
**UNITED STATES MARINE CORPS
THE BASIC SCHOOL
MARINE CORPS TRAINING COMMAND
CAMP BARRETT, VIRGINIA 22134-5019**

**IMPROVISED EXPLOSIVE
DEVICES (IED)
B3L4118
STUDENT HANDOUT**

Improvised Explosive Devices (IEDs)

Introduction

There is a very unique doctrine the United States has adopted within recent years with regards to a specific tactic enemy forces have begun to employ and continue to refine. Improvised Explosive Devices (IEDs) enable the enemy to inflict catastrophic kills against friendly forces with easily acquired explosives and materials while keeping a relatively safe distance from the target. Our current doctrine consists of reacting to IEDs and attempting to prevent their use but not adopting the tactic ourselves.

Importance

You will be better able to defend against IEDs if you learn about IEDs, stay current on enemy TTPs, and react effectively to IED attacks. This class is the first step in enabling you to do so.

In This Lesson

This class will provide the student with the necessary information to effectively recognize, prevent, and react to IEDs

This lesson covers the following topics:

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Learning Objectives

Terminal Learning Objectives

MCCS-IED-1001 Given an improvised explosive device (IED) threat, observation aiding devices, during daylight and limited visibility, identify indicators of improvised explosive devices to recognize the IED threat.

MCCS-IED-1002 Given a mission, commander's intent, rules of engagement, escalation of force criteria, and an emplaced improvised explosive device (IED), while serving as an individual in a small unit, react to an emplaced IED to limit the effects of the IED on the mission.

**Learning Objectives
(Continued)**Terminal Learning Objectives (continued)

MCCS-IED-1003 Given a mission, a commander's intent, rules of engagement (ROE), escalation of force criteria, non-lethal deterrents, and a suicide improvised explosive device (IED), while serving as an individual in a small unit, react to a suicide IED to limit the effects of the IED on the mission.

MCCS-IED-2101 Given a mission, a commanders intent, and an improvised explosive device (IED) threat, operate in an IED threat environment to accomplish the mission and limit the effects of the IED threat.

Enabling Learning Objective

MCCS-IED-2101a Without the aid of references, describe the responsibilities of a unit leader in response to an IED attack without omission.

IED Defined

Introduction. IEDs are a dangerous and effective weapon system that military forces face. IEDs can be made from almost anything with any type of material and initiator. They are an improvised device that is designed to cause death or injury by using explosives alone or in combination with other materials, to include projectiles, toxic chemicals, biological toxins, or radiological material. IEDs can be produced in varying sizes and can have different types of containers, function, and delivery methods. IEDs can use commercial or military explosives, homemade explosives, or military ordnance and ordnance components. IEDs are primarily conventional high-explosive charges, also known as homemade bombs. A chemical and biological (CB) agent, or even radiological material, may be included to add to the destructive power and the psychological effect of the device. They are unique in nature because the IED builder has had to improvise with the materials at hand. Designed to defeat a specific target or type of target, they generally become more difficult to detect and protect against as they become more sophisticated. IEDs are becoming increasingly sophisticated and can be fabricated from common materials. IEDs may range in size from a cigarette pack to a large vehicle. The degree of sophistication depends on the ingenuity of the designer and the tools and materials available. IEDs of today are extremely diverse and may contain any type of firing device or initiator, plus various commercial, military, or contrived chemical or explosive fillers. Cached or stockpiled munitions within the current theater of operations may provide the explosive materials to “would be” enemy bombers.

Definitions:

Improvised Explosive Device. A device placed or fabricated in an **improvised manner** incorporating destructive, lethal, noxious, pyrotechnic, or incendiary chemicals and designed to destroy, incapacitate, harass, or distract. It may incorporate military stores, but is normally devised from nonmilitary components. Also referred to as an “IED.” (JP 1-02)

Booby Trap. An explosive or non-explosive device or other material, deliberately placed to cause casualties when an **apparently harmless object is disturbed or a normally safe act is performed** (JP 1-02).

Mine. In land mine warfare, an explosive or material, normally encased, designed to destroy or damage ground vehicles, boats, or aircraft, or designed to wound, kill, or otherwise incapacitate personnel. It may be detonated by the action of its victim, by the passage of time, or by controlled means. (JP 1-02)

Components of an IED. IEDs can vary widely in shape and form. IEDs share a common set of components that consists of the main charge, initiating system, and casing.

Main Charge. The most common explosives used are military munitions, usually 122-millimeter or greater mortar, tank, and/or artillery rounds. These items are

IED Defined (Continued)

the easiest to use and provide a ready-made fragmentation effect and they allow for relatively easy “daisy chaining,” which is linking multiple main charges together over long or short distances for simultaneous detonation. Other IEDs have used military and commercial explosives, such as PE4, trinitrotoluene (TNT), ammonium nitrate (fertilizer), and fuel oil (ANFO). Common hardware, such as ball bearings, bolts, nuts, or nails, can be used to enhance the fragmentation. Propane tanks, fuel cans, and battery acid can and have been added to IEDs to propagate the blast and thermal effects of the IED.

Initiating System. The initiation system or fuse functions the device. It could be a simple hard wire for command detonation to a cellular telephone or remote controls to toy cars and airplanes for radio-controlled IEDs. The initiator almost always consists of a blasting cap. Batteries are used as a power source for detonators. Batteries of all types are the primary source of power for IEDs. Batteries could be as small as 9-volts, AA, and those used in long-range cordless telephones (LRCTs) to car and truck batteries. IEDs may even be wired into the local power supply of a home or office.

Casing. Casings can range in size from a cigarette pack to a large truck or airplane. The container is used to help hide the IED and to possibly provide fragmentation. A myriad of containers have been used as casings, including soda cans, animal carcasses, plastic bags, and vests or satchels for suicide bombers.

Initiation Methods. Most IEDs in Iraq are presently command-detonated and use electric firing circuit systems. These IEDs generally have a power source, often standard batteries or car or motorcycle batteries. Electric firing circuit systems are either "hard-wired" with a firing wire (such as speaker wire), or they use a wireless system. Wireless firing systems use radio transmissions from wireless items such as

- Radios
- Pagers
- Doorbell systems
- Light-switch devices
- Garage door openers
- Car alarm receivers/unlocking devices
- Toy car remote controllers

They also use cellular phone transmissions.

Time. Time IEDs are designed to function after a preset delay, allowing the enemy to make his escape or to target military forces which have created a pattern. Timers used include igniferous (fire producing), chemical, mechanical, and electronic devices.

IED Defined (Continued)

Command. Command-initiated IEDs are a common method of employment and allow the enemy to choose the optimum moment of initiation. They are normally used against targets that are in transit or where a routine pattern has been established. The most common types of command-initiated methods are with command wires or radio-controlled devices, such as LRCTs, cordless telephones, and remote car openers and alarms.

Victim. A victim-actuated IED is a means of attacking an individual or group of individuals. There are various types of initiation devices, which include pull or trip, pressure, pressure release, movement-sensitive, light-sensitive, proximity, and electronic switches. Trip wires have also been used and targeted for foot mobile patrols or for turret gunners in convoys.

Enemy IED Tactics, Techniques, and Procedures (TTPs).

Introduction. Coalition Forces can more effectively prevent, mitigate, and respond to IED attacks by better understanding enemy IED tactics, techniques, and procedures (TTPs). This section has three main objectives; at the end of this section, you will be able to:

- Understand common IED target areas
- Identify IED camouflage methods and hiding places
- Understand how IEDs are employed in attacks

Enemy IED Placement, Employment, and Target Positioning. IEDs may be emplaced anywhere that enough space exists or can be created to hide or disguise the IED. Whenever possible, devices are located where employment can exploit known U.S. patterns (such as the use of a main supply route [MSR] or vulnerabilities (such as soft-skinned vehicles or chokepoints). Common areas of IED emplacement include, but are not limited to:

- Previous IED sites (past successes, laziness, exploiting Techniques, Tactics, and Procedures [TTPs]).
 - Frequently traveled, predictable routes, such as roads leading to FOBs and along common patrol routes.
 - Boundary turnaround points (pattern).
 - Roadway shoulders (usually within 10 feet).
 - Medians, by the roadside, or buried under the surface of any type of road, often in potholes and covered with dirt or reheated asphalt.
 - Trees, light posts, signs, overpasses, and bridge spans that are elevated.
 - Unattended vehicles, trucks, cars, carts, or motorcycles (attached or installed in them).
-

Enemy IED Tactics, Techniques, and Procedures (TTPs) (Continued)

- Guardrails (hidden inside) or under any type of material or packaging.
- Potential incident control points (ICPs).
- Abandoned structures (sometimes partially demolished).
- Cinder blocks (hidden behind), piles of sand to direct blast into the kill zone, or inside disguised concrete items (fake curbs).
- Animal carcasses and deceased human bodies.
- Fake bodies or scarecrows in coalition uniforms.
- Buildings.
- Employed at the edge of town.

The enemy may also employ lures to draw friendly forces into an IED kill zone using methods such as:

- Broken down motorist
- Person in need of medical attention
- Unaccompanied young child/children

Beware; booby-trapped IEDs are common, especially in weapons and munitions caches.

