter-intuitive. However, in negotiating the challenges of urban combat, for example, such sequencing may have considerable merit. However, commands should be aware that the use of RCAs (or other chemically-based agents/compounds that rapidly and temporarily produce sensory irritation or disabling physical effects in humans) as a prelude to lethal attack as a method of warfare is strictly controlled by US policy and law which will be reflected in the ROE/RUF.

(e) Sparing a building, facility, or other structure may be desirable for a variety of reasons: religious or cultural value, critical infrastructure, positive psychological impact on citizens, follow-on military use, desired economy in post-conflict restorative effort and cost, and other considerations that might lead the commander to prefer not destroying or seriously damaging it.

(f) Commanders and public affairs officers (PAOs) must prepare personnel to address media questions and concerns regarding the role of NLW. Operational experience indicates that new NLW give rise to significant media interest. Personnel participating in interviews or briefings must be prepared to address the role of NLW. It must be clear that the presence of NLW in no way indicates abandoning the option to employ deadly force in appropriate circumstances.

(2) Advantages of Employing NLW. NLW provide commanders the flexibility to influence the situation favorably with increased safety to US forces while reducing risk of both noncombatant fatalities and collateral damage. Some advantages follow:

(a) NLW are more humane and consistent with the political and social implications implicit in humanitarian and peacekeeping missions.

(b) The forces that properly employ NL options can expect to gain advantages over those who rely on lethal options alone. Because the degree of hostile force required to employ

NLW is substantially less than lethal options, forces can take a more proactive position to de-escalate a situation before deadly force is required to resolve a conflict.

(c) NLW and NL capability options are less likely to provoke others. However, commanders should be cautioned, using NLW does not preclude an undesired result.

(d) Demonstrated restraint can greatly diminish feelings of anger and remorse when deadly force is required after NL options fail.

(e) Using NLW can facilitate post incident stabilization by reducing populace alienation and collateral damage.

(f) NLW can reduce the possibility of injury to friendly forces.

(g) NLW have relatively reversible effects compared to lethal weapons.

(h) Certain NLW may be used in conjunction with lethal capabilities to augment force options of a joint force commander (JFC). These capabilities and their limitations will be explained in the engagement ROE/RUF.

(3) Leveraging Capabilities.

(a) The use of NLW involves integrating these capabilities into the mission planning process, IAW ROE, and the commanders intent. NLW provides an increase in force options that give commanders more flexibility in accomplishing military operations, filling the void between military presence and lethality. Integrating NLW provides a means for friendly forces to be proactive in determining intent, through the use of weapons and capabilities that have reversible effects. For example, using NLW on a fast moving vehicle approaching a check point to identify the intent of the driver and occupants. Depending on the resulting actions of the vehicle, escalation of force may or may not be necessary. The planning considerations when integrating NLW remain the same as any other operation. In accordance with the SROE/SRUF, commanders retain the right to take all appropriate action in self-defense to include the immediate use of lethal force.

(b) NLW may be applied in military operations, in accordance with applicable ROE/RUF, to achieve desired outcomes. Appropriately employed, NLW may be employed before, during, or after lethal capabilities have been used, and offer flexible engagement options against personnel and materiel targets. (See figure I-1.) These solutions will provide the JFC the means to limit undesirable consequences, and achieve military objectives across ROMO from Crisis Response and Limited Contingency Operations through Major Operations and Campaigns.

(c) NLW, via their tactical considerations (i.e., range, duration, coverage, effect, and reversibility), provide US forces with the ability to increase engagement space and time. As an example of this, figure I-1 depicts NLW and lethal means employed together. At the precise instant in which a possible threat or a subject with unknown intentions is identified, NLW supported by lethal over-watch could be employed to determine or confirm intent. The ability to engage immediately allows the US forces increased engagement space and time. Absent NLW, the available options are: engaging immediately without confirming the target's intent, pausing to consider the situation more thoroughly, or doing nothing until the target engages the friendly force, thus, putting US forces in jeopardy. Engaging with lethal means could unintentionally cause injuries or fatalities to innocent civilians. Pausing to consider the situation more thoroughly, or waiting for potential targets to initiate hostile actions could put US forces at risk. NLW enable US forces to engage first and maintain the initiative. Care must be taken in the employment of NLW however, to ensure their employment will not lead to an escalation, vice de-escalation.

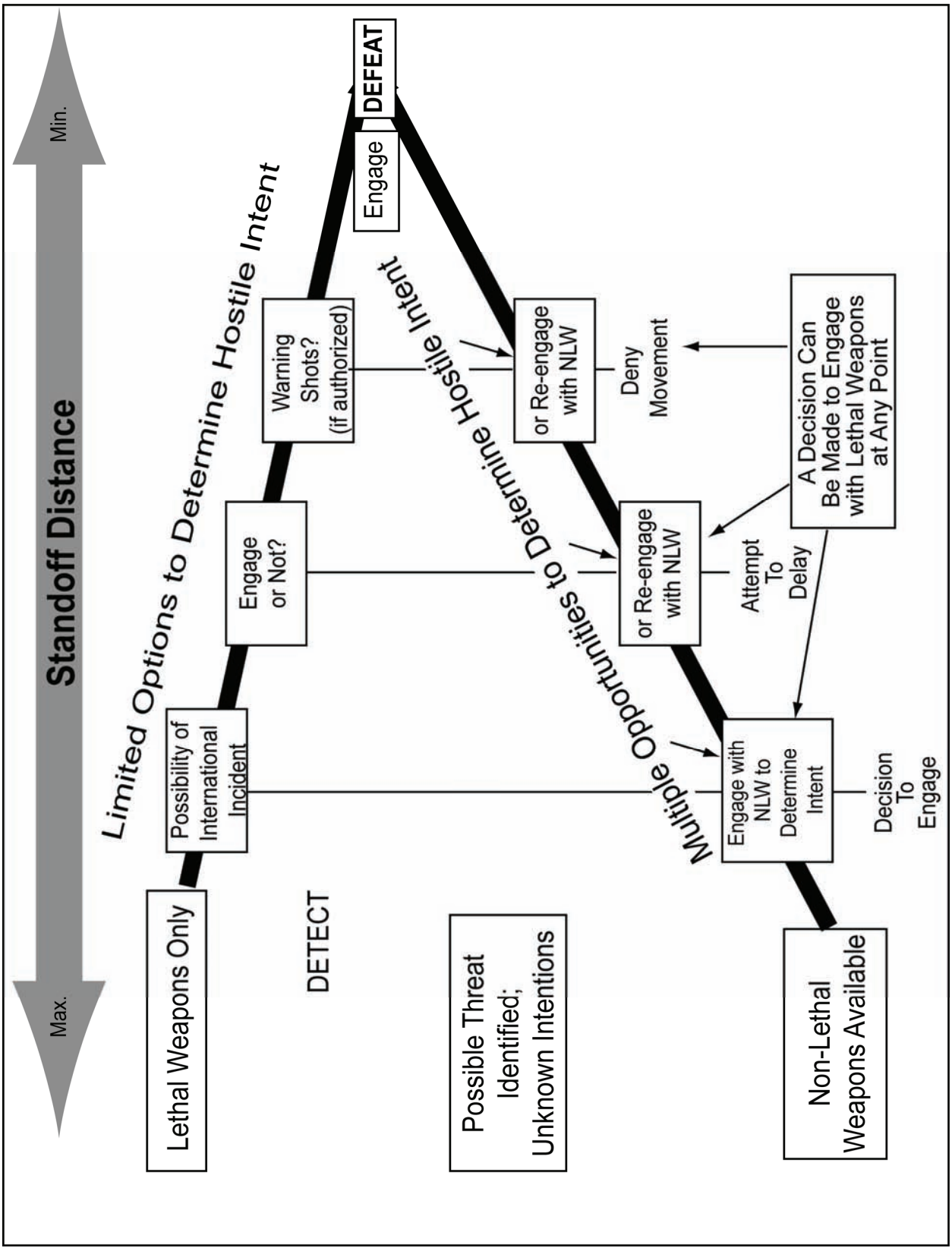


**Figure I-1. Determining Hostile Intent With and Without NLW**

(4) Limitations. Some common limitations of NLW employment are effectiveness, perception, and legality.

(a) The effectiveness of NLW is dependent on both human and environmental factors. Human factors include psychological state, age, motivation, and the presence of drugs or alcohol in an individual's system. Environmental factors include effects of weather on the NLW being employed. Adversary countermeasures for thwarting virtually all NL options are usually apparent, readily available, and quickly learned by mere observance of NL employment.

(b) The perceptual limitation is that US forces may misunderstand the appropriate applications of NLW across ROMO. These conflicts can result in US forces being vulnerable to misplaced or inconsistent ROE/RUF.

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Note: All leaders involved in planning and executing military missions must understand there are no “NL operations.”

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(c) It is essential that all NLW and anticipated employment activities be evaluated by appropriate authorities to ensure they comply with the law of war, US law, and US treaty obligations. The use of Service-approved, unit-issued NLW, including riot control agents,(oleoresin capsicum [OC], pepper spray, and CS gas [tear gas]), must be specifically authorized for a respective theater of operations in its ROE/RUF.

(d) Special considerations are raised by the use of RCAs in operations. Rules regarding the use of RCAs are different in wartime operations as opposed to peace operations. Any use of RCAs should only be undertaken after coordination with the servicing Staff Judge Advocate.

- In warfare, the use of RCAs is governed by the CWC of 1997 and controlled by EO 11850. RCAs are prohibited as methods of warfare. As a general rule, if the targets of the RCA are enemy combatants, then the use of the RCA is likely as a method of warfare and is prohibited. RCAs may, however, be employed as a defensive means in warfare. Examples of defensive means are to control riots, disperse civilians used as shields to an enemy attack, rescue missions, and for police actions in rear areas. The authorization authority for RCAs is held by the President. The President may delegate his authority to authorize RCAs.

- In operations other than warfare, neither the CWC nor EO 11850 apply. In these operations, CJCSI 3110.07B, *Nuclear, Biological, and Chemical Defense; Riot Control Agents; and Herbicides,* applies. This instruction permits the use of RCAs in peacetime military operations. Examples of these operations are operations where a conflict is ongoing but the US is not a party and peacekeeping operations when the use of force is authorized by the receiving state or the UN Security Council. The approval level for the use of RCAs in peacetime operations is usually lower than the President."

## 2. Organization

Organization structure is not anticipated to change as a result of NL capability sets being added to the inventory.

(1) System Location/Distribution. All Services have procured and fielded NLW to the operating forces, security forces, bases, and stations. Each Service has current plans to field capabilities as required.

(2) Equipment. NLW and equipment currently fielded is located at appendix C. Service NLW capability sets are located at appendix E.

(3) Personnel Requirements. Some military specialty codes have been designated that identify personnel certified as NLW capability set trainers. The Army and Air Force have specialty codes for this field (the Army uses the additional skill indicator ASI 2A for NLW instructors and the Air Force uses the special experience identifier SEI 310 for Security Forces NLW Instructors).

(4) Mission Requirements/Tactical Structure.

(a) The mission requirements and tactical structure pertinent to the employment of the NLW will vary depending on the type of contingency and subsequent task organization of the employing unit. Mission requirements, derived from commander's guidance, should be satisfied through the appropriate combination of lethal and NLW.

(b) Mission requirements may require the use of a NLW system or device that is employed with a specially trained operator/team composed of organic personnel. Operator(s)/team(s) may be primarily trained and task organized to employ respective systems/devices or may be employed with collateral skill sets.

## 3. Core Capabilities

Core capabilities are those fundamental competencies that enable US forces to achieve desired operational objectives. NLW provide a flexible means to protect US forces, high-value assets, and influence the actions of potential adversaries and/or noncombatants. These goals can be achieved without resorting to lethal force and in a manner that may minimize collateral damage. Per the Joint Non-Lethal Weapons Capability Based Assessment, there are two major categories: counterpersonnel and countermateriel (CM).

(1) Counterpersonnel is the directed effects against individual(s).

(2) Countermateriel is the directed effects against materiel (vehicles, vessels, aircraft, buildings, facilities, structures, weapon systems, ammunition, weapons of mass destruction [WMD], etc.). Nonlethal countermateriel effects must remain nonlethal to personnel.

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# Chapter II
# TRAINING

## 1. Fundamental Concepts and Training Requirements

The successful accomplishment of any operation in which NLW are employed requires extensive preparation, of which individual, unit, and medical support training are vital parts. Training should be designed to give individuals an understanding of the entire subject area and enable them to function efficiently as members of a unit. This training must be intensive and realistic. Training with the NLW capability set, and other NLW, is critical to employ these weapons with confidence. The training flow should be: train instructors, train leaders, train unit, then exercise. Qualified instructors should conduct initial unit training. Unit sustainment training should be conducted per individual Service and unit/mission requirements.

## 2. Train the Trainers

Training for NLW and implementing NLW into standard military missions and tasks are taught at the Interservice Nonlethal Individual Weapons Instructor Course (INIWIC) held at the Marine Corps Detachment, Fort Leonard Wood, Missouri. The purpose of this course is to provide commanders NLW instructors within their command. This course provides instructors with a profound understanding of the use of force, the ability to escalate or de-escalate force relative to perceived threats, and analyze the tactical environment and potential results of military actions. INIWIC is an Interservice Training Review Organization course in which all training standards have been evaluated and agreed upon by the participating Service representatives. Quotas are available to any Service through the respective Service training reservation channels. INIWIC is the only formal DOD NLW "train the trainer" course. USA graduates of the course will receive an Additional Skill Identifier (ASI) and USAF graduates will receive a Special Experience Identifier (SEI) upon meeting all SEI requirements. The INIWIC certifies instructors to train personnel for the tactical employment of NLW. The following training sources and references provide excellent information to enhance instructor knowledge.

a. INIWIC NLW training topics can be reviewed at: http://www.iniwic.net.

b. FM 3-19.15, *Civil Disturbance Operations,* provides exceptional planning and training information for civil unrest causes, crowd development and dynamics, crowd types, crowd tactics, crowd dispersal, shield and baton techniques, NL capabilities, control force formations, and training and planning within the continental US and abroad. Much of the information in this manual is applicable for many other situations involving the use of NL force.

c. Penn State Fayette, The Eberly Campus provides a valuable NLW on-line certificate course at no cost for active duty military personnel. http://www.fe.psu.edu/CE/23496.htm

d. The Joint Non-Lethal Weapons Program Homepage provides information on current, developing, and future NLW capabilities. https://www.jnlwp.com/Default.asp.

## 3. Nonlethal Training Topics

a. An understanding of the topics covered in the INIWIC curriculum is essential. However, commanders/leaders must possess an in-depth understanding of the ROE, as related to the local politics, culture, and demographics in the area of operation. Understanding this relationship is critical to estimating the impact of varying levels of force, particularly NL applications that may cause escalation or de-escalating, on mission accomplishment and TTP validation.

b. Commanders should involve their medical personnel, public affairs (PA) representatives, civil affairs (CA), psychological operations (PSYOP), staff judge advocate (SJA), engineers, explosive ordnance disposal, and military police (MP) in training exercises when possible. Involvement by these personnel will greatly enhance the quality and realism of the training. Medical personnel will better understand OC decontamination and the possible injuries they may encounter as a result of NLW employment. Because of the international attention that NLW receive, all personnel will benefit from media training by PA personnel. CA and PSYOP personnel can provide area-specific cultural, ethnic, and political briefs to enhance awareness of the challenges within the area of operations. SJA personnel can clarify complex ROE questions and assist in training on ROE-related issues. Additionally, supply and logistic staff members also require training in NLW maintenance and environmental issues unique to the equipment and munitions.

c. Each Service and unit will have unique training requirements based on mission type, unit size, deployment area, etc. US Army training standards are contained in Army Regulation (AR) 350-38, *Training Devices Policies and Management*, 15 October 1993; USMC training standards for NLW are contained in MCO 1510.112, *Individual Training Standards for Nonlethal Weapons*, 27 May 1998. USAF training standards are contained in Air Force Manual (AFMAN) 31-222. USN NL training requirements are not outlined via any one directive or policy letter.

d. Unit Training. Initial unit training should not be conducted without qualified trainers. Non-type classified and commercial-off-the-shelf (COTS) NLW cannot be fired without Army Materiel Command, Army Training Support Center, Crane Naval Weapons Center, or Air Force Combat Ammunition Center type classifying the ammunition or an official program of record. The trainers should conduct unit sustainment training in accordance with Service guidelines. Operational needs statements may be used in order to meet current operational requirements to justify and obtain COTS non-type classified and NL munitions.

e. Organizational points of contact for NLW training and implementation are:

(1) USMC. Marine Combat Development Command, Antiterrorism Force Protection (ATFP) / Nonlethal Weapons Branch.

(a) Phone: DSN 378-8139, COMM (703) 432-8139

(b) Address:

Marine Corps Combat Development Command

3300 Russell Road

Quantico, VA 22134

(2) USA. Army Nonlethal Scalable Effects Center.

(a) Phone: DSN 676-3041, COMM (573) 563-3041

(b) Address:

Army Nonlethal Scalable Effects Center

401 Manscen Loop

Fort Leonard Wood, MO 65473

(3) USN. Center for Naval Security Forces.

(a) Phone: DSN 253-5225, COMM (757) 462-5225

(b) Address:

Center for Naval Security Forces.
1672 Gator Boulevard
Norfolk, VA 23521

(c) Website: https://www.npdc.navy.mil/csf

(4) USAF Air Force Security Forces Center.

(a) Phone: DSN 945-0101, COMM (210) 925-0101

(b) Address:

HQ AFSFC/SFXR
1517 Billy Mitchell Blvd
Lackland AFB, TX 78236-0119

(5) INIWIC. Interservice Nonlethal Individual Weapons Instructor Course.

(a) Phone: DSN 581-2788, COMM (573) 596-2788

(b) Address:

Marine Corps Detachment Fort Leonard Wood
1273 Iowa Ave.
Fort Leonard Wood, MO 65473

(c) Website: https://www.iniwic.net

(6) JNLWD. Joint Nonlethal Weapons Directorate.

(a) Phone: DSN 278-1977, COMM (703) 784-1977

(b) Address:

JNLW Directorate
3097 Range Road
Quantico, VA 22134

(c) Website: https://www.jnlwp.com

## 4. Planning Nonlethal Training

a. NLW. Weapon or equipment training begins in the classroom with hands on training regarding the availability, characteristics, employment considerations, limitations and restrictions, and fire control of the system. Once basic understanding is achieved the weapon/equipment must be routinely integrated in training, exercises, and operations. Specific scenarios where NLW are expected to be used must be planned at all levels. A two week, all encompassing, NLW package prior to deployment or at some point in the training cycle is inadequate, and this "check-in-the-box" approach does not solidify comprehension. Routine "gun drills," inert and live fire exercises, and scenario based training is required. In many cases, a 5-10 minute tactical decision game or discussion during routine meetings, at all levels and across occupational skills, is effective. Training, operations, medical, and logistical elements must consider how NL unique requirements or effects may impact 'their world." The impact of this approach will provide substantial feedback for the development of TTPs among units. Procedures for manning, stocking, storage safety, certification, maintenance, hazardous waste, ammo compatibility, etc., can be determined or researched as a result of brief scenario discussions. Appendices B-E provides detailed information about NLW, and equipment to guide training.

b. ROE and Escalation of Force. Threat identification (ID) is critical to assuming the threats intent and justifying use of force. ROE have a direct impact on the use of and accountability for the use of force. Mistakes related to the use of force have often resulted in grave consequences. Training in this area requires focus, clarity, and redundancy. ROE and escalation of force training have a significant impact on a Servicemember's on-the-spot decision making process. The discipline and judgment expected of a Servicemember regarding the application of force cannot be any higher than the adequacy of use of force training. NLW provide numerous options between "shout" and "shoot." The effectiveness of NLW is directly linked to the Servicemember's understanding of justifiable and reasonable use of these options. NLW will de-escalate many situations; however, if improperly employed, an unintentional escalation could be triggered resulting adversely on the mission. The added options NLW provide along the force continuum mandate a detailed understanding of reasonable force, ROE, and escalation of force. Chapter III and appendix F provide further use of force information.

c. Cultural and Environmental Sensitivities and Awareness. Cultural sensitivities must be understood and well trained, particularly regarding the meaning and perception of hand and arms signals, verbal annunciations, tones and gestures, to include pre-made warning signs, all have a profound effect on operations. Environmental awareness is equally important. Civil medical facility locations, school locations, festivals, weather effects on civil foot and vehicle traffic, public transportation routes, religious migrations, and political events can be problematic if not considered during mission planning and predeployment training. Placing a hasty check point, with a newly deployed team at a main intersection adjacent to a walled in festival area where fireworks may go off could be a problem. Blocking the main road to the hospital emergency room where a local may speed past backed up traffic, suspecting a traffic accident, to get his injured child to care may be a surprise to both the Servicemember and the local at the last minute. TTP must accommodate these concerns. Focused, routine, and well thought out training is the key.

# Chapter III
# NLW AND EMPLOYMENT CONSIDERATIONS

## 1. Introduction

Mission requirements may dictate the integration of NLW into the range of military operations. Commanders must carefully analyze and scrutinize one's capabilities, SROE, and SRUF during the planning process. Existing and fielded NLW available are listed in appendices B, C, D, and E. The appendices provide detailed information that will assist in NLW employment. Ranges, employment considerations, and the use of force are additional considerations discussed in this chapter.

**Table III-1. Available NLW**

| |
|---|
| 12 Gauge - Pump Shotgun |
| Bean Bag (USMC, USN)<br>DODIC: AA29<br>Intended Effects: Blunt Trauma<br>Range Considerations: Minimum – 30M / Maximum – 50M<br>Remarks: Point Round intended to strike primary target areas such as the abdomen or extremities. Do not skip fire. |
| Fin Stabilized (USMC, USN)<br>DODIC: AA31<br>Intended Effects: Blunt Trauma<br>Range Considerations: Minimum – 15M / Maximum – 25M<br>Remarks: Point Round intended to strike primary target areas such as the abdomen or extremities. Do not skip fire. |
| Launch Cartridge (USMC, USN)<br>DODIC: AA30<br>Intended Effects: N/A<br>Range Considerations: 60-70M<br>Remarks: Use launch round in combination with Rubber Ball Grenade (USMC, USN) and 12 gauge Launch Cup to hurl grenade a distance of 60-70 meters when launch angle is approximately 30 degrees. Do not skip fire. |
| Fin Stabilized (USA, USAF)<br>DODIC: AA51<br>Intended Effects: Blunt Trauma<br>Range Considerations: Minimum – 10M / Maximum – 20M<br>Remarks: Point Round intended to strike primary target areas such as the abdomen or extremities. Do not skip fire. |
| Crowd Dispersal (USA, USAF)<br>DODIC: AA52<br>Intended Effects: Blunt Trauma<br>Range Considerations: Minimum – 10M / Maximum – 20M<br>Remarks: Multiple-projectile round intended to strike primary target areas such as the abdomen or extremities. Rubber balls may fly haphazardly through air and strike areas other than intended target. Do not skip fire. |
| 40mm – M16/M203, Service specific Multi-Launchers |

| |
|---|
| Foam Baton (USMC, USN)<br>DODIC: BA07<br>Intended Effects: Blunt Trauma<br>Range Considerations: Minimum – 10M / Maximum – 25M<br>Remarks: Multiple-projectile round intended to strike primary target areas such as the abdomen or extremities. Foam batons may fly haphazardly through air and strike areas other than intended target. Do not skip fire. |
| Rubber Ball (USMC, USN)<br>DODIC: BA08<br>Intended Effects: Blunt Trauma<br>Range Considerations: Minimum – 10M / Maximum – 25M<br>Remarks: Multiple-projectile round intended to strike primary target areas such as the abdomen or extremities. Rubber balls may fly haphazardly through air and strike areas other than intended target. Do not skip fire. |
| Crowd Dispersal (USA, USAF)<br>DODIC: BA13<br>Intended Effects: Blunt Trauma<br>Range Considerations: Minimum – 10M / Maximum – 30M<br>Remarks: Multiple-projectile round intended to strike primary target areas such as the abdomen or extremities. Rubber balls may fly haphazardly through air and strike areas other than intended target. Do not skip fire. |
| Sponge Grenade (USA, USAF)<br>DODIC: BA06<br>Intended Effects: Blunt Trauma<br>Range Considerations: Minimum – 10M / Maximum – 50M<br>Remarks: Point Round intended to strike primary target areas such as the abdomen or extremities. Do not skip fire. |
| Vehicle Nonlethal Munition – VENOM (USMC)<br>DODIC: UNKNOWN<br>Intended Effects: Noise Flash Distraction Device (NFDD)<br>Range Considerations: Minimum – 175M / Maximum – 225M<br>Remarks: Multiple round 40mm payload system designed to provide Servicemembers with a vehicle launched NFDD. |

| |
|---|
| 66mm – Light Vehicle Obscuration Screening System |
| Antiriot, Irritant, CS (USA, USMC)<br>DODIC: FZ14<br>Intended Effects: Irritant<br>Range Considerations: Minimum – 65M / Maximum – 95M<br>Remarks: N/A |
| Antiriot, Practice (USA, USMC)<br>DODIC: FZ15<br>Intended Effects: Training<br>Range Considerations: Minimum – 65M / Maximum – 95M<br>Remarks: N/A |
| Distraction (USA, USMC)<br>DODIC: FZ16<br>Intended Effects: Noise Flash Diversionary Device<br>Range Considerations: Minimum – 100M / Maximum – 120M<br>Remarks: Designed to provide Servicemembers with a vehicle launched NFDD. |
| Blunt Trauma (USA, USMC)<br>DODIC: FZ17<br>Intended Effects: Blunt Trauma<br>Range Considerations: Minimum – 100M / Maximum – 120M<br>Remarks: Multiple projectile round intended to strike primary target areas such as the abdomen or extremities. Rubber balls may fly haphazardly through air and strike areas other than intended target. |
| Electro-Muscular Disruptor (EMD) – X26E, M26 |
| Cartridge (USA, USAF)<br>DODIC: N/A<br>Intended Effects: EMD<br>Range Considerations: 15 OR 21 FT depending on cartridge<br>Remarks: Target areas are large muscle masses. |
| XP Cartridge (USA)<br>DODIC: N/A<br>Intended Effects: EMD<br>Range Considerations: 25 FT<br>Remarks: Longer probe capable of penetrating layered clothing, thin body armor, etc. Target areas are large muscle masses. |
| Training Cartridge (USA, USAF)<br>DODIC: N/A<br>Intended Effects: EMD<br>Range Considerations: 21 FT<br>Remarks: Wires are not conductive. Probes are smaller. Target areas are large muscle masses. |
| 35 Foot Cartridge (USAF)<br>DODIC: N/A<br>Intended Effects: EMD<br>Range Considerations: 35 FT<br>Remarks: Insert cartridge with correct orientation of the raised arrows on the top. Failure to insert cartridge properly will result in the probes striking the ground in front of the intended target. Longer probe capable of penetrating layered clothing, thin body armor, etc. Target areas are large muscle masses. |

| Hand Thrown / Hand Emplaced |
|---|
| Rubber Ball Grenade (USMC, USN, USAF)<br>DODIC: GG04<br>Intended Effects: NFDD, Blunt Trauma<br>Range Considerations: Thrown – 15M<br>Launched – 60-70M<br>Remarks: Multiple projectile munition intended to distract and create blunt trauma to primary target areas such as the abdomen or extremities. Rubber balls may fly haphazardly through air and strike areas other than intended target. Rubber balls are dispersed in a 15M circular pattern. It is possible to achieve both ground or air burst depending on the height achieved when thrown/launched. |
| M84 Flash Bang (USA, USAF)<br>DODIC: GG09<br>Intended Effects: NFDD<br>Range Considerations: Mission dependent<br>Remarks: Intended to distract target / target areas. |
| M5 Modular Crowd Control Munition - MCCM (USA)<br>DODIC: WA97<br>Intended Effects: Blunt Trauma<br>Range Considerations: Minimum - 5-15M / Maximum 20M /<br>Remarks: Multiple projectile munition (nonlethal claymore) intended to create blunt trauma to primary target areas such as the abdomen or extremities. Minimum safe distance from unprotected position is 30M or 15M from a shielded/protected position. Detonates out at a 60 degree angle. Rubber balls may fly haphazardly through air and strike areas other than intended target. |
| Compressed Air Launcher (CAL) – FN303 |
| Impact Projectile (USA)<br>DODIC: N/A<br>Intended Effects: Blunt Trauma<br>Range Considerations: Maximum 100M (The likelihood of penetrating unprotected skin is high from 0-23 meters.)<br>Remarks: Point Round intended to strike primary target areas such as the abdomen or extremities. Rounds are fed via 15-round magazine allowing for greater volume of fire. Do not skip fire. |
| Permanent (Yellow) Marking Projectile (USA)<br>DODIC: N/A<br>Intended Effects: Blunt Trauma / Marking<br>Range Considerations: Maximum 100M (The likelihood of penetrating unprotected skin is high from 0-23 meters.)<br>Remarks: Point Round intended to impact and mark primary target areas such as the abdomen or extremities. Marking substance will not wash off clothing and is not easily removed from skin. Do not skip fire. |
| Washable (Pink) Marking Projectile (USA)<br>DODIC: N/A<br>Intended Effects: Blunt Trauma / Marking<br>Range Considerations: Maximum 100M (The likelihood of penetrating unprotected skin is high from 0-23 meters.)<br>Remarks: Point Round intended to impact and mark primary target areas such as the abdomen or extremities. Marking substance will easily wash off clothing and skin. Do not skip fire. |

| Oleoresin Capsicum - MK-4, MK-9, MK46 |
|---|
| Defense Technologies OC (USMC, USN, USAF)<br>MK 4 (Active) GSADEF5049 ; MK 4 (Inert) GSADEF5149<br>MK 9 (Active) GSADEF5099 ; MK 9 (Inert) GSADEF5199<br>MK 46 (Active) GSAATIDEF5846L; MK 46 (Inert) GSAATIDEF5546L<br>Intended Effects: Inflammatory<br>Range Considerations:[1]<br>MK-4 dispenser: 3-12FT<br>MK-9 dispenser: 6-15FT<br>MK-46 dispenser: 12-30FT[2]<br><br>[1] The risk of causing hydraulic needle effect is significantly increased when sprayed directly at a persons face at a closer range than the distance given above.<br>[2] Capsaicinoid content for this brand of OC is .18% (which falls within the Marine requirements of ALMAR 305/98). MK-46 sized dispenser is designed more for spraying OC over a larger area in order to affect a group of people. |
| Guardian OC (USA)<br>DODIC: KM05<br>Intended Effects: Inflammatory<br>Range Considerations: MK-4 dispenser: 3-12FT<br>**Note**: The risk of causing hydraulic needle effect is significantly increased when sprayed directly at a persons face at a closer range than the distance given above.<br>Remarks: Capsaicinoid content for this brand of OC is .68%. The Army has designated this MK-4 sized canister as the M39. MK-46 sized dispenser is designed more for spraying OC over a larger area in order to affect a group of people. |
| Zarc OC (USAF)<br>DODIC: KM01<br>Intended Effects: Inflammatory<br>Range Considerations: MK-4 dispenser: 3-12FT<br>**Note**: The risk of causing hydraulic needle effect is significantly increased when sprayed directly at a persons face at a closer range than the distance given above.<br>Remarks: Capsaicinoid content for this brand of OC is .69%. |

| |
|---|
| Vehicle Arresting Device Platforms |
| Vehicle Lightweight Arresting Device (VLAD) (USMC)<br>NSN: 4240-01-518-4626<br>Intended Effects: Area Denial<br>Remarks: One time use, 12-24 foot span |
| Portable Vehicle Arresting Barrier (PVAB)<br>NSN: 4240-01-469-6122<br>Intended Effects: Area Denial<br>Remarks: Recoverable barrier, can be emplaced (4 hrs) and recovered by two individuals. Can span 12-24 feet. |
| Magnum Spike Strips (USMC)<br>ID Number: PIHSMS-16<br>Intended Effects: Area Denial<br>Remarks: Designed to puncture vehicle tires upon contact. |
| Caltrops (USMC, USA)<br>ID Number: GSAATIRSC3<br>Intended Effects: Area Denial<br>Remarks: Field expedient means of area denial. Item can be tossed and recovered. |
| Audible Hailing/Warning Platforms |
| Long Range Acoustical Device (LRAD) (USMC, USN, USA)<br>ID number: GS07F5965P.<br>Intended Effects: Hailing and warning device<br>Remarks: Warns and hails at a distance. Voice amplification is directional. |
| Sound Commander (USMC, USN)<br>ID Number: IMLSC1000USMC<br>Intended Effects: Hailing and warning device<br>Remarks: Warns and hails at a distance. Voice amplification is non-directional. |
| Baton |
| Expandable Riot Baton<br>NSN: 9999-01-499-9924<br>Intended Effects: Blunt Trauma |

## 2. Effective Ranges

Many NLW have both maximum effective and minimum safe ranges. Individuals short of the minimum safe range may suffer severe injuries or death while the effects of most NLW are greatly decreased at longer ranges. To be effective, an adversary must be engaged within the optimum range of the NLW. Figure III-1 illustrates the range employment considerations for a variety of NLW and systems.

