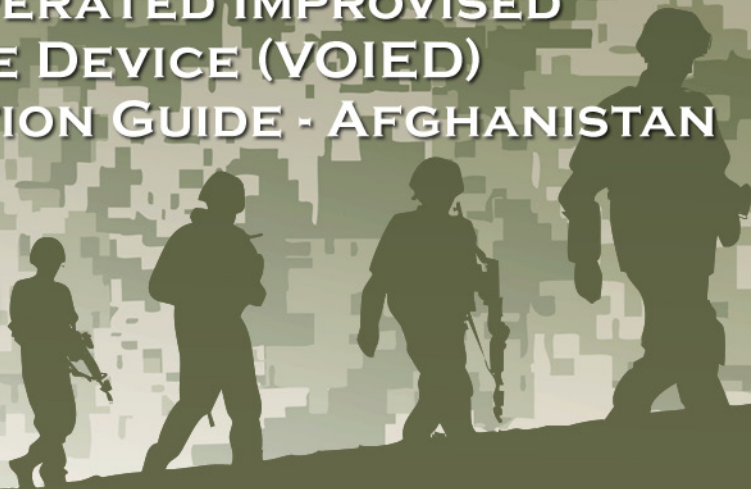


VICTIM OPERATED IMPROVISED EXPLOSIVE DEVICE (VOIED) RECOGNITION GUIDE - AFGHANISTAN



ATTACK THE NETWORK • DEFEAT THE DEVICE • TRAIN THE FORCE

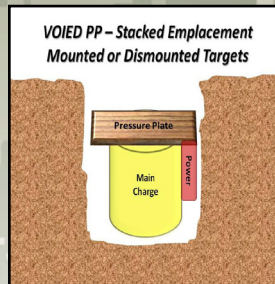
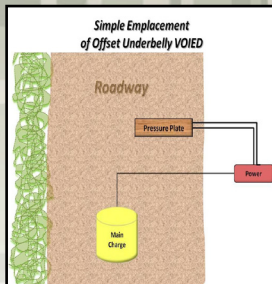
1st Ed., March 2011

VICTIM OPERATED IED RECOGNITION GUIDE

A Victim Operated IED (VOIED) is an IED initiated by the actions of an unsuspecting individual (or vehicle). These IEDs rely on the target to carry out some form of action causing the device to function. VOIED related images in this guide are representative of what's been found in the AF AOR.

INSTRUCTIONS for guide use:

- This Recognition Guide focuses on images of VOIED switches, components, and materials. Common IED indicators (observables) are listed and when found, indicate a high probability of IED activity. Refer to this material if something looks: suspicious, out of place, or out of character.
- This guide is organized by switches (Pressure Plate, Low Metallic Signature, and No Metal Content), main charges, containers, power supplies, initiators, and finally a section on IED factories.



WARNING!!!!

If potential Improvised Explosive Devices are discovered, execute the following:

1. Remove all personnel from the potential threat.
2. Emplace cordon and notify up. IED reporting protocols should be followed when reporting IED finds, to include: location, geo-coords, explosives size / amount / type, emplacement type, and assistance needed with find.
3. Call EOD Immediately!

DO NOT attempt to render safe.

DO NOT attempt to disrupt IED.

DO NOT open any containers.

DO NOT dispose of IED.

DO NOT handle suspected UBE.

DO NOT touch:

- If it looks suspicious
- If it looks out of place
- If it looks out of character
- If you don't know what it is or does!

*** Handling of IED devices,
components, and/or materials may
contaminate forensic evidence.**

**** Mishandling of IED devices,
components and/or main charges
may result in bodily harm or death.**

VOIED Switches

PRESSURE PLATES (PP) -Various

Pressure Plate – A Device Used to Trigger an IED by Completing a Circuit When Pressure is Applied or Removed