Although the enemy puts forth a great deal of effort to keep the IED concealed from friendly forces, the exact location of the weapon must still be known to the attacker for reasons of detonating the IED at his choosing. Threat forces attempt to mark the IED in such a manner that the marker itself does not look out of place and/or does not draw unwanted attention. Some examples include:

- Piles of rocks
- Arranged sticks
- Paint markings
- Cloth or plastic strips tied to branches

IED Indicators. There are numerous means of detection that can assist in locating IEDs, however the best means of detection is your personal awareness of what is going on around you. Below are a list of indicators, common locations of IEDs, Vehicular Borne Improvised Explosive Device (VBIED) considerations, and the 5 to 25 meter checks:

- **Primary Indicators.** The primary indication of an IED will be a change in the environment (something new on the route that was not there yesterday). The enemy may leave behind visual indicators of an emplaced IED by accident or on purpose (to inform the local population). Vigilant observation for these subtle indicators can increase the likelihood of IED detection by friendly forces before detonation. Examples of possible roadside IED indicators include, but are not limited to:

Enemy IED Tactics, Techniques, and Procedures (TTPs) (Continued)

- Unusual behavior patterns or changes in community patterns, such as noticeably fewer people or vehicles in a normally busy area, open windows, or the absence of women or children.
 - Vehicles following a convoy for a long distance and then pulling to the roadside.
 - Personnel on overpasses.
 - Signals from vehicles or bystanders (flashing headlights).
 - People videotaping ordinary activities or military actions. Enemies using IEDs often tape their activities for use as recruitment or training tools.
 - Suspicious objects.
 - Metallic objects, such as soda cans and cylinders.
 - Colors that seem out of place, such as freshly disturbed dirt, concrete that does not match the surrounding areas, colored detonating cord, or other exposed parts of an IED.

 - Markers by the side of the road, such as tires, rock piles, ribbon, or tape that may identify an IED location to the local population or serve as an aiming reference (such as light poles, fronts or ends of guardrails, and road intersections or turns).
 - New or out of place objects in an environment, such as dirt piles, construction, dead animals, or trash.
 - Graffiti symbols or writing on buildings.
 - Signs that are newly erected or seem out of place.
- Friendly forces should be especially vigilant around:
 - Obstacles in the roadway to channel convoys.
 - Exposed antennas, detonating cord, wires, or ordnance.
 - Wires laid out in plain site; these may be part of an IED or designed to draw friendly force attention before detonation of the real IED.

Employment Techniques. The enemy will generally employ the IED in a fashion and an area that allows the attacker to remain concealed and/or covered (such as a rooftop or window, dirt mound, vehicle [to include motorcycles], vegetation, canal, defile, alleyway, or even within a crowd) during the attack and to egress in a concealed or protected fashion. While typically being within 30-500 meters of the IED kill zone, attackers will generally locate themselves so that restrictive terrain is between them and friendly forces, thereby making it more difficult for friendly forces to over take them.

There may be single or multiple IED placed in the kill zone with secondary IEDs, false kill zones, and multiple zones to further confuse friendly forces making them more vulnerable to the attack. Multiple IEDs are often daisy-chained together creating a linear target area.

Below are some ways that IEDs can be used, whether they are emplaced by the enemy or used as VBIEDs. Additionally, there are some TTPs included that the enemy has used in order to hinder the mobility efforts of coalition forces. Keep in mind; TTPs

Enemy IED Tactics, Techniques, and Procedures (TTPs) (Continued)

constantly change with the location and desired intent of the emplaced IED, threat or obstacle. The enemy has also incorporated the use of small arms fire in conjunction with the IED attack to harass forces in their attempts to conduct patrols and convoys along any given route. IEDs can be used in the following manners:

- Disguised static IEDs can be concealed with just about anything (trash, boxes, tires, and so forth) and can be placed in, on, or under a target or in or under unsecured vehicles.
- Disguised moveable IEDs (vehicle-borne improvised explosive devices [VBIEDs], suicide bomber vests or victim-actuated IEDs).
- Thrown or projected IEDs (improvised grenades or mortars). One example would be as a convoy travels beneath an overpass, two threat individuals on top of the bridge will attempt to drop IEDs on top of or into the back of vehicles as they pass under. (One spots the approaching convoy, times it's movement, and signals the other who drops the IED as vehicles exit from the other side of the bridge.) Convoys must be aware of the 360-degree threat while traveling. Changing speeds and dispersion will help mitigate the threat to some extent.
- IEDs placed in, on, or under a secured/unsecured object. Often times coalition forces may want/need to clear the roads of abandoned or broken down vehicles or debris from the side of the road that could pose a threat to convoys that travel along a given route. Identifying possible enemy fighting or firing positions is paramount in order to keep all friendly forces safe while removing hauling or pushing the debris out of the way. If a remote investigative capability is available, use it to ensure that the debris being moved is not rigged with explosives.
- Hoax IEDs, which the enemy uses for myriad purposes, such as to learn our TTP, entrapment, non-explosive obstacle, and development of identifying complacency for future IED attacks. Hoax IEDs include something resembling an actual IED, but have no charge or a fully functioning initiator device. A TTP that has been used before is emplacing a fake IED (the distraction) along a given route that can be seen by the lead vehicle in a convoy causing the convoy to halt at a "safe distance." Actually, the convoy has inadvertently stopped in the kill zone, for emplaced along the route either before or after the hoax IED (at a distance the enemy probably learned by observing repeated friendly reactions and TTPs) putting the convoy in the actual attack zone.
- Additional ways that IED have been employed are:
 - The Basic IED Attack. The enemy will place IEDs along routes on either side of the road awaiting foot patrols or convoys to approach in order to cause the most damage to personnel or vehicles. When the convoy reaches the attack or kill zone, the enemy detonates the IED. It is imperative that coalition forces be vigilant and alert at all times to identify the many different locations an enemy may possibly hide in order to trigger an IED or signal a trigger man.
 - The "Broken Down" Vehicle Attack. The attack uses a simulated broken down vehicle placed on the side of the road to cause convoys to change their intended route. The broken down vehicle is staged in the road, either side, blocking one or all of the trafficable lanes causing the convoy to be canalized between the broken down vehicle and an emplaced IED. If the convoy chooses to pass, the IED is

Enemy IED Tactics, Techniques, and Procedures (TTPs) (Continued)

detonated. Or as with the hoax IED, it has also been noted that Coalition Forces have stopped prior to the broken down vehicle and found to have stopped in the actual kill zone where a daisy chained series of IEDs is positioned on their flanks.

- **Tag Team Attack.** Numerous threat individuals work to emplace an IED along a route, usually in an urban area. After the IED and initiation method has been emplaced, one of them will stand by out of site of the convoy and wait to give the signal to another who detonates the IED when the convoy enters the kill zone. They are usually located where they have the best escape route.
- **Ramming Convoys.** The enemy has been known to ram their vehicle (possibly an SVBIED) into the rear or the side of a convoy as it passes in order to get the convoy to slow or come to a complete stop. As the convoy stops, an IED already placed on the side of the road or the SVBIED is detonated causing damage to personnel and equipment. The enemy has also been known to get in front of a convoy slowing their speed in order to conduct a coordinated attack with another VBIED.
- **Motorcycles.** Used by the enemy in areas of decreased mobility in order to harass convoys and possibly throw IEDs or grenades into the rear of vehicles. Once the IED or grenade was launched at the intended vehicle, the motorist would escape using a pre-designated route that was severely restricted to trucks of larger size. Ensure personnel are constantly watching the rear and flanks of the convoy to keep this threat to a minimum.

Vehicle Borne IED (VBIED). The VBIED has been successful due to its mobility and enabling the enemy to choose the time and place of the attack with much greater flexibility. VBIEDs are like any other IED, they almost never look the same (from bicycles to dump trucks) and there are countless different scenarios that can be set up by the enemy. This unpredictability makes them difficult to identify. If the driver of the VBIED is alone in the vehicle having direct control of the IED initiator, the initiator may be visible to anyone looking into the vehicle from the outside. Particulars of VBIEDs are:

- Driver
 - The presence of a lone male driver in the vehicle. This is the historical standard for VBIED operations; however, there could be any number of people in the vehicle if an unsuspecting person is driving the VBIED. Some VBIEDs have two to three people and females are sometimes used as a distraction.
 - Ignoring orders to stop, attempting to circumvent a security checkpoint, or attempting to maneuver too close to coalition assets.
 - Unusual appearance. The enemy may be uncharacteristically clean-shaven and have very short haircuts. (Cutting the hair is a part of the purifying ritual that many follow prior to an attack.)
 - Age in mid-twenties. The average Middle Eastern suicide terrorist is about 24-25, but this may vary in your unique situation.
 - Driving erratically; driving too slow or too fast.
 - Wearing inappropriate dress for the environment.

Enemy IED Tactics, Techniques, and Procedures (TTPs) (Continued)

- Vehicle
 - Noticeable sagging of the vehicle; the top of the tire and the wheel well almost touch.
 - An additional antenna for radio-controlled devices.
 - Darkened or covered windows to conceal either vehicle's contents or actions of the driver.
 - Recent painting of vehicle to cover body alterations.
 - Crudely covered holes made in the vehicle to hide explosives.
 - New welding marks.
 - No license plates.
 - Escorted by unusual security detail for type vehicle.
 - New tires on an old vehicle.
 - Anything unusual in factory-built compartments.
 - New or shiny bolts and/or screws.
 - Unusual scratches, possibly made by screwdrivers, wrenches, or similar tools.
 - Signs of tampering, such as broken parts or bent sheet metal.
 - Areas and components cleaner or dirtier than surrounding areas.
 - Wire and tape stored in vehicle.