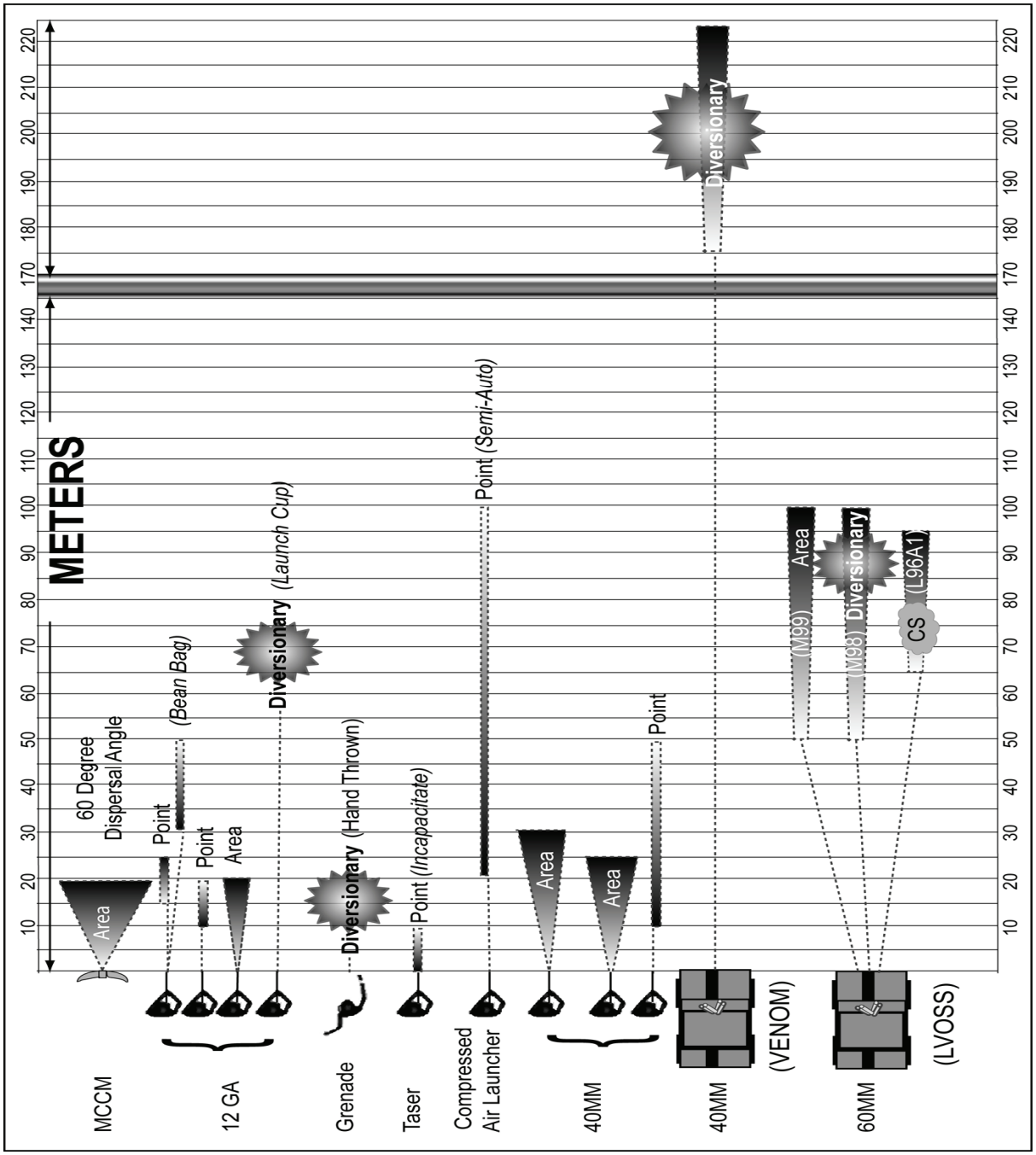


**Figure III-1. NLW Effective Ranges**

## 3. NLW Operational Task Areas

a. NLW operational task areas were identified in the Joint Non-Lethal CBA and based on defense planning scenarios, combatant commanders and Service operation needs, statements, and lessons learned. The operational tasks areas are grouped under the two core capabilities: counterpersonnel and countermateriel.

(1) Counterpersonnel:

(a) Incapacitate individual(s).

(b) Protect against individual(s).

(c) Deny an area to individual(s).

(d) Clear facilities/structures and areas.

(2) Countermateriel:

(a) Protect against vehicles and vessels.

(b) Disable/neutralize vehicles, vessels, aircraft, and equipment.

(c) Deny area, buildings, facilities, and structures to vehicles.

(d) Deny use of WMD.

(e) Disable/neutralize facilities and systems.

b. Although not all encompassing, the following list of employment considerations is designed to assist commanders and staffs in formulating plans for use of NLW:

(1) General considerations:

(a) Understand and define ROE/RUF.

(b) Commander develops identification, friend or foe (IFF) procedures.

(c) Distribute NLW munitions and personal protective equipment (i.e., M12 or M40 gas masks if RCAs are to be employed) to Servicemembers in advance.

(d) NLW options require lethal overwatch fire.

(e) Ensure area is well lighted to include perimeter.

(f) Employ night vision devices outside the perimeter to identify personnel.

(g) Utilize appropriate media to inform civilians to stay away from denied areas.

(h) Enforce positive access control into perimeter (personnel/vehicles).

(i) Ensure posted signs are easily understood (symbols/pictures). If interpreter support available, post warning signs in native language.

(j) Use entanglements such as caltrops, tanglefoot, barbed wire, and concertina/razor tape as these disrupt/slow intrusion attempts.

(k) Employ sensors, if available.

(l) Employ aerial or naval pickets.

(2) Counterpersonnel considerations:

(a) Employing kinetic rounds at less than 15 feet/5 meters may result in fatal outcomes.

(b) Target area at 15 to 40 feet should be center mass for blunt munitions.

(c) Head shots may be lethal.

(d) Kinetic rounds will not be skip fired.

(e) Kinetic rounds are effective against selected individual targets and can be used to disperse individuals.

(f) Considering differing rates of fires; the M203 and shotgun are complementary in a nonlethal role, depending upon the munitions used and their effective ranges.

(g) Employ riot batons only after proper training.

(h) Closely control the employment of RCA.

(i) Use RCA to disrupt/disperse crowds.

(j) Use RCA markers (RCA with a nontoxic, water-soluble marking dye) to mark agitators for future identification and apprehension. Keep in mind a water soluble dye is easily removed. Permanent dyes should be available for this purpose.

(k) RCA (OC, CS, CN) are not employed as markers. RCAs are typically employed to incapacitate personnel, while marking rounds are used to mark individuals.

(l) RCA greatly reduce visibility of control force.

(m) Disperse RCA properly for full effect.

(n) Employ optics with designated marksmen to identify mob leaders.

(o) Searchlights dazzle/disorient individuals (night only). (Avoid the use of laser designators or other intense light or energy emission systems in manners other than prescribed within the ROE/RUF for counterpersonnel operations and activities.

(p) Use bullhorn for communicating with crowd and to control formations.

(q) Employ recovery/apprehension/snatch teams to apprehend agitators.

(r) Use flex cuffs for apprehension.

(s) Prepare disposition plan for cleared personnel.

(t) Isolate area to prevent reinforcements.

(u) Consider future friendly use of cleared facility.

(v) Prepare security plan for cleared facility.

(w) Channel passive traffic away from formations.

(x) Maintain rapid reaction force/quick reaction force (RRF/QRF).

(3) Countermateriel/countercapability considerations:

(a) Use marking agents to mark a vessel for later interception.

(b) Consider materiel handling equipment required to evacuate vessel/airframe.

Selected NLW tasks are further addressed in Tables III-2 through III-7. The tables are not intended to be all-inclusive but merely a stimulus to planning. The tables include use of RCAs for planning purposes. RCAs may only be used as defensive means in warfare or in peacekeeping operations. The equipment listed is taken from the currently available systems designed for NL purposes. Users should not limit their NL options to this specific equipment and should be aware that there are many existing and emerging systems and potential uses of current technology and common objects to achieve the desired mission end state. Appendix D contains NLW under development.

**Table III-2. Incapacitate Personnel**

| ***Task*** | ***NLW Planning Factors*** | ***Equipment*** | ***Employment*** | ***Notes*** |
|---|---|---|---|---|
| Incapacitate personnel | <u>Administration/ Personnel</u><br>• SJA/claims planning<br>• Media plan | <u>Support Equipment</u><br>• Riot face shield<br>• Full length riot shield<br>• Expandable riot baton<br>• Rifleman's combat optic<br>• Vest | • Distribute to Servicemembers in advance<br>• Do not employ riot baton to the head<br>• Employ optic with DM to ID mob leaders and cover with lethal fire | • Commander needs to define incapacitation mission<br>• Take a balanced approach to public dissemination of NLW so counter measures cannot be rapidly developed<br>• Cover NLW options by lethal force |

| Table III-2. Incapacitate Personnel | | | | |
|---|---|---|---|---|
| ***Task*** | ***NLW Planning Factors*** | ***Equipment*** | ***Employment*** | ***Notes*** |
| Incapacitate personnel | Intelligence<br>• ID types of insurgents and demonstrators<br>• ID causes and factions<br>• ID mob ringleaders | Kinetic Rounds<br>• 12-gauge bean bag round<br>• 12-gauge rubber bullet<br>• 12-gauge launching cartridge<br>• 40-mm rubber baton<br>• 40-mm wooden baton<br>**NOTE:** USMC no longer uses wooden baton.<br>• 40-mm stinger grenade<br>• Stun grenade<br>• Flash bang<br>• M203 and shotguns are nonlethal complementary. M203 has a low rate of fire, area target. Shotgun has a high rate of fire, point target | • Do not employ kinetic rounds at less than 15 feet due to possible fatal outcome<br>• Target area at 15-40 feet should be center mass<br>• Head shots are not acceptable<br>• Kinetic rounds will not be skip fired<br>• Kinetic rounds effective against selected targets and to disperse individuals<br>• M203 and shotguns are nonlethal complementary. M203 has a low rate of fire, area target. Shotgun has a high rate of fire, point target | |
| Incapacitate personnel | Operations<br>• Prepare and confirm ROE for NLW<br>• Integration of NLW and deadly force<br>• Allocate NLW and designate unit use<br>• Integrate NLW fires and maneuver | RCA<br>• OC dispenser<br>• Team OC dispenser<br>• High-volume<br>• OC dispenser | • Disrupt/disperse crowds<br>• Disperse RCA to face and eyes for full effect | |

| Table III-2. Incapacitate Personnel | | | | |
|---|---|---|---|---|
| ***Task*** | ***NLW Planning Factors*** | ***Equipment*** | ***Employment*** | ***Notes*** |
| Incapacitate personnel | Logistics<br>• Distribute NLW munitions<br>• ID special storage requirements<br>• Resupply NLW munitions | Riot Control<br>• Xenon<br>• searchlight<br>• Flex cuffs<br>• Chemical markers | • Searchlights dazzle/disorient individuals (night only)<br>• Use flex cuffs for agitators<br>• Use RCA markers to mark agitators for incapacitation | |
| Incapacitate personnel | Civilians<br>• Collect civilian intelligence<br>• Care for injured personnel<br>• Detain civilian personnel | | | |

| Table III-3. Deny Area to Personnel | | | | |
|---|---|---|---|---|
| ***Task*** | ***NLW Planning Factors*** | ***Equipment*** | ***Employment*** | ***Notes*** |
| Deny area to personnel | Administration/ Personnel<br>• SJA/claims planning<br>• Media plan | Support Equipment<br>• Area lights<br>• Area sensors<br>• Night vision<br>• Access control<br>• Warning signs written in host nation language | • Ensure area is well lighted to include perimeter<br>• Employ night vision devices outside the perimeter<br>• Positively ID accessed personnel<br>• Employ warning signs in native language | • Utilize appropriate media to warn civilians away from denied area |
| Deny area to personnel | Intelligence<br>• Terrain and map study<br>• Threat ID<br>• Sensor emplacement around area<br>• IPB | | | |

| Table III-3. Deny Area to Personnel | | | | |
|---|---|---|---|---|
| ***Task*** | ***NLW Planning Factors*** | ***Equipment*** | ***Employment*** | ***Notes*** |
| Deny area to personnel | Operations<br>• Prepare and confirm ROE<br>• Integrate NLW and deadly force<br>• Allocate NLW and designate unit use<br>• Determine scope of mission<br>• Determine access procedures<br>• Use of area (friendly or total denial) | | | |
| Deny area to personnel | Logistics<br>• Distribute NLW munitions<br>• ID special storage requirements<br>• Resupply NLW munitions<br>• Security of rear area facilities. | | | |
| Deny area to personnel | Civilians<br>• Collect civilian intelligence | Entanglements<br>• Caltrops<br>• Tanglefoot<br>• Barbed wire<br>• Concertina / razor tape<br>• Stinger spike system | • Disrupt/slow intrusion attempts<br>• Maintain suitable reaction force<br>• Channel passive traffic away | |

| Table III-4. Deny Area to Vehicles | | | | |
|---|---|---|---|---|
| ***Task*** | ***NLW Planning Factors*** | ***Equipment*** | ***Employment*** | ***Notes*** |
| Deny area to vehicles | Administration/ Personnel<br>• SJA/claims planning<br>• Media plan | Support Equipment<br>• Area lights<br>• Area sensors<br>• Night vision<br>• Access control<br>• Warning signs written in host nation language | • Ensure area is well lighted to include perimeter<br>• Employ night vision devices outside the perimeter<br>• Positively ID accessed vehicles | • Commander needs to define denial mission<br>• Utilize appropriate media to warn civilians away from denied area |
| Deny area to vehicles | Intelligence<br>• Terrain and map study<br>• Threat ID<br>• Sensor emplacement around area<br>• IPB<br>• Traffic analysis | | | |
| Deny area to vehicles | Operations<br>• Prepare and confirm ROE<br>• Allocate NLW and designate unit use<br>• Determine scope of mission<br>• Determine access procedures<br>• Determine MP/ security forces requirements<br>• Use of area (friendly or total denial) | | | • Commanders must consider flight operations when employing RCA. Area(s) should be reusable in short order. |
| Deny area to vehicles | Logistics<br>• Distribute NLW supplies<br>• Be prepared to evacuate stalled vehicles | | | |

| Table III-4. Deny Area to Vehicles | | | | |
|---|---|---|---|---|
| ***Task*** | ***NLW Planning Factors*** | ***Equipment*** | ***Employment*** | ***Notes*** |
| Deny area to vehicles | Civilians<br>• Collection of civilian intelligence | Entanglements<br>• Caltrops<br>• Tanglefoot<br>• Barriers<br>• Organic equipment<br>• Barbed wire | • Disrupt/slow intrusion attempts<br>• Maintain suitable reaction force<br>• Channel passive traffic away | • Commanders must consider flight operations when employing NLW. NLW should not hinder flying operations. |

| Table III-5. Deny/Neutralize Vehicles, Aircraft, Vessels, and Facilities | | | | |
|---|---|---|---|---|
| ***Task*** | ***NLW Planning Factors*** | ***Equipment*** | ***Employment*** | ***Notes*** |
| Deny/ neutralize vehicles, aircraft, vessels, facilities | Administration/Personnel<br>• SJA/claims planning<br>• Media plan | Support Equipment<br>• Sensors to track approaching vehicles, aircraft, and vessels<br>• Night vision equipment<br>• Materiel handling equipment<br>• Portable bullhorn | • Employ ground and water sensors, if required<br>• Employ aerial or naval pickets<br>• Use materiel handling equipment to evacuate vessel | • Commander needs to define neutralization mission<br>• Element of surprise remains a critical factor in mission accomplishment<br>• Commander needs to develop IFF procedures |
| Deny/ neutralize vehicles, aircraft, vessels, facilities | Intelligence<br>• Sensor emplacement if required<br>• Threat ID<br>• IPB<br>• Analyze target area | | | |

| Table III-5. Deny/Neutralize Vehicles, Aircraft, Vessels, and Facilities | | | | |
|---|---|---|---|---|
| ***Task*** | ***NLW Planning Factors*** | ***Equipment*** | ***Employment*** | ***Notes*** |
| Deny/ neutralize vehicles, aircraft, vessels, facilities | Operations<br>• Prepare and confirm ROE<br>• Integrate NLW and deadly force<br>• Allocate NLW and designate unit use<br>• Determine scope of mission<br>• Determine access procedures<br>• Determine boarding procedures (vessels and aircraft)<br>• Determine apprehension procedures<br>• Determine decontamination (DECON) procedures | RCA<br>• Marking agent | • Use marking agents to mark a vessel for later interception | |
| Deny/ neutralize vehicles, aircraft, vessels, facilities | Logistics<br>• Distribute NLW munitions<br>• ID special storage requirements<br>• Resupply NLW munitions<br>• Determine vessel/aircraft disposition | Riot Control<br>• Xenon searchlight | • Use RCA to incapacitate crew members<br>• Searchlights can disorient personnel or illuminate target | • Commanders must consider flying operations when employing RCA and ensure aviation assets are notified of the use of RCA prior to moving through affected airspace.<br>• Area(s) should be reusable in short order. |
| Deny/ neutralize vehicles, aircraft, vessels, facilities | Civilians<br>• Collect civilian intelligence<br>• Handle displaced civilian personnel | Entanglements<br>• Caltrops<br>• Foams<br>• Speed bumps<br>• Nets<br>• PVAB | • Use caltrops to disable vehicle<br>• Use combination of foam and caltrops to preserve the element of surprise<br>• Channel passive traffic away<br>• Use nets to foul props | |

| Table III-5. Deny/Neutralize Vehicles, Aircraft, Vessels, and Facilities | | | | |
|---|---|---|---|---|
| ***Task*** | ***NLW Planning Factors*** | ***Equipment*** | ***Employment*** | ***Notes*** |
| Deny/ neutralize vehicles, aircraft, vessels, facilities | Medical<br>• Treating injured civilian personnel | | | |

| Table III-6. Seize Personnel | | | | |
|---|---|---|---|---|
| ***Task*** | ***NLW Planning Factors*** | ***Equipment*** | ***Employment*** | ***Notes*** |
| Seize personnel | Administration/ Personnel<br>• SJA/claims planning<br>• PAO media plan | Support Equipment<br>• Optics | • Employ optics with DM to ID personnel to be seized<br>• Cover personnel employing nonlethal force | • Commander needs to define seizure mission and strictly enforce ROE<br>• Element of surprise is critical for mission accomplishment<br>• Speed is critical<br>• Seizing personnel can be surgical with special operations personnel or conducted within a crowd to seize an agitator |
| Seize personnel | Operations<br>• Prepare and confirm ROE<br>• Integrate NLW and deadly force<br>• Allocate NLW and designate unit use<br>• Integrate NLW fires and maneuver<br>• Breaching and assault planning<br>• Determine holding area/processing center | RCA<br>• OC dispenser<br>• CS | • Use RCA to incapacitate personnel<br>• Spray into eyes and face for full effect | • Commanders must consider flying operations when employing RCA and ensure aviation assets are notified of the use of RCA prior to moving through affected airspace.<br>• Area(s) should be reusable in short order. |

| Table III-6. Seize Personnel | | | | |
|---|---|---|---|---|
| ***Task*** | ***NLW Planning Factors*** | ***Equipment*** | ***Employment*** | ***Notes*** |
| Seize personnel | Logistics<br>• Distribute NLW munitions<br>• ID special storage requirements<br>• Resupply NLW munitions<br>• Plan transportation | Riot Control<br>• Xenon searchlight<br>• Flex cuffs<br>• RCA markers | • Searchlights dazzle/disorient individuals<br>• Use flex cuffs for apprehension<br>• Use RCA markers to mark agitators for seizure | |
| Seize personnel | Civilians<br>• Collect civilian intelligence<br>• Care for injured personnel<br>• Detain civilian personnel | | | |
| Seize personnel | Medical<br>• Medical evacuation (MEDEVAC) planning | | | |

| Table III-7. Clear Facilities of Personnel | | | | |
|---|---|---|---|---|
| ***Tasks*** | ***NLW Planning Factors*** | ***Equipment*** | ***Employment Considerations*** | ***Notes*** |
| Clear facilities of personnel | Administration/ Personnel<br>• SJA/claims planning<br>• Casualty notification<br>• PAO media plan | Support Equipment<br>• Riot face shield<br>• Full-length riot shield<br>• Expandable riot baton<br>• Optics<br>• Portable bullhorn | • Distribute to Servicemembers in advance<br>• Do not employ riot baton to the head<br>• Employ optic with DM to ID occupant leaders and provide lethal cover fire<br>• Use bullhorn for communicating with occupants | • Surprise is a critical element for mission accomplishment<br>• Commander must strictly define ROE<br>• Due to close quarter tactics, the force must be instantly ready to utilize deadly force if required |

| Table III-7. Clear Facilities of Personnel | | | | |
|---|---|---|---|---|
| ***Tasks*** | ***NLW Planning Factors*** | ***Equipment*** | ***Employment Considerations*** | ***Notes*** |
| Clear facilities of personnel | Intelligence<br>• IPB<br>• Background on facility, access, power plant<br>• Route/map recon<br>• Background info on building occupants<br>• Determine any outside support for building occupants | Kinetic Rounds<br>• 12-gauge bean bag round<br>• 12-gauge rubber bullet<br>• 12-gauge launching cartridge<br>• 40-mm rubber baton<br>• 40-mm wooden baton<br>**NOTE:** USMC no longer uses wooden baton.<br>• 40-mm stinger Stun grenade<br>• Flash bang | • Do not employ kinetic rounds at less than 15 feet due to possible fatal outcome<br>• Target center of mass at 15 to 40 feet<br>• Head shots are not acceptable<br>• Kinetic rounds will not be skip fired<br>• Kinetic rounds effective against selected targets and to disperse individuals<br>• Stun grenade effects can be amplified in buildings<br>• Visibility will be reduced once kinetic rounds are employed<br>• M203 and shotguns are nonlethal complementary. M203 has a low rate of fire, area target. Shotgun has a high rate of fire, point target | • Using RCA greatly reduces visibility<br>• Use of RCA is restricted to certain circumstances; verify that proper authority has been given before use |

| Table III-7. Clear Facilities of Personnel | | | | |
|---|---|---|---|---|
| ***Tasks*** | ***NLW Planning Factors*** | ***Equipment*** | ***Employment Considerations*** | ***Notes*** |
| Clear facilities of personnel | Operations<br>• Tactically integrate NLW and lethal fires<br>• FSE plans to include RCA<br>• Allocate NLW munitions<br>• Integrate NLW fires and maneuver<br>• Determine assault and breaching plan<br>• Plan for isolation of facility | RCA<br>• OC dispenser<br>• Team OC dispenser<br>• High-volume dispenser | • Disrupt/disperse crowds<br>• Apply RCA to face and eyes for full effect | • Isolate area to prevent reinforcements<br>• Prepare disposition plan for cleared personnel<br>• Consider use of facility<br>• Prepare security plan for cleared facility |
| Clear facilities of personnel | Logistics<br>• Distribute NLW supplies<br>• Resupply NLW munitions<br>• Plan for transportation of displaced civilians<br>• Plan facility maintenance or repair | Riot Control<br>• Xenon searchlight<br>• Flex cuffs<br>• RCA markers<br>• Flash bangs | • Searchlights dazzle/disorient individuals<br>• Use flex cuffs for agitators<br>• Use RCA markers to mark agitators for future ID<br>• Flash bangs to dazzle/disorient individuals | |
| Clear facilities of personnel | Civilians<br>• Collect civilian intelligence<br>• Care for injured civilians<br>• Coordinate plans for controlling civilians | | | |
| Clear facilities of personnel | Medical<br>• Hospital planning<br>• Medic planning for tactical units<br>• Procurement of medical supplies | | | |

## 4. Employment Techniques

a. Public Disorder Response

(1) Basic Element. Build the basic public disorder response element around a hardened vehicle (platform), equipped with the longest range NLW with which to engage; such as Vehicle Launched Nonlethal Grenade (VLNG), Light Vehicle Obscuration Smoke System (LVOSS) or VENOM system that allows for NL engagement outside a crowd's engagement range (typically 50 to 60 meters with thrown objects) and at least one vehicle equipped with HAIL/WARNING acoustic technology.

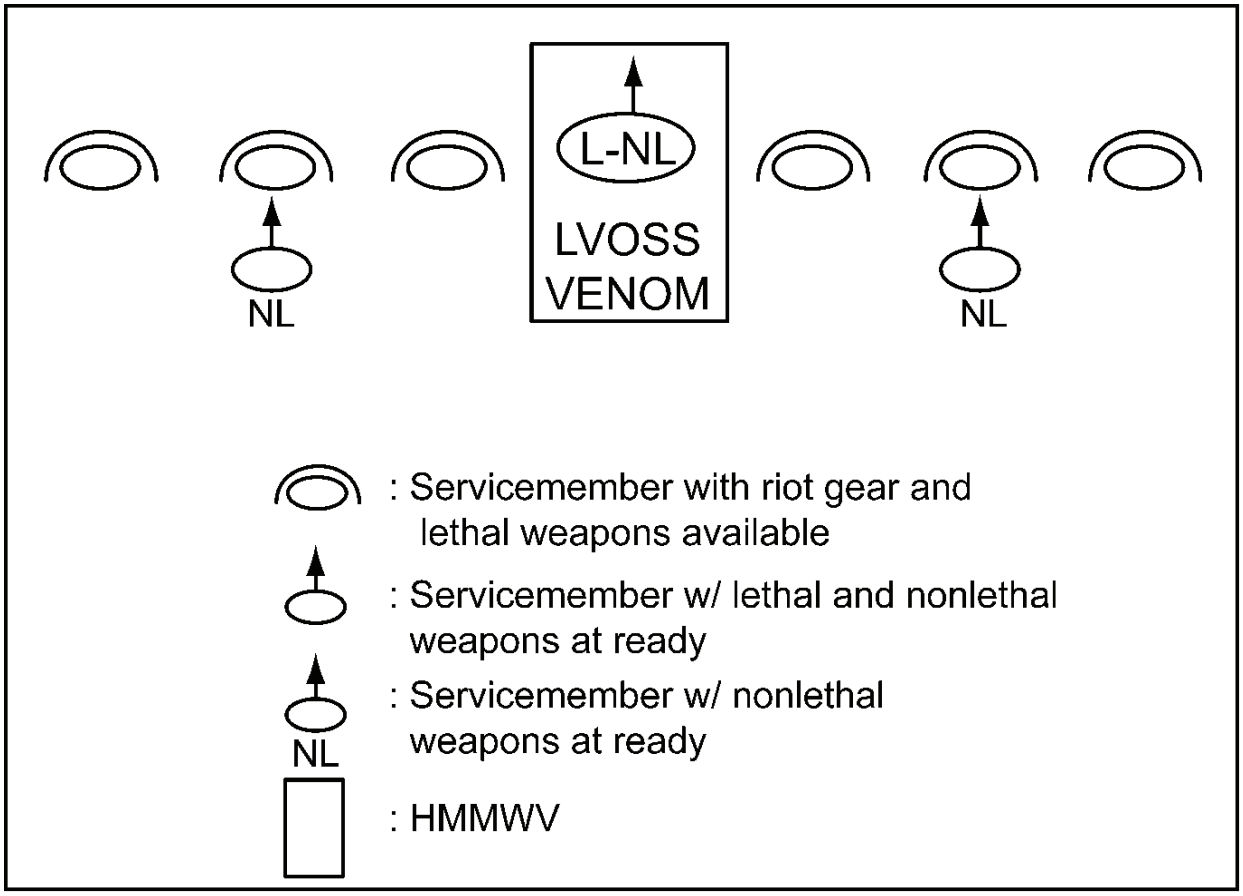


**Figure III-2. Public Disorder Response Element**

(a) Platform. A hardened vehicle is the primary platform for lethal and NLW. Using hardened vehicles in public disorder situations is a force multiplier. Shield holders provide close protection to the vehicle and dismounted nonlethal-capable gunner. (See figure III-2.) The use of a hardened vehicle provides the following advantages when compared to traditional crowd control formations:

- A more credible force signature than "troops in the open"
- A lethal and NL platform

- A height advantage for observation and engagement
- Communications
- Cover, in case of small arms
- A more efficient retrograde
- A means to facilitate caring for and evacuating casualties

(b) Gunner. The lethal, mounted gunner is constantly scanning for engageable threats for the lethal weapon system, while being teamed with a NL gunner constantly scanning for engageable threats for the NLW. The mounted gunners can work either independently IAW ROE/RUF or be tightly controlled through the vehicle commander or higher via radio communication. Similar controls can be placed on the dismounted NL gunners, whose primary mission should be the same as the shield holders, working together to protect the vehicle.

(c) Riot Gear. Dismounted personnel should be equipped with riot gear as required or desired by the unit commander.

(d) Dedicated NLW. It is prudent to equip a few designated personnel with NLW in order to methodically employ them while other personnel stand ready with lethal weapons. This will eliminate confusion on behalf of the individual in a rapidly changing situation.

(2) Employment Options. Employment options for this configuration in a public disorder (mob) situation can be:

(a) Warning. Acoustic technology provides the capability of warning those present that force will be used if they do not comply/submit/disperse. Acoustic technology allows the warning or advice to be clearly heard at extreme distances and the peripheral devices (Phraselator) give the ability to provide the warning or advice in the mob's own language.

(b) Launch NL Options. Launch long range NL options to preserve distance while attempting to break up the crowd prior to physical engagement.

(3) Maneuver. Below are two techniques for the movement of forces to a position of advantage during crowd control situations.

(a) Charge and Halt. Charge and halt is a technique used to cause the crowd to retrograde. The commander designates a point between his line and in front of the crowd's line or just behind the crowd's front line with the point being easily identifiable, such as light pole, sign, or fire hydrant. On order, through a predetermined signal, all vehicles and personnel will "charge" (sprint) forward, advancing no farther than the point (like a phase line) the commander identified. The key to this movement is that all must act quickly while remaining on line, to include all vehicles associated with the movement. The "charge" has a psychological impact on the individuals in the crowd that experience it—they cannot anticipate at what point the charge will stop, the impression is that the advancing element intends to overwhelm the crowd by wading into them. The crowd generally moves back during the advance. The crowd's retrograde movement can be exploited and enhanced by providing more motivation to continue to move with the follow-up of appropriate NLW applications. This movement is repeated as necessary. Rehearsal, communication, and well-worked standard operating procedures (SOPs) are required for success, as this movement option may result in reduced command and control and a disruption in unit integrity.

(b) Bounding. Bounding is a technique that provides the force covered movement as the force moves toward the crowd. The commander designates a point between his line and in front of the crowd's line with the point being easily identifiable, such as light pole, sign, or fire

hydrant. On order, one element of the force rushes forward to the predetermined point through a predetermined signal. On order, the second element rushes past the first element and establishes itself at a second predetermined point. The process continues until objectives are achieved or another course of action becomes necessary.

(4) Training and Rehearsal. These options must be trained and rehearsed with solid SOPs that allow for easy transition from a public disorder function to a small unit fire fight and back to a public disorder function. It must be assumed that at any time the level of threat and violence can instantly escalate to a small unit fire fight. Traditional "crowd control" or "riot control" formations do not take this potential into consideration. Immediate action drills must be created at the unit level in order to respond to tactical changes at the level of violence and threat.

(5) Summary. Figure III-2 is a general example of a public disorder response element and is very basic. Depending on the threat, if petrol bombs (fire bombs, Molotov cocktails) are being used or anticipated, a Servicemember should be positioned behind the vehicle with a fire extinguisher who is dedicated to responding to either side of the vehicle should a petrol bomb be used against the vehicle or the dismounted teams on either side. When dismounted team members have full faith and confidence in the "fireman," the element of panic that ultimately occurs when personnel are exposed to fire and flames will not overcome their well-trained and rehearsed discipline. Fire or the threat of fire can easily scatter any type of formation. Petrol bomb indoctrination drills are a must to overcome the threat. The use of deadly force is no guarantee of neutralizing this threat.

b. Checkpoint Operations

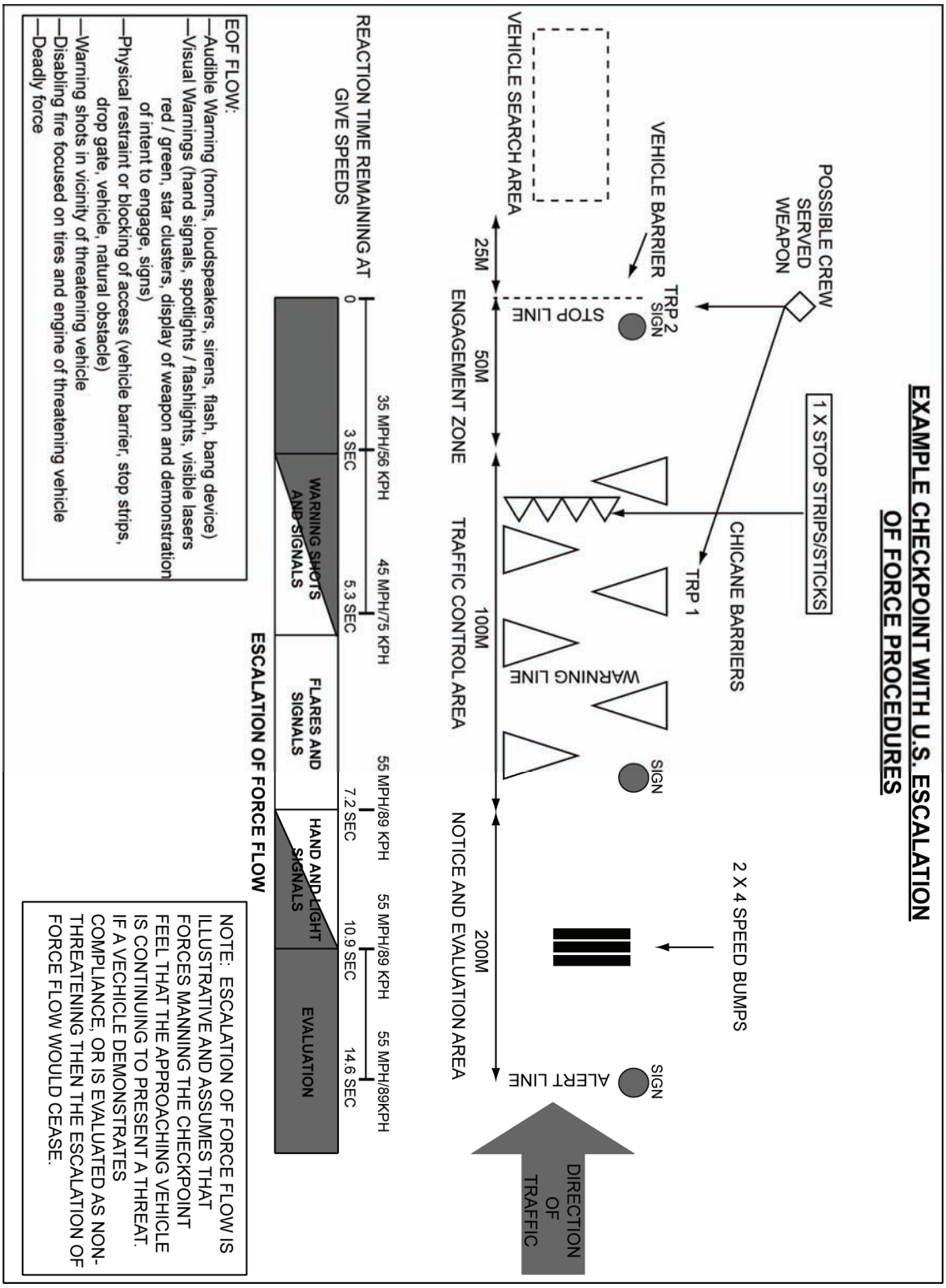


**Figure III-3. Example Checkpoint**

c. Blocking Point Operations

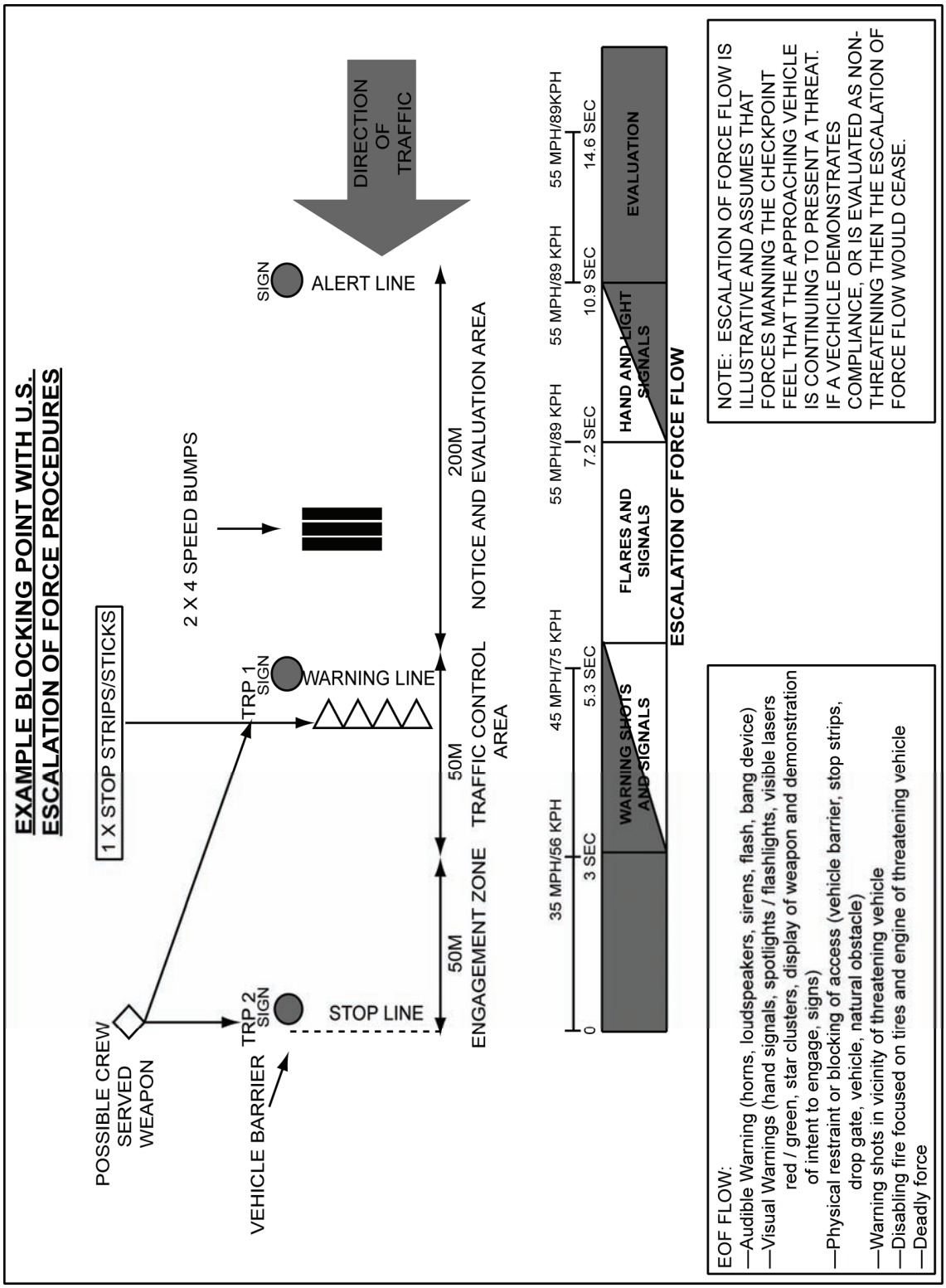


**Figure III-4. Example Blocking Point**

## 5. Use of Force and Force Continuum

Our Servicemembers' mere presence in theater operations have an immediate impact on any given situation. That impact usually presents itself in many perceivable forms, however, increasingly Servicemembers rely heavily on individual perception of subjects' behavior… indicated by the inner ring in Figure III-5. Ultimately one must take action…indicated by the outer ring in figure III-5. Options range from continued presence to use of deadly force. The following paragraphs explain the meaning of the use of force and force continuum graphic.