PP – Saw Blade – Rubber Inner Tube Bindings



PP – Saw Blade – Spring Tension



PP – Bicycle Seat Spring



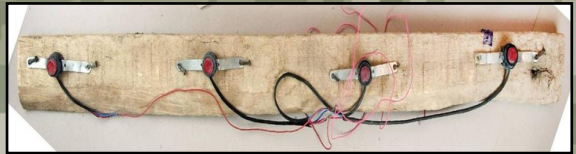
PP – Bicycle Seat Spring

VOIED Switches

PRESSURE PLATES (PP) -Various



PP -Push Button -Cardboard Mounted



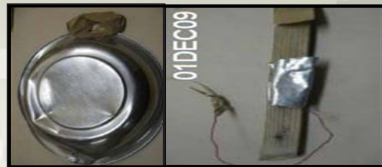
PP -Push Button -Spring Tension



PPs -Sealed in Plastic Wrap & Packing Tape



Pull Armed PP Wrapped in Rubber Inner Tube with Battery



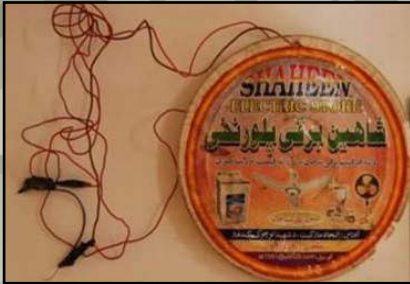
PP - Crush Bowl



PP -Sealed in Packing Tape & Rubber Inner Tube

VOIED Switches

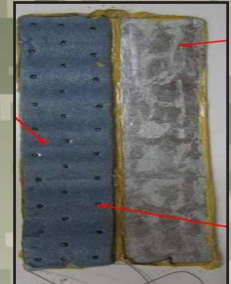
Pressure Plates (PP) –Ball Bearing



PP -Shaheen -Ball Bearing



PP -Shaheen -Ball Bearing



PP -Foam Ball Bearing



PP –Foam Ball Bearing Concealed in Food Packaging



PP –Foam Ball-Bearing

VOIED Switches

Indicators (Observables) Various Pressure Plates

Any of the Following Materials in Any State of Assembly May be Used for IED Switches
Any Device/Component that is Sealed Inside a Rubber Inner Tube, Ends Sealed, Wires May be Protruding out
Any Device/Component that is Sealed Closed in Plastic Bags, Plastic Sheeting, or Cloth w/ Packing Tape, Wires May be Protruding
Concealment of Anti-Lift Switches by Man Made Objects (e.g. Ammo Clip), Rocks, Log, Trash, etc.
Foam Core Pressure Plate – Holes Cut Into Foam, Ball Bearings, Wires Protruding Out
Food Packaging with Wires Protruding, Found in Odd Locations
Metal Mixing Bowls – Contacts Fastened Inside Bowl, Wires May be Connected
Metal Springs (Bicycle Seat, Other, etc.) -Fastened to Wood Boards
Motorcycle Tires Cut into Pieces / Tire Sections Attached to Wood Boards
Push Button Switches -Attached to Wood Board or Cardboard, Wires Attached to Buttons
Rubber Inner Tube Cut Into Strips -Wrapped Around Wood Boards, Wires Protruding Out
Saw Blades (Hack Saw, Wood Saw, etc.) -Fastened To Wood Boards, Wires Attached
Scrap Metal - Cans, Sheet Metal, Aluminum Foil - Flattened Out and or Fastened to Wood Boards
ShaheenPressure Plate –ShaheenWire Packaging, Wrapped in Plastic or Tape, Wires Protruding Out
Supplies -(Unusual Quantities or Out-of-Character for Surroundings) Glue of Any Kind, Packing Tape, Plastic Bags or Sheeting, Scrap Metal, Wire of Any Kind, Wood Boards
Supplies -(Unusual Quantities or Out-of-Character for Surroundings) Clothes Pins (Plastic or Wood), Foam Padding, Motorcycle Tires, String
Plastic Material w/ Foam Material, Ball Bearings or B-B's, Wires Protruding Out
Wood Boards –Scrap Wood Boards (e.g. Wood Pallets)

VOIED Switches

Low Metallic Signature (LMS) Pressure Plates

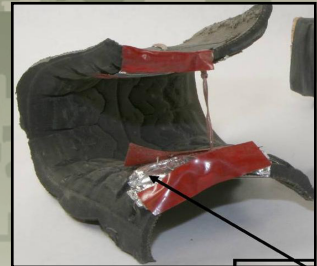
Low Metallic Signature Switches –Contain Minimal Amounts of Metal, Carbon Rod PP is Most Common -LMS Switches are Detectable Using Metal Detection Devices



Replica -LMS PP–Crush Bottle–Copper Wire



LMS PP–Crush -Plastic Shampoo Bottle



LMS PP –Cigarette Foil & Motorcycle Tire



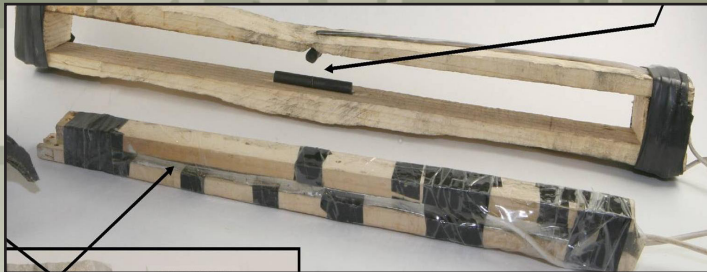
LMS PP -Copper Wire –Wood Board –
(Dependent on Amount of Wire Used)