- Local Signs
 - Camera crew "hanging out" near your area.
 - Vehicle observed more than once.
 - Absence of normal routine for that area of operations (AO).
 - Odd traffic patterns.
 - Person or persons observed conducting reconnaissance.
 - Vehicle testing local defenses, i.e., drives at a high speed towards traffic control point (TCP) and then breaks off.

SBIEDs (Suicide Bombers). Most suicide attacks involve SBIEDs, and include casualty rates from tens to hundreds. Recently, however, there has been an increasing trend for suicide bombers to attack with an explosive vest, belt or baggage. Coalition Forces have been attacked within the perimeter of a Firm Base; civilians have been attacked at polling stations and at police recruitment drives; and a civilian contractor was killed when a bomber exited his vehicle in traffic, approached the contractor's vehicle, and detonated his vest/belt. With effective techniques being used to reduce the effectiveness of VBIEDs, the potential for the enemy to adapt to suicide bombers increases.

If the charges used by bombers are effectively packaged and concealed, a suicide bomber could carry up to 45 pounds of explosives; however, most suicide belts are designed to hold smaller amounts, up to 12 pounds. The mass of this weight of explosive promotes conformity of the belt to the individual, improving concealment. It should be noted that fragment producing materials are often incorporated into the design of these belts/vests.

Enemy IED Tactics, Techniques, and Procedures (TTPs) (Continued)

Indicators of a potential suicide attack are :

- An individual who deliberately ignores orders to stop or attempts to circumvent a security checkpoint.
- An individual wearing too much clothing for the prevailing weather conditions.
- A person with suspicious bulges in his/her clothing, carrying packages/bags or wearing satchels/backpacks.
- An individual handling wires, switches, an actuator, or a “dead man’s” switch.

The enemy is smart, and their TTPs change! Threat forces continuously improve and adapt their TTPs. They are clever, flexible, innovative, and deceptive. They seek to exploit friendly forces weaknesses. They are constantly learning, changing tactics, and improving their TTPs. Enemy scouts and spies observe and report on Coalition Forces patterns, TTPs, SOPs, and battle drills and adjust their plans and TTPs accordingly. They conduct pattern analysis, learning and planning around Coalition Forces’ movement, patrol, and convoy patterns, routes, and schedules.

IED Attack Preparation, Prevention, and Effects Reduction

Introduction. Obviously, preventing IED attacks is one key way to enhance your personal safety and that of your unit. In addition, preventing IED attacks makes the local populace feel more confident in your ability to provide a secure environment. This increased confidence reduces the likelihood that they will provide assistance to the enemy or passively ignore their activities. There are also measures you can take to reduce the damage which can be caused by an IED detonation.

Measures to reduce the effects of IEDs begin with conducting a thorough METT-TC analysis, gaining an understanding of the enemy, and comprehending the common activities associated with an IED attack. Activities conducted by the enemy include leadership, planning, financing, material procurement, bomb making, target selection, recruiting, and attack execution. A holistic approach to understanding the requirements of an IED attack assists commanders and planners in identifying vulnerabilities. These vulnerabilities can be exploited to break the operational chain of events of the enemy, but the main focus here is to know what to look for when conducting an Intelligence Preparation of the Battlefield (IPB) and analyzing intelligence products.

In this section, you will learn:

- Tenets of IED defeat
- Ways to prevent IED emplacement
- Ways to avoid IEDs during movement
- Training and preparation that can enhance your safety

Tenets of IED Defeat. The IED defeat framework is enables commanders and staffs to plan and take proactive measures to seek out and defeat IED events before they occur.

IED Attack Preparation, Prevention, and Effects Reduction (Continued)

It also provides a methodology for addressing IED events upon contact and subsequent detonation. The IED defeat framework consists of the following:

- **Predict.** These activities are used to identify and understand enemy personnel, equipment, infrastructure, TTP, support mechanisms, or other actions to forecast specific enemy IED operations directed against U.S. interests.
 - Identifying patterns of enemy behavior.
 - Identifying emerging threats.
 - Predicting future enemy actions.
 - Exploiting IED threat vulnerabilities.
 - Targeting enemy IED attack nodes (such as funding and supplies).
 - Disseminating alert information rapidly to specific users.
 - Analyzing forensics and enabling better on-the-scene technical analysis.
- **Detect.** These activities contribute to the identification and location of enemy personnel, explosive devices, and their component parts, equipment, logistics operations, and infrastructure in order to provide accurate and timely information.
 - Detecting and identifying explosive material and other IED components.
 - Detecting chemical, biological, radiological, and nuclear (CBRN) material.
 - Recognizing suicide bombers.
 - Conducting forensic operations to track bomb makers and/or handlers.
 - Conducting persistent surveillance.
 - Training to improve detection of IED indicators by digital means.
 - Using detection means across the full range available (imagery, mechanical-clearance operations, search techniques, dogs, so forth)
 - Recognizing individual Marine actions and awareness in all activities.
- **Prevent.** These activities disrupt and defeat the IED operational chain of events. The actions focus on the target to interdict or destroy key enemy personnel (bomb makers, leaders, and financiers), the infrastructure/ logistics capabilities (suppliers and bomb factories), and surveillance/ targeting efforts (reconnaissance and over-watch operations) before emplacement of the device.
 - Disrupting enemy operations and their support structure.
 - Denying critical IED-related supplies to the enemy.
 - Increasing awareness of enemy TTP and their effectiveness.
 - Denying the enemy the opportunity to emplace IEDs (through presence patrols, observation posts, checkpoints, aggressive surveillance operations, and so forth.)
 - Rewarding local nationals' cooperation in determining the locations of caches, bomb making, or emplacement activities.
 - Denying easily concealed locations (such as trash piles and debris along sides of primary routes) and removing abandoned vehicles along routes.

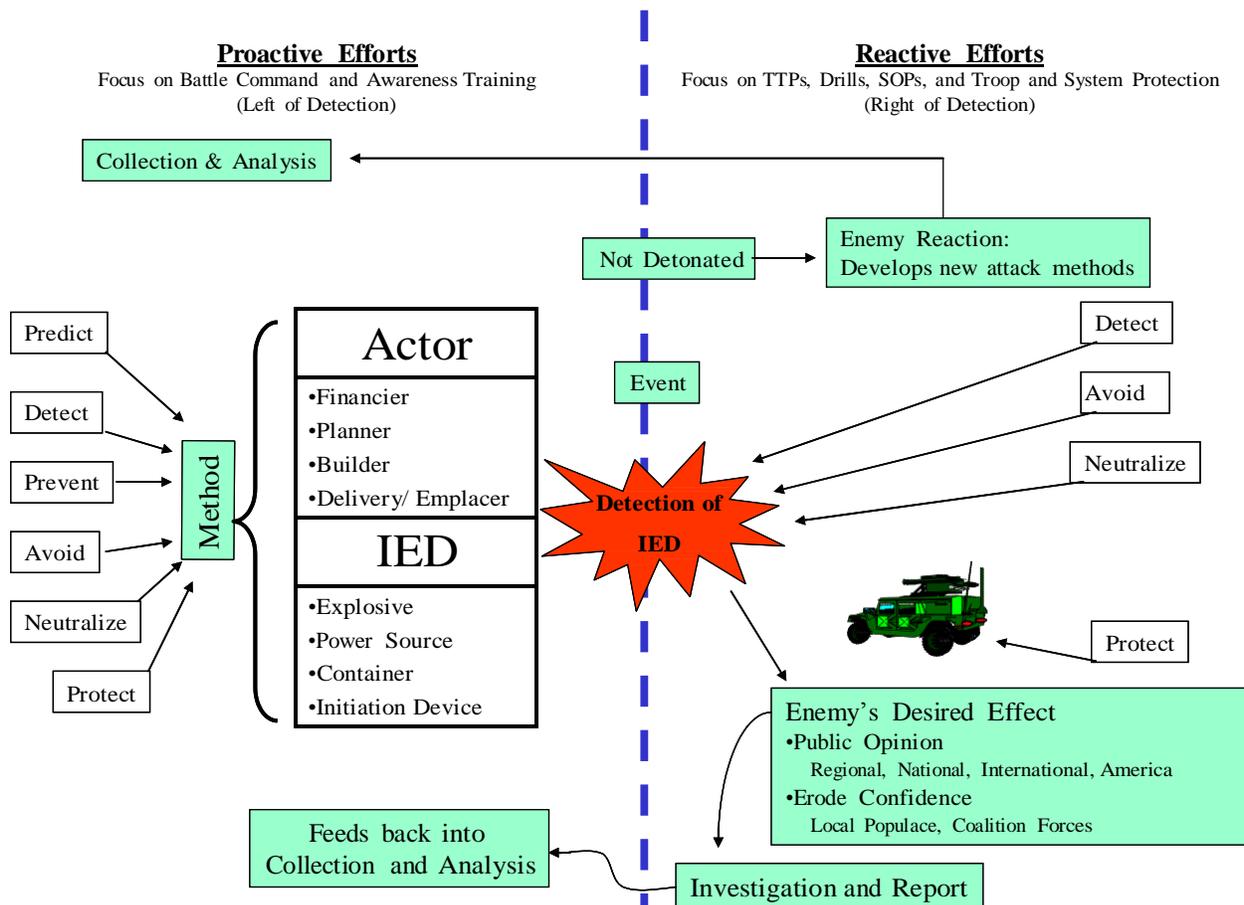
IED Attack Preparation, Prevention, and Effects Reduction (Continued)