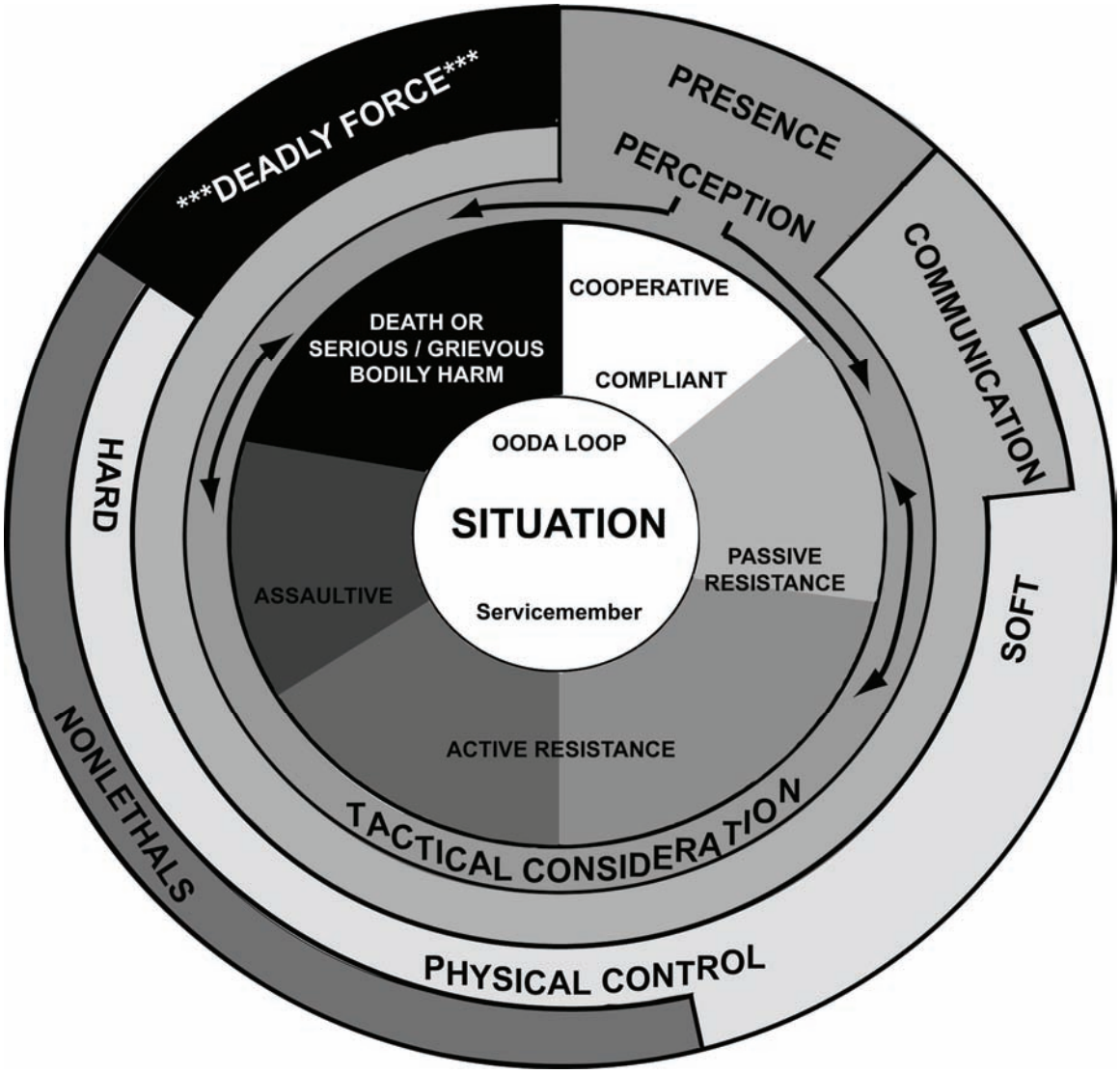


**Figure III-5. Force Continuum Graphic**

a. Concept. The force continuum concept provides a guide for the use of force that must be reasonable or proportional in intensity, duration and magnitude based on the totality of circumstances. This continuum concept states that there is a wide range of possible actions, ranging from presence and verbal commands to application of deadly force that may be used to counter resistance or a threat in any particular situation. Situations vary in nature, and the

threat level can rise and fall several times based on the actions of both the Servicemembers and the individuals or group involved. As a guide, the purpose of a force continuum concept is to serve as a graphic training aid to assist Servicemembers in use-of-force decision making consistent with ROE/RUF, commander's intent and the force options available to Servicemembers. The force continuum is not policy. It does not replace ROE/RUF; it is a training tool for ROE/RUF and as a training tool it may also assist Servicemembers in explaining their actions when they use force.

b. Force Continuum Graphic. The force continuum is a circular graphic, that illustrates the interplay between the situation, categories of subject behaviors, the Servicemember's perception, tactical considerations, and categories of force options. The Servicemember's utilization of the observe-orient-decide-act (OODA) loop drives the function of the force continuum.

(1) Situation. The force continuum is centered on the "SITUATION,, which includes the "Servicemember" and the "OODA Loop" (also known as Boyd's Cycle, see paragraph d below).

(2) Subject Behaviors. Outside the "SITUATION" circle is a circular band of five broad categories of subject behaviors:

(a) Cooperative/Compliant. A cooperative or compliant subject follows verbal and nonverbal instructions and direction given.

(b) Passive Resistance. Passive resistance generally takes the form of resistance that creates no immediate danger of physical harm. Passive resistance is often encountered as a refusal to comply to verbal or nonverbal instruction or direction. A subject refusing to move or going dead weight/limp are examples of passive resistance.

(c) Active Resistance. Active resistance generally takes the form of non-assaultive physical action to resist; examples include pulling, walking, or running away to avoid control.

(d) Assaultive. Assaultive behavior generally takes the form of attempting to or actually striking, kicking, wrestling, or biting a Servicemember. The subject is assaultive without the use of an actual weapon of any kind.

(e) Serious/Grievous Bodily Harm or Death. In this category of resistance or threat the subject exhibits actions that the Servicemember reasonably believes are intended to, or likely to cause serious/grievous bodily harm or death to any person. While guns and knives are the most obvious weapons, improvised weapons such as pipes, chains, hazardous materials, or any tool that can be used as a bludgeon or cutting instrument may pose a serious or deadly threat. In the military legal community serious and grievous are interchangeable.

(3) Servicemember Perception/Tactical Considerations. Between the subject behaviors band and force options band in the force continuum graphic, is the tactical considerations and perception band. A Servicemember's tactical considerations and perceptions are interrelated and therefore they occupy the same area. Factors that a Servicemember brings to a situation are unique to that individual Servicemember and interact with both situational and behavioral factors to determine how a Servicemember may perceive the situation. The Servicemember's perception of a situation may affect his orientation (from OODA) and in turn his tactical considerations. Situationally-specific ROE/RUF is an overriding tactical consideration. These concepts will be fully explained later.

(4) Force Options. The outer band of the force continuum graphic contains five broad categories of force options:

(a) Presence (Servicemember/Unit). While not actually force, per se, the visible presence of the Servicemember does have an effect that can calm a situation or be a controlling element in that the Servicemember can represent possible consequences on the subject's undesired behavior. One of the ways to consider this is when a motorist is speeding down the road, comes over a hill and spots a marked police car on the side of the road. What is the most natural and probable reflex action the motorist will take? Hit the brake, slow down. Why? Consequences. So in this example, the presence of the marked patrol car influenced or "forced" the driver to a desired outcome—slow down—and the only "force" used was presence.

(b) Communication. Communication, verbal and nonverbal, can be utilized to control and or resolve the situation. Like presence, communication runs around the entire force continuum. Even as we use other categories of force, communication should be present in the form of instructions, directions, orders, or warnings.

(c) Physical Control. Physical Control is the actual use of manual - hands on - force. It is any physical technique used to control a subject that does not involve the use of a weapon. The goal—the desired outcome—throughout the force continuum is CONTROL: maintaining it or gaining it. As such the concepts of defense and offense are immaterial. The physical control category includes two sub-categories, soft techniques and hard techniques.

- Soft Techniques. Soft techniques are control oriented and have a lower probability of causing injury. These techniques generally include restraining techniques, joint locks and compliant flexcuffing.

- Hard Techniques. Hard techniques are intended to stop a subject's behavior or to allow application of a control technique and have a higher probability of causing injury. These techniques generally include empty hand strikes such as punches and kicks; any type of "submission" hold or technique that risks dislocation of joints or fractured or broken bones; any physical hold technique intended to bring about or cause unconsciousness or is likely to produce unconsciousness. These techniques may raise to the level of deadly force.

(d) Nonlethal Force. In this force category are all the weapons and devices that fall under the DOD definition of "nonlethal" (DODD 3000.3); their use is nonlethal by design. This category includes those items that have been traditionally considered "nonlethal" by their nature and/or by their traditional employment techniques, such as, batons and OC spray. Within the nonlethal force category, nonlethals are purposely not listed individually in order to avoid the tactical pitfalls of creating a "nonlethal force continuum". Either NLW are assessed as appropriate to the situation or they are not. When they are assessed appropriate to the situation, the type of nonlethal force to be used is dictated by the tactical situation (distance, time available, number of subjects involved, ROE/RUF). Further, not all Servicemembers and not all units will have all the NLW available, therefore their options within this category may be very limited. The ROE and RUF limits and permits with regard to nonlethal force would have already been determined in the decision/act part of OODA as the process moved through the perception/tactical considerations band of the force continuum. The ROE/RUF should have already predetermined what nonlethal options would be available; however, their employment could be strictly controlled.

(e) Deadly Force. This force option category includes more than the obvious firearms. Deadly force is defined in DOD Directive 5210.56, *Use of Deadly Force and the Carrying of Firearms by DOD Personnel Engaged in Law Enforcement and Security Duties*, 1 November 2001, as: "Force that a person uses causing [or that a person knows or should know would create a substantial risk of causing death or serious bodily harm." The same directive defines "serious bodily harm" as "Does not include minor injuries, such as a black eye or a bloody nose, but it does include fractured or dislocated bones, deep cuts, torn members of the

body, serious damage to internal organs, and other life-threatening injuries." The guidance for the use of deadly force is now found in Enclosure L, CJCSI 3121.01B, which supersedes Enclosure 2, DOD Directive 5210.56.

c. Use of Force.

(1) Decision. When deciding to act, it is critical that the Servicemember remember the following and respond accordingly:

- The use of deadly force is not limited to firearms or lethal weapon systems.
- Physical control techniques can cross the line and become application of deadly force.
- With knowledge comes responsibility.
- To purposely or negligently break or dislocate a subject's arm raises the situation to the level of deadly force, by definition.
- To employ certain NLW purposely or negligently outside their standards of intended use with the substantial risk of causing death or serious bodily harm, raises the situation to the level of deadly force, by definition.

Death or serious bodily harm is not literally required to raise a situation to the level of deadly force. By definition, the Servicemember needs to reasonably perceive that a "substantial risk" of death or serious bodily injury exists.

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Note: As a reminder, force applied responsibly always takes into consideration the consequences of actions and focuses on the ultimate goal or purpose of action.

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(2) Firearms. With regards to firearms, Servicemembers hold a common responsibility not to significantly increase the risk of death or serious bodily harm to innocent persons. Shots are fired only with due regard for the safety of innocent bystanders.

- If a shot is fired at a hostile which subsequently misses the target, then by definition, the Servicemember unintentionally hit something or someone. In such an event, the conduct of the Servicemember will be investigated as to whether due care was taken to protect innocent persons, and whether any criminality attaches to the Servicemember's conduct. This may set back mission accomplishment and US/Service prestige, as well as causing other harm.
- When a Servicemember fires a weapon it is fired with the intent of rendering the person(s) at whom it is fired incapable of continuing the activity or course of behavior that prompted the Servicemember to fire.

d. OODA Loop Background. Today's environment of accelerating scientific discoveries and technological change bring ever improving hardware to the end user. In this climate it is easy to overlook and even abandon the core foundation of any weapon system, the interplay and perceptions of the human mind in a combative situation.

(1) A man who understood this better than most was Colonel John Boyd, USAF (Retired). Col Boyd was tasked with determining why American pilots in apparently inferior aircraft were consistently outmatching their Korean counterparts. Air-to-air combat takes place in a 360-degree sphere and represents the pinnacle of the man and machine relationship coupled with the man-on-man dynamic warriors dream about.

(2) Col. Boyd developed and pressed forward a simple, yet deeply profound model now known as the OODA Loop or as it is often called, "Boyd's Cycle."

(3) The cycle of Observe, Orient, Decide, and Act is the essence of combat and is present in any human conflict.

(4) Because all tactical operations are dynamic, they are also time sensitive. Decisions and actions that are delayed are often rendered ineffective because of the constantly changing circumstances. When an adversary is involved, the operation is not only time sensitive, but also time competitive. Time or opportunity neglected by one adversary can be exploited by the other.

(5) According to Boyd's theory, conflict can be seen as a series of time-competitive Observation-Orientation-Decision-Action (OODA) cycles.

(a) Each adversary in a conflict begins by observing themselves, the physical surroundings, and the other adversary creating—the "situation."

(b) Next they orient themselves. Orientation refers to making a mental image or snapshot of the situation. Orientation is necessary because of the fluid, chaotic nature of conflicts makes it impossible to process information as fast as it can be observed. This requires a freeze-frame concept which provides a perspective or orientation.

(c) Once they have an orientation, they need to make a decision. The decision takes into account all factors present at the time of orientation (totality of the circumstances). Lastly, the implementation of the decision requires action. One tactical adage states, "Decisions without actions are pointless. Actions without decisions are reckless."

(d) Then, having changed the situation through action, the cycle begins anew. The cycle continues to repeat itself throughout a tactical operation.

(6) The adversary who can consistently go through the OODA Loop faster than the other gains a tremendous advantage. By the time the slower adversary reacts, the faster one is doing something different, and the action of the slower adversary becomes ineffective. With each cycle, the slower adversary's action is ineffective by a larger and larger margin. The aggregate resolution of these episodes will eventually determine the outcome of the conflict. For example, as long as the actions of Servicemembers continue to prove successful, an adversary will remain in a reactive posture, while the commander maintains the freedom to act. No matter what the slower adversary desperately strives to accomplish, every action becomes less useful than the preceding one. As a result, the adversary falls farther and farther behind. This demonstrates that the initiative follows the faster adversary.

(7) All engagements are a competition for time, a precious commodity not voluntarily relinquished by either adversary. Col Boyd understood the importance and advantages of relentlessly forcing the adversary to deal with a rapid series of events in order to disorient and "get inside" the opponents OODA Loop. Once "inside," time for the insider moves as it should, one event flowing to the next in a predictable pattern, the outcome virtually certain. On the other hand, the "victim" is stuck in time. He or she has no apparent opportunities to Observe and Orient meaningful events. Decisions and Actions are ineffective.

e. Application. The force continuum centers on the situation, the Servicemember, and the Servicemember's use of the OODA Loop to make use of force decisions consistent with ROE/RUF and the concepts of reasonableness and proportionality.

(1) The Servicemember OBSERVES a situation or when a situation happens to another Servicemember. The Servicemember, using his or her five senses, must take it all "in." Looking and seeing is different than observing. We want to see with the intent or purpose of

discerning. Much like the difference between hearing a person talk to us and listening to a person talk to us. Experienced Servicemembers know and practice maintaining "situational awareness," a critical component of this is discerning what we see as we move through or scan our "battlespace."

(2) Having taken in the data, the Servicemember must put it in proper perspective based on what he or she has just learned (observed) and all previous knowledge (intelligence, experience, mission brief); he or she must ORIENT themself. A published definition of orientation is "to make familiar with or adjusted to facts, principles, or a situation." Orient carries a definition of "to set or arrange in any determinate position; to ascertain the bearings of; to set right by adjusting to facts or principles". The Servicemember takes in the "scene" or situation and analyzes it, at the same time prioritizing it in terms of threat, resistance, and mission accomplishment. When we prioritize the threat and resistance present, we usually attach possible responses. These determinations of threat or resistance are classified or characterized using the five broad categories of subject behavior.

(3) Having OBSERVED the situation and having ORIENTED himself or herself with the situation, the Servicemember must DECIDE what to do. This decision making process has to a degree already started with the prioritization and classification of the threat or resistance.

(4) The DECIDE component of OODA, moves the Servicemember into the Tactical Considerations and Perception band of the force continuum.

(a) Perception. How a Servicemember sees or perceives a situation is, in part, a function of the personal characteristics he or she brings to the situation. These personal characteristics affect the Servicemember's beliefs concerning his or her ability to deal with the situation. For various reasons, one Servicemember may be confident in his or her ability to deal with the situation and resulting OODA Loop process will reflect this fact. In contrast to this, another Servicemember, for equally legitimate reasons, may feel the situation to be more threatening and demanding of a different response. The following list includes factors unique to the individual Servicemember which interact with situational and behavioral factors to affect how the Servicemember perceives and, ultimately applies OODA to the situation:

- Strength/overall fitness.
- Personal experience.
- Skill/ability/training.
- Fears.
- Gender.
- Fatigue.
- Injuries.
- Cultural background.
- Sight/vision.

(b) Tactical Considerations. The following tactical considerations may impact on the Servicemember's OODA or may be the decision and the action the Servicemember takes that is not in the force continuum:

- Disengage.
- Availability of cover.

- Availability of back up.
- Geographic considerations.
- Practicality of containment, creating distance, status of communications.
- Mission/task, commander's intent.
- SOPs.
- Rules of engagement/rules for the use of force.

(5) Escalation. When a situation escalates dangerously, or when the consequences of continued intervention seriously increases danger to anyone, the option to disengage may be considered appropriate. It is also recognized that due to insufficient time and distance or the nature of the situation, the option to disengage may be precluded; the Servicemember must stand his or her ground. If the Servicemember determines the option to disengage to be tactically appropriate, the Servicemember may consider disengagement with the goal being containment and consideration of other options, such as, seeking available cover, waiting for back up or quick reaction forces or other forces.

(6) Proportional Force. The structure of the force continuum consists of the above elements arranged in a logical, corresponding, circle. A circle continuum is used to assist in making reasonable, proportional force option choices and to reflect a continuous necessity to apply OODA to the situation. The circle reflects the concept that in a fluid threat situation it is critically important to act immediately, if not instantaneously (with reasonableness and proportionality) without having decision making slowed with considerations of escalating steps or levels. Overreaction may not only violate the ROE/RUF and the Uniform Code of Military Justice, it may be both ineffective and counter-productive. Under-reaction may allow harm to come to the Servicemember and/or others. “The use of force in self-defense should be sufficient to respond decisively to hostile acts or demonstrations of hostile intent. Such use of force may exceed the means and intensity of the hostile act or hostile intent, but the nature, duration, and scope of force used should not exceed what is required.” (Enclosure A, CJSCI 3121.01B)

## 6. Escalation of Trauma Chart

a. Description. Figure III-6 is a representation of the human body using white, light gray, and dark gray areas. Studying the figure will help a Servicemember to recall better under stress where the white areas (lowest level) are than from other target selection schemes. Understanding the medical terms and concepts on which the figure is based is simplified by using white, light gray, and dark gray areas. Usually, the white areas are less injury-prone than light gray areas, and the light gray areas are less injury-prone than the dark gray areas.

b. Guidance. Figure III-6 fosters a learned capacity to recognize levels of possible trauma, from white (lowest level) to light gray (moderate level) to dark gray (highest level), which benefits a Servicemember's performance in training and in the field. Guidance is what the figure is all about. It incorporates complex biomedical considerations and combines them into a humane, sensible, versatile, easy-to-learn, easy-to-recall way to use the blunt impact in a confrontation.

c. Introduction. The program manager of Monadnock Lifetime Products, Inc. authorized the use of their copyright material at figure III-6 on the condition that it include the following associated background and concept in action paragraphs in addition to a few general policy statements applicable to the Monadnock Police Training Council.

(1) "The use of force by officers is permissible when used to effect an arrest; to overcome resistance; to prevent escape; in self-defense; or in the defense of others. The force used must be objectively reasonable based on the facts and circumstances perceived and/or known by officers at the time the force is used. Officers should take into consideration: the severity of the crime involved; the actions of the subject and/or third parties; whether the subject poses an immediate threat to the safety of officers or others; and officer/subject factors. Officers' decisions are often made in circumstances that are stressful and rapidly evolving, thus officers are not required to determine the least intrusive measure of force that might resolve the situation. Officers are required to select an objectively reasonable option based on the perception of the risk and the actions of the subject and/or third parties at the time, as well as drawing upon their own training and experience."

(2) "When deciding on what specific force response to use, a balance between the force response chosen and the potential/foreseeable risk of injury to a subject are factors that should be considered in assessing the reasonableness of that use of force. When officers decide that a baton technique is an objectively reasonable option, they would then need to choose an appropriate target area. Target selection based on medical evaluations of the vulnerability of various parts of the human body and potential injury to subjects may assist officers in reducing injuries to subjects. In the "Monadnock Baton Chart," the potential trauma to the human body has been designated by shades of gray denoting the level of risk incurred by the application of physical force by means of the baton."

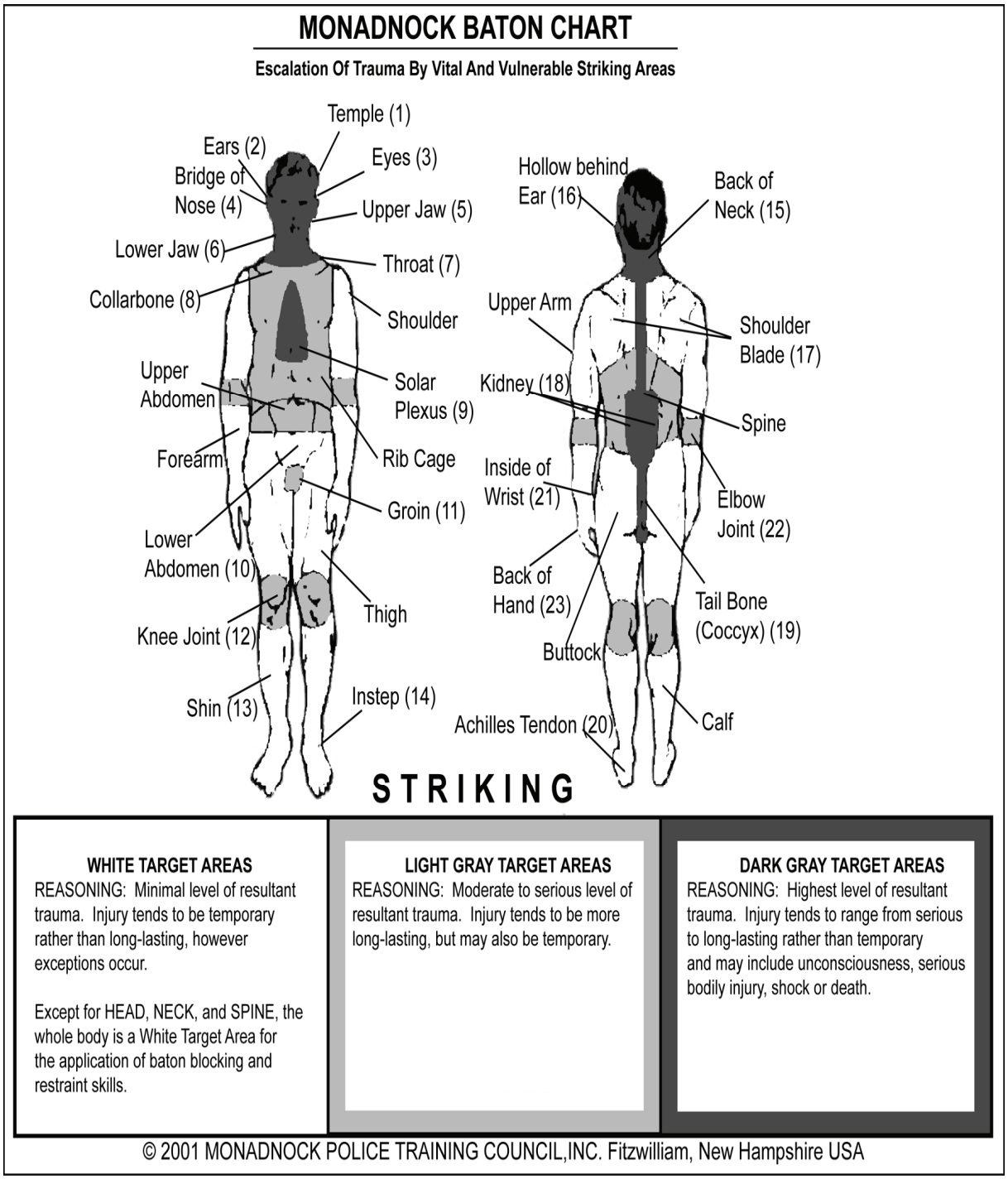


**Figure III-6. Escalation of Trauma Chart**

d. Background. "The concept of white, light gray, and dark gray target areas was developed to assist officers in assessing the probability of injury to subjects. When time allows, officers' use of force should take into consideration escalating and de-escalating options based on threat assessment, officer/subject factors and the probable severity of injury."

e. The Concept in Action. "White target areas are considered primary target areas when a baton technique such as a strike is chosen. Light gray target areas are considered an option when force applied to a white target fails to overcome resistance or does not correspond with the threat level. Gray targets are areas of the body where force is directed at a joint or an area in close proximity to a prominent dark gray target area and therefore the risk of injury increases. Dark gray target areas are for confrontations where the subject is attempting to cause serious bodily injury or is applying deadly force to an officer or another; or situations where force to lower level target areas are ineffective based on an escalation of resistance presented by the subject during an attempt to end the confrontation. Physical force directed at dark gray target areas pose a greater risk of injury to the subject and in certain areas might constitute deadly force because of the probability of causing death. The general policy of the Monadnock Police Training Council is stated in the note below."

Note: "The Monadnock Police Training Council would support an agency or instructor who finds it necessary to raise a specific target area to a higher color-code classification; for example, the collarbone from a light gray to a dark gray target area. Any agency or instructor who elects to do so must clearly document that action. The Council would not support any change whereby a specific target area's color-code is lowered; for example, changing the collarbone from light gray to a white target area. As a reminder, force applied responsibly always takes into consideration the consequences of actions and focuses on the ultimate goal or purpose of action."

## 7. Summary

NLW can provide a forgiving means of imposing our will on adversaries when deadly force is not the preferred force option. The proper application of force capabilities, lethal and NL, is a critical component to any successful military operation. In the contemporary operating environment, a key aspect for mission accomplishment is public support. In order to defeat our adversaries, US forces must be able to separate enemies from innocent people. At the same time, US forces must conduct themselves in a manner that enables them to maintain popular domestic support. Lack of NLW and excessive or indiscriminant use of force is likely to alienate the local populace, thereby increasing support for the enemy. Insufficient tools and applications of force result in increased risks to friendly forces and perceived weaknesses that can jeopardize the mission by emboldening the enemy and undermining domestic popular support. Achieving the appropriate balance requires a commander to have thorough understanding of the tools available to his/her unit, the policy under which those force options are authorized, and the nature of the enemy.

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# Chapter IV
# VIGNETTES/FACTUAL EXAMPLES

To successfully integrate NLW across the range of military operations commanders must include NLW employment considerations in every mission essential task listing (METL) training plan. Tactical decision games (TDGs) provide great opportunities for leaders to consider and make decisions influencing unit NLW TTP. The successful integration of NLW into unit mission and tasks requires thorough training and rehearsals of the mission or task to be executed, with a clear understanding of where NLW and lethal weapons complement each other. The following vignettes and factual examples provide excellent insight into NLW employment for discussion and validating applicability.

## 1. Detainee Operations

Scenario: In response to credible information that a detainee had a handgun in his cell, a quick reaction force was dispatched to his cell. The official report of this situation states that "…the detainee…was ordered to place his hands through the bars to be handcuffed. At this time the detainee stated he had no gun. It should be noted that no mention of a gun was made within earshot of the detainee previously. The detainee then made a sudden move toward the upper bunk in his cell and produced a pistol. He fired a round through the cell door, which impacted across the walkway on the south side of the tier. The search team then fired two rounds of [non-lethal] pellets from a 12-gauge shotgun, which had no effect. The detainee responded by firing five to six additional rounds at the team. The search team then engaged the detainee with lethal rounds from the 12-gauge shotgun. The detainee was struck several times in the legs with "00 Buckshot." The detainee relinquished his weapon only after he expended all of his ammunition.

a. Discussion.

(1) Critical Questions.

(a) Were failed TTP evident?

(b) Was the NL force used against the lethal force warranted?

(c) How could team member positioning have changed response?

(d) Was deadly force authorized?

(e) What are the collateral damage concerns for lethal and NL munitions?

(f) What impact could duress or shock have in this incident?

(g) What was positive about this incident response?

(h) What could be improved?

(i) Using OODA Loop and METT-TC, could things have been different?

(j) Were tactical considerations for employing NLW applied?

(2) Analysis. Assuming that prior mission training was conducted and the SOPs used in this detainee scenario were followed, the following NLW employment analysis is provided:

(a) Justification of Force. Using NL fires to suppress lethal fire is of serious concern. In reference to figure III-5, Force Continuum Graphic, the suspect was believed to be in possession of a gun, creating a high probability for a deadly force encounter. This knowledge places the suspect in the Death or Serious/Grievous Bodily Harm zone and demands the responder to be prepared to at least match the perceived threat in order to neutralize it. Before deadly force is justified additional criteria must be met by the suspect. This criteria includes demonstrated means (loaded gun), opportunity (access and ability to fire the gun), and intent (demonstrated act or known fact to use deadly force).

(b) Options. The responders had an opportunity to approach the scene with pre-planned commands, escalation options, and team organization to support these options. Additionally, due to the nature of the threat it is very reasonable to have used a dynamic approach using NL options as a pre-emptive option. The use of a stun effect during approach or immediately after witnessing the slightest hesitation to place hands through the bars was an option and would have allowed the officers to have maintained the upper hand. Employing a lethal backup to the NLW responder would have been wise. It is implied that both responders would need “eyes-on” at the same time. Maintaining a combat mindset requires a continuous cycling of OODA Loop and estimate of the situation (METT-TC) prior, during, and after contact.

(c) Recommendation. Integrate NLW limitations, employment considerations, and force continuum relationships into planning and operations. Training will enhance the successful employment of this force option. Understanding NLW characteristics, effects, and limitations is the basis for employment consideration. Following basic principles for employing NLW is critical to mission accomplishment and troop welfare. NLW and munition limitations must be understood and applied during training. Training that relates NLW effects to suspect compliance/threat levels is critical to ensuring proper employment. Proper employment of NLW is critical to achieving the commander’s intent, guided by the rules of engagement. NLW, like lethal weapons, are employed based on a detailed assessment of the situation. NLW should never be considered a primary option. NLW should always be an option after lethal weapons are determined not appropriate. When applying force, one should not think in terms of a stepping stone to lethal force. A responder should think “top down” from lethal force to ensure they quickly use the most appropriate force required to neutralize the threat with the first attempt because a second attempt may not be possible.

## 2. Presence Patrol

At an actual base, approximately 1,000 people were crawling through holes in the walls and looting the quartermaster's buildings inside the perimeter. Eight Marines trained in employment of NLW, from a civil affairs (CA) team, went out and moved the looters using riot control tactics. They went on line with a translator using a bull horn, spot lights, shotguns loaded with bean bag rounds, stinger grenades, OC, and an overwatch provided with lethal weapons. Within 10 minutes the team of eight CA Marines was able to clear approximately 1,000 people from the compound, whereas a company of Marines could not for hours. The CA Marines could engage looters with NLW, while the infantry Marines did not have NLW and were restricted from using lethal force. The perimeter was held and the message was loud and clear to the civilian looters/rioters: “If you challenge the forces they will engage with NLW.”