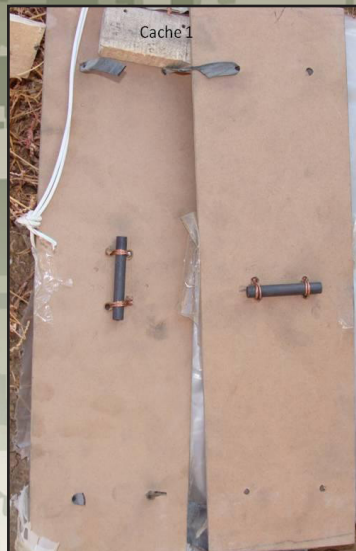
LMS PP -Bent Plastic –“PAC-MAN”

VOIED Switches

Low Metallic Signature (LMS) Pressure Plates



LMS Carbon Rod PP & LMS Cigarette Pack Foil PP



LMS Carbon Rod PP



Cache - LMS Carbon Rod PP - Rubber Inner Tube Bindings

VOIED Switches

Low Metallic Signature PP



Carbon Rod Battery Cores
in Plastic Bag



Discarded Battery Casings -Carbon
Rods Removed



Battery Core -Carbon Rods for PP

Indicators (Observables): Any of the Following Materials in Any State of Assembly May be Used for IED Switches

Carbon Rods -Dry Cell / Non Alkaline Battery Graphite Core(s) Fastened to Wood with Wire or Epoxy

Discarded Battery Casings / Battery Cores Missing -Insurgent May Have Black Stains on Hands

Motorcycle Tires -Cut in Sections, Cigarette Foil or Wires Attached

Packing Tape -Used to Bind Boards Together and Wrap and Seal Pressure Plates

Plastic Bottles -Wrapped in Plastic Bag, Sheet, or Tape, Wires Attached and Protruding Out

Plastic -Bent in Half, Metal Contacts on Both Ends of Plastic Piece, Wires Protruding Out

Rubber Inner Tube & Inner Tube Strips -Wrapped Around Wood Boards, Closed at Each End, Wires May Protrude Out

Wires -Thin Copper Attached to Wood Boards (Usually Zig-Zag Pattern)

Wood Boards with Cigarette Foil Attached, Wires Attached and Protruding Out

Wood Boards -Fastened Together with Tape, Rubber Strips, Glue, String/Twine

VOIED Switches

No Metal Content (NMC) -Pressure Plates
(Images of Replica Plunger Type PP Found in Afghanistan)

No Metal Content Switches –Constructed Using No Metal and are NOT Detectable Using Metal Detection Devices



Plastic Pens for NMC PP Initiators



Replica –NMC PP –Wood Log -Plunger

Indicators (Observables): Any of the Following Materials in Any State of Assembly May be Used for IED Switches

Plastic Pens –Supply or Quantity Out of Place or Character, Pen Bodies May be Cut or Modified for Use as Improvised Blasting Caps

Plastic Sheetting or Plastic Bag Wrapped Around Pressure Plate, Taped Closed, Wires Protruding Out

Wood – 2 Wood Sections Separated by Foam, Wood Plungers, DetCord Protruding, Bound by Rubber Strips and/or Packing Tape

Wood Box – Solid Wood, Cut at 6-8" Sections, Holes Drilled in Center & Side, Wood Plunger with Foam Insulator at Base, DetCord May Protrude Out

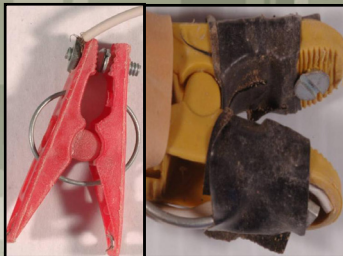
Wood Log –8 -12 Inch Sections, Holes Drilled in Center & Side, Wood Plunger with Foam Insulator at Base, DetCord May Protrude Out

VOIED Switches:

Trip wire, anti-tamper, photo cell, PIR



Trip Wire -Anchor Point
-Tree Trunk



Trip Wire -Plastic Clothes Pin



Replica -CW Pull or Trip Wire Clothes Pin



Booby Trap Anti-Tilt Switch -Syringe



Light Sensor or Photo Cells



Passive Infrared (PIR)

VOIED Switches

Trip Wire, Anti-Tamper Switch



Command Pull PAC-MAN PP



YPOC w/ Booby Trap Anti-Tilt Switch -Syringe

Indicators (Observables): Any of the Following Materials in Any State of Assembly May be Used for IED Switches

Concealment of Anti-Lift Switches by Man Made Objects (e.g. Ammo Clip), Rocks, Log, Trash, etc.