- **Avoid activities.** These activities keep friendly forces from IEDs when prevention activities are not possible or have failed.
 - Altering routes and routines.
 - Marking and bypassing suspected IEDs.
- **Neutralize.** These activities contribute to the destruction or reduction of enemy personnel, explosive devices, or supplies. They can be proactive or reactive in nature.
 - Proactive activities include conducting operations to eliminate or interrupt the enemy's leaders, suppliers, trainers, enablers, and executors responsible for the employment of IEDs against coalition forces.
 - Reactive activities include conducting controlled detonations or render safe procedures (RSPs) against identified IEDs, caches, captured enemy ammunition (CEA), and so forth. Explosive Ordnance Disposal (EOD) forces are the only personnel authorized to render safe IEDs.
- **Protect.** These activities improve the survivability of IED targets through hardening, awareness training, or other techniques.
 - Disrupting, channeling, blocking, or redirecting enemy and fragmentation.
 - Creating greater standoff distances to reduce the effect that IEDs have on their intended targets.
 - Using jamming devices.
 - Reducing time and distance in which intended targets are within IED range.
 - Accelerating processes and increasing the effectiveness by which reaction and evacuation operations are conducted.
 - Providing blast and fragmentation mitigation for platforms, structures, and personnel.
 - Avoid establishing patterns and predictable forms of behavior.
 - Conducting proper pre-combat inspections (PCIs) and rehearsals for all operations.
 - Treating every operation as a combat mission (from a simple convoy to forward operating base [FOB] security).

IED Defeat Framework. The IED defeat framework can be broken down into two major sub-elements: Proactive (pre-detection) and Reactive (post-detection).

- Proactive elements are actions taken by friendly forces to predict, detect, prevent, avoid, neutralize, and protect against IED events.
- Reactive elements are actions taken by friendly forces to detect, avoid, neutralize, and protect against IED events.

IED Attack Preparation, Prevention, and Effects Reduction (Continued)



IED Defeat Framework

The small unit leader generally has the capability to affect four of the six tenets of the IED-D framework. These are: predict, detect (detection is discussed in the previous lesson), avoid, and protect.

- **Predict.** Through analyzing the terrain, the planned route, and recent enemy activity in the area, the small unit leader can predict likely areas for an IED attack. Though many actions are involved within "Predict", the small unit leader can likely execute the following actions with limited assistance from the unit's intelligence section:
 - Identify patterns of enemy behavior.
 - Predict future enemy actions.

IED Attack Preparation, Prevention, and Effects Reduction (Continued)

- **Avoid activities.** “Predict” and “detect” aid the leader in avoiding IED attacks. The following activities also aid in avoiding IED attacks:
 - Increasing situational understanding (SU) of the area of operations (AOs).
 - Constantly updating the common operational picture (COP)
 - Disseminating related accurate information about the AO in a timely manner.
 - Ensuring timely and accurate status reporting and tracking.
 - Altering routes and routines.
 - Marking and bypassing suspected IEDs.

- **Protect.** The following actions should be considered when attempting to decrease the effectiveness of IEDs:
 - Disrupting, channeling, blocking, or redirecting energy and fragmentation. This is primarily accomplished through use of armor kits on combat vehicles.
 - Creating greater standoff distances to reduce the effect that IEDs have on their intended targets. **The minimum safe distance from any IED is 300 meters, but this range increases as the size of the IED increases.**
 - Incorporating unmanned platforms. This would include unmanned aerial vehicles or robotics to investigate likely attack areas prior to entering the area.
 - Using jamming devices.
 - Reducing time and distance in which intended targets are within IED range.
 - Increasing the speed and effectiveness by which reaction and evacuation operations are conducted.
 - Providing blast and fragmentation mitigation for platforms, structures, and personnel.
 - Avoiding establishing patterns and predictable forms of behavior.
 - Conducting proper personnel and equipment inspections and rehearsals for all operations.
 - Treating every operation as a combat mission (from a simple convoy, to daily forward operating base [FOB] security or patrols).

Preventing IED Emplacement. The most effective way to enhance your security in relation to the IED threat is to deny the insurgents the opportunity to emplace an IED. Activities that reduce insurgent ability to emplace IEDs are to:

- Develop a good relationship and means of communicating with the community so community members feel comfortable providing you with information.
 - Advertise phone numbers to report insurgent activity or materials
 - Offer incentives and consistently ensure anonymity.

 - Coordinate with local police and conduct joint patrols—local police can aid in collecting information on insurgent actions and materials. (Maintain operations security [OPSEC].)

 - Use patrols, observation points, and checkpoints to interdict and dissuade enemy activities and deny enemy access to key terrain for IED emplacement.
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IED Attack Preparation, Prevention, and Effects Reduction (Continued)

- Use counter IED-ambush teams and scout-sniper teams to interdict or kill enemy insurgent teams.
- Reduce availability of bomb making materials, especially the pervasively available military explosives.
- Clean routes of trash, brush/vegetation, abandoned vehicles, etc. from the sides of the road. Select routes that are of the most concern in terms of IED threats.

Prepare For Movement. Follow these important points for movement:

Number and Type of Vehicles (combat, logistic, wheeled, tracked). Large convoys consisting primarily of logistic vehicles carrying food, water, and numerous pilferable items that the enemy would like to capture for financial gain are likely targets as they are difficult to defend. These must contain robust security elements to present an aggressive posture and prevent attack. The leader must balance the number and type of vehicles in a movement to prevent the unit from becoming too cumbersome to manage and to allow for a strong security posture. If there are four or more security vehicles in a unit, two of them may scout ahead, maintaining communication and visual contact.

Planned Speed of Movement. The speed of movement should be varied according to the drivers' level of experience, vehicles/load plan of each convoy, the actual mission (e.g. supply convoy versus presence patrol), and the weather, time of day, and road conditions. Some key considerations are listed below:

- Driving fast may upset the enemy's timing of command detonated IEDs, but it decreases the ability to spot IED indicators. Leaders must be aware that driving too fast may cause loss of control and can be potentially deadly.
- Driving slow increases the probability of spotting IED indicators, but may make you an easier target for command detonated IEDs or ambushes.
- Speed should be varied within the capabilities of the vehicles and the operators. This will help avoid setting patterns.

Weapons. Leaders must attempt to have a variety of weapons systems within their unit during any movement. This should range from small arms (rifles, grenade launchers) to medium and heavy machine guns. An effective mix of weapons systems will allow for an aggressive posture with the ability to provide heavy suppressive fires and the ability to conduct a dismounted assault. Either capability without the other exposes a critical gap in a unit's tactical capability that is easily exploited by the enemy. Leaders must also ensure that Marines are proficient with their weapons systems prior to movement.

Route Selection. Before selecting the routes to be used in each mission, an analysis of new information should occur:

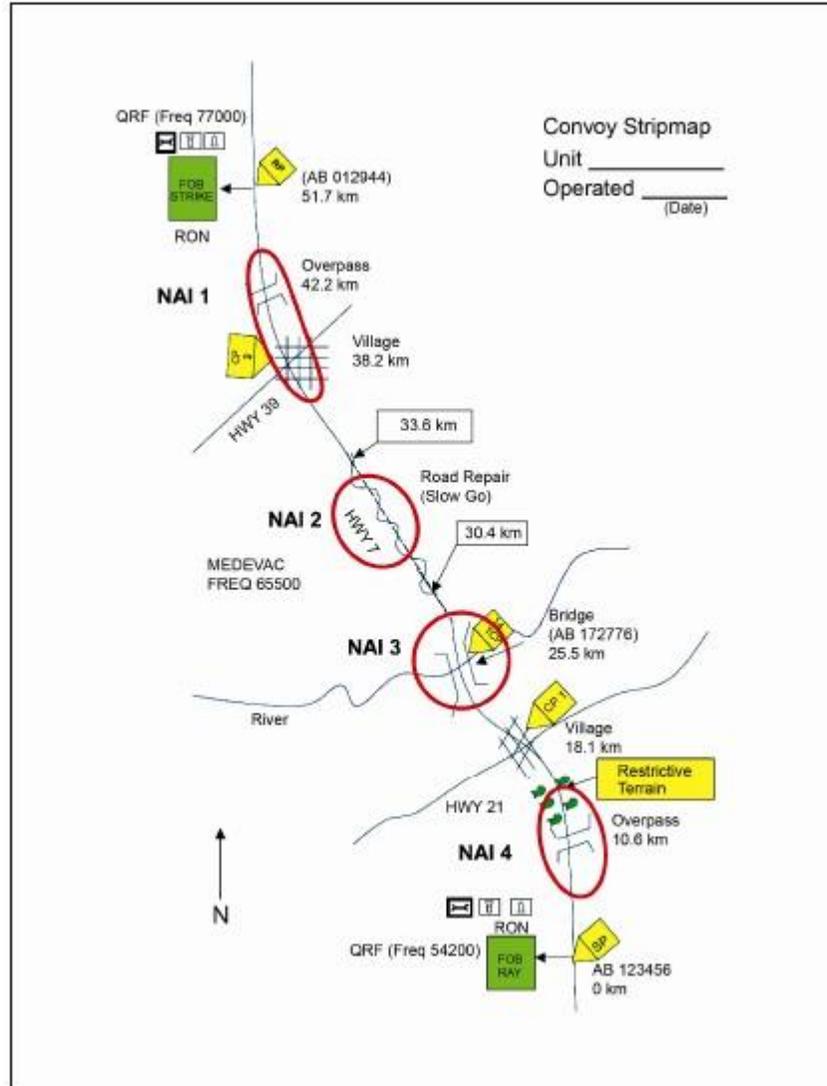
- Check when the routes you are considering using were last cleared or used by other units.