## 3. Public Order

During a public order situation in Somalia, the local media was informed of the Marines’ possession of NL options and “new technologies” in order to discourage hostile actions. The media was encouraged to report this to the population. Intelligence had indicated the Somalis were planning to mix civilians with armed clansmen, creating hostile mobs. In fact, feuding warlords had previously successfully demonstrated this strategy on several occasions. Lack of deadly mob incidents implies Somalis were not anxious to test this new technology.

## 4. Pier Side Challenge

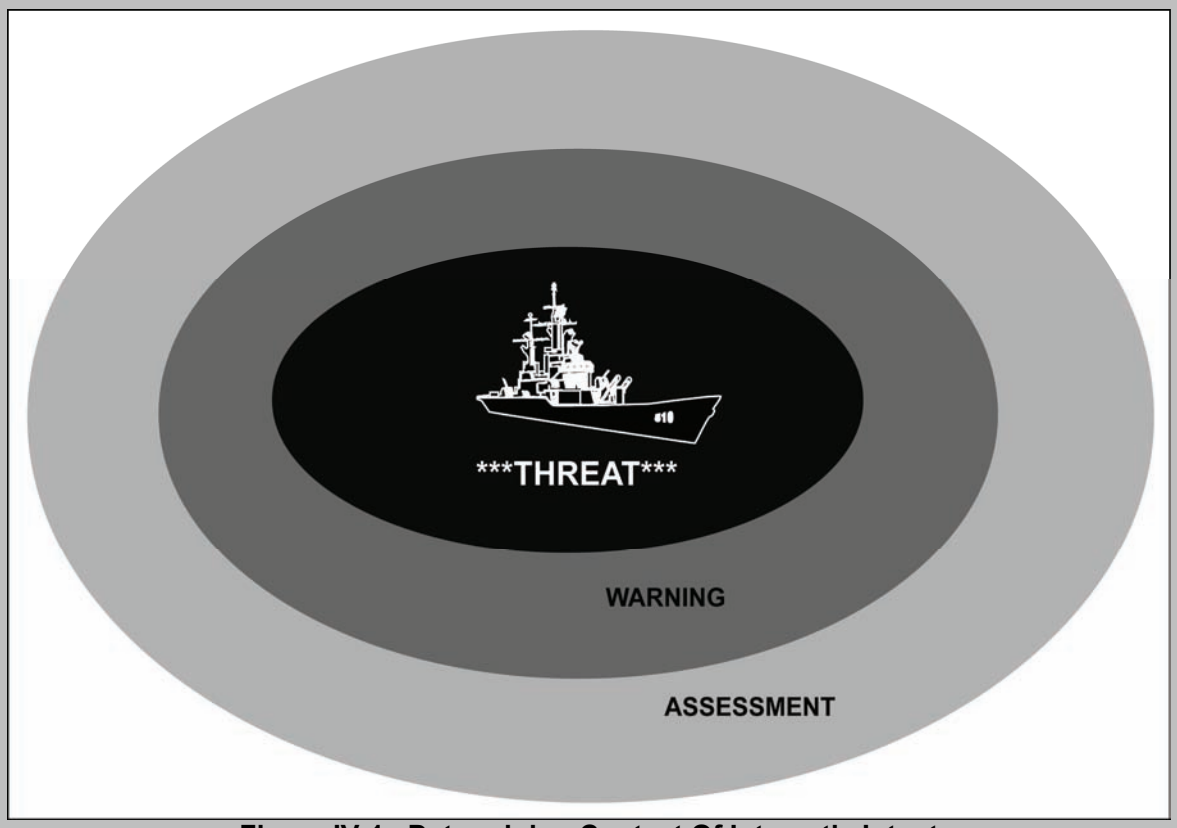



**Figure IV-1. Determining Contact Of Interest's Intent**

The graphic above presents a challenge for a navy vessel in determining an approaching contact of interest (COI) intent. Naval vessels engaged in restricted maneuvering (i.e.; choke point transits, entering/exiting ports of call) are faced with threats that can approach from any side. Often these transits are conducted in congested waterways where other vessels must pass close to the Naval vessel. Because acoustic hailing devices (AHDs) can project sound to distances greater than 500 yards, it can be used as an aid in determining intent of an approaching vessel or to provide direction to vessels that require close passing due to small channels. Figure IV-1 provides a representation of the various zones that exist around a ship where the approaching vessel must be detected, identified, classified, and engaged—all in a compressed time sequence. AHDs are a NL means of providing warnings (via both tone and voice message) at significant ranges that the suspect COI is approaching a security zone and will be fired upon if course is not altered. AHDs should be employed with accompanying NL visual warnings (laser dazzler/flash bang munitions/etc.) to maximize effectiveness. Current versions of available AHDs are not weaponized (i.e., intended use is for warning at long range vice using sound to incapacitate personnel).

## 5. Incident Case Study

The two leaders with whom the battalion commander had negotiated tried to calm the crowd, but the militants were much more influential. People in the back of the crowd—some of whom were on high ground overlooking the road and the landing zone—began to throw rocks and bottles. People in front pushed forward, using their sticks as clubs. A third group of rioters worked its way around the back of the landing zone and attacked from the rear.

The US military policemen formed two lines—one facing the road and the other facing the rear of the landing zone. These kept the Serbs with sticks at bay, but did little to counteract the Serbs throwing rocks. The rocks were causing casualties among the Americans—one soldier was hit in the hand, another in the face. The rocks were also a danger to the fragile rotor blades of the Blackhawks. Despite this provocation, some of the American leaders on the ground were reluctant to give the order to fire NLW. One company commander even held his men back, repeatedly telling them not to fire their NL rounds.

The cause of this hesitation is directly attributable to the rules of engagement (ROE), which governed the use of NLW in country. These rules, confirmed over the radio as the Blackhawks were landing, put the use of NLW in the same category as the use of deadly force. The sponge grenades, stinger rounds, and foam batons were only to be used if there was an immediate danger to life or limb.

The ROE allowed the use of NLW but only when lethal force would also have been authorized. The ROE simply didn't offer the desired flexibility to take full advantage of the availability of nonlethal munitions.

## 6. Escalation of Force (EOF) Against Perceived Threats

"I...want to...discuss a tactical action that threatens to undermine our progress, the escalation of force, or EOF. EOF is defined as sequential actions which begin with nonlethal force measures and graduate to lethal measures to include, warning, disabling, or deadly shots, in order to defeat a threat and protect the force. In the context of this discussion, an EOF incident is any time we fire our weapon in response to a perceived threat that turns out not to be hostile. Coalition forces are involved in numerous EOF incidents every day, some of which involve property damage, injury, or death to innocent Iraqis.

In a culture of honor and revenge such as Iraq's, the consequences of actions like these can be severe. For every innocent Iraqi we kill, injure, or dishonor we risk turning dozens of other Iraqis from their family, tribe and community against the coalition. The long term and cumulative impacts of these actions can be catastrophic to our mission if the Iraqi people come to view the coalition as more of a threat to their well being than a positive influence. Paradoxically, these incidents, often initiated with force protection in mind, can actually result in reduced force protection if we generate more enemies that will work against us in the future.

I understand the complex operating environment here in Iraq, and nothing in this discussion is in any way meant to limit the right and responsibility of all coalition members to defend ourselves. I am asking, however, that we do everything in our power to reduce incidents, such as EOF, that serve to undermine our credibility with the Iraqi people that we are here to support. We can accomplish this in a number of ways, to include understanding the rules of engagement, ensuring we have all of the proper equipment, conducting detailed rehearsals/pre-combat checks/pre-combat Inspections and ensuring that every patrol and vehicle check point has a clear task and purpose....

As we begin the fourth year of coalition operations in Iraq and focus on transitioning security responsibilities to the elected Iraqi government, I ask you to be especially conscious of how our actions are perceived by the vast majority of the Iraqi population that is non-hostile. Don't compromise your safety or force protection, but at the same time, don't let our own actions allow the Anti-Iraqi Forces to drive a wedge between us and the people we are here to help. "

—LTG Peter W. Chiarelli, MNC-I Commander

# Appendix A
# RIOT CONTROL TACTICS

## 1. Employment Considerations

The commander should include the following considerations in preparing for unit tactical operations involving NLW:

a. Avoid reconfiguring small-unit organization, except for special configurations such as—

(1) Special teams.

(2) Attachments.

(3) Crowd control formations.

(4) Security element.

b. Standardize postures in unit tactical SOP. Take the following steps to add a higher volume of specialty impact munitions and equipment within squads, platoons, or units:

(1) Avoid arming Servicemembers involved in apprehending designated personnel with long weapons (i.e., shotguns, rifles) because they can be easily grabbed/pulled away by individuals.

(2) Add weapons systems (shotguns) that provide a greater nonlethal capability. When loaded with nonlethal munitions, the longer reloading time of the M203 grenade launcher is protected by coverage from the high rate of fire from shotgun.

(3) Add nonlethal munitions to existing organic weapons systems (M203 grenade launcher).

(4) Avoid arming Servicemembers in the front lines of crowd control formations with long weapons.

(5) Focus riot-control capabilities in specialized reaction forces.

(6) Establish base line NLW postures.

(7) Establish command relations for special units.

(8) Maximize distance and barriers.

(9) Create NLW range cards for static positions.

(10) Provide the force with available OC/RCA consistent with ROE.

(11) Always mutually support forces utilizing NLW with lethal means.

(12) Consider environmental conditions (heat/cold/wind) and their effect on the performance of nonlethal munitions. Proper storage, periodic inspections, and rotation of NLW ammunition are critical to maintaining the effectiveness and viability of nonlethal munitions.

c. Unit Weapons, Unit Configurations, and Ammunition Considerations.

(1) Individual. Designate individuals as nonlethal shooters. Nonlethal shooters should also carry lethal munitions for use as required. Lethal rounds must be marked and carried in a

manner to prevent confusing nonlethal rounds with lethal rounds during daylight and reduced visibility.

(2) Squad. Squad leaders should dictate who carries nonlethal grenades and maintain their weapons loaded with lethal ammunition. Ideally, the squad should not change its task organization to accommodate nonlethal equipment, but should designate nonlethal shooters.

(3) Patrols. Commanders should not plan a nonlethal patrol, but should plan a combat/security patrol with a nonlethal capability when mission dictates.

(4) Static Positions. Individuals in static positions should have their weapons loaded with lethal munitions (mission, enemy, terrain and weather, troops and support available–time available and civil considerations dependent [METT-TC].) Additionally, they should carry nonlethal munitions. Both shotgun and M203 work well from static positions and should complement each other in a nonlethal mode.

(5) Recovery Teams. Recovery teams have the primary responsibility of retrieving and controlling designated personnel from the crowd; the commander should establish a recovery team before deploying. The force should train team members in unarmed self-defense, open-hand control, and hand cuffing/flex cuffing. It should equip recovery teams with personal protection gear, 9-mm weapon, and flex cuffs. Due to the physical nature of recovery teams, it is important not to arm team members with long rifles. If security for the recovery team is an issue, the commander should attach a security element.

(6) Crowd Control Formations. The unit should establish crowd control formations within a minimum response time. Because of the physical nature of crowd control, individuals in these formations, if possible, should not carry long rifles. These formations should have inherent nonlethal capability. The unit must provide lethal coverage for the entire formation.

d. Individual Elements of a Formation. These elements are: base element, support element, and command element. The formation needs to provide versatility. Restrictions must never be set on numbers, equipment, or changes to the standard formations.

(1) Base Element. Role of the base element (front line):

(a) Base element serves as the front line or the base/foundation of the formation (can be divided into two or three sections or ranks).

(b) Front line consists of the shield holders.

(c) Angle the bottom of the shield to channel flammable liquids away from the body.

(d) Distance or interval between the shields differs based upon the range to the crowd. The closer the crowd, the tighter the interval between the shields.

(e) Provide frontal security.

(f) Hold a solid line.

(g) Provide intimidation factor.

(h) Fire team leaders are in the line holding shields.

(i) Secondary (tertiary) line(s) can consist of the baton holders and/or nonlethal gunners.

(j) Baton holders will—

- Strike with batons.
- Spray OC or disperse smoke.

- Serve as spotters for the NLW gunners.
- Control and detain subjects pulled from the crowd.

(k) Nonlethal gunners will—

- Consist of team leader with M203/M16 (provides nonlethal cover with M203 40-mm munitions and lethal cover with M16).
- Position themselves between shields working with baton holders.
- Serve as immediate control for the team.
- Maintain continuous muzzle awareness of the weapon.
- Provide immediate support to the shields.

(2) Support Element. Role and employment of the support element:

(a) Provide the means to employ lethal and NLW.

(b) Can consist of two ranks: M16/M203 (2nd rank) Mossberg 12-gauge shotguns (3rd rank).

(c) Provide security for search and recovery team.

(d) Consists of munitions teams and/or recovery teams.

(e) Munitions teams provide the means to employ lethal and NLW consisting of M16/M203 and Mossberg 12-gauge shotguns.

(f) Recovery teams provide ability to detain and search rioters downed by nonlethal munitions. Recovery teams will—

- Extract vehicles or personnel from the crowd who are in immediate danger.
- Detain and escort downed rioters to rear of the formation.
- Restrain and search detained individuals.
- Communicate with the base element.
- Spray or employ RCA as needed.
- Fill in the gaps in the front line as needed.
- Insert into a confined or congested area too large for the formation.
- Use a soft base line that capitalizes on the munitions fired to deploy forward of the shields in order to drive the crowd back, retrieve personnel/gear, and apprehend key riot personnel. Employed in pairs (1 x shield man/1 x shotgun).

(3) Command Element. Role of the command element is to provide command and signal to the formation and consists of the platoon leader/flight commander/ platoon sergeant/flight sergeant, and squad leaders.

(a) Platoon Leader/Flight Commander, Platoon Sergeant/Flight Sergeant—

- Pass verbal commands.
- Maintain order within formations.

- Gauge and evaluate use of munitions and resupply considerations.

(b) Squad Leaders—

- Effectively control the squad.
- Pass information up the chain.
- Employ OC as directed.

(c) Designated Marksman (DM). During a nonlethal engagement, using DM provides confidence and safety to those facing a riot. The DM in an overwatch position scans the crowd, identifies threats and designated personnel for recovery, and fires lethal rounds if a lethal threat is presented. Additionally, DM are ideally suited for flank security and counter sniper operations.

## 2. Tactical Formations

The following figures are examples of service-specific formations. These examples are not all-inclusive, and the tactical situation will always dictate actual unit employment. FM 19-15, *Civil Disturbance*; MCWP 3-11.1, *Rifle Company;* and MCWP 3-11.2, *Marine Rifle Squad,* provide extensive detail about small-unit formations, their use, and other considerations. Figures A-1 to A-6 are from I and II Marine Expeditionary Force (MEF) Special Operations Training Groups (SOTG) and represent a notional infantry platoon. Figures A-7 to A-12 represent a notional US Army infantry platoon. Figures A-13 to A-20 are additional platoon formations submitted by Marine Corps Security Force Training Company.

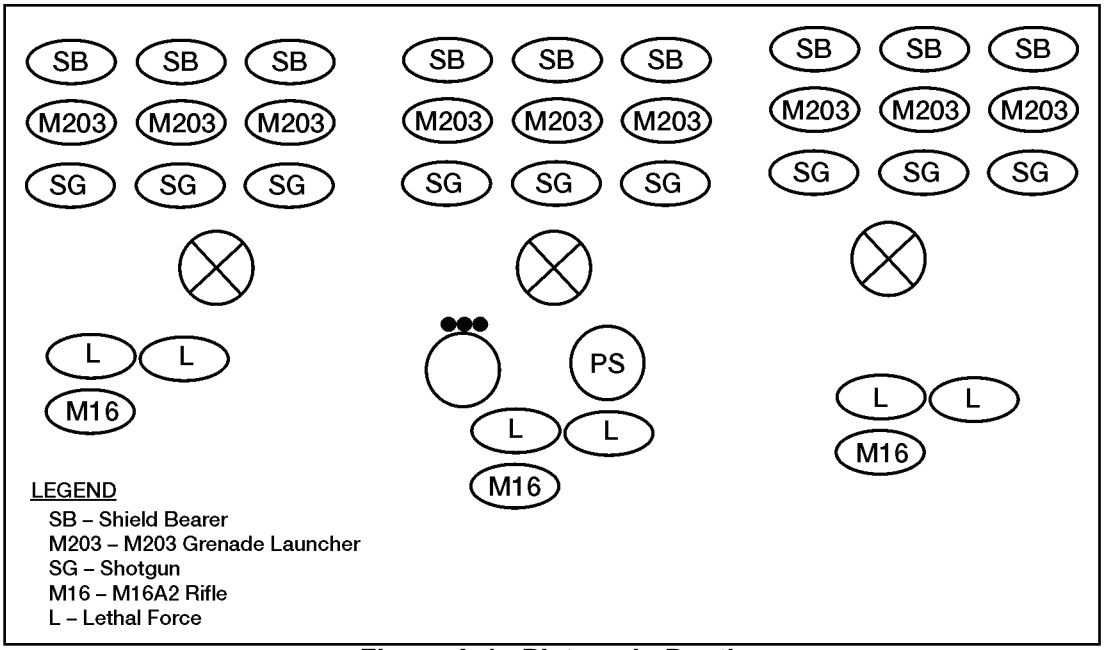



**Figure A-1. Platoon in Depth**

Note: The platoon is the smallest unit capable of independent maneuver. The platoon in depth formation shown above provides the following benefits:

- In-depth support with three ranks.

- Complementary support with the shotguns covering the slower reload time for the M203.
- Additional personnel from each squad to form the recovery teams.
- Each squad is capable of moving as an independent formation forward of the platoon line, if situation dictates.
- Other tactical formations are applicable—echelon, wedge, column.

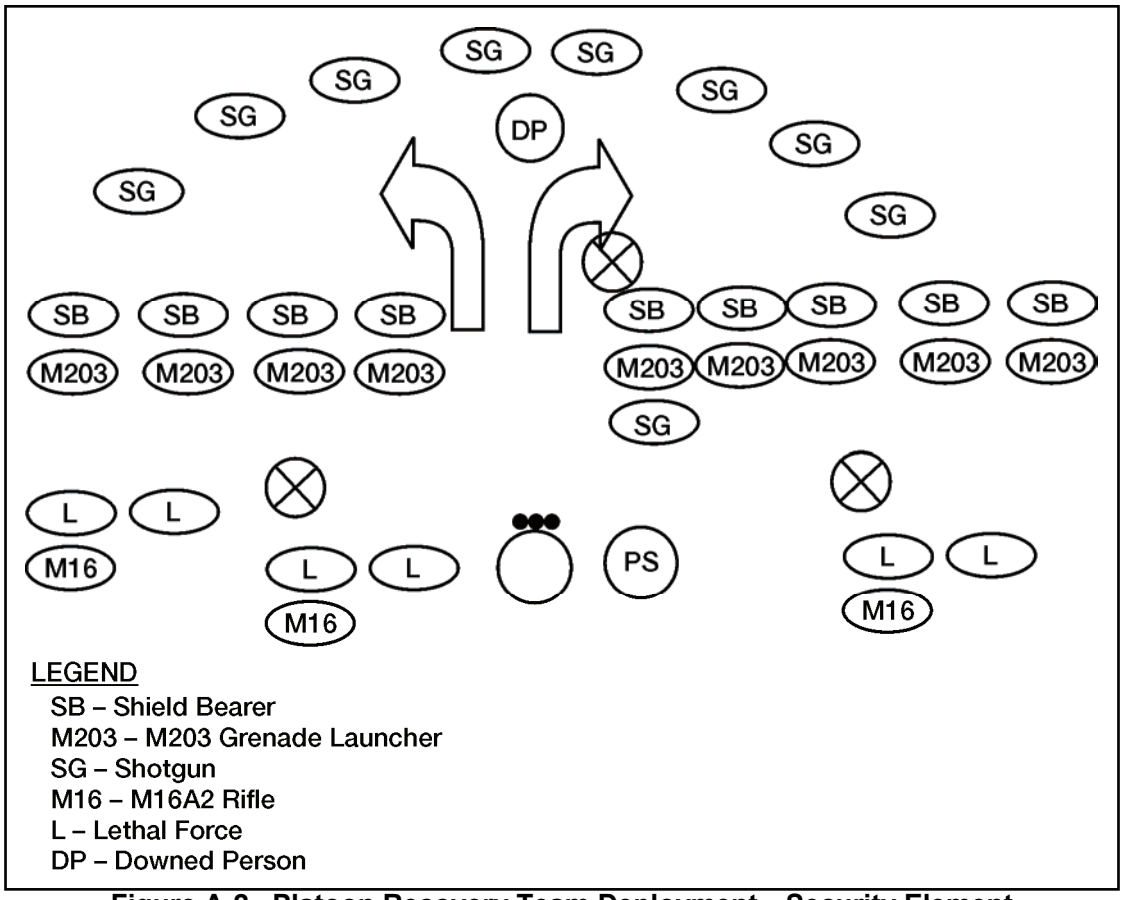



**Figure A-2. Platoon Recovery Team Deployment—Security Element**

Note: Security element deploys around downed person.

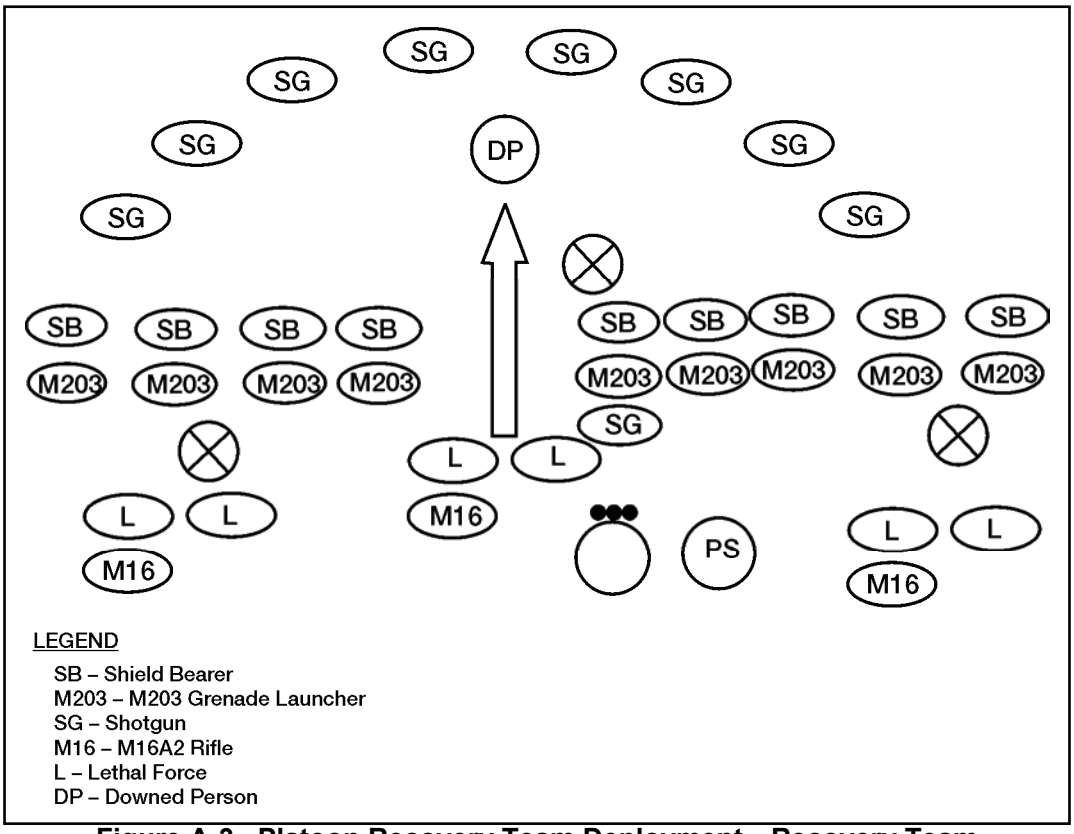



**Figure A-3. Platoon Recovery Team Deployment—Recovery Team**

Note: Recovery team deploys to detain, search, and recover downed person.

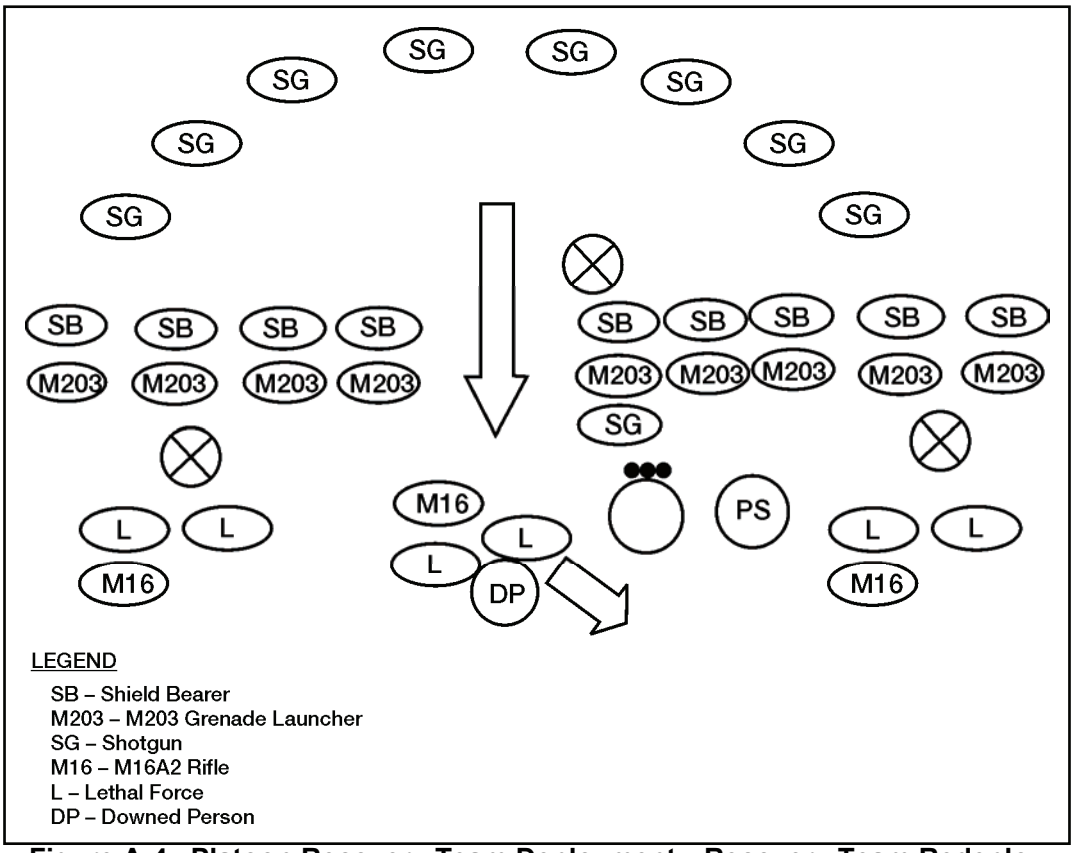



**Figure A-4. Platoon Recovery Team Deployment—Recovery Team Redeploy**

Note: Recovery team redeploys with detained person.

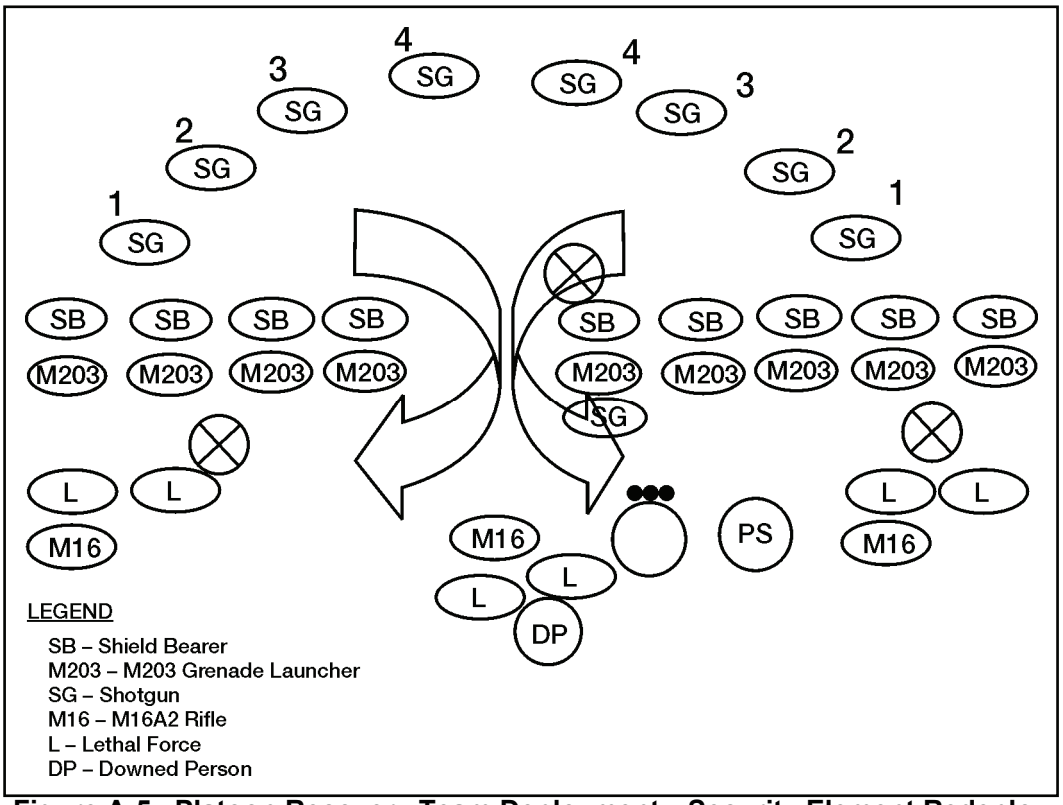



**Figure A-5. Platoon Recovery Team Deployment—Security Element Redeploy**

Note: Security element redeploys back to 3rd rank "by the numbers." Team leader calls "4s in," then "3s in," etc. The last person in calls "last man in" and formation closes the gap.

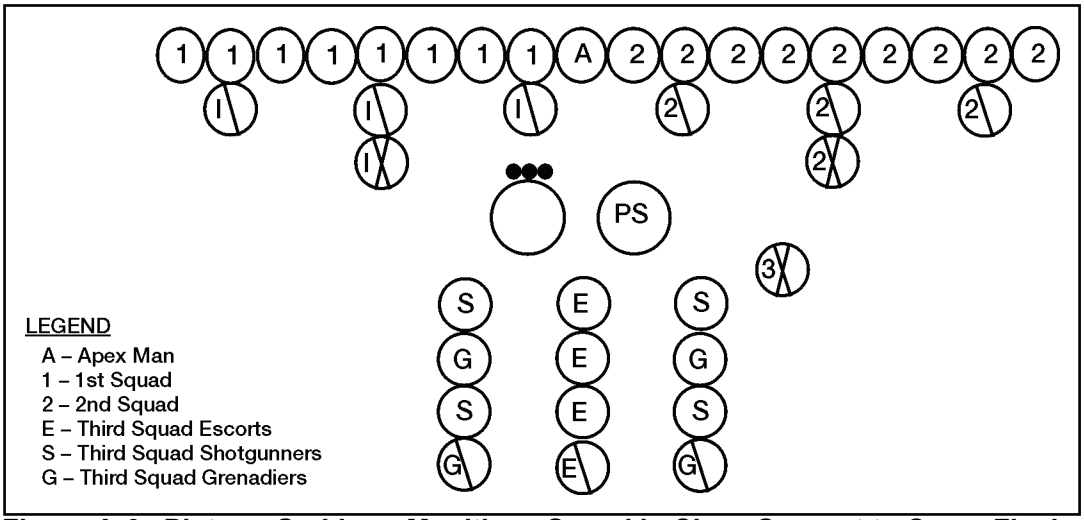



**Figure A-6. Platoon On Line—Munitions Squad in Close Support to Cover Flanks**

Note: Platoon in close support. NLW and lethal weapons are sited to cover the flanks of the formation, as well as support the front line.

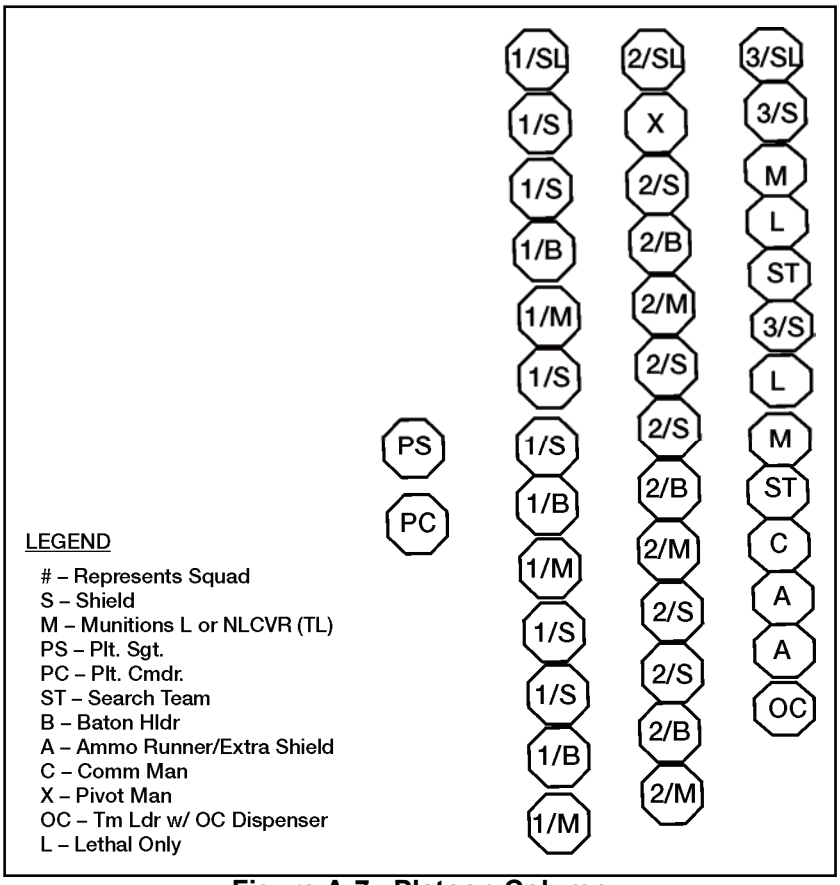



**Figure A-7. Platoon Column**

Note: Platoon in column formation. For administrative movement only.

