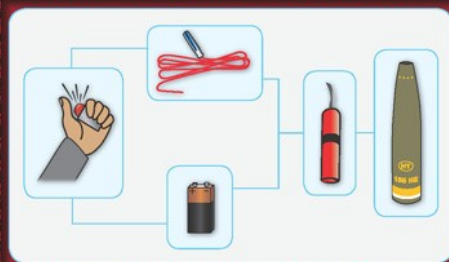




# IED Reference Guide

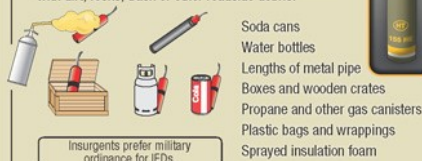


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## IED Components

### CASING/CONTAINER

- Anything used to fabricate and conceal IEDs that can blend into the target environment; usually camouflaged with dirt, rocks, trash or other roadside debris.



Insurgents prefer military ordinance for IEDs.

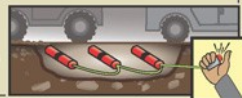
### MAIN CHARGE: EXPLOSIVE/FILLER

- There are four basic groups: incendiary materials; chemical agents; biological materials; radioactive materials.
- Most common explosives used are military munitions, usually mortar, tank or artillery rounds but Home-Made Explosives (HMEs) are becoming more prevalent.
- Military munitions allow for easy "daisy chaining" of multiple rounds for use against convoys.

PE4 and TNT

Gasoline

HME using hydrogen peroxide, nitrate mixtures (with ammonium nitrate, urea nitrate), sulfuric acid mixtures and fertilizer/fuel oil (ANFO).



## IED Emplacement

### GENERAL CHARACTERISTICS OF ATTACK SITES:

Sites used multiple times with success.

Good over-watch position.

Available escape route for the enemy.

Obstacles between the IED site and initiation point.

Locations/checkpoints frequented by Coalition Forces.

Large devices deeply buried in the roadway.

Along unimproved roads.

In close proximity to compounds or buildings.

In proximity to decoy IED located out in the open designed to slow/stop convoys in kill zone of actual IED.

### BE EXTRA CAUTIOUS AT CHOKE POINTS

At vehicle breakdowns or where vehicle enters road causing you to modify your movements.

On bridges, one-way roads, traffic jams, sharp turns, etc.  
If anything causes the convoy to stop, watch the flanks for IEDs.

## Roadside IEDs

Common roadside IEDs include artillery and mortar round(s) or bulk explosives placed near the road at the designated kill point.



They may be hastily camouflaged with dirt, rocks, trash or items that are common along the road.



Emplaced in potholes (covered with dirt) or recently dug up/repaved roadways.



Also emplaced along MSRs and ASRs (including behind guardrails, utility poles, signs, overpasses).

## Suicide Bombers

In general: Person-Based IEDs (PBIEDs) use explosive vest, belt or bag but many suicide attacks are with VBIEDs.

### EXPLOSIVE CHARGES

Typically about 12 pounds of explosive charges packed together.

Up to 45 pounds of explosives have been used.

Often incorporate fragment-producing materials into charges.

### INDICATORS OF POTENTIAL SUICIDE ATTACK

Attacker—may be male, female, or male dressed as a female:

- Deliberately ignores stop order or attempts to circumvent security checkpoint.
- Wears excess clothing for prevailing weather conditions.
- Appears with suspicious bulges in his/her clothing; carries packages/bags; wears satchels/backpacks; or wears a "pregnancy vest".
- Appears to be handling wires, switches, an actuator or "dead man's" switch.

Defensive actions based on observed suicide bomber TTP:

- Issue immediate evacuation orders, with safe distances based on amount of explosive carried and type of fragmentation used.
- Do not attempt "close and negotiate" tactics. Suicide bombers are usually trained to avoid surrender at all costs.
- Always look for "fail safe" cell phone or radio-controlled initiator in the event that bomber is incapacitated/hesitates. Normally involves second suspect with line-of-sight view of bomber.
- If a "deadly force" response is taken, bullet impact may initiate/detonate explosive charge(s). Take protective cover if firing on suspect.

If suspect is neutralized and no explosion,  
**DO NOT** administer first aid.  
**CALL** and **WAIT** for EOD.