IED Attack Preparation, Prevention, and Effects Reduction (Continued)

- Leaders should check for updated threat and route information with
 - Higher headquarters
 - MPs
 - Force protection teams
 - Intelligence and reconnaissance reports
 - The Mine Data Center
 - The IED Task Force, etc.
- Choose routes that avoid chokepoints and other areas where traffic slows because reduced speeds make the convoy more vulnerable.
- Vary the times of movements, as well as the routes.
- Maintain OPSEC regarding the timing and routes of convoys, patrols, and other movements.

The figure shown on the following page is an example of a planned route that has been analyzed to show likely areas for an IED attack.

IED Attack Preparation, Prevention, and Effects Reduction (Continued)



Example of route denoting likely IED Attack sites

Communication Plan. Some movements (especially logistical convoys) cover a great distance and can often pass through several units' areas of operation. The following considerations must be taken into consideration when developing a communication plan.

- Coordination with each unit whose AO you will be passing through to ensure that your means of communication are compatible.
- Preparation for emergency communications. All members of your unit must be briefed on and able to communicate MEDEVAC requests (air and ground) and Explosive Hazard Spot Reports. While this should be done for any movement, it is especially important in an IED environment due to the particularly catastrophic injuries and damage caused by IEDs.

IED Attack Preparation, Prevention, and Effects Reduction (Continued)

Pre-Movement Rehearsals. Moving units must be prepared to react quickly and efficiently to any attack--especially IED attacks. Once commencing the mission in the IED environment, it is vitally important to maintain awareness. Maintain an offensive mindset. Make all attempts to avoid setting patterns. One enemy TTP is to set decoy IEDs in order to observe the immediate reactions of coalition forces. By studying our tactics they can increase the lethality of their attacks, like setting up mortars and rockets on the kill zone or safe area. Follow the map you updated carefully—75% of IEDs are set up in the exact same location of previous attacks. Follow the below steps to react to IED attacks. The below is not meant to replace initiative and ingenuity of the small unit leader; it is intended to be used as guidance. Remember that the IED may be just one part of the ambush. The unit must be prepared to react to any threat after the IED detonates and move out of the kill zone as quickly as possible. In the fight against an adaptive enemy, variations in TTPs are encouraged.

Leaders must be aware all details unique to their particular situation in order to make a timely decision. The decision matrix on page 34 aids the unit leader in deciding how to act/react according to their particular situation.

Pre-Combat Inspections. As with any other combat operation, unit leaders must conduct pre-combat inspections. This is the leaders' last opportunity to ensure that all personnel and equipment are prepared for the movement. The following are a few key concerns. A more detailed checklist is contained at the end of this outline.

- **Personnel.** Inspect personnel for the follow (at a minimum).
 - Personal Protective Equipment (PPE) is present, serviceable, and worn properly.
 - Weapons systems are operational and properly maintained.
 - Personnel are familiar with movement order, rally points, immediate action drills, and communication procedures.

- **Vehicles.**
 - Vehicles are in working order and properly maintained.
 - If not armored, vehicles are properly hardened. Use creativity as the situation dictates. One common example is to use sandbags. This may be especially practical if your AO sees a great deal of large, on route, buried IEDs. Sand-bagged floor boards can absorb fragmentation and add weight to the vehicle (which decreases the vertical and horizontal acceleration as a result of the IED detonation).
 - Fire extinguishers are present on all vehicles and are in working order.
 - All cargo is properly strapped down to ensure it does not become secondary fragmentation.
 - Strip maps are present on all vehicles.
 - The vehicle load plan is adhered to.

IED Attack Preparation, Prevention, and Effects Reduction (Continued)

After Action Report. For your intelligence section to be able to properly update moving units, it is important that you provide a detailed after action report. Update your maps with any IED attacks that occurred during your movement, and add any potential IED attack locations. Strive to understand anything you may consider to be an enemy TTP, and inform the S-2. Pinpoint where any indirect or direct fire came from, and the location of any ambushes. Provide the S-2 with any other information that you think may be relevant for future pattern analysis.

IED Encounter Response Procedures

Introduction. This section will provide you with information on how to react should an IED be discovered and/or detonate. At the end of this section you should understand

- Measures to be taken immediately after IED attack,
- Follow on actions if
 - No enemy is in the immediate area,
 - The enemy is in the immediate area, and
- General guidelines for the use of force. Units must drill these procedures and develop SOP battle drills for reacting to enemy contact associated with IED attacks. These tactics must be adaptive so that they keep the enemy off balance.

Reacting To Suspected IEDs. In order to mitigate the effects of an IED, there are several things Marines can do regardless of the type of threat. Ensure that personnel wear all protective gear available, to include ballistic eye protection, goggles, Kevlar helmets, body armor with plates, and hearing protection. Wear seatbelts when moving. During mounted movement, ensure that drivers, track commanders, and gunners have as much of their body inside the vehicle as possible to reduce the possibility of being struck by shrapnel or being exposed to the initial blast.

- **Pre-Movement Rehearsals.** Moving units must be prepared to react quickly and efficiently to any attack--especially IED attacks. Once commencing the mission in the IED environment, it is vitally important to maintain awareness. Maintain an offensive mindset. Make all attempts to avoid setting patterns. One enemy TTP is to set decoy IEDs in order to observe the immediate reactions of coalition forces. By studying our tactics they can increase the lethality of their attacks, like setting up mortars and rockets on the kill zone or safe area. Follow the map you updated carefully—75% of IEDs are set up in the exact same location of previous attacks. Follow the below steps to react to IED attacks. The below is not meant to replace initiative and ingenuity of the small unit leader; it is intended to be used
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IED Encounter Response Procedures (Continued)

as guidance. Remember that the IED may be just one part of the ambush. The unit must be prepared to react to any threat after the IED detonates and move out of the kill zone as quickly as possible. In the fight against an adaptive enemy, variations in TTPs are encouraged.

- **Patrolling.** One of the most important things you can do to protect yourself and your unit against the possibility of an IED attack is to limit your predictability. This is much more than varying the times of movement. You also need to consider varying routes, movement techniques, and your TTP for dealing with different situations. Remember, the enemy is always watching. For example, if you react to a specific situation such as a disabled vehicle or suspected IED the same way every time the enemy will quickly catch on and will use this knowledge to his advantage. In an effort to counter route predictability, patrols should change direction at seemingly random intervals, especially in areas of previous IED attacks. Where practical and safe, move against the normal flow of traffic, turn around at points not normally used, and move overland parallel to an established route in order to vary your observable movement tactics. Additionally, these techniques will present the patrol with a different and often more advantageous observation angle that may reveal the “backside” of an IED that was poorly camouflaged.
 - **Counter VBIED Techniques.** The key to surviving a VBIED attack is standoff and cover. Also, stress to security personnel that a VBIED can come from any direction. Units have been attacked by vehicles turning into a patrol from oncoming traffic. When moving in a convoy, make sure you do not present a lucrative target for a VBIED. Maintain an aggressive security posture and have a plan for dealing with civilian traffic. This can include, but is not limited to, the use of signs in the local language, formations that take up all lanes in the road, visual signals, use of an air horn, and the use of flares to warn cars to stay back before firing disabling shots.
 - Top gunners and security personnel should be alert and constantly aware of any vehicle approaching their patrol or parked along the route.
 - Within the ROE, any suspicious vehicle should not be allowed to approach coalition forces. Employ warning signs to tell civilian drivers to remain clear of a moving convoy.
 - Convoy and patrol members should know the authorized escalation of force procedures.
 - Be aware of danger areas/choke points such as turnoffs that force the patrol to slow down.
 - Watch merging traffic as VBIEDs have used on or off ramps to get near coalition vehicles

IED Encounter Response Procedures (Continued)