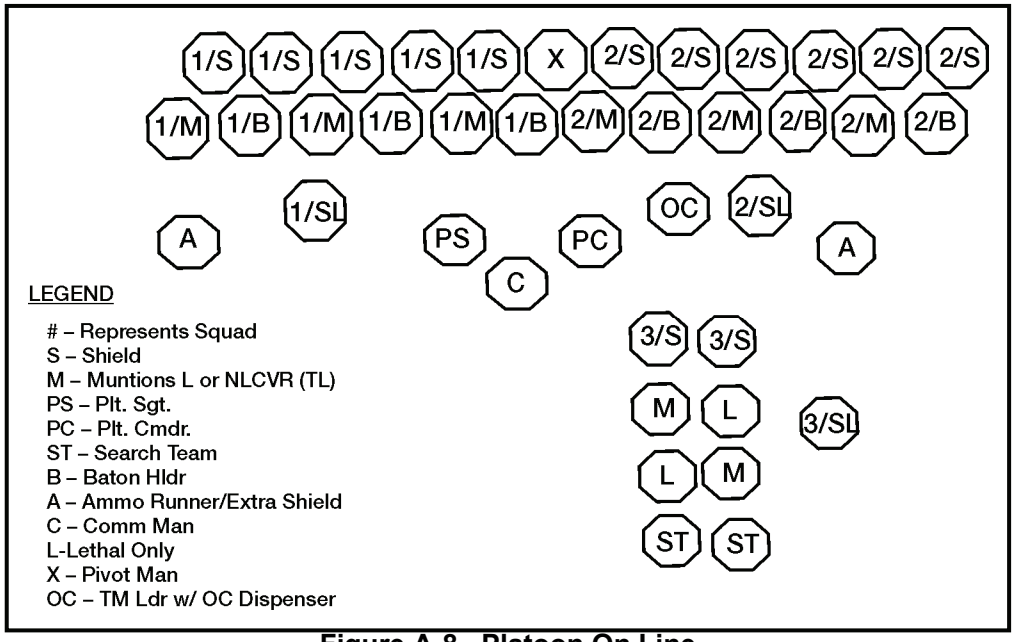



**Figure A-8. Platoon On Line**

Note:*:* Platoon on line—basic formation for the employment of NLW.

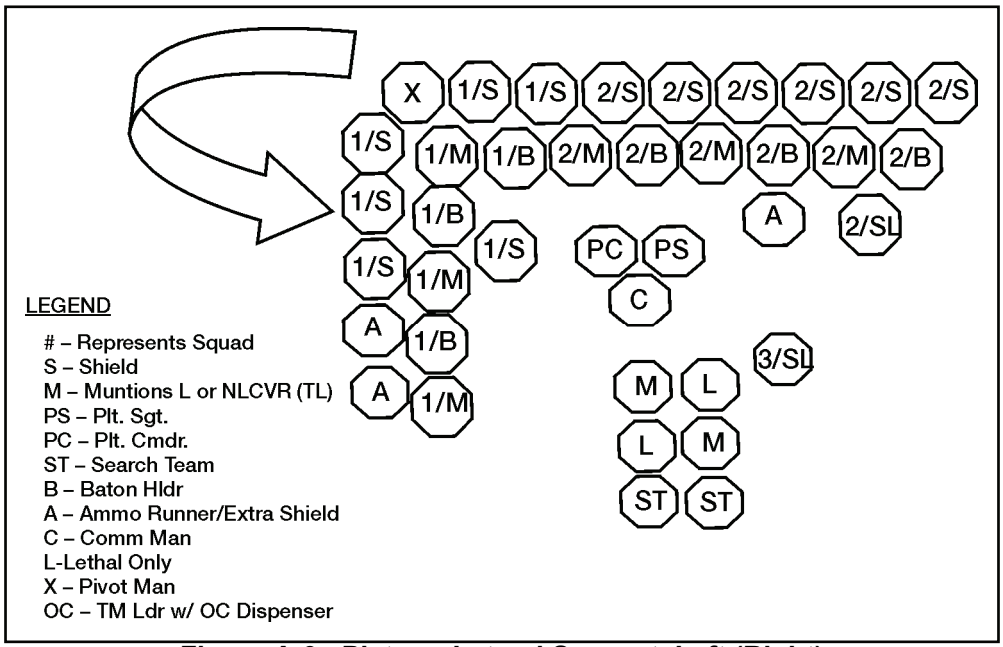



**Figure A-9. Platoon Lateral Support, Left (Right)**

Note: Platoon in lateral support to protect flanks.

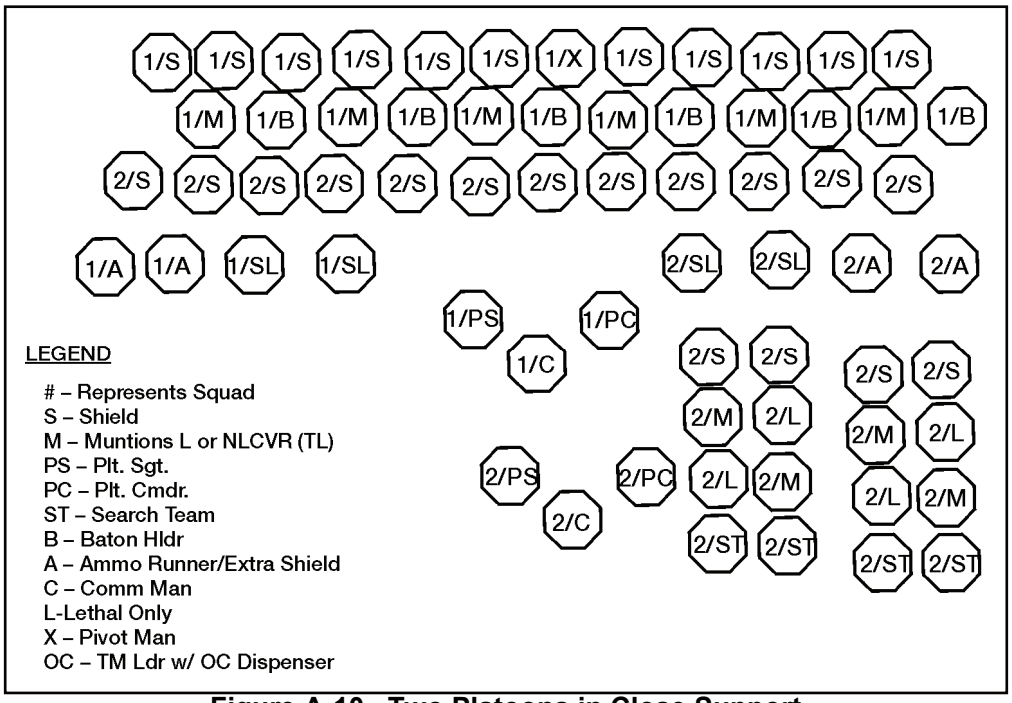



**Figure A-10. Two Platoons in Close Support**

Note: Two platoons in close support—tied in for mutual advantage.

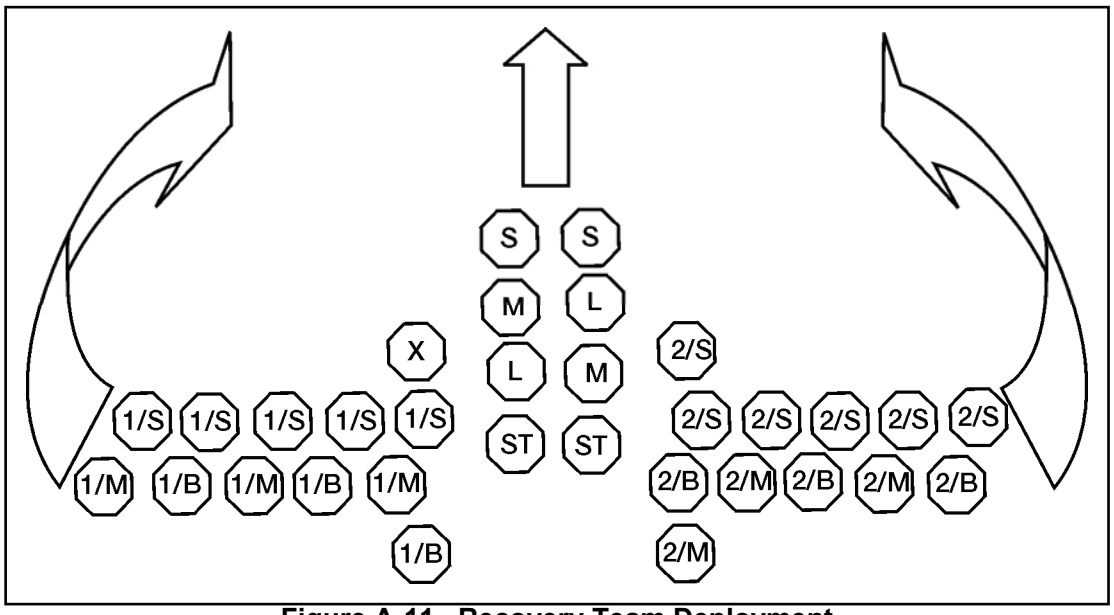



**Figure A-11. Recovery Team Deployment**

Note: Recovery team deploys from formation—remainder of platoon can deploy around the recovery team from either flank.

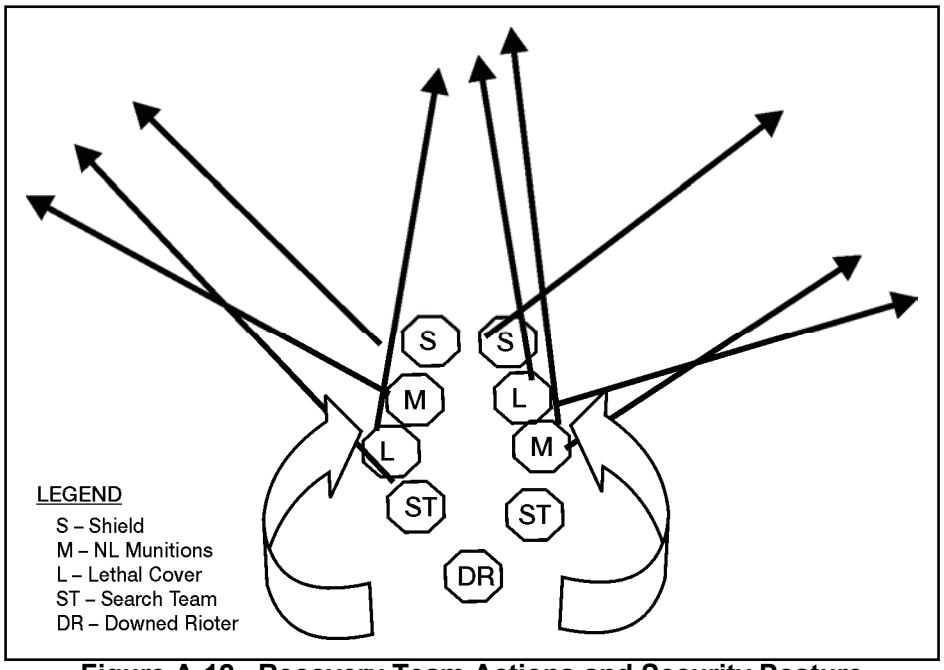



**Figure A-12. Recovery Team Actions and Security Posture**

Note: Recovery team forms security perimeter around downed rioter, conducts search and detain actions. Once actions are complete, recovery team redeploys.

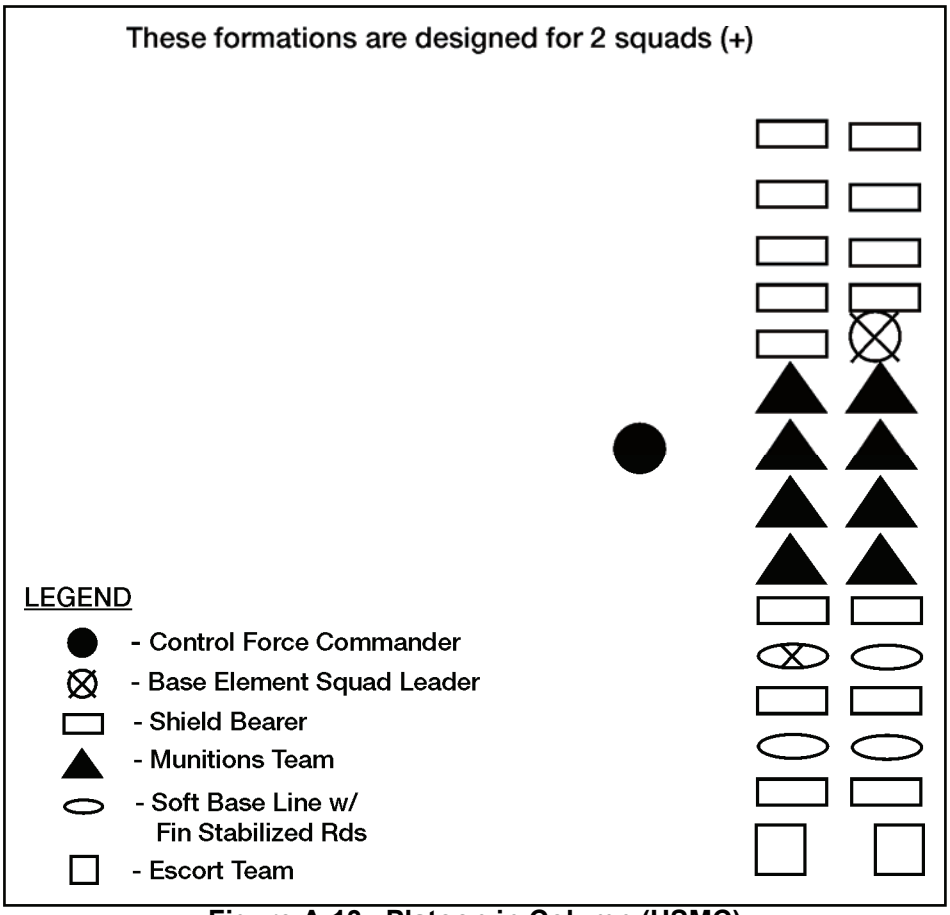



**Figure A-13. Platoon in Column (USMC)**

Note: These formations are designed for 2 squads (+). This allows the platoon to move rapidly when there is no chance of being engaged with the crowd.

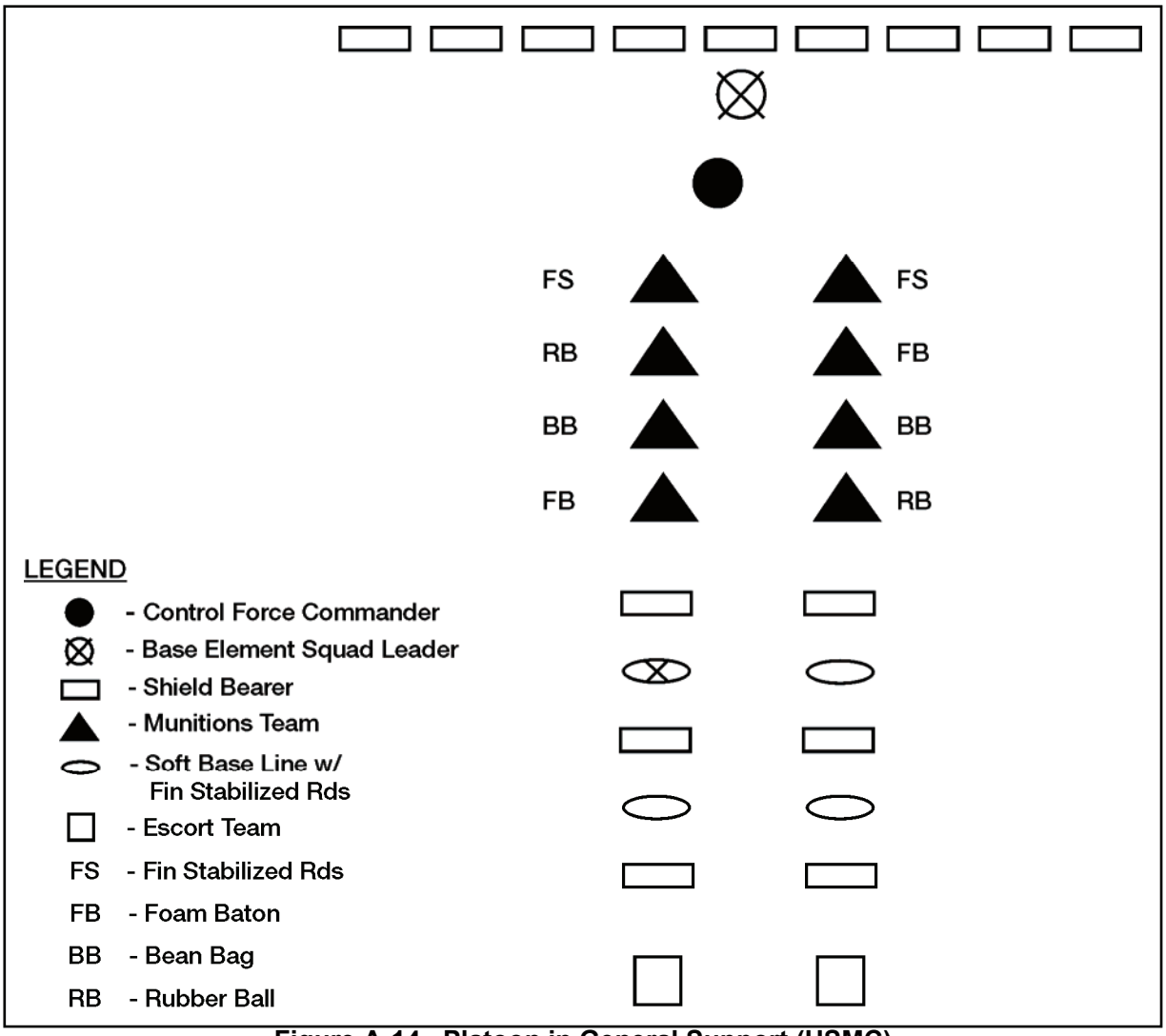



**Figure A-14. Platoon in General Support (USMC)**

Note: The control force commander moves into this formation approximately 60 to 70 meters from the crowd, as the crowd could start to engage the control force with thrown objects.

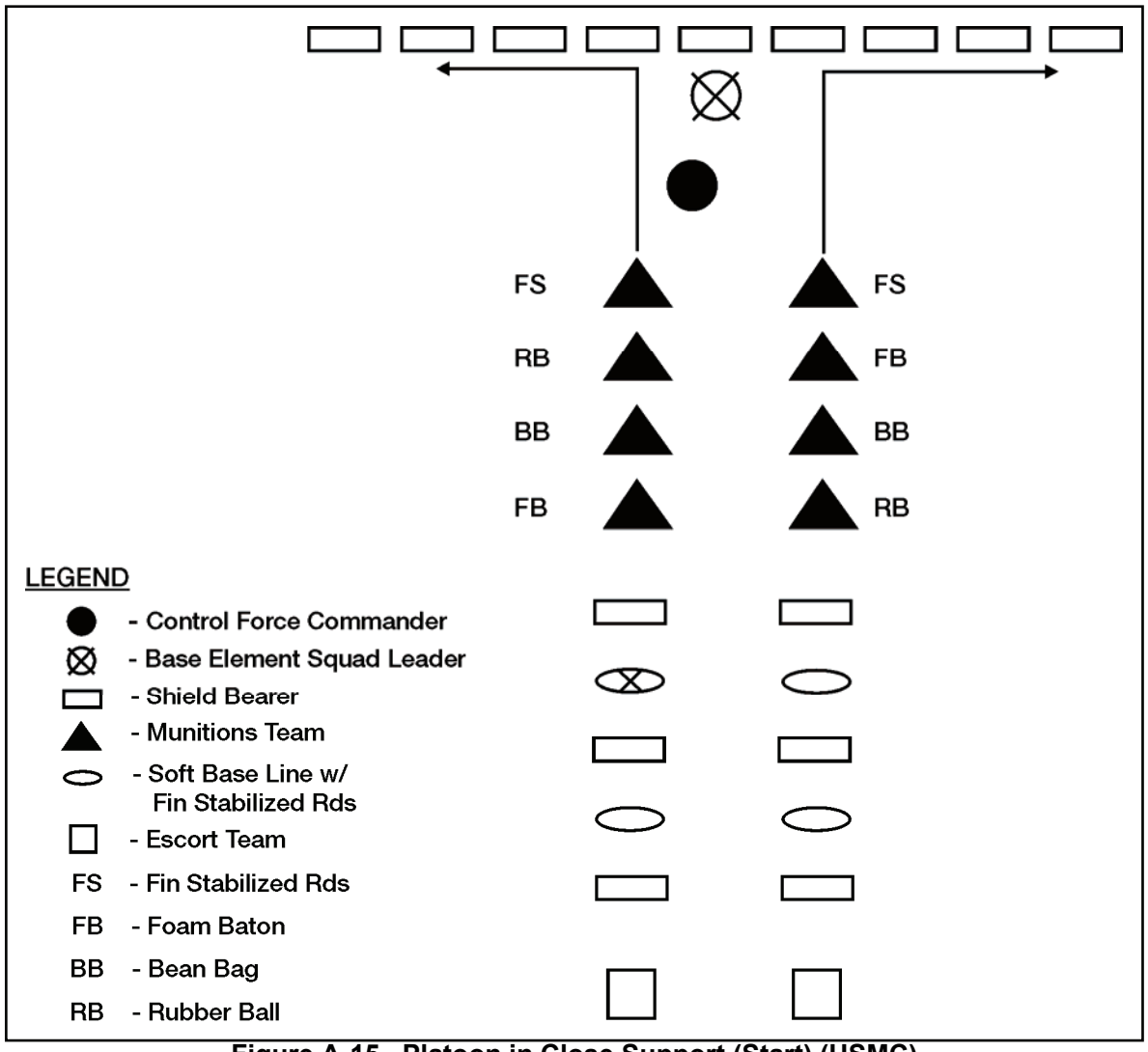



**Figure A-15. Platoon in Close Support (Start) (USMC)**

Note: The control force commander moves into this formation when he feels ready to engage the crowd with nonlethal munitions.

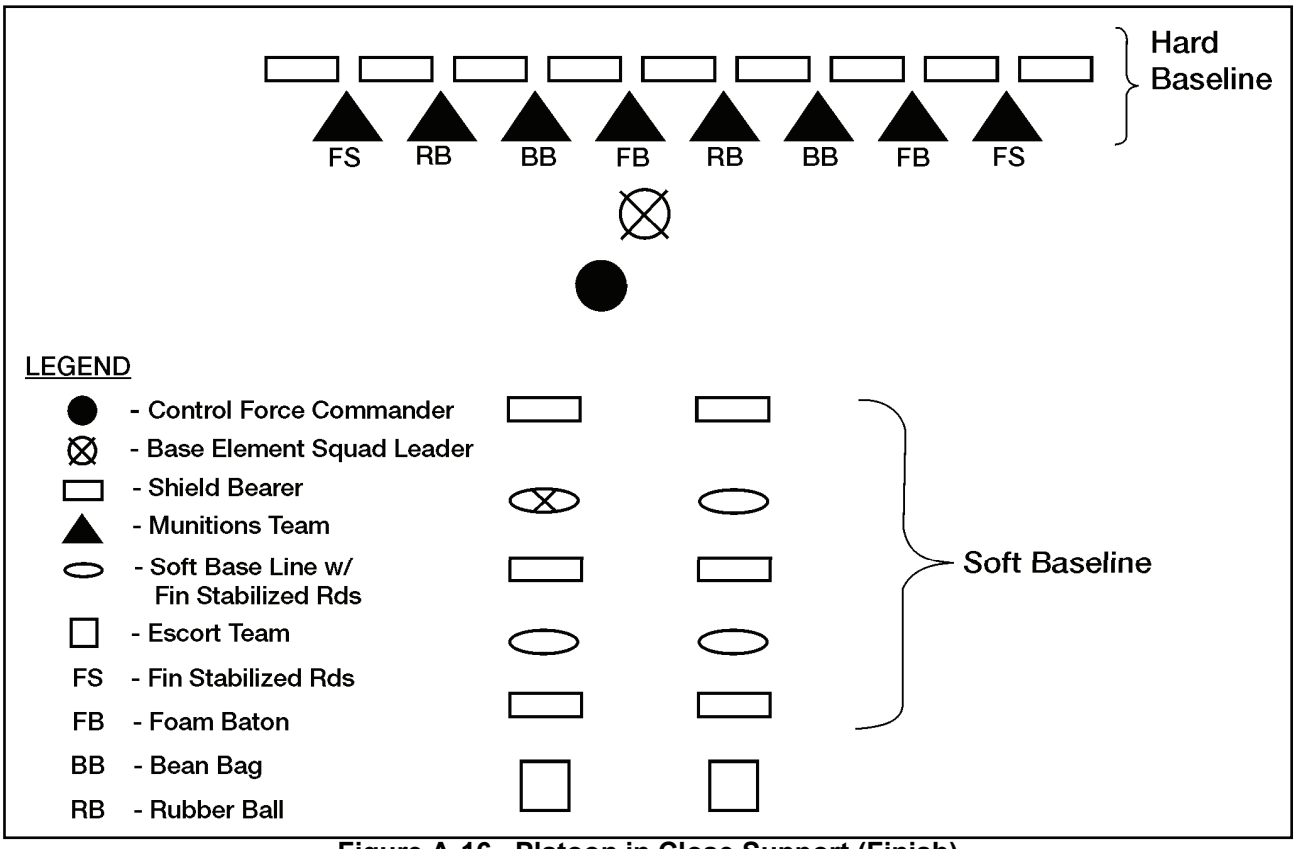



**Figure A-16. Platoon in Close Support (Finish)**

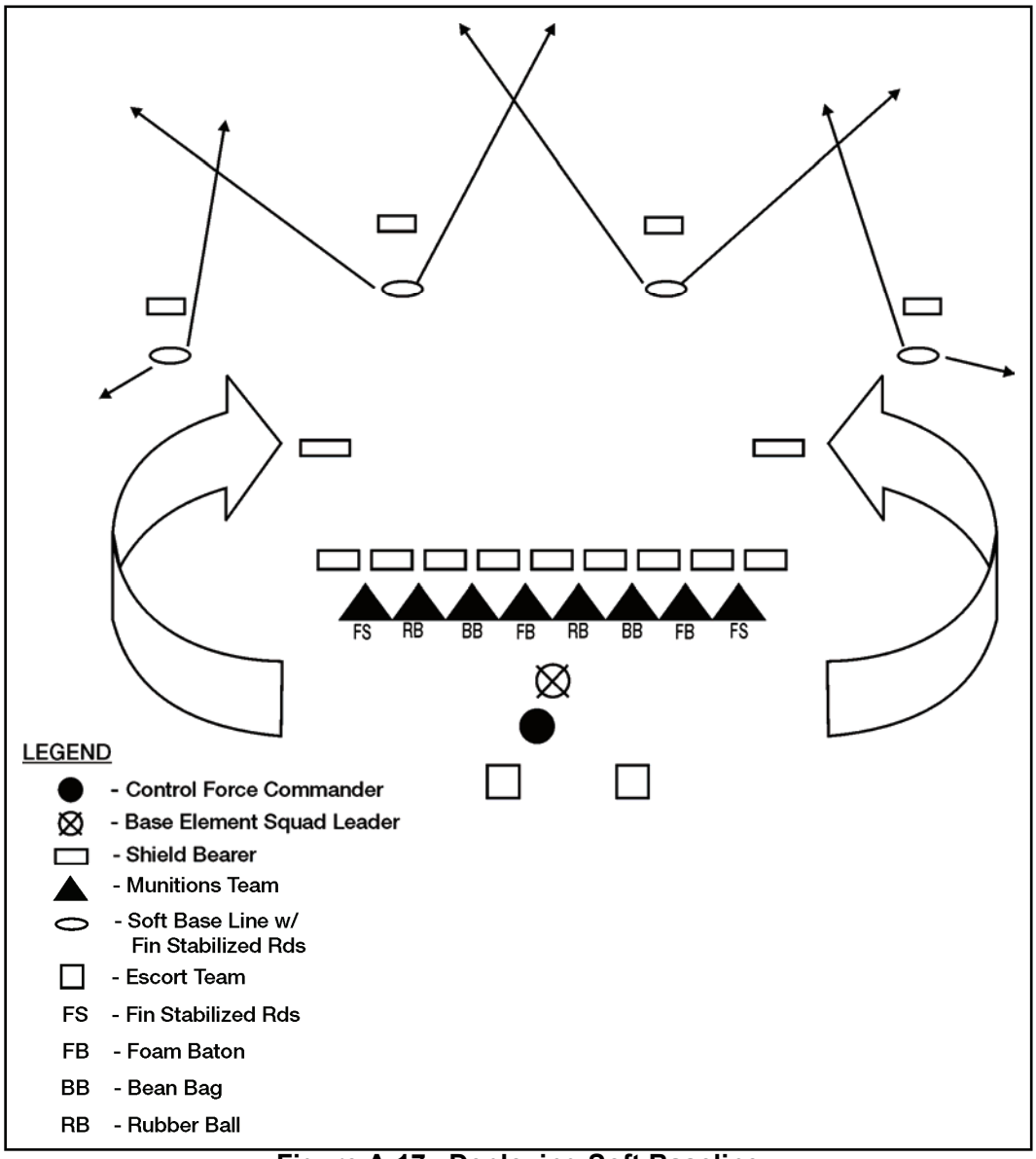



**Figure A-17. Deploying Soft Baseline**

Note: The soft baseline affords the control force commander much flexibility. The primary mission of this formation is to disperse the crowd back using speed and extreme violence of action. By deploying the soft baseline, the commander is able to maneuver the hard baseline where needed (around the barrier plan or obstacles.) The soft baseline is deployed by a predetermined signal (bullhorn siren, whistle blasts, vehicle horn) and will be retrieved using the same signal. This signal conditions the crowd to expect violence of action and causes them to disperse. The soft baseline should never be deployed into a fresh crowd; the crowd needs to be distracted by nonlethal munitions. The formula found to work is distract with stingball grenades, followed by a volley of shotguns and M203 munitions, then send the soft baseline out to disperse or move the crowd back. (Sting them, shoot them, soften them up.)

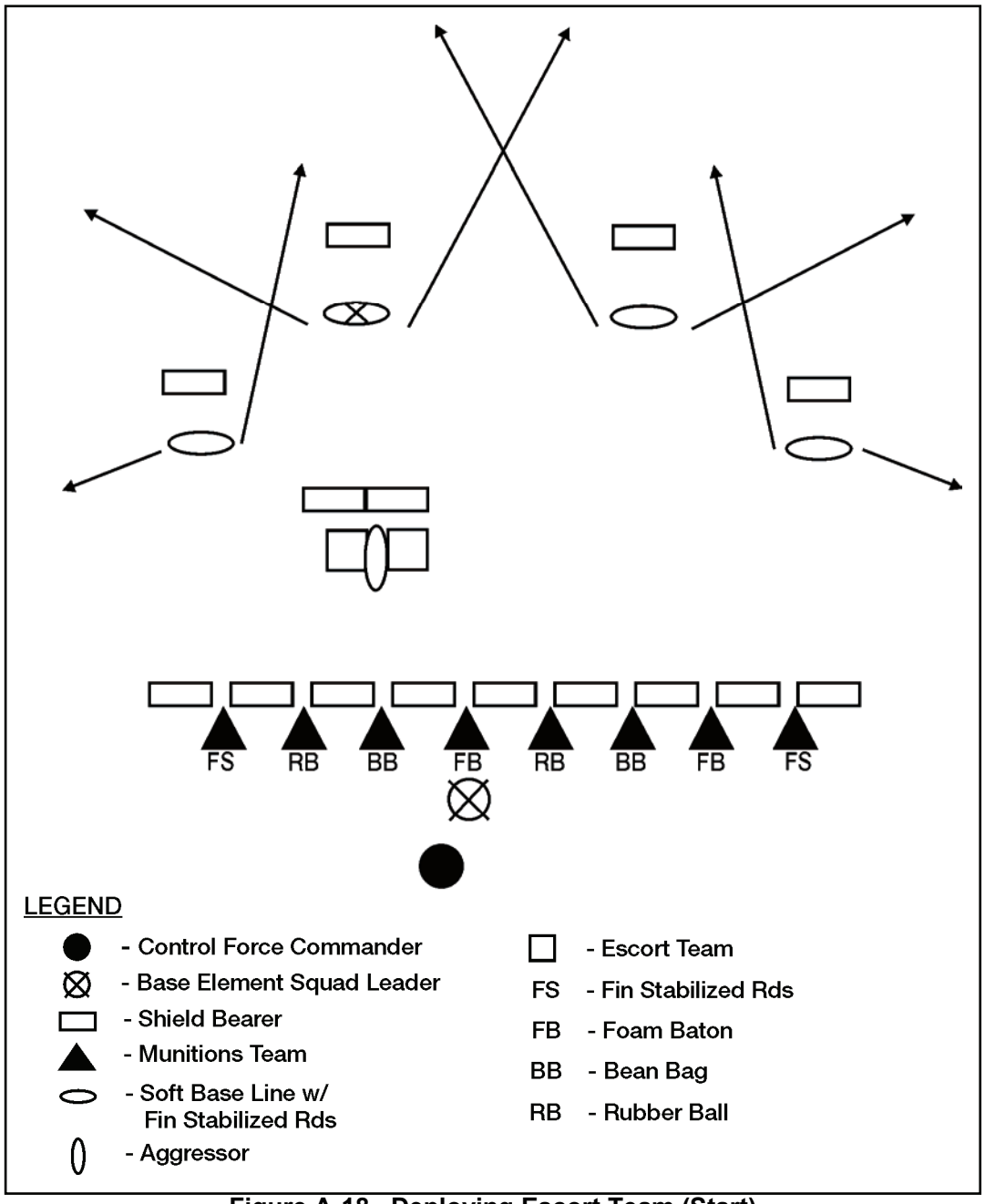



**Figure A-18. Deploying Escort Team (Start)**

Note: When the control force commander identifies the aggressor to retrieve, the command is, “Escort team left/right,” then the signal. The signal is the same to deploy the soft baseline. As the soft baseline deploys, the two shields without gunners provide protection for the escort team. The shields remain with the escort team until the soft baseline is called back in, at which time the shields go back to the soft baseline.