## 9-Principles of IED Combat

- Maintain an offensive mindset to gain/maintain enemy contact. Advance unit by fire and maneuver to kill/capture enemy.
- Develop/maintain Situational Awareness (SA). Be in continuous high state of SA to see/understand/act on pre-attack indicators. Deny enemy advantage of surprise.
- Stay observant! Continuously and deliberately scan your sector for IED indicators. Most unexploded IEDs are spotted by the naked eye.
- Avoid setting patterns. The enemy constantly watches and waits to target you by your operational patterns.
- Maintain safe standoff. Avoid potential IEDs at roadway shoulders/medians/intersections, static vehicles, etc. Keep civilian traffic at a safe distance from your patrol.
- 360-degree security! Enemy activity blending with local populace is hard to detect/can threaten your unit from any direction. Be vigilant 100% of the time!
- Maintain tactical dispersion. Avoid tendency to close formations during halts.
- Utilize blast/fragmentation protection—armor saves lives! But don't be tied to armor when meeting with locals.
- Utilize technology! Know your equipment and comm procedures!



## IED Components

### POWER SOURCE

- Wall current
- Solar powered cells
- Vehicle batteries
- 9-volt and other household batteries
- Capacitor banks



### INITIATING SYSTEM: DETONATORS

- Electronic detonators or blasting caps are most commonly used because of ready availability and ease of control.
- Initiators consist of three basic categories: military, commercial and homemade. Homemade can be mechanical, electrical, chemical.



### SWITCH/CIRCUIT

- Most IEDs are command detonated using either hard-wired or radio frequency (remote control) detonation with line of sight to the kill zone.
- Two-way radios
- Long-range cordless phones
- Car alarms
- Washing machine timers
- Cell phones
- Infrared motion sensors
- Light (photo) sensors
- Command wire
- Clocks
- Time fuzes
- Wireless garage door openers/doorbells
- Keyless entry fobs
- Remote controls from toys
- Pressure plate switches



## IED Indicators

### COLORS

Red det cord visible; color of IED not covered completely; concrete doesn't match surrounding area, etc.

### CHANGES IN TRAFFIC PATTERNS

Fewer people and/or vehicles where normally busy.

### MARKINGS

On the side of the road: use of tires, piled rocks, ribbon, tape, etc. Also used as aiming reference.



### GRAFFITI

May indicate some type of warning to locals. Interpreters usually needed.

### SIGNS

Placed in location not normally present or new signs posted.

### ALSO BE AWARE OF...

Freshly dug holes or pavement.

Patching along or in the roadway.

New dirt/gravel piles.

Freshly disturbed dirt is darker in color.

Dead animals along the roadways.

Obstacles in roadway used to channel the convoy.

Personnel on overpasses.

Signals with flares or lights.

City lights (turned off/on) as convoy approaches.

People videotaping ordinary activities or military movements.

Vehicles following convoy for a long distance and then pulling off side of road.



## Vehicle-Borne IEDs

VBIEDs come in all shapes, colors and sizes: from a simple passenger car to a large delivery or sewage truck; sedans are most often used.

Increasingly use larger amounts of explosives with charges ranging from 100 to 1,000 lbs.; charges include mortar rounds, rocket motors, rocket warheads, PE4 and artillery rounds.

Frequent technique: use of multiple vehicles, where lead vehicle is used as a decoy or barrier buster. Once it has stopped, Coalition Forces move in to clear or inspect it, and VBIED vehicle approaches and detonates.

Stay alert to signs/indicators of potential VBIED attack:

- Fake markings and plates.
- Official symbols in the wrong location.
- Drivers that are not familiar with vehicle controls.
- Drivers that seem to be agitated or lost.
- Vehicles parked on wrong side of road.
- Vehicle with the hood raised.



## Coordinated Attacks

Serve as mostly psychological and informational operations to generate shock, fear and publicity.

Goal: To create optimal destruction without owning any terrain.

Incorporate IEDs, vehicle ambushes and/or personnel ambushes, and snipers:

- Often initiated via IEDs, VBIEDs or Rocket-Propelled Grenades (RPG) to stop a convoy or vehicle patrol and establish a kill zone. Normally used for disruptions, slowing logistics and bogging down Coalition Forces.
- Most effective in tight city streets where enemy can establish well-defined kill zones and secondary anti-personnel devices can be used against dismounting troops.
- Complexity of the terrain and/or close quarters eliminate a vehicle's maneuverability and ability to fire from a turret.

Personnel Ambushes:

- Used as a defensive action to deny a patrol access to an area as well as for the destruction or capture of individuals.

Typical coordinated attack



Two suicide car bombers speed toward government building using a road closed to civilian traffic.

Vehicles refuse to stop when warned. Bombs are detonated in road, causing huge fireball and building damage.

Other insurgents fire weapons from a nearby building at Marine positions on the roof of government building.