- If you are going to allow civilian traffic to pass your convoy, make sure you have developed a technique to visually check cars and drivers as they approach.
- If you are not going to allow civilian traffic to pass your convoy, make sure that you have a plan to let civilians know to stay back, and have a plan for the escalation of force.
- Maintaining Standoff: Mobile. Escalation of force techniques/ROE: The techniques used should be simple, clean, and definite:
 - Aggressive/defensive vehicle maneuvers
 - Signs in the local language on the rear of vehicle (“Stay Back, Do Not Pass”)
 - Hand and arm signals
 - Air horn/siren/bull horn/whistle
 - Spotlight (nighttime)
 - Green lasers
 - Non-lethal warnings
 - Chem-lites, water bottles
 - Use of pen flares
 - Flash bangs
 - 40-mm TP round
 - Warning shots
 - Engage vehicle with weapon, if necessary (ROE)
 - Engage the driver/occupants, if necessary (ROE)
- Maintaining Standoff: Stationary
 - Recon site prior to occupation
 - Perform 5 to 25 meter checks upon halt
 - Maximize distance from roadway (mine and buried IEDs may present a threat)
 - Make use of natural barriers
 - Maintain good dispersion
 - Quickly establish overt perimeter:
 - Cones
 - Barbed wire
 - Signs
 - Road spikes
 - Establish overwatch of primary position
 - Defend in depth

IED Encounter Response Procedures (Continued)

- Position electronic countermeasure (ECM) devices for maximum coverage
- Keep roads clear of civilian vehicles
- Counter Suicide Bomber Techniques
 - Defensive Actions
 - Evacuate the area immediately. Safe distances will depend on the mass of explosive carried by the bomber and the amount and type of fragmentation used.
 - “Close and negotiate” tactics **should not be attempted**, as suicide bombers are usually trained to avoid surrender at all costs.
 - A “fail safe” cell phone or radio-controlled initiator could be used in the event that the bomber is incapacitated or hesitates. This tactic would normally involve a second suspect with a line-of-sight view of the bomber and should always be considered.
 - If a “deadly force” response is taken, bullet impact may initiate/detonate the explosive charge(s). Firing on the suspect should only be undertaken from protective cover.
 - If the suspect is neutralized and there is no explosion, **do not administer first aid**. Wait for EOD to render safe the explosive charge.
 - Actions at Halts. No one single set of procedures will work for all situations. If a patrol or convoy must stop during movement, employ techniques to create standoff. Remember to conduct 5 to 25 meter checks as described below. In addition, establish your own local security every time the convoy or patrol halts. Avoid clustering vehicles and vary the vehicle interval between elements. If you will be stopped for any length of time, improve your position constantly and consider contingencies (hasty and deliberate defense) for the site you are occupying. Most importantly, do not remain at one site too long. The enemy has planned and executed attacks against units that remain in place too long.
 - 5 to 25 Meter Checks at Halts. Any patrol or convoy halting for any length of time must consider itself vulnerable to attack. At all halts, Marines must clear the area around their vehicles. Depending on the length of time at the halt, the area to clear varies from 5 to 25 meters. At every halt, no matter how short, the crew must clear 5 meters around the vehicle while inside. For extended halts, teams must clear 25 meters around the patrol or convoy. Begin 5 to 25 before stopping to avoid stopping on top of an IED.

IED Encounter Response Procedures (Continued)

- **5 meter checks:**
 - Identify a position to halt.
 - Visually check the area 5 meters around your vehicles .
 - Look for disturbed earth and suspicious objects, loose bricks in walls, and security ties on streetlights or anything out of the ordinary.
 - Start your search at ground level and continue up above head height.
 - Then conduct a physical check for a radius of 5 meters around your position. Be systematic, take your time, and show curiosity. If the tactical situation permits, use a white light or infrared (IR) light at night.
 - If in an armored vehicle, remain mounted during your 5 meter check to take advantage of the vehicle's protection.

- **25 meter checks:**
 - Add to the 5 meter check when the patrol or convoy leader decides to occupy an area for any length of time.
 - Once 5 meter checks are conducted, continue visually scanning out to 25 meters.
 - Conduct a physical search for a radius of 25 meters around your position.
 - Look for IED indicators and anything out of the ordinary.

- Actions on Contact. An improvised explosive device (IED) is a form of attack by the enemy. Any IED that detonates should be treated as an enemy contact. Contingency plans and rehearsals are key to concluding the contact, hopefully with the capture or death of the bomber. If you find an IED before it explodes, you must treat it like it will explode at any moment. The enemy at the firing point may be waiting for more Marines to gather around the device before setting it off. He may be moving from an observation point (OP) to the firing point. Training on basic tactics, techniques, and procedures (TTP) will enable you and your unit to win the engagement.
 - IED Found Before Detonation.
 - **The Five "Cs".** The five "Cs" represent a simple set of guidelines that you should use when you encounter a suspected IED:
 - Confirm
 - Clear

IED Encounter Response Procedures (Continued)

- Cordon
- Check
- Control
- **CONFIRM**. You should always assume the device will explode at any moment. From a safe distance and using a minimal number of personnel, look for IED indicators. Use any hard cover you have available while attempting to confirm the suspected IED, and never risk more personnel than the tactical situation requires. Use all tools at your disposal, to include moving to a better vantage point. Use optics to look for tell-tale signs of an IED: red detonating (det) cord, antennas, electrical wires, or exposed ordnance. Never ask civilians to remove an IED. You may solicit information regarding the suspected IED, but do not ask them to go up and “take a look.” Stay as far back as possible while looking for clues. When in doubt, back away. Do not ever touch.

Let your higher headquarters know what you have found. Submit an IED/unexploded ordnance (UXO) 9-line report. When you move to a new location, always check for secondary IEDs. Always assume that the found IED is a bait round and that the real IED is near your “secure” location. Team members should always scan their immediate surroundings for more IEDs. Report additional IEDs to the on-scene commander.

LINE 1. Date-time group (DTG): When the item was discovered?

LINE 2. Report activity and location: Unit and grid location of the IED/UXO.

LINE 3. Contact method: Radio frequency, call sign, point of contact (POC), and telephone number.

LINE 4. Type of ordnance: Dropped, projected, placed, or thrown; give the number of items if more than one.

LINE 5. Nuclear, biological, chemical (NBC) contaminations: Be as specific as possible.

LINE 6. Resources threatened: Equipment, facilities, or other assets that are threatened.

LINE 7. Impact on mission: Short description of current tactical situation and how the device affects the status of the mission.

IED Encounter Response Procedures (Continued)

LINE 8. Protective measures: Any protective measures taken to protect personnel and equipment.

LINE 9. Recommended priority: Immediate, indirect, minor, no threat.

Note: Do not attempt to do the job of explosive ordnance disposal (EOD) or engineers.

- **CLEAR**. Evacuate the area to a safe distance (around 300 meters) but do not set a pattern. If it is a VBIED, you will need more standoff. Get out of the IED's line-of-sight. Assess whether your distance and cover is adequate. Direct people out of the danger area, and do not allow anyone to enter other than those responsible for rendering the IED safe, such as EOD. Question, search, and detain as needed.
- **CORDON**. Establish blocking positions to prevent vehicle and foot traffic from approaching the IED. Immediately search the safe area for secondary IEDs before occupying it. Make maximum use of available cover. Establish 360 degree security and dominate the area. Scan close in and away from your position. Most likely, the enemy is watching and waiting to make his move. Randomly check people leaving the area to deter attacks. Establish obstacles to control approaches to security positions. Enemy may try to attack local security forces using a VBIED.
- **CHECK**. Check the immediate area around the IED and cordoned positions for secondary devices using the 5/25 meter checks. Expand the search area as time/ threat permit.
- **CONTROL**. Control the site until EOD arrives. Clear and set up an entry control point for first responders. Do not let others go forward to "inspect" the IED. Make contingency plans in case you are attacked by small arms or rocket propelled grenades (RPGs).

IED Encounter Response Procedures (Continued)

Should you be part of a patrol or convoy that finds an IED, the five "Cs" will help to ensure that the situation can be dealt with quickly and safely. Remember, an IED that is found is still an IED attack. By finding the IED, you have just disrupted the enemy's attack. Do not forget about the enemy's other forms of attack, RPGs, small arms fire, mortars, and secondary IED. Enemy IED site = Enemy ambush site. You are in the kill zone!

IED Encounter Response Procedures (Continued)

Kill and Danger Estimated Distances.

IED	Amount of HE	Kill Distances	Danger Area Frag	Danger Area Blast
Coke Can	1 lb.	10 ft	500 ft	300 ft
Shoe Box	5 lb.	20 ft	850 ft	500 ft
Small	10 lb.	22 ft	1200 ft	650 ft
Footlocker	100 lb.	50 ft	2500 ft	1500 ft
Car	500 lb	82 ft	4000 ft	2400 ft
Van	4000 lb	164 ft	6500 ft	5000 ft
Delivery	10000 lb	225 ft	11000 ft	6300 ft
Semi Trailer	60000 lb	400 ft	20000 ft	12000 ft

Once you have completed the first five crucial steps (Confirm, Clear, Assess, Cordon, and Control), follow the rest of the steps of these response procedures:

- Attempt to locate insurgents in the area and, if possible, attempt to kill or capture.
- Mark the IED using a reference point; determine grid location and record DTG. Do not handle or approach IED at any time.
- Contact higher headquarters to report any IEDs or possible IEDs using the nine-line IED/UXO report. A grid and sitrep will suffice in the short-term.
- Do not use radios, cellular phones, radars, or other electronic devices within 100 meters of the suspected IED, as these actions could set off radio-frequency IEDs.
- Gather information about the IED area and threat environment and interview witnesses.
- Leave the area when the IED is secured or conduct a battle hand over with EOD or other follow-on unit. Restore site to state of normalcy if possible (restore traffic flow, clear debris, treat local populace with respect, etc.).