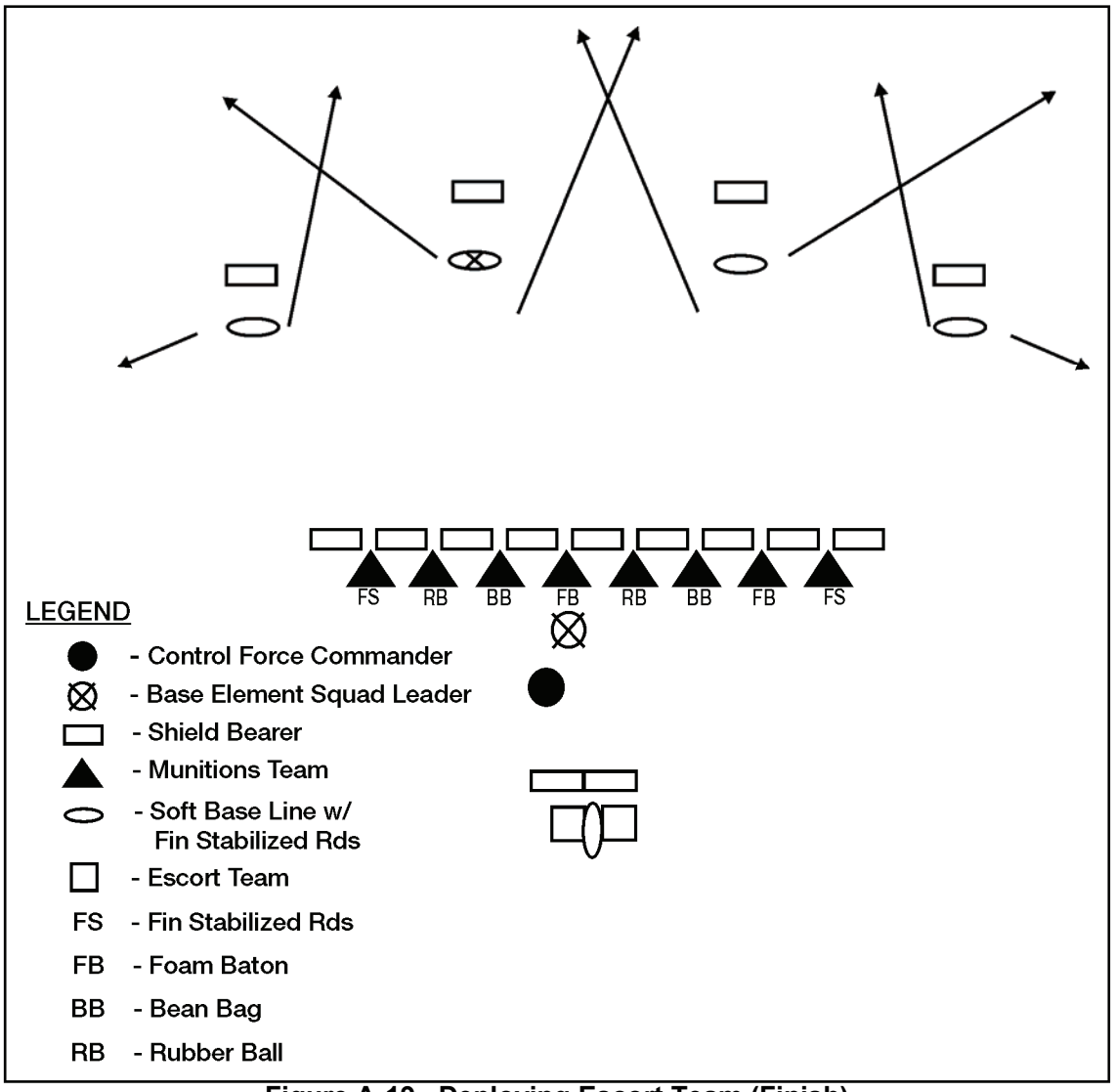



**Figure A-19. Deploying Escort Team (Finish)**

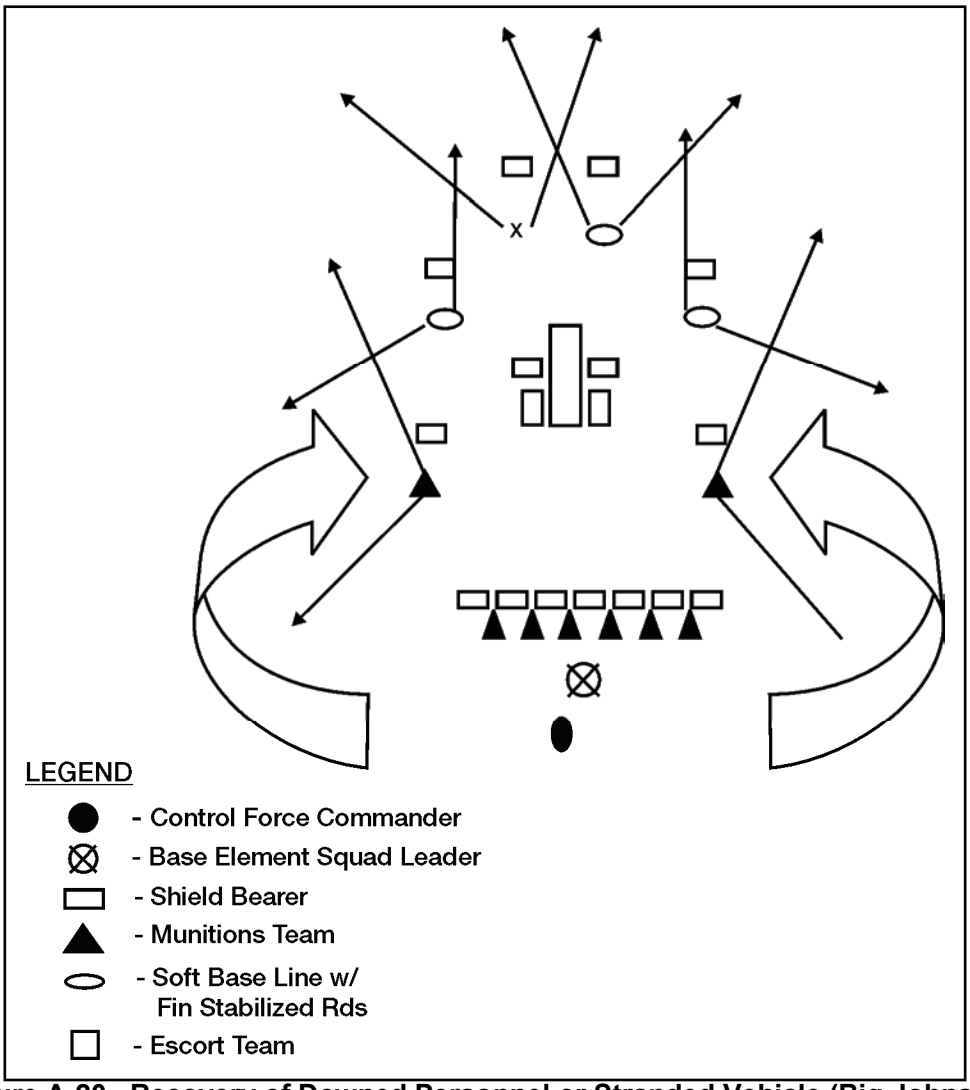


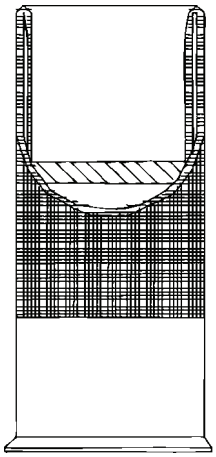

**Figure A-20. Recovery of Downed Personnel or Stranded Vehicle (Big Johnson)**

Note: In the event the crowd attacks personnel or a vehicle, the control force commander can call for a "Big Johnson." In a Big Johnson, the soft baseline deploys as usual except now the shield and shotgunners on the flank of the hard baseline also deploy creating a 190-degree perimeter around the personnel or vehicle. This maneuver must be executed quickly and with extreme violence of action because the crowd already has its hands on individuals in the force. The escort team deploys with the Big Johnson in order to escort or carry injured individuals. The shields without gunners provide protection for the escort team.

# Appendix B
# CHARACTERISTICS OF WEAPONS, ROUNDS, AND CAPABILITIES

## 1. 12-Gauge Shotgun Rounds

### 12-Gauge Launch Cartridge



**Using Services: USN, USMC**
**Status: Fielded 1998**
**DODIC: AA30**
**NSN: 1305-01-464-8389**
**Acquisition Activity: MARCORSYCOM—NSWC Crane, IN**
**Further Information:**
**Commercial: MARCORSYSCOM (703) 784-9395**
**NSWC Crane (812) 854-5801**

**Color..... Clear case**
**Diameter ..... 12-gauge**
**Projectile..... N/A**
**Length..... 2.00 inches (51 mm)**
**Total Weight ..... 13.6 grams**
**Propellant Weight ..... 46.3 grains (black powder)**
**Muzzle Velocity ..... 100 feet/second (30.5 m/sec)—rubber ball grenade**
**Acceptance Accuracy ..... 200 feet (61 m) + 25 feet (7.6 m) at 30-degree launch angle using rubber ball grenade and 12-gauge launch cup**
**Projectile Specification: N/A**

- **Use 12-gauge launch round in combination with rubber ball grenade and 12-gauge launch cup to hurl a grenade a distance of 200 feet (61 m) + 25 feet (7.6 m) when launch angle is approximately 30 degrees.**
- **Chamber launch cartridge only after installing grenade in launch cup and pulling safety pin from grenade.**

**Figure B-1. 12-Gauge Launch Cartridge**

## 12-Gauge Bean Bag Cartridge

**Using Services: USN, USMC**

**DODIC: AA29**

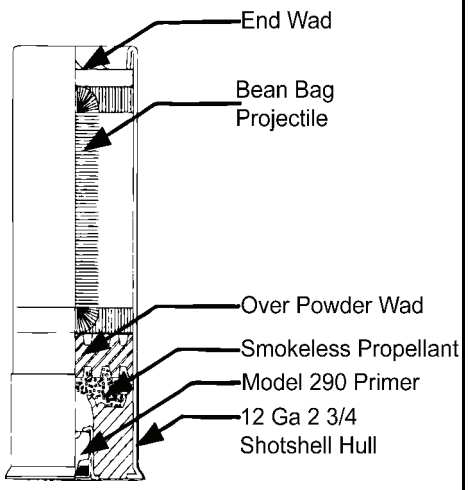
**NSN: 1305-01-454-0191**

**Status: Fielded 1998**

**Acquisition Activity: MARCORSYCOM—NSWC Crane, IN**

**Further Information:**

**Commercial: MARCORSYSCOM**
**(703) 784-9395**
**NSWC Crane (812) 854-5801**




**Color.....Clear or red case**
**Diameter.....12-gauge**
**Projectile.....1 bean bag**
**Length.....2.45 inches (62 mm)**
**Total Weight.....49.9 grams**
**Propellant Weight.....3.4 grains**
**Muzzle Velocity.....300 + 25 feet/second (91.4 + 7.62 m/sec)**
**Acceptance Accuracy.....2 feet (.6 m) X 6 feet (1.8 m) at 100 feet (30.3 m) with Mossberg 500A2 shotgun**

**Shotgun Projectile Specification:**

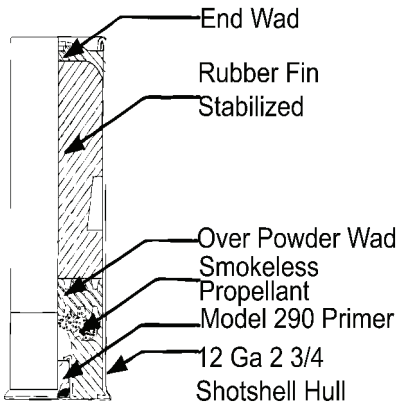
**Shape.....Square bag or tube sock**
**Material.....Nylon or cotton-polyester**
**Filler.....#9 lead shot**
**Filler weight.....44.4 grams (maximum)**

- **Fatal injuries are possible at employment distances of less than 20 feet (6 m).**
- **At distances of 20 feet (6 m) to 40 feet (12 m), target area should be center mass.**
- **Training needs to reinforce that head shots are NOT ACCEPTABLE.**
- **Do not skip fire this round! Round becomes unpredictable upon striking the ground.**
- **Round is most effective against individually selected targets (point round)**
- **End wad has low light marker.**

**Figure B-2. 12-Gauge Bean Bag Cartridge**

## 12-Gauge Rubber Fin Stabilized Cartridge

**Using Services: USN, USMC, USCG**
**Status: Fielded 1998**
**DODIC: AA31**
**NSN: 1305-01-454-0189**
**Acquisition Activity: MARCORSYCOM—NSWC Crane, IN**
**Further Information:**
**Commercial: MARCORSYSCOM (703) 784-9395**
**NSWC Crane (812) 854-5801**




**Color..... Clear or red case**
**Diameter ..... 12-gauge**
**Projectile..... 1 rubber projectile**
**Length..... 2.45 inches (62 mm)**
**Total Weight ..... 9.1 grams**
**Propellant Weight ..... 4.8 grains**
**Muzzle Velocity ..... 530 + 65 feet/second (161.5 + 19.8 m/sec)**
**Acceptance Accuracy ..... 2 feet (.6 m) X 6 feet (1.8 m) at 100 feet (30.3 m) with Mossberg 500 A2 shotgun**
**Projectile Specification:..... Caliber 12 gauge**
**Material ..... Rubber**
**Hardness ..... Durometer 70-80 Shore "A" scale**
**Weight..... 7.8 grams**
**Temperature Limits (demonstrated):**
**Upper limit…125º F**
**Lower limit…0º F**

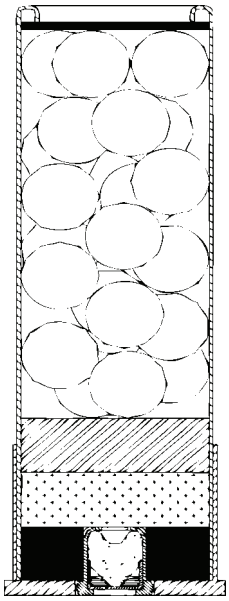
**Shipping Data: Hazard classification/division and storage compatibility group…1.4S**
**DOT Class..... ORM-D**
**DOT Markings Cartridge ..... Small Arms**
**UNO serial number ..... 0012**

- **Fatal injuries are possible at employment distances of less than 20 feet (6 m); USCG: 15 yards.**
- **At distances of 20 feet (6 m) to 40 feet (12 m), target area should be center mass; USCG: 15 to 30 yards.**
- **Training needs to reinforce that head shots are NOT ACCEPTABLE.**
- **Do not skip fire this round! Round becomes unpredictable upon striking the ground.**
- **Round is most effective against individually selected targets (point round)**
- **End wad has low light marking.**

**Figure B-3. 12-Gauge Rubber Fin Stabilized Cartridge**

## Cartridge, 12-Gauge Sting Ball™ High Velocity

**Using Services: USCG**
**Status: Fielded**
**DODIC: N/A Model No. 2553**
**NSN: Commercial Procurement**
**Acquisitions Activity: Commandant (G-OCU)**
**Further Information: Commandant (G-OCU) (202) 267-1522**



| | |
|---|---|
| **Model Number** | **31-caliber sting-ball** |
| **Type** | **Multiple projectile rubber pellets** |
| **Range** | **10 yards (9 m)** |
| **Projectiles** | **18 (average)** |
| **Cartridge Material** | **Plastic** |
| **Projectile Weight** | **35 grams each** |
| **Projectile Material** | **31-caliber rubber pellets** |
| **Overall Height** | **2.4 to 2.5 inches (61 – 63 mm)** |
| **Overall Weight** | **18 grams** |
| **Compatibility** | **12-gauge shotguns** |
| **Velocity** | **900 feet/second** |

**Figure B-4. 12-Gauge Sting Ball™ High Velocity**

## M1012, 12-Gauge Shotgun: Nonlethal, Point Control Cartridge

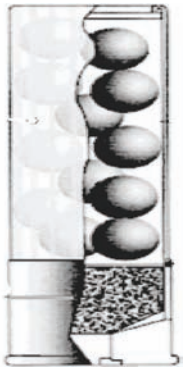

**Using Services: USA, USAF**
**Status: Type Classified, June 2000**
**DODAC: AA51**
**NSN: 1305-01-470-2405**
**Acquisition Activity: Acquisition Center, Picatinny Arsenal, NJ**
**Further Information:**
**Commercial: Picatinny Arsenal NL Systems Integrator: (973) 724-6948**
**Product Director: (973) 724-6086**

**Color:**
**Cartridge Case: ..... Clear case**
**Diameter ..... 12-gauge**
**Length ..... 2.45 inches (62.2 mm)**
**Total Weight ..... 500 grains**
**Propellant Weight ..... 6.6 grains smokeless (Red Dot)**
**Muzzle Velocity ..... 500 feet/second (152.4 m/sec)**
**Acceptance Accuracy ..... 80 % accuracy at 10 and 20 meters (E-silhouette) fired out of Mossberg 500, Mossberg 590, and Winchester 1200**
**Engagement range ..... 10 to 20 meters**
**Projectile Specification:**
**Shape ..... Fin stabilized 'bomblet' shape**
**Material ..... Rubber**
**Weight ..... 0.2 ounces ( 5.8 gm)**
**Hardness ..... 75 Durometer "A" Scale**

- **Fatal injuries are possible at employment distances of less than 33 feet (10 m).**
- **At distances of 10 to 20 meters, target area should be center mass.**
- **Training needs to reinforce that head shots are NOT ACCEPTABLE.**
- **Round is most effective against individually selected targets (point round).**

**Figure B-5. 12-Gauge Shotgun: Nonlethal, Point Control Cartridge**

## M1013, 12-Gauge Shotgun: Nonlethal, Crowd Dispersal Cartridge



**Using Services: USA, USAF**
**Status: Type Classified June 2000**
**DODAC: AA52**
**NSN: 1305-01-470-2139**
**Acquisition Activity: Acquisition Center, Picatinny Arsenal, NJ**
**Further Information:**
**Commercial: Picatinny Arsenal NL Systems Integrator: (973) 724-6948**
**Product Director :(973) 724-6086**

| | |
|---|---|
| **Color:** | |
| **Projectile** | **Black rubber** |
| **Cartridge Case** | **Clear** |
| **Diameter** | **12-gauge** |
| **Projectile** | **18 rubber balls** |
| **Length** | **2.37 inches (60.2 mm)** |
| **Total Weight** | **500 grains (32.4 gm)** |
| **Propellant Weight** | **14 grains smokeless (Red Dot)** |
| **Muzzle Velocity** | **900 feet/second (274 m/sec)** |
| **Acceptance Accuracy** | **80 % accuracy for a 2-by-3-meter target at 10 and 20 meters fired out of Mossberg 500, Mossberg 590, and Winchester 1200** |
| **Engagement range** | **10 to 20 meters** |
| **Projectile Specification:** | |
| **Shape** | **32-gauge (0.32 in) ball** |
| **Material** | **PVC rubber compound** |
| **Weight** | **0.01 ounces (0.25 gm)** |
| **Hardness** | **75 Durometer "A" Scale** |

- **Fatal injuries are possible at employment distances of less than 32.8 feet (10 m).**
- **At distances of 10 to 20 meters, target area should be center mass.**
- **Training needs to reinforce that head shots are NOT ACCEPTABLE.**

**Figure B-6. 12-Gauge Shotgun: Nonlethal, Crowd Dispersal Cartridge**

## 2. 40mm

### 40mm Foam Rubber Baton Cartridge

**Using Services: USN, USMC**

**Status: Fielded 1998**

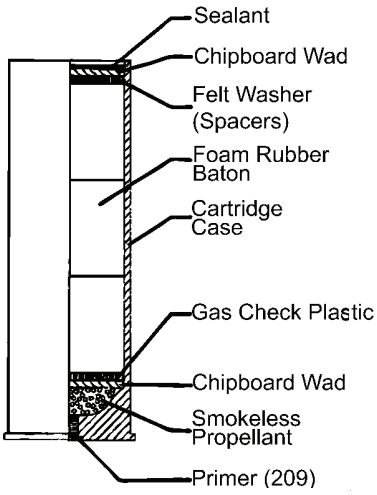
**DODIC: BA07**

**NSN: 1310-01-453-9168**

**Acquisition Activity: MARCORSYSCOM—NSWC Crane, IN**

**Further Information:**

**Commercial: MARCORSYSCOM (703) 784-9395**
**NSWC Crane (812) 854-5801**




**Color..... Aluminum (case)**
**Diameter ..... 40 millimeter**
**Projectile..... 3 foam batons**
**Length..... 4.78 inches (121.4 mm)**
**Total Weight ..... 201 grams**
**Propellant Weight ..... 13.0 grains**
**Muzzle Velocity ..... 325 + 35 feet/second (99 + 10.6 m/sec)**
**Acceptance Accuracy ..... 6 feet (1.8 m) X 3 feet (.9 m) at 50 feet (15.2 m) with M203**

**Projectile Specifications:**

**Number ..... 3**
**Material ..... Foam rubber**
**Hardness..... Durometer 25 + 10 on Shore "A" scale**
**Weight..... 250 to 280 grains**

- **Fatal injuries are possible at employment distances of less than 20 feet (6 m).**
- **At distances of 20 feet (6 m) to 40 feet (12 m), target area should be center mass.**
- **Training needs to reinforce that head shots are NOT ACCEPTABLE.**
- **Round is most effective against point targets (individual personnel).**
- **End wad has low light marker.**

**Figure B-7. 40mm Foam Rubber Baton Cartridge**

## 40mm Rubber Ball Cartridge

**Using Services: USN, USMC**

**Status: Fielded 1998**

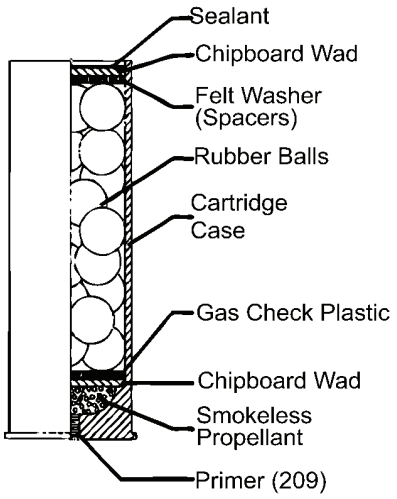
**DODIC: BA08**

**NSN: 1310-01-453-9154**

**Acquisition Activity: MARCORSYSCOM—NSWC Crane, IN**

**Further Information:**

**Commercial: MARCORSYSCOM (703) 784-9395**




**Color .....Aluminum (case)**
**Diameter .....40 millimeter**
**Projectile .....24 rubber balls**
**Length .....4.78 inches (121.4 mm)**
**Total Weight.....201 grams**
**Propellant Weight.....7.3 grains**
**Muzzle Velocity.....325 + 35 feet/second (99 + 10.6 m/sec)**
**Acceptance Accuracy.....6 feet (1.8 m) x 9 feet (2.7 m) at 50 feet (15.2 m) with M203NSWC Crane (812) 854-5801**

**Projectile Specifications:**

**Caliber .....60**
**Number.....22 (minimum)**
**Material.....Rubber**
**Hardness .....Durometer 60 + 10 on Shore "A" scale**
**Weight .....2.2 grams each**

- **Fatal injuries are possible at employment distances of less than 20 feet (6 m).**
- **At distances of 20 feet (6 m) to 40 feet (12 m), target area should be center mass.**
- **Training needs to reinforce that head shots are NOT ACCEPTABLE.**
- **Round is most effective against area targets (multiple personnel).**
- **End wad has low light marker.**

**Figure B-8. 40mm Rubber Ball Cartridge**

## M1006, 40mm Nonlethal Cartridge (Sponge Grenade)

**Using Services: USA, USAF**
**Status: Materiel Released April 2000**
**DODIC: BA06**
**NSN: 1310-01-452-1190**
**Acquisition Activity: Acquisition Center, Picatinny Arsenal, NJ**
**Further Information:**
**Commercial: Picatinny Arsenal NL Systems Integrator: (973) 724-6948**
**Product Director: (973) 724-6283**

**Color:**
**Projectile ..... Black, olive green (foam rubber)**
**Cartridge Case ..... Opaque**
**Diameter ..... 40 millimeter**
**Length ..... 5.272 inches (13.4 cm) (maximum)**
**Total Weight ..... 68 grams (0.15 lbs)**
**Propellant Weight ..... 2 grains**
**Muzzle Velocity ..... 265 + 20 feet/second (81 + 6 m/sec)**
**Acceptance Accuracy ..... >85 % accuracy at 30 meters (E-silhouette) and >60 % accuracy at 50 meters (E-silhouette) when fired from an M16A2/M203 or a M4/M203**
**Engagement Range ..... 10 meters to 50 meters**
**Projectile Specification:**
**Shape ..... 40mm bullet shaped foam rubber**
**Material ..... Foam rubber**
**Weight ..... 28.5 grams (.06 lbs)**

- **Fatal injuries are possible at employment distances of less than 32.8 feet (10 m).**
- **At distances of 10 meters to 50 meters, target area should be center mass.**
- **Training needs to reinforce that head shots are NOT ACCEPTABLE.**
- **Do not skip fire this round! Round becomes unpredictable upon striking the ground.**
- **Round is most effective against individually selected targets (point round).**

**Figure B-9. 40mm Nonlethal Cartridge (Sponge Grenade)**

## M1029, 40mm Nonlethal Crowd Dispersal Grenade

**Using Services: USA, USAF**
**Status: Type Classified May 2001**
**DODIC: BA13**
**NSN: 1310-01-475-0628**
**Acquisition Activity: Acquisition Center, Picatinny Arsenal, NJ**
**Further Information:**
**Commercial: Picatinny Arsenal NL Systems Integrator:**
**(973) 724-6948**
**Product Director: (973) 724-6283**

**Color:**
**Projectile .....Black rubber**
**Cartridge Case.....Aluminum**
**Diameter.....40 millimeter**
**Projectile .....48 rubber balls**
**Length .....4.8 inches (12.2 cm)**
**Total Weight.....202.22 grams (7.0 oz)**
**Propellant Weight.....8.5 grains smokeless**
**Muzzle Velocity.....450 feet/second**
**Acceptance Accuracy.....> 90 % hit accuracy 4 out of 5 (shoulder to shoulder) E-silhouettes target at 30 meters and when fired from an M16A2/M203 or a M4/M203**
**Projectile Specification:**
**Shape .....48-gauge ball (.48 in diameter)**
**Material.....Rubber**
**Weight .....1.3 grams (.046 oz)**
**Hardness.....Durometer 60, scale "A"**

- **Fatal injuries are possible at employment distances of less than 32.8 feet (10 m).**
- **At distances of 10 to 30 meters, target area should be center mass of group of individuals.**
- **Round is most effective when used to disperse groups of individuals.**

**This direct fire, low-hazard, non-shrapnel-producing, multiple ball projectile provides friendly forces the capability to conduct crowd control. The CDC uses NL, blunt trauma to stop, confuse, disorient, and/or temporarily incapacitate personnel and increase standoff distance between friendly forces and the hostile crowd. Primarily designed as an area effect munition, the CDC can be used on individuals. The M203 40mm grenade launcher fires the CDC and contains 48, .48 caliber rubber balls. Effective range is 10 to 30 meters.**

**Figure B-10. 40mm Nonlethal Crowd Dispersal Grenade**

## 3. 66mm

### L96A1*, Grenade, Discharger: Antiriot, Irritant, CS

**Using Services: USA, USMC**

**Status: Materiel Release, 4 January 2002**

**DODIC: FZ14**

**NSN: 1330-01-459-4018**

**Acquisition Activity: Acquisition Center, Picatinny Arsenal, NJ**

**Further Information:**

**Commercial: Picatinny Arsenal NL Systems Integrator: (973) 724-6948**
**Project Officer: (410) 436-2139**

**Color..... Light gray with red and brown bands**
**Diameter ..... 66 millimeters**
**Projectile..... 23 canisters filled with CS compound**
**Length..... 185 millimeters (7.28 in)**
**Total Weight ..... 568 grams (1.25 lbs)**
**Propellant Weight ..... 3.8 grams (.008 lbs)**
**Muzzle Velocity ..... 35.8 meters/second (117.5 ft/s)**
**Acceptance Accuracy ..... 65 to 95 meters**
**Deployment Range ..... 65 to 95 meters**
**Projectile Specification:**

**NOTE: It is not accurate to refer to the submunitions of the L96A1 grenade as projectiles. The antiriot material (CS) is released from the submunitions as they burn on the ground.**

**Shape ..... Cylindrical**
**Material ..... Aluminum**
**Weight..... 11.3 grams (.025 lbs)**

*** The L97A1 Grenade is the training grenade for the L96A1 Grenade.**

**Figure B-11. Grenade, Discharger: Antiriot, Irritant, CS**

## L97A1, Grenade, Discharger: Antiriot, Practice

**Using Services: USA, USMC**

**Status: Material Released, 4 January 02**

**DODIC: FZ15**

**NSN: 1330-01-459-4032**

**Acquisition Activity: Acquisition Center, Picatinny Arsenal, NJ**

**Further Information:**

**Commercial: Picatinny Arsenal NL**
**Systems Integrator:**
**(973) 724-6948**
**Project Officer:**
**(410) 436-2139)**


**Color.....Blue with brown and green bands**
**Diameter.....66 millimeters**
**Projectile.....23 canisters filled with Cinnamic Acid (CA)**
**Length.....185 millimeters (7.28 in)**
**Total Weight.....568 grams (1.25 lbs)**
**Propellant Weight.....3.8 grams (.008 lbs)**
**Muzzle Velocity.....35.8 meters/second (117.5 ft/s)**
**Acceptance Accuracy.....65 to 95 meters**
**Deployment Range.....65 to 95 meters**
**Projectile Specification:**

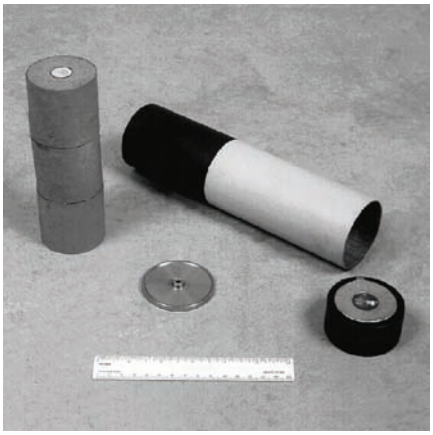
**NOTE: It is not accurate to refer to the submunitions of the L97A1 grenade as projectiles. The antiriot, practice material (CA) is released from the submunitions as they burn on the ground.**

**Shape.....Cylindrical**
**Material.....Aluminum**
**Weight.....11.3 gram (.025 lbs)**

- **CA smoke can cause irritation to the eyes, mucous membranes, and skin. Personnel entering a CA cloud must wear appropriate face protection such as an M17- or M40-series protective mask.**
- **The burning grenade canisters could start a fire in dry grasses. Keep fire extinguisher available.**
- **During firing training, personnel within 16 meters must wear single hearing protection. This includes personnel within vehicle.**
- **Do not fire grenades when personnel or equipment are within 150 meters covering a 90-degree arc around a firing discharger.**
- **Do not fire grenades at the 50- or 75-meter position on the M315 adjustable aiming bracket. Fire only at the 100-meter setting.**

**Figure B-12. Grenade, Discharger: Antiriot, Practice**

## Grenade, Launcher: Nonlethal, Distraction, M98



**Using Services: USA, USMC**
**Status: Type Classified, 17 October 2001**
**DODIC: FZ16**
**NSN: 1330-01-484-7773**
**Acquisition Activity: Acquisition Center, Picatinny Arsenal, NJ**
**Further Information: Commercial: Picatinny Arsenal NL Systems Integrator: (973) 724-6948 Project Officer: (410) 436-2139**

**Color..... Green and black with brown band**
**Diameter ..... 66 millimeters**
**Projectile..... 3 bursting submunitions, with pyrotechnic charges for audio and visual stimuli**
**Length..... 25.25 centimeters (9.94 in)**
**Total Weight ..... 725.7 grams (1.6 lbs)**
**Propellant Weight ..... 5.0 grams (.011 lbs)**
**Muzzle Velocity ..... 48.9 meters/seconds (160.4 ft/s)**
**Acceptance Accuracy ..... 100 to 120 meters**
**Deployment Radius ..... 10 to 15 meters**
**Projectile Specification:**

**NOTE: It is not accurate to refer to the submunitons of the M98 grenade as projectiles. These submunitions are ground bursting and the payload of inert ballast is just for flight stabilization and to deliver the audio/visual stimuli to the required range.**

**Filler ..... Inert Ballast**

- **There is a remote chance of starting a fire. Keep fire extinguisher available.**
- **Personnel within 17 meters of a firing discharger must wear single hearing protection. This includes personnel within vehicle.**
- **Avoid looking directly at a bursting grenade; it could result in temporary loss of vision, lasting 2 to 5 minutes.**
- **Personnel within 35 meters of an operating launcher or 0.5 meters of a bursting canister should wear safety or ballistic-type eye protection, military clothing with long sleeves and elevated shirt collar, and helmet headgear.**
- **Do not handle or load M98s within 50 meters of a frequency transmitter emitting at 175 MHz, 448 MHz, 503 MHz and 1430 MHz.**
- **Do not fire grenades when personnel or equipment are within 160 meters covering a 90-degree arc around a firing discharger.**

**Figure B-13. Grenade, Launcher: Nonlethal, Distraction, M98**

## Grenade, Launcher: Nonlethal, Blunt Trauma, M99

**Using Services: USA, USMC**

**Status: Type Classified—17 October 2001**

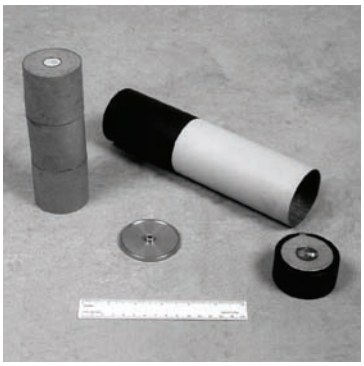
**DODIC: FZ17**

**NSN: 1330-01-484-7775**

**Acquisition Activity: Acquisition Center, Picatinny Arsenal, NJ**

**Further Information:**

**Commercial: Picatinny Arsenal NL Systems Integrator: (973) 724-6948**
**Project Officer: (410-436-2139)**



**Color .....Green and black with brown band**
**Diameter .....66 millimeters**
**Projectile .....3 bursting submunitions, each with 140 balls**
**Length .....25.25 centimeters (9.94 in)**
**Total Weight.....725.7 grams (1.6 lbs)**
**Propellant Weight.....5.0 grams (.011 lbs)**
**Muzzle Velocity.....48.9 meters/second (160.4 ft/s)**
**Acceptance Accuracy.....100 to 120 meters**
**Deployment Radius.....5 to 10 meters**
**Projectile Specification:**

**NOTE: It is not accurate to refer to the submunitions of the M99 grenade as projectiles. These submunitions are ground bursting and the payload of inert ballast is just for flight stabilization and to deliver the audio/visual stimuli to the required range.**

**Shape.....32-caliber (5/16 in) ball**
**Material.....PVC**
**Weight.....0.40 grams (.014 oz)**
**Hardness .....90 Durometer**

- **There is a remote chance of starting a fire. Keep fire extinguisher available.**
- **Personnel within 17 meters of a firing discharger must wear single hearing protection. This includes personnel within vehicle.**
- **Avoid looking directly at a bursting grenade; it could result in temporary loss of vision, lasting 2 to 5 minutes**
- **Personnel within 35 meters of an operating launcher or 0.5 meters of a bursting canister should wear safety or ballistic-type eye protection, military clothing with long sleeves and elevated shirt collar, and helmet headgear.**
- **Do not handle or load M99s within 50 meters of a frequency transmitter emitting at 175 MHz, 448 MHz, 503 MHz and 1430 MHz.**
- **Do not fire grenades when personnel or equipment are within 160 meters covering a 90-degree arc around a firing discharger.**
- **To minimize risk of eye injury, use the M99 primarily against crowds of adults.**

**Figure B-14. Grenade, Launcher: Nonlethal, Blunt Trauma, M99**

## Rubber Ball Grenade

**Using Services: USN, USMC, USAF**

**Status: Fielded 1998**

**DODIC: GG04**

**NSN: 1310-01-454-0132**

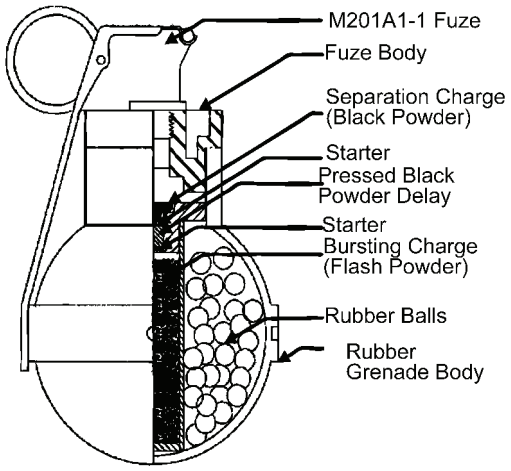
**Acquisition Activity: MARCORSYSCOM—NSWC Crane, IN**

**Further Information:**

**Commercial: MARCORSYSCOM**

**(703) 784-9395**

**NSWC Crane (812) 854-5801**




| | |
|---|---|
| **Color** | **Black with white lettering** |
| **Diameter** | **3.12 inches (79 mm)** |
| **Projectiles** | **100 rubber balls (minimum)** |
| **Height** | **5.25 inches (133.4 mm)** |
| **Total Weight** | **290 grams** |
| **Explosive Weight** | **59 grams** |
| **Total Time Delay** | **3.0 + 0.5 seconds** |

**Employment Distance:**

| | |
|---|---|
| **Hand Thrown** | **50 feet (15.2 m)** |
| **Shotgun Launched** | **200 feet (61 m)** |

**Projectile Specifications:**

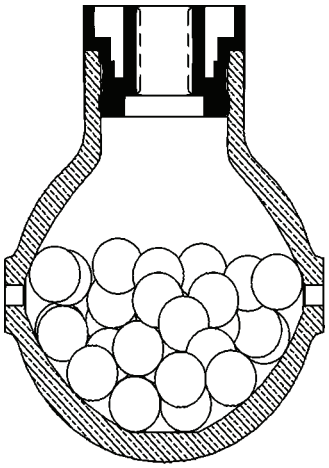
| | |
|---|---|
| **Number** | **100 (minimum)** |
| **Material** | **Rubber** |
| **Hardness** | **Durometer 70 to 80 on Shore "A" scale** |
| **Diameter** | **0.25 inches (6.4 mm) (minimum)** |

- **Fuze separates from the body 1.3 to 1.7 seconds after primer ignition.**
- **Second delay causes burster charge detonation 3.0 + 0.5 seconds average after primer ignition. Rubber balls are then dispersed in a 50-feet (15-m) circular pattern.**
- **12-gauge shotgun with launch cup and launch cartridge can launch grenade 200 feet (61 m) + 25 feet (7.6 m)**

**Figure B-15. Rubber Ball Grenade**

## Practice Grenade Body

**Using Services: USMC**
**Status: Fielded 2002**
**DODIC: GG05**
**NSN: Pending**
**Acquisition Activity: MARCORSYSCOM – NSWC Crane, IN**
**Further Information:**
**Commercial: MARCORSYSCOM (703) 784-9395**
**NSWC Crane (812) 854-5801**



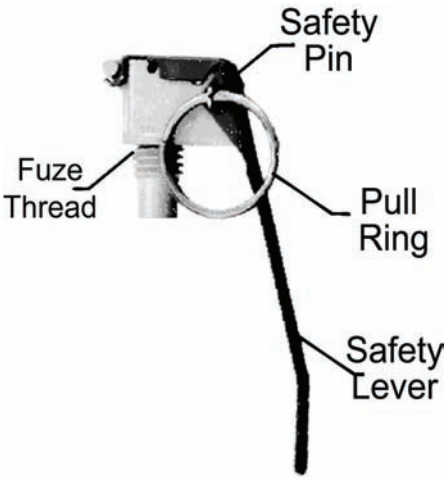
**Diameter.....3.12 inches (79 mm)**
**Projectiles .....N/A**
**Height .....4.2 inches (106 mm)**
**Total Weight.....208 grams**
**Explosive Weight.....N/A (inert)**
**Total Time Delay.....3.0 + 0.5 seconds when used with practice grenade fuze**
**Employment Distance:**
**Hand Thrown.....50 feet (15.2 m)**
**Shotgun Launched .....200 feet (61 m) using Mossberg launch cup and 12-gauge launch cartridge (AA30).**

- **Practice grenade body is reusable up to 25 times and is a component of a practice grenade assembly, consisting of the body and a practice grenade fuze.**
- **Practice grenade assembly accurately replicates the GG04 rubber ball grenade and is used for training purposes.**

**Figure B-16. Practice Grenade Body**

## Practice Grenade Fuze

**Using Services: USMC**
**Status: Fielded 2002**
**DODIC: Pending**
**NSN: Pending**
**Acquisition Activity: MARCORSYSCOM—NSWC Crane, IN**
**Further Information:**
**Commercial: MARCORSYSCOM**
**(703) 784-9395**
**NSWC Crane (812) 854-5801**




**Color..... Blue safety lever with brown stripe**
**Projectiles..... N/A**
**Height..... 4.25 inches (107 mm)**
**Total Weight ..... 82 grams**
**Explosive Weight..... Not available**
**Total Time Delay ..... 3.0 + 0.5 seconds**

**Employment distance when used with GG05 practice grenade body:**
**Hand Thrown..... 50 feet (15.2 m)**
**Shotgun Launched ..... 200 feet (61 m)—using Mossberg launch cup and 12-gauge launch cartridge (AA30).**

- **Employ practice grenade fuze with the practice grenade body to create a practice grenade assembly consisting of the body and a practice grenade fuze.**
- **Practice grenade assembly accurately replicates the GG04 rubber ball grenade and is used for training purposes.**

**Figure B-17. Practice Grenade Fuze**

## Nonlethal Grenade Launch Cup

**Using Service: USMC**

**Status: Fielded 2002**

**DODIC: N/A**

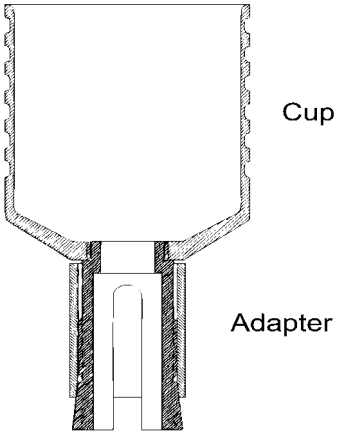
**NSN: Pending**

**Acquisition Activity: MARCORSYSCOM—NSWC Crane, IN**

**Further Information: Commercial: MARCORSYSCOM (703) 784-2006 Ext. 2733 NSWC Crane (812) 854-5801**

**NOTE: Cup body shown is representative of cup bodies used on all shotguns. Adapter shown is subject to change depending on the shotgun used and design improvements.**

**Color .....Black**
**Diameter (internal) .....3.12 inches (79 mm)**
**Length (without adapter).....4 inches (102 mm)**
**Weight .....397 grams (maximum)**



**Cross Section View**

- **Use launch cup in concert with AA30 launch cartridge and either the GG04 rubber ball grenade or GG05 practice grenade assembly.**
- **Attach launch cup and remove from the shotgun without using tools.**
- **Launch cup can withstand accidental detonation of rubber ball grenade without fragmenting.**

**Figure B-18. Nonlethal Grenade Launch Cup**

## Modular Crowd Control Munition—Ground Emplaced (MCCM-GE)

**Using Service: USA**
**Status: Fielded**
**DODIC: WA97**
**NSN: 1377-01-464-2606**
**Acquisition Activity:**
**Further Information: PM-CCS (973)-724-6948**
**NOTE: The MCCM, through blunt impact, can disperse crowds and/or temporarily incapacitate individuals for capture.**

| | |
|---|---|
| **Color** | **OLIVE DRAB** |
| **Weight per munition** | **3 kg (6 lb)** |
| **Length** | **21 cm (8 in.)** |
| **Width** | **12 cm (5 in.)** |
| **Thickness** | **2 cm (1 in.)** |

**The MCCM-GE is a NL munition, housed in a casing similar to the current claymore mine, which will stop, confuse, disorient and/or temporarily incapacitate area targets/personnel at close range. The force can use it to provide crowd control by dispersing hostile crowds and force protection by integrating it into a layered perimeter defense. It delivers 600, .32 caliber rubber balls as well as a flash bang effect. The MCCM-GE gives the commander or small unit leader greater flexibility to apply NL force as a first line of defense against hostile noncombatants. Effective range is 5 to 15 meters.**

**MCCM-GE Range Chart**

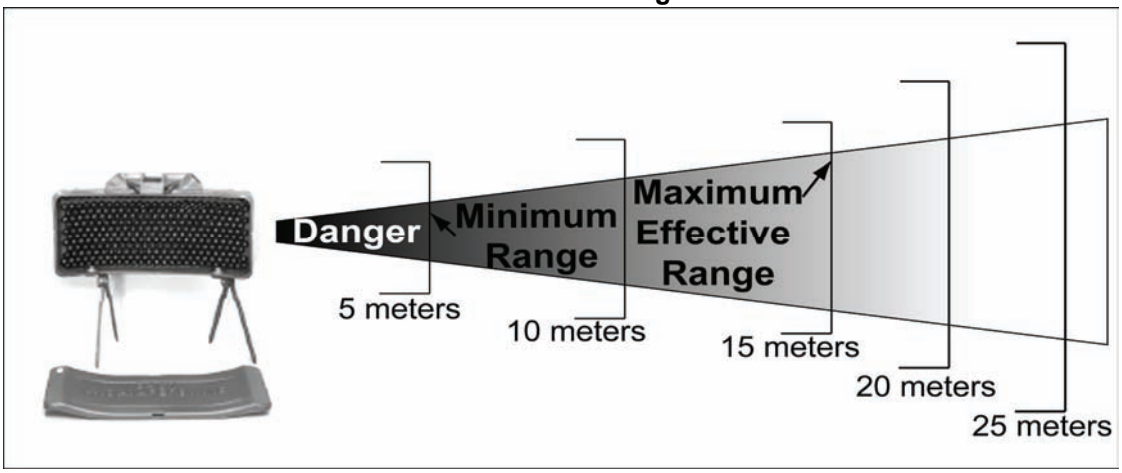



**Figure B-19. Modular Crowd Control Munition—Ground Emplaced**

## 66mm Light Vehicle Obscuration Smoke System (LVOSS)
### (also known as) Vehicle Launched Nonlethal Grenade (VLNG)

**Using Service: USA, USMC**

**Status: Fielded**

**DODIC: N/A**

**NSN: 1040-01-454-1625**

**Acquisition Activity:**

**Further Information: GTA 19-08-005**

**NOTE: The 66mm VLNLG's can disperse crowds or halt threatening personnel by distracting, disorienting, and/or temporarily incapacitating individuals for capture.**

| Ammunition | Bracket Setting | Range | Payload | Dispenser Time | Department of Defense Ammuntion Code (DODAC) |
|---|---|---|---|---|---|
| L96A1 antiriot, irritant | 100 meters | 65 to 95 meters | 23 canisters containing chlorobenzalmalono-nitrile (CS) | 10 to 12 seconds | FZ14 |
| L97A1 antiriot, practice | 100 meters | 100 meters | 23 canisters containing cinnamic acid (CA) | 10 to 12 seconds | FZ15 |
| M98 nonlethal, distraction | 50, 75, or 100 meters | 50 to 100 meters | 3 canisters containing 170 decibel bang and a quick burst of light | NA | FZ16 |
| M99 nonlethal, blunt trauma | 50, 75, or 100 meters | 50 to 100 meters | 3 canisters containing 140 .32-caliber plastic (polyvinylchloride [PVC]) balls | NA | FZ17 |

**The LVOSS is an obscurant smoke system that can be mounted on military vehicles and can deliver a 66mm distraction device (flash-bang), CS, or blunt trauma (sting ball) payload. The force uses LVOSS to enhance the ability of friendly forces to conduct force protection without direct contact with hostile or threatening crowds. It enforces standoff distances and deters potential threats. It can disperse or subdue crowds, keep personnel from surrounding or climbing on patrol vehicles, slow or stop threatening personnel or vehicles by confusing, disorienting, and/or temporarily incapacitating individuals for capture.**

**Figure B-20. 66mm Light Vehicle Obscuration Smoke System (LVOSS)**

## Electro-muscular Disruption Device

**Using Service: USA, USAF, USMC**
**Status: Pending type classification**
**DODIC: pending**
**NSN: pending**
**Acquisition Activity: pending**
**Further Information:**
**Color ..... Black**
**Length (without cartridge)..... 6" (15.24 cm)**
**Length (with cartridge) ..... 7.25" (18.52 cm)**
**Heights..... 3.2" (8.13 cm)**
**Thickness ..... 1.3" (3.3 cm)**
**Weight..... 7.2 oz (204.12 g)**


**This weapon causes electro muscular disruption as a safe and effective way to incapacitate personnel at distances up to 21 feet. A pronged dart system strikes anywhere on the body and delivers 50,000 volts, causing instantaneous incapacitation to the targeted individual.**

**Figure B-21. X26E Taser**

## Compressed Air Launcher (CAL)

**Using Service: USA, USMC, USN**
**Status: Pending type classification**
**DODIC: pending**
**NSN: pending**
**GSA: GS-07F-6010P**
**Acquisition Activity: Lawmen Supply Co, FNH, USA Product line GSA**
**Further Information:**
**Caliber…….. 68**
**Color ..... Black**
**Length (without adapter) ..... 29"**
**Weight..... 5lbs**

**The CAL is a compressed air power launcher designed to fire a 68 caliber projectile made from a light weight polymer with flip up iron sights and an integrated rail for mounting optional sights or other accessories. The launcher has a standard 15 projectile magazine.**

**Figure B-22. Compressed Air Launcher (CAL)**

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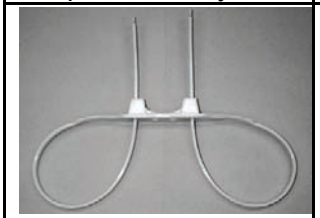
## Appendix C
# DOD NONLETHAL WEAPONS AND EQUIPMENT ITEM DESCRIPTION

### 4. Current Capabilities

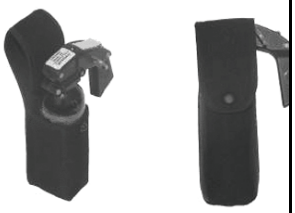
The following is a cumulative list of NLW and equipment currently fielded within the DOD. Each Service has various components of the following list in its inventory. A list of the Service's items is located in appendix E.

| | |
|---|---|
|  Riot Face Shield | 1. Riot Face Shield: The riot face shield is a non-ballistic face shield designed to protect the face from objects thrown or attacks from non-ballistic weapons. |
|  Ballistic Face Shield | 2. Ballistic Face Shield: The ballistic face shield provides face protection from a wide range of threats (i.e., debris, liquids, hand thrown objects). The shield is manufactured from acrylic and bullet resistant materials to provide Level IIIA protection (9mm and .44 magnum pistol rounds), weighs 3.4 pounds and is compatible with the PASGT helmet and M-17/M-40 protective masks. |
|  Riot Body Shield | 3. Riot Body Shield: The riot body shield is a non-ballistic body shield designed to protect the body from objects thrown or attacks from non-ballistic weapons. |

| | |
|---|---|
|  <br>Ballistic Body Shield with Light Kit: | 4. Ballistic Body Shield with Light Kit: The ballistic shield provides torso protection from a wide range of threats (i.e., debris, liquids, hand thrown objects). The shield is manufactured from Spectra Shield resistant material painted anti-reflective flat black and is capable of providing Level IIIA protection (9mm and .44 magnum pistol rounds). The shield weighs 18 pounds and is 20 x 36 inches in size with a view port of 4 x 16 inches. |
|  <br>Riot Shin Guard | 5. Riot Shin Guard: The riot shin guard is a non-ballistic shin guard designed to protect shins from objects thrown or attacks from non-ballistic weapons. |
|  <br>Ballistic Shin Guards | 6. Ballistic Shin Guards: Ballistic shin guards provides leg protection from a wide range of threats (i.e., debris, liquids, hand thrown objects). The guards are manufactured from Kevlar KM2 and provide Level IIIA protection (9mm and .44 magnum pistol rounds). They are available in three sizes and weigh between 7 to 10 pounds. |
|  <br>Expandable Riot Baton (with holster) | 7. Expandable Riot Baton (with holster): The expandable riot baton provides a NL means of crowd control and self-defense. The baton comes with a mounting device that attaches the baton to a belt. The baton is 24 to 36 inches in length. |
|  <br>Wooden Baton | 8. Wooden Baton: The wooden baton provides self-defense and the option between physical force and lethal force. The baton comes with a mounting device that attaches the baton to a belt. The baton is 36 inches in length. |

| | |
|---|---|
|  <br>Practice Riot Baton | 9. Practice Riot Baton: The practice riot baton provides a safe dynamic training environment for properly using a riot baton. The batons are available in a variety of lengths. |
|  <br>Portable Bullhorn | 10. Portable Bullhorn: The portable bullhorn provides the capability to control forces by projecting the user's voice above the noise and commotion created by crowds and mobs. |
|  <br>Ground-Mounted Public Address System | 11. Ground-Mounted Public Address System: The ground-mounted public address system is a communication enhancement device for conducting crowd control tactics. The system facilitates communication with the crowd in the absence of PSYOP support and assists with communication of commands to Servicemembers engaged in crowd-over-crowd noise. |
|  <br>M7 Individual Voice Amplification System | 12. M7 Individual Voice Amplification System: The M7 individual voice amplification system is a communication enhancement device for conducting crowd control tactics while wearing the M40 protective mask and using riot control agents. The M7 is fitted to the M40 protective mask to facilitate oral communication and increase the user's ability to communicate using radios and other devices. |
|  <br>Disposable Handcuff | 13. Disposable Handcuff: The disposable handcuff provides a means of restraining and controlling suspects, prisoners, and other individuals encountered during crowd control. The disposable handcuff is designed for one-time use. |

| | |
|---|---|
|  <br>Training Disposable Handcuff | 14. Training Disposable Handcuff: The training disposable handcuff provides a means for training in handcuffing procedures prior to actual use. The training disposable handcuff is red and reusable. |
|  <br>MK-4 Pepper Spray Pouch | 15. MK-4 Pepper Spray Pouch: The MK-4 pepper spray pouch is designed to carry the MK-4 pepper spray canister. |
|  <br>MK-4 Individual Live OC Pepper Spray | 16. MK-4 Individual Live OC Pepper Spray: The MK-4 individual pepper spray has a range of up to 12 feet in a target-specific stream. It contains 30 to 35 half-second bursts. The US Army nomenclature is M-39. |
|  <br>M-36 Individual Riot Control Disperser | 17. M-36 Individual Riot Control Disperser: M-36 individual riot control disperser has a range of up to 12 feet in a target-specific stream. It contains 30 to 35 half-second bursts. It is loaded with either CN or CS agent. |

| | |
|---|---|
|  <br>MK-9 Pepper Spray Pouch | 18. MK-9 Pepper Spray Pouch: The MK-9 pepper spray pouch is designed to carry the MK-9 pepper spray canister. |
|  <br>MK-9 Squad Live OC Pepper Spray | 19. MK-9 Squad Live OC Pepper Spray: The MK-9 squad pepper spray has a range of up to 15 feet in a target-specific stream. It contains 8 to10 half-second high volume bursts. |
|  <br>MK-46 Platoon Live (Horizontal) OC Pepper Spray | 20. MK-46 Platoon Live (Horizontal) OC Pepper Spray: The MK-46 platoon pepper spray has a range of up to 25 to 30 feet in a target-specific dispersed spray pattern. It contains up to 12 one-second high volume bursts. |
|  <br>MK-46 Sling | 21. MK-46 Sling: The MK-46 sling is used to sling the MK-46 canister on the shoulder. |
|  <br>MK-46 Hardware Kit | 22. MK-46 Hardware Kit: The MK-46 hardware kit consists of a transfer tube, funnel, and transfer bottle. A compressed nitrogen source is also required to utilize the kit. |

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|  <br>MK-46 Refill Live OC Pepper Spray | 23. MK-46 Refill Live OC Pepper Spray: The MK-46 refill solution comes in a one-gallon container. |
|  <br>MK-4 Individual Inert OC Pepper Spray | 24. MK-4 Individual Inert OC Pepper Spray: The MK-4 inert individual pepper spray has a range of up to 12 feet in a target-specific stream. It contains 30 to 35 half-second bursts. It is used for familiarization and training purposes. The inert device is loaded with a non-irritant, non-toxic formulation payload. The device may also contain a non-toxic, water-soluble marker to allow immediate feedback on content delivery to target. The MK-4 device is marked “Inert.” |
|  <br>MK-9 Squad Inert OC Pepper Spray | 25. MK-9 Squad Inert OC Pepper Spray: The MK-9 squad inert pepper spray has a range of up to 15 feet in a target-specific stream. It contains 8 to 10 half-second high volume bursts. It is used for familiarization and training purposes. The inert device is loaded with a non-irritant, non-toxic formulation payload. The device may also contain a non-toxic, water-soluble marker to allow immediate feedback on content delivery to target. The inert MK-9 device is prominently marked “Inert” with a yellow sticker attached. |

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|  <br>MK-46 Platoon Inert OC Pepper Spray | 26. MK-46 Platoon Inert OC Pepper Spray: The MK-46 platoon inert pepper spray has a range of up to 25 to 30 feet in a target-specific dispersed spray pattern. It contains up to 12 one-second high volume bursts. It is used for familiarization and training purposes. The inert device is loaded with a non-irritant, non-toxic formulation payload. The device may also contain a non-toxic, water-soluble marker to allow immediate feedback on content delivery to target. The inert MK-46 device is prominently marked "Inert" with a yellow sticker attached. |
|  <br>MK-46 Refill Inert OC Pepper Spray | 27. MK-46 Refill Inert OC Pepper Spray: The MK-46 refill solution comes in a one-gallon container. |
|  <br>FIST Training Suit | 28. FIST Training Suit: The FIST training suit is made of closed-cell shock-absorbent foam. It is worn during realistic hand-to-hand engagement training to hone riot baton skills. The FIST suit can absorb blows inflicted by the current expandable and wood riot baton. It provides protection for the head, face, hands, and legs, without significant degradation of the wearer's mobility. The FIST suit consists of a helmet, chest and back protector, bicep and forearm protectors, groin and buttock protectors, thigh and shin protectors, gloves, and carry bag.<br>***NOTE:*** FIST is the current manufacturer of this training suit. |
|  <br>Riot Training Strike Bag | 29. Riot Training Strike Bag: The riot training strike bag is used for training and proficiency in open-hand control techniques. |

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|  <br>Caltrop | 30. Caltrop: The caltrop is a field expedient area denial system. Securing approximately 50 caltrops to 550 military cord best employs it. The user can quickly toss and recover the system, using the caltrops to deny vehicle/pedestrian movement in a designated area. The four prongs are approximately 2 inches tall and will puncture tires or boots. |
|  <br>  <br>Road Side Spike Strip | 31. Road Side Spike Strip: The spike strip is designed to puncture a pneumatic tire as the vehicle makes contact with the spike strip. The spikes pivot into the tire and the tip-guards are pushed down. The spikes are imbedded deeply into the tire. The spikes are pulled out of the unit and remain in the tire. On the second revolution they will be pushed directly into the tire, allowing air to escape slowly without causing a blowout or sudden loss of control. The average tire will pick up 4 to 6 spikes with the deflation time of about 12 to 20 seconds. The user can quickly toss and recover the system, impeding vehicle movement in a designated area. It provides additional physical security in areas where the caltrop cannot be tactically employed. |
|  <br>  <br>High-Intensity Search Light | 32. High-intensity searchlight: The high-intensity searchlight is a rugged, lightweight, hand-held, high-intensity spotlight for use during low-light conditions. Two different high-intensity lights were fielded. The Maxabeam light (shown on top) was fielded in 1997. It was replaced by the Nighthunter light (shown underneath) in 2000. |

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|  <br>Individual Light Holster (6P) | 33. Individual Light Holster (6P): The 6P individual light holster is designed to hold the 6P individual light. |
|  <br>6P Individual Light | 34. 6P Individual Light: The 6P individual light is an issue item. |
|  <br>6P Individual Light Accessory Kit | 35. 6P Individual Light Accessory Kit: The 6P individual light accessory kit includes a spare light bulb installation kit. |
|  <br>3V Lithium Batteries | 36. 3V Lithium Batteries: Two 3V Lithium Batteries are required to operate the 6P individual light. |
|  <br>12-Gauge Buttstock Cuff | 37. 12-Gauge Buttstock Cuff: The buttstock cuff is designed to fasten to the buttstock of most shotguns to hold seven 12-gauge cartridges to quick load the shotgun. |

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|  <br>12-Gauge Utility Pouch | 38. 12-Gauge Utility Pouch: The 12-gauge utility pouch is designed to hold twenty-five 12-gauge munitions and attaches to combat gear. |
|  <br>40mm Carrying Pouch | 39. 40mm Carrying Pouch: The 40mm carrying pouch is partitioned in a manner to carry not less than six 40mm NL rounds in separate compartments. It attaches to combat gear. |
|  <br>Diversionary/Rubber Ball Grenade Pouch | 40. Diversionary/Rubber Ball Grenade Pouch: The diversionary/rubber ball grenade pouch is an ammunition carrying pouch partitioned in a manner to provide to hold up to six rubber ball grenades or six flash bang grenades in separate compartments. |
|  <br>12-Gauge Mossberg 500A2/590 Shotgun | 41. 12-Gauge Mossberg 500A2/590 Shotgun: The 12-gauge Mossberg 500A2 or 590 shotguns are the only 12-gauge shotguns currently authorized for firing 12-gauge NL projectile munitions. The launching cup for the rubber ball grenade will attach to the Mossberg 500A2 shotgun. The launch cup will not attach to the Mossberg 590 shotgun. Until the Joint Service Combat shotgun can effectively fire NL 12-gauge rounds, the 12-gauge Mossberg 500A2 or 590 shotgun configuration meets the requirement of the NLW force. |

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|  <br>12-Gauge M870<br>Version 2 | 42. 12-Gauge M870 Version 2: The modified Remington 870 shotgun has a fixed synthetic stock and pistol grip. The pistol grip gives the shooter more control of the weapon and helps dissipate recoil from the shoulder. The synthetic materials used are more durable and lighter weight than the wood stocks used on the Standard M870. The barrel is fitted with a rifled choke tube for firing slugs (solid projectiles) to increase accuracy. It is also equipped with an Advanced Combat Optical Gunsight that was developed for use in "both-eyes-open" close quarters battle. The advantage is rapid target acquisition without the need to align front and rear sights. Batteries do not power the illumination sight; it contains tritium gas. |

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## Appendix D
# EQUIPMENT CURRENTLY UNDER DEVELOPMENT

## 1. Portable Vehicle Arresting Barrier (PVAB)

A PVAB is a lightweight, portable, manually emplaced and recoverable barrier entrapment device to create, on command, a barrier that stops vehicles driven by known or suspected hostile forces with minimal damage to the vehicle or its occupants. It is used at dismount points, checkpoints, and roadblocks to prevent unauthorized access by wheeled vehicles into or out of areas (e.g., airfields, ports, command posts). Two individuals can easily emplace it, in approximately 4 hours. In stand-by mode, PVAB folds down into something similar to a speed bump (vehicles pass freely). In capture mode, the net springs up on two hydraulic pistons, to maximum height in less than a second. PVAB can be set up to span 12 to 24 feet and can stop a light truck (up to 7,500 pounds) at speeds up to 45 miles per hour, with a stopping distance of less than 200 feet. A PVAB can be containerized: 53.75 cubic feet (7 boxes=4 large, 3 small)—1,044 pounds on approximately one pallet.

**Figure D-1. PVAB in Action**

## 2. Running Gear Entanglement System (RGES)

The RGES is a series of short, separate, looped lines that are attached to a single, long base line. This entanglement net fouls the propellers of small boats with planing hulls. The capability to manually deploy the net from a soft-sided bag has been fielded for USCG use in limited numbers. The USCG is in the process of incorporating three other variants of RGES into its inventory of NLW. These include an aerial-delivered RGES, a portable shoulder-launched RGES, and a static barrier RGES. The static barrier RGES has broad application in support of homeland security, physical security, and force protection missions. The portable RGES has direct application in the USCG's law enforcement mission wherever the requirement exists to stop a non-compliant vessel.

**Figure D-2. Running Gear Entanglement System (RGES)**

## 3. Portable RGES

The portable RGES is a shoulder launched device that utilizes compressed air to launch a projectile approximately 100 feet from the operator. The projectile is fired across the bow of a non-compliant vessel and is attached to Spectra line (similar to the pictures above) that is specifically designed to entangle the propeller of an outboard engine.

**Figure D-3. Portable RGES**

## 4. Aerial Delivered RGES (Boat Trap)

Boat Trap is a Running Gear Entanglement System (RGES) deployed from a helicopter into the path of a high-speed non-compliant vessel to foul the propeller and stop the target vessel. The Boat Trap system is housed in a portable cylindrical launch tube that is 22 inches long, 13 inches in diameter, and weighs approximately 40 lbs. As the Boat Trap approaches the surface of the water, a pyrotechnic charge detonates and launches four deployment projectiles, which in turn pull four net panels from the breakaway launch tube shell. Following detonation, the Boat Trap is fully deployed in one second minimizing the chance of the target vessel evading the device. Each of the four net panels is stored in a quadrant of the cylinder. At the center of the cylinder is a fuse and explosive device that propels each of the four net panels outward from the center to create the “X” configuration. Each panel is 50 feet in length and uses 125 feet of 3- inch knotless mesh Spectra gathered together within the 50 foot panel.

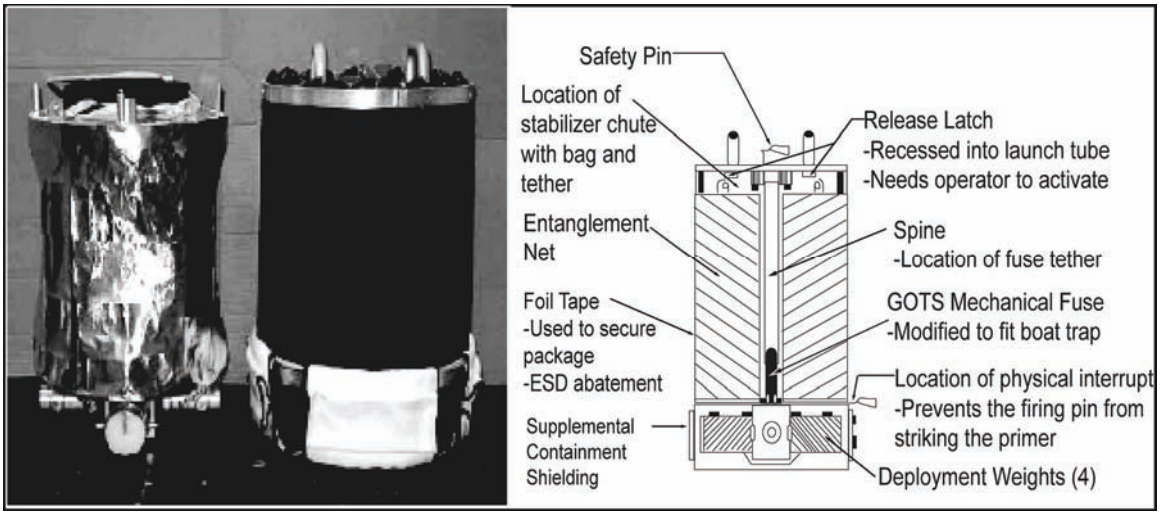


**Figure D-4. Boat Trap**

## 5. Static Barrier RGES

This system provides a static barrier around a high value asset or can be used to establish a security/safety zone, allowing security forces sufficient time to react and counter possible threats. The barrier is a 7/16 inch polyethylene line that floats on the water's surface. The line has 40-inch loops spaced every 8 inches. Inflatable 15-inch buoys are placed every 100 feet and lights are attached every 100 feet, midway between the flotation buoys. Anchoring systems are placed every 200 feet. The Static Barrier RGES is an excellent tool to enhance the Coast Guard's ability to execute Homeland Security missions.

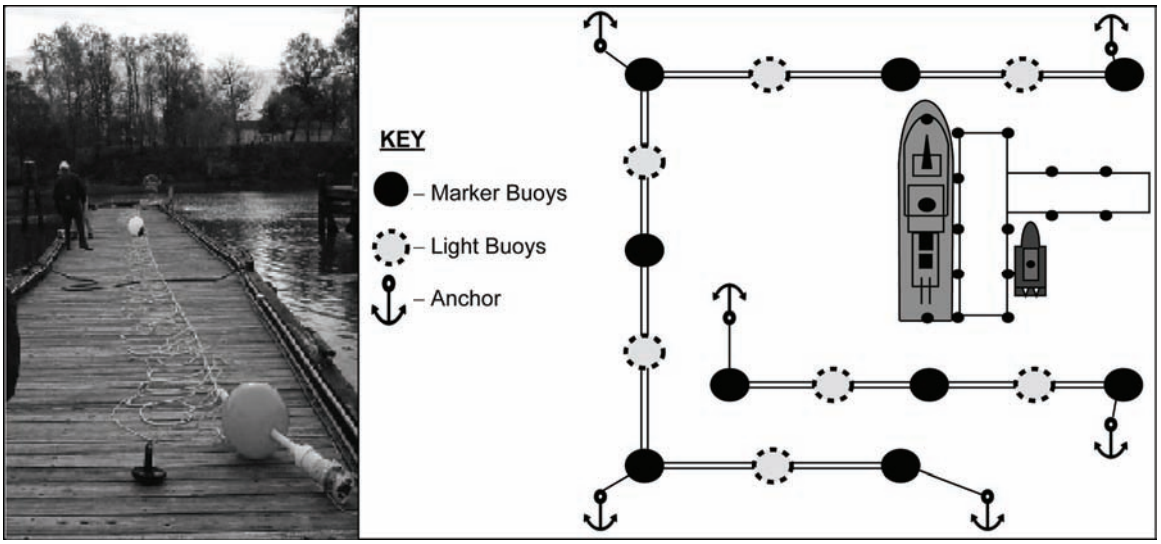


**Figure D-5. Static Barrier RGES**

# Appendix E
# NLW CAPABILITY SETS

This appendix provides the current NLW capability sets for the Services. These sets continue to be upgraded and changed according to Service needs and the availability of new technologies. The capability sets are standard for the respective Services.