IED Encounter Response Procedures (Continued)

- Suspected IED — What Not To Do.
 - **Never approach a suspected IED.** Instead, use standoff optics like binoculars and spotting scopes from multiple angles to attempt to confirm the presence of an IED. When in doubt, back off and call EOD.
 - **Do not pick up det cord.** Det cord is an **explosive** and the presence of it alone is enough to call EOD. Do not trace or pull on det cord.
 - **Tracing command wire (CW).** The enemy has placed trip wires and other IEDs under/in the vicinity of command wires. When a command wire is located, rather than walking parallel to the wire or over the wire to locate the initiation point, work in an “S” pattern, crossing the CW until the initiation point is located.

CAUTION! There has been at least one occasion where an IED was located at the initiation point, in addition to the IED at the main supply route (MSR). Do not focus on the “found” IED. An IED, once found, is not going to move. Look for additional devices. Look for the trigger man. Look for anyone trying to escape the area. Watch for approaching VBIEDs. Scan for enemy moving into position to engage you with small arms or RPGs. Focus outward. Again, once positive IED indicators are found (det cord, wires, etc.), immediately move a safe distance away; perform a search of your safe area (5 to 25 meter checks) for secondary devices, and call EOD.

- **IED Detonation.** Immediate actions differ when an IED is actually detonated. The enemy may often combine the IED attack with a direct fire ambush to increase the lethality of the attack. In deciding the best course of action following an IED detonation, the leader must first determine if the IED attack is combined with an ambush. The 5 “Cs” are still applicable; however, you must now incorporate your counter-ambush TTPs. Even when you do everything right tactically, the enemy can sometimes surprise you. For this reason, it is important to review some tactical principles for post-explosion actions. Units should be proficient in actions on contact, and team members should be cross-trained on other patrol member’s duties. Remember, an IED attack is an ambush. It is important to note that the results of an IED attack can range from catastrophic to no damage at all. The enemy is not always successful with IED attacks. If you are attacked, your reaction to contact drills will have to be modified based upon vehicle damage and casualties.

Key points:

- Quick, lethal and aggressive response in accordance with rules of engagement (ROE)

IED Encounter Response Procedures (Continued)

- Immediately scan outward. The biggest mistake Marines can make is focusing inwards toward the site of the IED detonation and forgetting about the enemy. Obviously, some Marines will have to assess the situation, communicate with higher, tend to wounded, and recover vehicles. Every other patrol or convoy member should scan around the location for the enemy.
 - Move out of kill zone
 - Search for/Clear additional IEDs (5 to 25)
 - At the new location (5 to 25)
 - At the location where the vehicle is disabled (5 to 25)
 - Treat/Evacuate casualties
 - Report situation
 - Expect follow on attacks
- IED Detonation: No Ambush; with or without casualties. After an IED is detonated, the unit leader must be prepared to react immediately to a number of potential scenarios. The method chosen will depend on the mission and the circumstances following the attack:
- The unit leader may chose to continue movement.
 - If there is a casualty the unit leader may chose to find a suitable CASEVAC location
 - Preserve forensic evidence
 - Search the surrounding area
 - Conduct vehicle recovery operations
 - Dismount vehicles and seek out the trigger man
 - Conduct 5 C's. Be prepared to take additional action as your situation develops.

Below is an example of a unit SOP-driven immediate action drill that uses the acronym **REACTER**:

- **Report.** Report contact to personnel internal to patrol/convoy; gain situational awareness.
- **Evacuate.** Able vehicles and personnel clear kill zone.
- **Area.** Secure the area (ie; establish snap blocking positions using contents of snap VCP kits, conduct 5 to 25 meter checks, establish 360 security, establish overwatch, establish cordon, scan/search for possible triggermen/cameramen). Focus on enemy and control area.
- **Clear the kill zone.** Conduct a sweep for secondary IEDs while clearing to damaged vehicle/kill zone. ECM assets should be integrated into sweep if available. First responders should move up immediately behind sweep, but should not move to kill zone before area is secure or sweep for secondary IEDs is conducted.

IED Encounter Response Procedures (Continued)

- Treat casualties: initial lifesaving procedures only. Do not establish Casualty Collection Point (CCP) in kill zone and do not linger in kill zone.
 - Establish CCP and LZ away from kill zone ie; min 300 meters. Conduct 5 to 25 meter checks at CCP and LZ.
 - Report/recover. Report situation to higher and Recover damaged vehicles as required.
- IED Detonation With Direct Fire Ambush. When no ambush is present, the priority is to determine if other IEDs exist in the immediate area. When an ambush is present, the priority shifts slightly; the threat of a potential IED is outweighed by the actual ambush, so the enemy must be addressed first. The leader must employ the principles of reacting to near or far ambushes, and then conduct the 5 Cs.
- IED Detonation with near ambush. In a near ambush, the kill zone is under very heavy, highly concentrated, close-range (within hand grenade range) fires. There is little time or space for men to maneuver or seek cover. The longer they remain in the kill zone, the more certain their deaths. If attacked with a near ambush:
 - Marines in the kill zone immediately assault the enemy's position without waiting for any order or signal. The assault should be swift, violent, and destructive. Fire weapons at the maximum rate, throw hand grenades, and yell as loudly as possible- anything to kill as many enemy as they can, and confuse enemy survivors. Once they reach the ambush position, they either continue with their assault, or break contact, as directed.
 - Marines not in the kill zone maneuver against the ambush force, firing in support of those assaulting.
 - If the ambush force is small enough to be routed or destroyed, the patrol members should continue with their assault and supporting fire. If the force is well-disciplined and holds its ground, then the patrol members should make every effort to break contact as quickly as possible, and move to the last en route rally point to reorganize.
 - If the leader decides to break contact, he must be aware that the unit may have to provide suppressive fire until any WIA/KIA/disabled vehicles can be extracted from the kill zone.
 - Consolidate and Conduct 5 C's.
 - IED Detonation with far ambush. In a far ambush, the killing zone is also under very heavy, highly concentrated fires, but from a greater range (out of hand grenade range). The greater range precludes those caught in the killing zone from conducting an
-

IED Encounter Response Procedures (Continued)

assault. The greater range does, however, permit some opportunity for the men to maneuver and seek cover. If attacked from a far ambush:

- Men in the kill zone immediately return fire, take the best available cover, and continue firing until directed otherwise.
 - Men not in the kill zone maneuver against the ambush force, as directed.
 - The unit leader either directs his unit and team leaders to fire and maneuver against the ambush force, or to break contact, depending on his rapid assessment of the situation.
 - If the leader decides to break contact, he must be aware that the unit may have to provide suppressive fire until any WIA/KIA/disabled vehicles can be extracted from the kill zone.
 - Consolidate and Conduct 5 C's.
- **Attempting to Neutralize an IED with Organic Weapons.** Depending on your estimate of the situation and your commander's intent, you may be required to neutralize the suspected IED if EOD is not immediately available and the situation is dire enough to warrant taking the risk. Neutralizing the IED is generally not the preferred course of action as it destroys any forensic evidence, may cause explosive waste to scatter without detonating, and could be potentially deadly as these techniques are often conducted from within the fragmentation radius of the IED. Also, you should note that an IED in the open may be a detonator for a larger hidden device. Ensure that there is enough safety standoff distance from the IED before detonating it. The only means that

most convoys/patrols will have to attempt to neutralize an IED is through direct fire weapons.

- Stand-off Munitions Disruption (SMUD)/ ballistically breaching. Standoff munitions disruption (SMUD) is remotely detonating, disrupting, or deflagrating small ordnance at safe distances. Marines and soldiers have attempted to modify this technique to ballistically breach IEDs. Although it may be successful, there is a great deal of risk to ballistically breaching IEDs.

WARNING: Ballistic breaching can leave a fully functional IED or other explosive hazard. It is difficult to verify that the hazard has been neutralized.

WARNING: If the ordnance used as the main charge is not identified, the use of ballistic breaching may create a greater hazard by scattering sub-munitions or worse, releasing chemical agents into the environment.