## 1. US Army Nonlethal Capability Set

**Table E-1. Army Capability Set**

| ITEM | Name | NSN/Part #/DODIC |
|---|---|---|
| 1 | Non Ballistic Riot Face Shield | 8465-01-467-0721 |
| 2 | Ballistic Riot Face Shield | 8470-01-467-0754 |
| 3 | Non-Ballistic Riot Body Shield | PMBS9 |
| 4 | Ballistic Riot Body Shield | 8470-01-467-0757 |
| 5 | Non-Ballistic Riot Shin Guards | 8465-01-467-0740 |
| 6 | Ballistic Riot Shin Guards (Medium) | 8470-01-467-0758 |
| 6a | Ballistic Riot Shin Guards (Large) | 8470-01-467-0762 |
| 6b | Ballistic Riot Shin Guards (Extra Large) | 8470-01-467-0765 |
| 7a | Restraint, Strap Cinch | 8465-01-515-3155 |
| 7b | Restraint, Full Body | 8465-01-514-8739 |
| 7c | Restraint, Disposable, Tri-Fold | 8565-01-514-8590 |
| 7d | Restraint, Disposable, Cutter | GSANIK50005 |
| 8a | Expandable Riot Baton | 9999-01-499-9924 |
| 8b | Carrying Case for Expandable Riot Baton | 9999-01-499-9927 |
| 9 | Portable Bull Horn | GSAATIA2M |
| 10 | Ground Mounted Bullhorn | AAPPB35W1 |
| 11 | High Intensity Light | XENNCSUSA |
| 12 | Amplifier, Audio Frequency, M7 | 5996-01-381-9012 |
| 13 | Individual High Intensity Light | GSAASF6P |
| 13a | Pouch for Individual High Intensity Light | GSAATIEATAVLFP6POD |
| 13b | Lamp, Replacement for Individual High Intensity Light | GSASFP60 |
| 14 | Armorer's Kit | NSN TBD |
| 15 | Pouch, Nonlethal Grenade | GSAATISASDD60D |
| 16 | Pouch, 40mm Carry | GSAATIEA40MM6 |
| 17 | Pouch, Utility, 12-gauge (25 round) | GSAATIEAUPMS |
| 18 | Carrier, Butt-cuff 12-gauge (6 round) | GSAATISSSCQTR |
| 19 | Pouch, for IRCAD, M38, M39, M40 | GSAATIEAMK4 |
| 20 | QuadCon Container | 8415-01-483-(9115, Green) -(9121 Tan) |
| 21 | Caltrops Tire Shredder Set | GSAATIRSC3 |

| | | |
|---|---|---|
| 22 | Riot Training Suit (FIST Suit) | GSAATIFS333 |
| 23 | Riot Strike Pad | GSAMONUTB |
| 24 | 12-gauge Dummy Round | 1305-01-380-3255 |
| 24 | X26E Taser | NSN TBD |
| 24a | X26E Taser Air Cartidges | NSN TBD |
| 25 | Vehicle Lightweight Arresting Device (VLAD) | 4240-01-518-4626 |
| 26 | M1006, 40mm, Cartridge, Nonlethal | 1310-01-452-1190 BA06 |
| 27 | M1029, 40mm Nonlethal Crowd Dispersal Grenade | 1310-01-475-0628 BA13 |
| 28 | M1012, Cartridge, 12-gauge Shotgun: Nonlethal Point Control | 1305-01-470-2405 AA51 |
| 29 | M1013, Cartridge, 12-gauge Shotgun: Nonlethal Crowd Dispersal | 1305-01-470-2139 AA52 |
| 30 | L96A1, Grenade, Discharger: 66mm Anti-Riot Irritant, CS | 1330-01-459-4018 FZ14 |
| 31 | M5, Munition, Modular Crowd Control | 1377-01-464-2606 WA97 |
| 32 | L97A1, Grenade, Discharger: 66mm Anti-Riot Practice | 1330-01-459-4032 FZ15 |
| 33 | M84 Grenade, Stun/Diversionary Flash-Bang Hand Thrown | 1330-01-459-8141 GG09 |
| 34 | M99, Grenade Discharger: 66mm Blunt Trauma | 1330-01-484-7775 FZ17 |
| 35 | M98, Grenade Discharger: 66mm Distraction | 1330-01-484-7773 FZ16 |
| 36 | M39, Individual Riot Control Agent Dispenser (IRCAD) (OC) | 1040-01-501-4380 KM05 |
| 37 | M40, Individual Riot Control Agent Dispenser (IRCAD) (Training) | 1040-01-501-4423 KM07 |
| 38 | M1 Portable Vehicle Arresting Barrier (PVAB) | 4240-01-469-6122 |

## 2. USMC Capability Sets

| Table E-2. NLW Capabilities Set (Company) | | |
|---|---|---|
| **NSN/Product ID** | **Name** | **Quantity** |
| PMDK5X250AF | NON-BALLISTIC USMC RIOT FACE SHIELDS (S/R) | 200 |
| GSAATIPMBS9 | NON-BALLISTIC RIOT BODY SHIELDS PAULSON | 60 |
| GSAATIUSMCSG | NON-BALLISTIC RIOT SHIN GUARDS | 200 |
| GSAATI23/36 | USMC 24"/36" RIOT BATON (Expandable) (w/holster) | 200 |
| GSAATIA2M | RIOT MEGAPHONES WITH SIREN | 4 |
| IMLSC1000USMC | SOUND COMMANDER | 2 |
| GSAATIRSC3 | CALTROPS | 200 |
| QQX-NET | VEHICLE LIGHTWEIGHT ARRESTING DEVICE (VLAD) | 2 |
| GSAATIDC/W | USMC DISPOSABLE HANDCUFFS | 400 |
| GSAATIEAMK4 | MK-4 POUCH OD | 200 |
| GSADEF5049 | MK-4 INDIVIDUAL LIVE (OC) DISPENSER (Pepper Spray) | 200 |
| GSADEF5099 | MK-9 LIVE SQUAD (OC) DISPENSER (Pepper Spray) | 80 |
| GSAEADMH-9OD | MK-9 POUCH OD | 80 |
| XENNLCSUSMC | HIGH INTENSITY LIGHT (Xenonics) | 6 |
| GSASF6P | 6V LITHIUM INDIVIDUAL HIGH INTENSITY FLASHLIGHT | 10 |
| GSASFP60 | SUREFIRE 6P (P-60) BULBS | 5 |
| GSASFDL123A | 3V LITHIUM BATTERIES | 20 |
| GSAATISSSCQTR | 12-GAUGE BUTTSTOCK CUFF | 36 |
| GSAATIEAUPMS | 12-GAUGE UTILITY (25 ROUND) POUCH | 72 |
| GSAATIEA40MM6 | 40mm CARRYING POUCH | 36 |
| GSAATISASDD60D | DIVERSIONARY/STING BALL GRENADE POUCH | 60 |
| ATIUSMCAK | ARMORER'S KIT | 1 |
| GSAATILCCB | NL GRENADE LAUNCHING CUP CARRYING BAG | 36 |

**Table E-3. Antiterrorism/Force Protection Checkpoint Sets (ATFPCS)**

| NSN/Product ID | Name | Quantity |
|---|---|---|
| ATIEPVKUSMCR2 | ENTRY POINT VEHICLE KIT* | 1 |
| LIEXP-1000 | EXPEDITIONARY VEHICLE SEARCH PACK** | 4 |
| SMC0104090 | ORANGE SAFETY VEST WITH LIME STRIPE | 20 |
| SM2068001 | 28" 7# ORANGE SAFETY CONE | 50 |
| GMD1165180 | HAND HELD METAL DETECTOR | 15 |
| TS008-001001576 | VEHICLE INSPECTION CHECKLIST | 30 |
| PIHSMS-16 | MAGNUM SPIKE SYSTEM MS-16 | 16 |
| DEMEP-531A | AC GENERATOR SETS 120 VAC 60 H | 1 |
| MPL0300QT1A0000 | PORTABLE LIGHT SETS | 6 |
| MAP2 | PHRASELATOR MODEL 2000 WITH FP MODULE | 5 |
| IWWTVRT-1 | VOICE RESPONSE TRANSLATOR | 1 |
| ATIUSMCAK | ARMORER'S KIT | 1 |
| QQX-NET | VLAD (X-NET) | 4 |

**NOTE:**

***Entry Point Vehicle Kits include:**

Explosive Trace Detector Spray Kit
Lighting Pack: (4) Sure Fire 8NX and (2) Sure Fire G2 Flashlights
Lumenyte Illuminated Mat System (under vehicle lighting)
(5) IW -1000 Inspection Wands
(4) IW 2000 Inspection Wands (2 meter long fiber optic)
SnakeEye Pack: Hand Held Monitor and 4' Video Cable
(8) Vehicle Inspection Mirrors
TSWG Inspection Checklists

****Expeditionary Vehicle Search Packs include**:

1 SLAM 1000 Mirror with Surefire 8NX Flashlight
1 IW-1000 Wand with Surefire 8NX Flashlight
2 Vest Lights with Tactical Shield
2 12v DC Adaptor Cables
TSWG Inspection Checklist
1 Surefire 8NX Flashlight
Spare Bulbs/Batteries

| Table E-4. NLW Capabilities Training Set (NLCTS) | | |
|---|---|---|
| **NSN/Product ID** | **Name** | **Quantity** |
| GSAATIDC/T | USMC DISPOSABLE HANDCUFF TRAINING DEVICE | 100 |
| GSADEF5147 | MK-4 INERT INDIVIDUAL TRAINING (OC) DISPENSER | 200 |
| GSADEF5197 | MK-9 INERT SQUAD TRAINING (OC) DISPENSER | 40 |
| GSAATIFS333 | RIOT TRAINING SUIT W/ACCESSORIES (FIST) | 12 |
| GSAMONUTB | RIOT TRAINING STRIKE BAG | 24 |
| GSAMON5103 | SB-WT WHITE TRAINING BATON – 24” | 100 |
| GSAMON5106 | ULTIMATE STRAIGHT TRAINING BATON – 24” BLUE PADDED | 100 |

## 3. National Guard Crowd Control Capability Set

| Table E-5. National Guard Crowd Control Capability Set | | |
|---|---|---|
| **NSN/Product ID** | **Name/Description** | **Quantity** |
| PMBS9 | Riot Shields | 24 |
| | Practice Rounds | 600 |
| | OC Rounds | 600 |
| | Pink Marking Rounds | 600 |
| | Yellow Marking Rounds | 600 |
| | Air Banks | 1 |
| | Air Compressor | 1 |
| | Armorers Kit | 1 |
| | FNH 303, Bag and Accessories | 4 |
| | EOTech Sights | 4 |
| 8465-01-467-0721 | Faceshields | 30 |
| | Taser X26 | 10 |
| 999-01-499-9924 | Riot Batons | 30 |
| | Flexcuffs | 300 |
| | Flexcuff Cutters | 4 |
| GSADEF5049 | MK4 (Live) | 24 |
| GSAATIEAMK4 | MK4 Pouch | 24 |
| GSADEF5099 | MK9 (Live) | 6 |
| GSATIEAMK9 | MK9 Pouch | 6 |
| | Elbow Pads | 30 |
| | Black Gloves (pair) | 30 |
| | Taser Cartridges | 280 |
| GSAATIUSMCCSG | Riot Shinguards | 30 |

## 4. USN NLW Capability Set

a. The USN is in the process of developing NLW capabilities sets. The sets will support the specific areas of operation, mission, and/or user.

b. The first version will address the force protection mission and will be based on other Service-approved items and some longer-range commercial-off-the-shelf items currently being upgraded for military use. The mobile security forces, master at arms, and shipboard force protection units are the targeted users.

c. A proposed capability set for the mobile security forces is listed below.

**Table E-6. Basic Proposed USN Capability Set**

| ***Name*** | ***Nomenclature (Mfr Representative)*** | ***Quantity*** | ***Case Size (Round/case)*** |
|---|---|---|---|
| Fin Stabilize Round | | 1 Case | 100 |
| Stingshot | | 1 Case | 100 |
| Shotbag | | 1 Case | 100 |
| Flamethrower Round | | 1 Case | 100 |
| Tactical Blast Bursting Round | | 1 Case | 100 |
| Ultraflash Bursting Round | | 1 Case | 100 |
| Launchable Stun Munition | POP, Inc. T-444 | 1 Case | 24 |
| 40mm Sparkshot | | 1 Case | 24 |
| 40mm Stingshot | | 1 Case | 24 |
| 40mm Shotbag | | 1 Case | 24 |
| 40mm OC | | 1 Case | 24 |
| Stinger | POP, Inc. I-452 | 1 Case | 24 |
| Stun | POP, Inc. T-470 | 1 Case | 24 |
| Flash/Bang Multi | POP, Inc. D-451 | 1 Case | 24 |
| OC | POP, Inc. I-452 | 1 Case | 24 |
| 12-Gauge Launching Blanks | | 200 | |
| Grenade Training Rounds | | 12 | |
| 12-Gauge Training Rounds | | 24 | |
| 40mm Training Rounds | | 12 | |
| 12-Gauge Shotguns | Standard Issue/Modified | 12 | |
| 12-Gauge Launching Adapter | | 6 | |
| Face Shields | | 15 | |
| Helmets | | 15 | |
| Tactical Vest | | 15 | |
| Bullhorn | | 2 | |
| Medical Kit | | 2 | |
| Searchlights | | 2 | |
| Field Pack | | 15 | |
| Holsters/Belts | | 15 | |
| Ordnance Packaging, Handling, Storage, and Transportation (PHS&T) | | | |
| Misc (Certification, Training, and Documentation) | | | |

| Table E-7. Augmented Basic Notional USN Capability Set | | |
|---|---|---|
| ***Name*** | ***Nomenclature (Mfr Representative)*** | ***Quantity*** |
| Stingmore Mine (Std Body) with Rubber Ball Projectiles | POP, Inc. I-454 | 24 |
| Stingmore Mine Stand | | 6 |
| Electric Firing Boxes | | 8 |
| Area Lighting | | |
| Electric Generator | | |
| Signs and Placards | | |
| Personal NVGs and Opticals | | 6 |
| Additional PHS&T | | |
| Misc (Certification, Training, and Documentation) | | |

| Table E-8. Notional Vehicle Supplement USN Capability Set | | |
|---|---|---|
| ***Name*** | ***Nomenclature (Mfr Representative)*** | ***Quantity*** |
| Running Gear Entanglement System (RGES) | NSWCDD | 1000 ft system |
| Antimaterial Round (USCG) | | 24 |
| Spike Strips | | 2 |
| Improved Sensor (s) | | |
| RF | | |
| IR | | |
| Acoustic | | |
| Chemical Detection | SABRE 2000 | 1 |
| Ordnance Packaging, Handling, Storage, and Transportation (PHS&T) | | |
| Misc (Certification, Training, and Documentation) | | |

## 5. USAF NLW Capability Set

| Table E-9. Air Force NLW Capability Set Equipment | | |
|---|---|---|
| **NSN** | **Item Description** | **Quantity** |
| GSAMONUTB | Training Strike Bag | 2 |
| GSAATIFS333 | Riot Baton Training Suit | 1 |
| GSADT5149 | Inert Individual (OC) Training Dispenser | 1 |
| GSADT5846L | Mid-Sized Riot Control Dispenser (Chemical) | 3 |
| GSAATIDEF5546 | Riot Control Dispenser (OC) Agent Quarts | 1 |
| GSAPMDK5X250AF | N/Ballistic Face Shields | 13 |
| GSAPMBS9 | N/Ballistic Full Length Riot Shield | 13 |
| GSAATIUSMCSC | N/Ballistic Shin guards | 13 |
| GSAATI23/36 | 36" Riot Baton w/Holster | 13 |
| GSAATIA2M | Portable Megaphone | 1 |
| EATACV1CMV | Eagle Tactical-Chem Vest | 3 |
| HARG800 | Riot Gloves (Hatch Gauntlets) | 13 |
| ATIUSAFPC | Protective Cups | 13 |
| GSAATIDC/W | Disposable Forearm/Ankle Cuffs (FLEX) | 40 |
| GSAATIEAMK4 | Individual MK4 (OC) Dispenser with Carrier | 13 |
| GSAATIEAUPMS | 12-Gauge Utility Pouch | 2 |
| GSAATISSSCOTR | 12-Gauge Butt Stock Cuff | 3 |
| GSAATIEA40MM6 | 40mm Carrying Pouch | 2 |
| GSATI44000 | Advanced Taser M26 | 2 |
| GSATI44203 | Air Cartridges Box of 28 (25ft) | 1 |
| GSATI44830 | Ballistic Nylon Thigh Holster (Right side) | 2 |
| GSATI44835 | Ballistic Nylon Thigh Holster (Left side) | 2 |
| GSATI44710 | Taser Nimh Battery Charger | 1 |
| GSATI44700 | Taser 8 pack Nimh Batteries w/ magazine | 2 |
| | 12-Guage Shotgun Winchester 1200 | 4 |
| | Shotgun Repair Kit for Winchester 1200 | 1 |
| GSA230325 | Garrett Shipping Container | 1 |

| Table E-10. Air Force NLW Capability Set Munitions | | |
|---|---|---|
| **NSN** | **Item Description** | **Quantity** |
| M1013 | 12-Gauge Shotgun (Area CDC/Rubber Pellet) | 36 |
| M1012 | 12-Gauge Shotgun (Point/Fin Stabilized) | 36 |
| GG04 | Stun Hand (Sting Ball) Grenade | 50 |
| GG09 | Stun Hand Grenade/Flash-Bang Device M84 | 50 |
| M1006 | 40mm (Point) Sponge Round M1006 | 54 |
| M1029 | 40mm (Area) Crowd Dispersal Cartridge M1029 | 54 |
| Training Munitions | Training Munitions (Hand thrown, 12 g, 40mm) | |

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# Appendix F
# GRADUAL RESPONSE MATRIX

The information in this Appendix was cited from:
"A Graduated Response" in Military Operations Other Than War
by SFC John Williams, SETAF Lion Bde Fire Support NCO

## 1. Scenario:

A hypothetical country has been going through civil unrest for the past 4 months. Guerrilla forces have taken three major cities and are now attacking the capitol. An airborne infantry company has been deployed to conduct a noncombatant evacuation operation in an uncertain to hostile environment at the request of the US Ambassador. The company has just landed on the [helicopter landing zone] HLZ and has begun movement toward the US Embassy. Along their route the lead platoon encounters a crowd of demonstrators numbering well over 300.

The platoon leader immediately directs his attached tactical PSYOP team (TPT) to broadcast the US intent and approved psychological message to the crowd. The crowd begins to yell louder and move toward the platoon. Realizing that the situation is beginning to escalate and that the crowd now had become a threat to his mission, the platoon leader directs his men to place their weapons at-the-ready and has the lead squad chamber a round.

The TPT immediately escalates its message to warnings. The warnings inform the crowd that US forces will use whatever force necessary to accomplish their mission and defend themselves. An attached interpreter is finally able to start a conversation with the apparent leader of the crowd. The leader makes it clear that his people will not clear the way. They have no intention of letting the US force pass. They fear that if the Americans are evacuated, their government will collapse and they will be left fearing for their lives from the guerillas.

Twenty or so demonstrators from the crowd form a line in front of the US force. They are carrying axes, machetes, and clubs. The platoon leader has been constantly reporting to his higher HQs. Higher HQs dispatches a UH-60 with an airborne loud speaker (ALS) to the scene. The UH-60 hovers over the crowd. The ALS broadcasts a warning to the crowd. It is specifically directed at the armed civilians. The crowd wavers, but does not disperse.

By this time, the company commander is on site. In conjunction with the interpreter and TPT, he decides to demonstrate his company's capability. He uses a non-IR laser pointer to place a spot on a vehicle away from civilians. He has the interpreter direct the crowd's attention toward the vehicle and orders his sniper to shoot at the laser spot. The crowd immediately relents. The commander directs his force to move forward in "crowd control" wedge formation. The force eventually makes it to the objective with no loss of life or hostile situation.

This scenario highlights the integration of NLW in conjunction with complex situation constraints requiring both a platoon commander and a company commander to quickly move about the force continuum as depicted earlier in chapter III, figure III-5. Decisions are made instantaneously in some cases based on individual perception of the situation. In this scenario, casualties were avoided.

## 2. Range of Military Operations

a. The increase in conducting crisis response and limited contingency operations such as stability operations in Bosnia, noncombatant evacuation operations (NEO) in Africa, and humanitarian assistance in Haiti, has identified a need to establish procedures for graduating military responses to situations which threaten mission accomplishment. Numerous graduated response matrices (GRMs) and other products exist throughout the military community. These products graphically portray available responses in a graduated manner. Their intent is to give "on site" commanders a list of options to handle or diffuse a situation before it gets out of hand. There are numerous hostile and non-hostile threats in the operational environment. Most can be eliminated without loss of life or collateral damage by effectively applying the resources available.

b. The Southern European Task Force's Lion Brigade (SLB) has developed a GRM that could be very beneficial to other military units conducting stability operations. It is unique because it effectively integrates NL and lethal responses in a graduated manner, all in accordance with the rules of engagement. The following will show the requirements for a GRM, how the SLB developed its GRM, a discussion of each category and response, and how to use the GRM to conduct graduated response training.

## 3. Planning a GRM

a. Step 1. Determine the need for a GRM. This is done during the mission analysis portion of the military decision-making process. Missions that require soldiers and units to enforce treaties or accords, protect the lives of civilians in uncertain to hostile environments (such as NEO), or provide large-scale humanitarian assistance will probably require some sort of graduated response to maintain order and prevent uncertain environments from becoming hostile. Not all missions will require a GRM. The decision to use a GRM requires careful consideration. Once the staff has agreed that a GRM will be necessary, it requires guidance from the commander regarding response options available. The appropriate responses are determined based on the facts, assumptions, and constraints/limitations identified during mission analysis. Planners (staff) must clearly agree on the intent of the GRM.

- The GRM is first and foremost a training and rehearsal tool. It provides leaders with "most likely" vignettes that can be incorporated into course of action analysis, pre-deployment training, and rehearsals.

- Secondly, the GRM becomes a handy reference during situations which require graduated or escalated responses.

b. Step 2. Establish a team to develop the GRM. In a recent joint task force training exercise, the SLB established a team. It was headed by the Fire Support Element (FSE). It included the Brigade Legal Officer, a PSYOP representative, and an Information Operations Officer. Since the GRM is designed to give commanders/leaders graduated options to deal with both non-hostile and hostile threats to the mission, this team composition allows for target selection, application of the rules of engagement, and attack using both lethal and NL means.

c. Step 3. Develop Targets. The FSE, in conjunction with the S-2 section, develops targets for both lethal and NL attack. In the case of stability operations, these targets are usually not the conventional specific point or piece of equipment on the ground. They are more situational than specific. The GRM team must identify situations or acts that subordinate elements could face during the mission. The example GRM shows three possible situations or "acts" that on site commanders could expect to encounter. From the targeting standpoint, these are groups of more specific targets.

(1) During mission analysis the fire support officer (FSO) will identify both NL and lethal assets available to his unit. A TPT attached to the unit is an example of a NL attack asset which is often overlooked. Some examples of what the FSO should be looking for are:

- Nonlethal Weapons
- Tactical PSYOP teams.
- EW assets.
- Civil affairs team.
- Information operations team.
- Artillery smoke rounds.
- Aircraft (AH-64s, OH-58Ds, AC-130s).
- Mortars.

(2) The lethal assets described could very well execute a NL show of force or demonstration and diffuse a situation before it requires a lethal attack. The critical element of this mission analysis by the FSO is not to focus solely on lethal attack assets. In stability operations we want to prevent acts of hostility first, and then be prepared to execute a lethal attack if the situation arises.

(3) The FSO will then use the planning guidance given at the end of the mission analysis brief and list his responses at the top of the form (shown in the SLB example). Responses can graduate from command presence through show of force, demonstration, and the use of RCA agents and techniques to lethal attack using snipers, small arms, AC-130, and indirect fires.

d. Step 4. Staff Coordination. This is the point where the rest of the GRM team comes together to complete the escalation sequence for each response. PSYOP and legal representatives are critical attendees during the escalation sequencing process. In the area of PSYOP, the TPT must exploit the effects of all responses.

Example:

A crowd gathers in front of US forces conducting an operation. The on-site commander, in conjunction with the TPT, sends out to the crowd a pre-approved loudspeaker message. This does not work, so the unit hands out handbills in the native language. The TPT then exploits those messages and reinforces with another pre-planned message. This type of nonlethal response was applied in a similar situation where the leadership on the ground became involved in a situation where approximately 100 personnel, many holding sticks and rocks, were blocking a convoy route. By effectively using a Civil Affairs Team, an interpreter, and the local police, the leadership was able to prevent escalated violence and, above all, accomplish their mission. The tactics, techniques, and procedures of face-to-face communication, use of a loud speaker system, and clear message content are clearly the first steps in preventing situations from turning hostile and endangering the mission.

(1) The legal officer evaluates each escalation option and response to ensure it is consistent with the ROE. The GRM must be designed to recommend applications of force consistent with the ROE, yet not limit the leader or individual Soldier's right to self-defense. The SLB GRM shows clearly that if hostile intent or a hostile act occurs, lethal options will be first and foremost.

(2) In the case of lethal responses, commander's guidance must again be applied. In the example, lethal responses were only allowed in self-defense. Additionally, there were five conditions that had to be met for release of lethal AC-130 or indirect fires. In all lethal responses the use of the TPT and pre-approved PSYOP products to exploit the effects of the lethal attack was critical in trying to get the situation back into the NL or less threatening stage.

e. Step 5. Wargame. Once the escalations for each response are determined and annotated, the GRM must then be wargamed. The staff must walk through each act or situation from the on-site commander's standpoint.

Example:

In the opening vignette, the SLB team came across an issue with the use of riot control (RC) agents against armed groups with firearms. During the wargame it was decided that using RC agents against a well-armed threat could incite precisely the escalation in the situation the SLB team was trying to avoid, thereby violating the commander's guidance.

- Result: The SLB GRM directed that RC agents not be employed in this particular situation. The response to the riot produced some valuable lessons learned in this area.

Example:

Soldiers reported that approximately 300 Muslims had gathered at a bridge near the town. Several hundred Serbs, many armed with axes and knives, were also gathering. The Serbs intended to prevent the Muslims from entering the town. The crowds became hostile, particularly the Serbs. Soldiers were ordered to fire warning shots into the air. These shots had little to no effect. Lessons learned showed that civilians were accustomed to weapons being fired in the air during celebrations. Shots fired safely on the ground in front of the hostile crowd (a demonstration of force) proved much more effective. Subsequently, helicopters (rotor wash) were employed to separate the crowds. This was a clear example of escalating nonlethal force to diffuse a potentially hostile situation.

.

- Result: Using the SLB method of wargaming the GRM, it is possible that the use of warning shots in the air would have been deemed ineffective and an alternative response could have been created (warning shots on the ground in front of crowds). This is only an example and is not intended to critique the responses, but rather build on lessons learned.

f. Step 6. Command Approval. Once the GRM has been wargamed, it must be submitted to the commander for approval. This is the final check to ensure the GRM team has applied the commander's guidance correctly and met his intent.

g. Step 7. Distribution. The SOP will dictate how the GRM is issued. The SLB issues the GRM as an appendix. The FSO briefs it during the operations order. The final product is also issued as a 5x8" (or smaller) size card. The GRM is printed on one side and the ROE on the other. This gives leaders at all levels a pocket-sized reference. Use caution when producing the GRM cards to ensure that they are readable day and night (not too small).

## 4. GRM Training

a. Development. Units should develop a GRM that covers any number of situations. It should include various responses and escalations for each response. This finished product should drive graduated response training at least down to squad level.

b. Technique. Develop situational training exercises (STX). STX lanes give leaders at all levels an opportunity to deal with operations other than war situations. STX lanes teach leaders how to react to different situations in a graduated, or escalated, manner.

c. Example. One platoon (or squad for platoon training) could act as a hostile/non-hostile crowd, while the other two platoons deal with the situation IAW the GRM. This training should be integrated into the unit's ROE/RUF training model. The GRM becomes the tool to rehearse the ROE/RUF.

d. Rapid Response. Training reduces reliance on the reference card. This, in turn, allows for more rapid responses IAW the commander's guidance. The fact is that if you do not train as you will be required to fight, you will suffer the consequences when "the real thing" occurs. For the infantry company or platoon, this type of training should be included as battle drill training. It is truly a battle drill they will be required to execute in the operations other than war environment.

## 5. Execution

a. Proper planning and preparation lead to successful execution. But staffs at all levels must not only understand the GRM. They must also anticipate requirements within the escalated response. For example, in the opening vignette, the UH-60 airborne loudspeaker system would have to be launched by the SLB during different periods of the operation. Anticipating this response by making sure the aircraft and crew are ready saves time for the on-site commander.

b. The GRM is clearly a valuable tool in stability and support operations. Units operating in crisis response and limited contingency operational environments must be able to employ effective NL and lethal responses to control situations, maintain tactical initiative, and eliminate both hostile and non-hostile threats to the mission. Unit commanders should view this as a way to prevent unwanted hostile situations, save lives, and ultimately contribute to successful mission accomplishment.

**Figure F-1. Graduated Response Matrix**

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# GLOSSARY

## PART I – ABBREVIATIONS AND ACRONYMS

**A**

| | |
|---|---|
| **ADS** | air delivery system |
| **AFDDEC** | Air Force Doctrine Development and Education Center |
| **AFI** | Air Force Instruction |
| **AFMAN** | Air Force Manual |
| **AFTTP** | Air Force tactics, techniques, and procedures |
| **AHD** | acoustic hailing device |
| **ALMAR** | all Marine Corps activities |
| **ALS** | airborne loud speaker |
| **ALSA** | Air Land Sea Application |
| **AR** | Army regulation |
| **ASI** | Additional Skill Identifier (US Army) |
| **ATFP** | anti-terrorism force protection |

**C**

| | |
|---|---|
| **C2** | command and control |
| **CA** | civil affairs |
| **COI** | contact of interest |
| **COTS** | commercial-off-the-shelf |
| **CWC** | chemical weapons convention |

**D**

| | |
|---|---|
| **DM** | designated marksman |
| **DOD** | Department of Defense |
| **DODD** | Department of Defense Directive |
| **DODIC** | Department of Defense identification code |
| **DON** | Department of the Navy |

**E**

| | |
|---|---|
| **EOF** | escalation of force |
| **EO** | executive order |

**F**

| | |
|---|---|
| **FM** | field manual |
| **FSE** | fire support element |
| **FSO** | fire support officer |

**G**

| | |
|---|---|
| **GRM** | graduated response matrix |

**H**

| | |
|---|---|
| **HLZ** | helicopter landing zone |
| **HMMWV** | high-mobility multipurpose wheeled vehicle |
| **HQMC** | Headquarters Marine Corps |

**I**

| | |
|---|---|
| **IAW** | in accordance with |
| **IDN** | Initial Distribution Number |
| **IFF** | indentification, friend or foe |
| **INIWIC** | Interservice Nonlethal Individual Weapons Instructor Course |
| **IR** | infrared |

**J**

| | |
|---|---|
| **JFC** | joint force commander |
| **JMAA** | joint mission area analysis |
| **JNLWP** | Joint Nonlethal Weapons Program |
| **JP** | Joint Publication |

**L**

| | |
|---|---|
| **LVOSS** | Light Vehicle Obscuration Smoke System |

**M**

| | |
|---|---|
| **MCCDC** | US Marine Corps Combat Development Command |
| **MCO** | Marine Corps Order |
| **MCPDS** | Marine Corps Publication Distribution System |
| **MCWP** | Marine Corps warfighting publication |
| **MDMP** | military decision-making process |
| **METT-TC** | mission, enemy, terrain and weather, troops and support available-time available and civil considerations (Army) |
| **MILSTRIP** | Military Standard Requisition and Issue Procedure |
| **MP** | military police |
| **MTTP** | multi-Service tactics, techniques, and procedures |

**N**

| | |
|---|---|
| **NAVSUP** | Navy Supplement |
| **NEO** | noncombatant evacuation operations |
| **NL** | nonlethal |
| **NLW** | nonlethal weapons |
| **NSN** | national stock number |
| **NTTP** | naval tactics, techniques, and procedures |
| **NWDC** | Navy Warfare Development Command |

**O**

| | |
|---|---|
| **OC** | oleoresin capsicum |
| **OODA** | observe-orient-decide-act |

**P**

| | |
|---|---|
| **PA** | public affairs |
| **PAO** | public affairs officer |
| **PASGT** | personnel armor system, ground troops |
| **PCN** | publication control number |
| **PSYOP** | psychological operations |
| **PVAB** | portable vehicle arresting barrier |

**Q**

| | |
|---|---|
| **QRF** | quick reaction force |

**R**

| | |
|---|---|
| **RC** | riot control |
| **RCA** | riot control agent |
| **RGES** | running gear entanglement system |
| **ROE** | rules of engagement |
| **ROMO** | range of military operations |
| **RRF** | rapid reaction force |
| **RUF** | rules for the use of force |

**S**

| | |
|---|---|
| **S-2** | intelligence staff officer |
| **SEI** | Special Experience Identifier (US Air Force) |
| **SJA** | staff judge advocate |
| **SLB** | Southern European Task Force's Lion Brigade |
| **SOP** | standard operating procedure |
| **SROE** | standing rules of engagement |
| **SRUF** | standing rules for the use of force |
| **STX** | situational training exercises |

**T**

| | |
|---|---|
| **TPT** | tactical PSYOP team |
| **TRADOC** | US Army Training and Doctrine Command |

**U**

| | |
|---|---|
| **US** | United States |
| **USA** | United States Army |
| **USAF** | United States Air Force |
| **USCG** | United States Coast Guard |
| **USMC** | United States Marine Corps |
| **USN** | United States Navy |

**V**

| | |
|---|---|
| **VENOM** | vehicle nonlethal munition |
| **VLNG** | vehicle launched nonlethal grenade |

**W**

| | |
|---|---|
| **WMD** | weapons of mass destruction |

## PART II – TERMS AND DEFINITIONS

**capability**—The ability to execute a specified course of action. (A capability may or may not be accompanied by an intention.) (JP 1-02)

**materiel**—All items (including ships, tanks, self-propelled weapons, aircraft, etc., and related spares, repair parts, and support equipment, but excluding real property, installations, and utilities) necessary to equip, operate, maintain, and support military activities without distinction as to its application for administrative or combat purposes. (JP 1-02)

**nonlethal weapon**—A weapon that is explicitly designed and primarily employed so as to incapacitate personnel or materiel, while minimizing fatalities, permanent injury to personnel, and undesired damage to property and the environment. (JP 3-09)

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**FM 3-22.40**
**MCWP 3-15.8**
**NTTP 3-07.3.2**
**AFTTP(I) 3-2.45**

**24 October 2007**

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