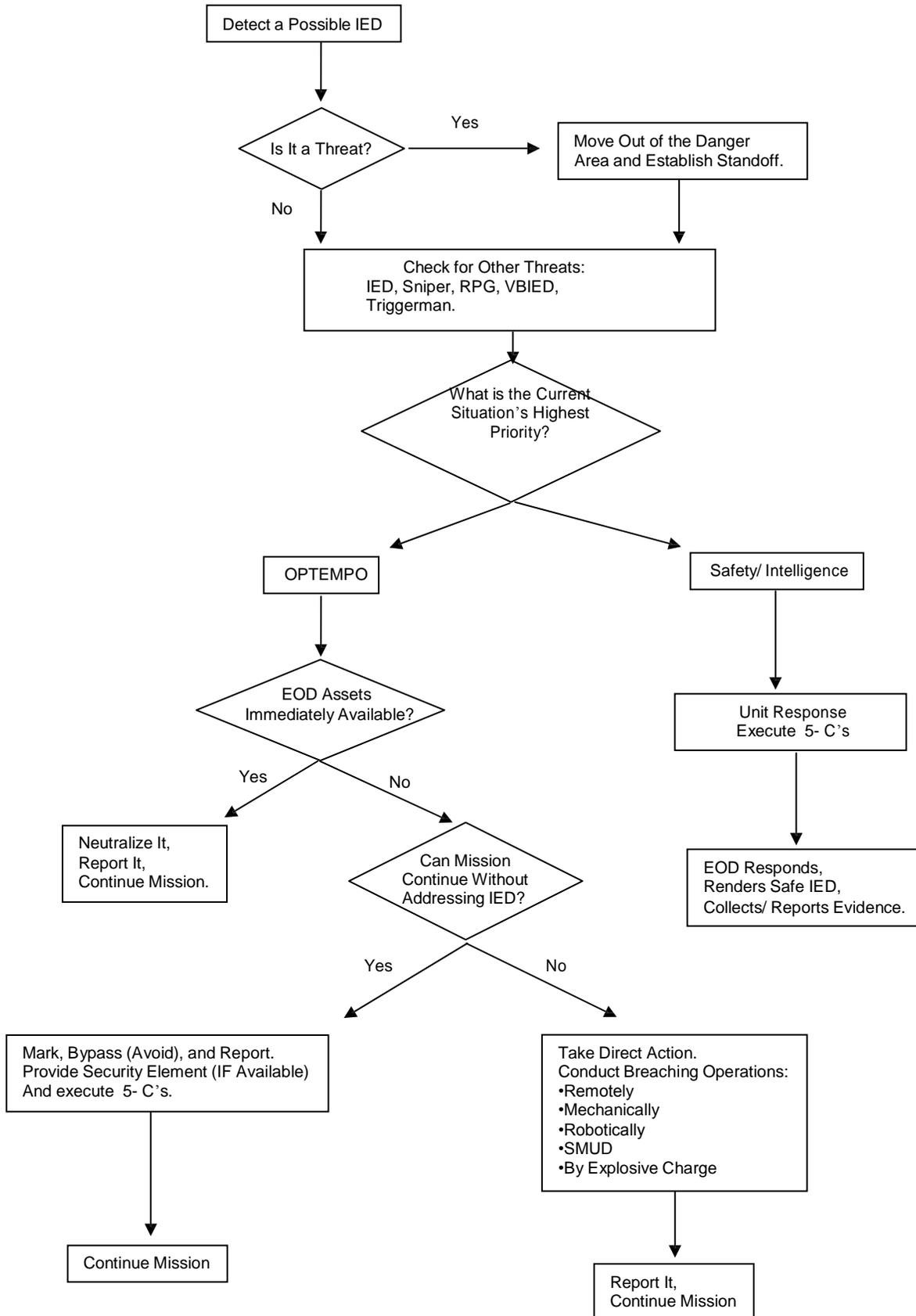
Attempting to ballistically breach potential IEDs can be extremely dangerous. It can expose the unit to fragmentation hazards, chemical hazards, and the potential of scattered ordnance. Further, unless conducted by a properly trained

IED Encounter Response Procedures (Continued)

EOD technician, the use of ballistic breaching may not destroy the IED. **This is a risk based decision that a leader must make only after all other alternatives have been exhausted.**

A LEADER'S DECISION CONSIDERATIONS MATRIX IS FOUND ON THE FOLLOWING PAGE.

IED Encounter Response Procedures (Continued)



IED Encounter Response Procedures (Continued)

General Guide to Responding with the Use of Force. When responding to an IED attack with force, Marines should remember that intelligence is critical to defeating an enemy force and should think about capturing IED enemy forces if possible. Captured IED enemy forces can be a good source of intelligence—leading to the killing or capture of key enemy leaders, planners, operators, and other organizers of the insurgency.

IED Hunting. IED hunting requires patience, practice, and proactive approaches to the mission. IED hunters do much more than drive up and down the roads looking for IED signs. Patrol members clear routes to ensure freedom of movement for coalition forces (CF) and civilian traffic. Familiarity with the area to be cleared is one key element in successful IED hunting teams. Looking at the route from the enemy's perspective is a second critical element. Teams must use all means available to find IEDs and to prevent themselves from becoming a target.

Key points to IED hunting are

- In depth knowledge of the area
- Concentrate efforts on high threat areas
- Clear the route often
- Use combination of mounted/dismounted teams
- Move slow enough to observe
- Observe from multiple angles
- Investigate every clue that tends to point to an IED
- Take size of object into consideration
- Look for other IED indicators
- Use optics to maximize standoff
- Elicit information from Iraqi citizens

Some IED hunting teams use specialized vehicles, which offer additional protection, survivability, and equipment to search for IEDs. Other teams use simpler, common equipment to observe changes in their assigned area such as binoculars, spotting scopes, and white searchlights; thermal sights can assist IED hunters. The single most important consideration for IED hunting teams is to vary their actions.

Based upon previous experiences, a few key principles for IED hunters have emerged. While the equipment and enemy may vary, these guidelines can help organize counter IED patrols.

- Use every tool you have. Review daily intelligence reports and debriefs from previous patrols.
- Use the same personnel consistently. This is one point where you want to set a pattern. Marines who are familiar with a route will know when changes have taken place. They will know what the roads look like and what garbage and dirt piles are new. They will also be able to detect changes in the population's attitudes and presence.

IED Encounter Response Procedures (Continued)

- Drive at slow speeds and use the center of the road. You must drive slowly enough to detect IED indicators.
- While convoys and other movements should go as fast as practical, IED hunters should move slowly and deliberately while searching. Moving in the center of the road gets the team further away from IEDs in the event of a detonation.
- Solicit information. Ask locals if they have seen unusual activity (you will need an interpreter).
- Investigate anything that looks out of the ordinary. Consider any item suspect if it is new, recently disturbed, or out of place. Look closely for other IED indicators such as wires or detonating (det) cord.
- Do not pick anything up. All of the good souvenirs were picked up long ago by other coalition forces or local people. Something left on the ground that appears valuable most likely was placed there deliberately.
- Successful teams look at their route from the enemy's perspective. Remember, the enemy is trying to conceal the device from someone traveling on the route. IED hunting teams that look at the route from potential enemy observation points often find signs of IED preparations. Threat forces can get careless once they get out of sight of the main route, and they may leave wires, camouflage, or even the IED itself in plain sight. Offset teams searching parallel to the protected route can observe these indicators.

Points to Remember.

- The enemy adapts to your TTPs. To protect yourself and your units, think like the enemy.
- Prevent emplacement by collecting information about insurgent activities, deterring activities through patrols and counter-IED ambush teams, clearing the roadsides of debris, and reducing the availability of bomb making materials.
- Avoid attacks while moving by
 - Driving at 40 mph or more with a 50 m interval between vehicles whenever possible
 - Staying as far from the shoulder of the road as possible
 - Being observant about key enemy IED attack threat indicators, like
 - Areas where traffic slows or the terrain could conceal an IED
 - Common items used to camouflage IEDs
 - Choosing routes with as few visually obscuring or traffic slowing terrain features as possible
- Reduce effects of IED attacks by hardening vehicles.
- Conduct training on all of these TTPs.
- If there is an IED attack, Confirm, Clear, Call and Assess, Cordon, Control.

IED Encounter Response Procedures (Continued)

Stay Alert! Stay Alive!

Summary

As can be seen, the IED, a simple design constructed from easily obtainable materials, is a very formidable weapon. The enemy's TTPs are effortlessly adaptable to friendly responses. However, an IED is vulnerable. A deprivation of simply one of the necessary items of its implementation, whether lack of materials or funding or friendly forces knowing what to look for, diminishes the IED's effectiveness dramatically.

References

FMI 3-07.22	Counterinsurgency Operations
GTA 90-01-001	IED and Vehicle Borne IED Smart Card
MCIP 3-17.01	Improvised Explosive Device Defeat
MCIP 3-17.02	Tactical IED Defeat Ops
No. 05-23 July 05	Joint IED Defeat Task Force TC9-
21-01(093-89D-01)	Soldiers IED Awareness Guide
TTECG/MAWTS-1	Convoy Battle Skills Handbook
CALL 04-27 Vol II	Convoy Leader Training Handbook
FM 3-34.210	Explosive Hazard Operations

Glossary of Terms and Acronyms

Term or Acronym	Definition or Identification
5 to 25 Meter Checks	At all halts, Marines must clear the area around their vehicles. Depending on the length of time at the halt, the area to clear varies from 5 to 25 meters. At every halt, no matter how short, the crew must clear 5 meters around the vehicle while inside. For extended halts, teams must clear 25 meters around the patrol or convoy. Begin 5 to 25 before stopping to avoid stopping on top of an IED.
Booby Trap	An explosive or non-explosive device, deliberately placed to cause casualties when an apparently harmless object is disturbed or a normally safe act is performed.
Improvised Explosive Device (IED)	A device placed or fabricated in an improvised manner incorporating destructive, lethal, noxious, pyrotechnic, or incendiary chemicals and designed to destroy, incapacitate, harass, or distract. It may incorporate military stores, but is normally devised from nonmilitary components.
The Five "Cs"	The five "Cs" represent a simple set of guidelines that you should use when you encounter a suspected IED: Confirm, Clear, Cordon, Check and Control.