Food Packaging with Wires Protruding, Found in Odd Locations

Light Sensor –Wires Protruding from Device, May be Concealed Inside Container or Other Component

Medical Syringe –Wires Attached, May be Taped and Attached to Power Source, May be Concealed in Container

PIR (Passive Infrared Device) –Wired or Taped, May be Concealed Inside Container or Other Component

Plastic Bottle Wrapped in Tape or with Bare Wire Inside or Wires Attached

Plastic Clothes Pin with Wires Attached

Supplies of: Clothes Pins (Plastic or Wood), Foam Padding, Motorcycle Tires, Packing Tape, String, Wire, Wood Boards

Trip Wire –String, Cord, Fishing Line with Insulator Tied to One End

Trip Wire Anchor Point –Rocks, Stakes, Sticks, Tree Trunks Upright in Roadway or Path, Unusual Characteristic

Wood Scraps can be used for Make-Shift Clothes-Pin Type Device

Home Made Explosives (HME)

Precursor Materials

Ammonium Nitrate (AN) Based HME is the Most Common Main Charge in Afghanistan, Followed by Potassium Chlorate (PC)



PAKARAB-CAN Fertilizer – Nitrogen



Aluminum Powder (AL)



AN based Explosive in Plastic Bag



AN-AL in Pressure Cooker



Potassium Chlorate – 25Kg Bag



Potassium Chlorate

Home Made Explosives (HME)



PAKARAB-CAN Prills



AN Prills



AN Crystals

Observables (Indicators): Any of the Following Materials May be Used in IEDs

For more information regarding HME Indicators/Observables, refer to the HME/BE Recognition Guide

AN: Packaging: White Sacks with Black Printing or Brown Sacks with Green Printing (33% -34% May be Printed on Sack)

AN: Strong Acidic / Caustic Odors –Smells like Ammonia

Aluminum Powder: Packaging -5 Gallon Unmarked Tin Buckets with Handle, Bag / Jar / Jug Containing Odorless Gray Powder

Aluminum Powder: Appearance -Gray or Silvery Colored / Crushed (Powdery) Crystals with Flecks –May Coat Hands and Surfaces

ANFO: Fuel Oil, Motor Oil, Diesel Fuel, Heavy Oils, Kerosene, etc. –Odor may be Fuel Like

ANFO: Appearance -Off White to Pinkish to Reddish Colored / Granules or Prills, Fuel Stains on Sacks/Bags

ANS: Sugars / Starches -Sugar Products, Flour, Corn Meal, Wheat Powder, Saw Dust, etc. -Odor is Slightly Sweet

Calcium Ammonium Nitrate (CAN): Brown to Grey to Black in Color, Brown/Tan Sacks with Green Printing (26% -27% May be Printed on Sacks)

Packaging – Typically Woven Polyethylene / Polypropylene Bags, May Disguise HME in Bags: Fertilizer, Sugar, Flour, Unmarked Blue Bags

Potassium Chlorate (PC) Appearance: Powder or Crystals (Color Influenced by Additive)

PC Odor: Odorless But May be Influenced or Masked by Additives

PC Packaging: White Sacks with Potassium Chlorate Printed on Them, 55 Gallon Drums, May be Silver in Color

UREA Fertilizer “46% Nitrogen” and DAP Fertilizer are LEGAL in Afghanistan

Military Munitions& Commercial Explosives



Mil. Ord. -Wired w/ Blasting Caps



RPG Rounds with DetCord



Cache -Munitions for IEDs



Mortars with DetCord

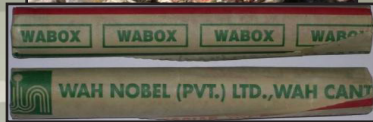


Various Rockets



Mine with DetCord

Munitions & Commercial Explosives



WABOX (Commercial Explosives)



PE-4A (Commercial Explosives)



EMMULITE (Commercial Explosives)

Indicators (Observables): Any of the Following Materials May be Used in IEDs

Anti-Tank / Anti-Personnel Mines -May be Modified with VOIED Switch

Commercial Explosives -Emulite, Wabox, TNT, PE-4A

Empty Military Munitions Casings

Military Explosives -Bulk or BE, e.g. C-4, Iranian C-4

Military Munitions –All Types and Sizes -Includes Illumination Rounds, Primed with Det Cord or Wires Protruding

Plastic Bags or Sheets, Cloth, or Rubber Inner Tubes, Wires Protruding Out

Supplies –(Unusual Quantities or Out-of-Character for Surroundings) DetCord, Glue of Any Type, Electrical and Packing Tape, Plastic Sheeting or Bags, Wire of Any Kind

Wrapping from Commercial or Military Explosives (Wabox, Emulite, C4, PE-4A)

Main Charge - Containers

Metal or plastic containers commonly used to hold explosive charges



Plastic Buckets (Black, Green, Red, etc.)



Yellow Palm Oil Container (YPOC)



Various Containers



Directionally Focused Fragmentation
Charge -DFFC



Pressure Cooker



Aluminum Cooking Pot

Main Charge –Containers



Water Cooler



Ammo Can



Cache -Munitions Casings

Indicators (Observables): Any of the Following Materials May be Used in IEDs

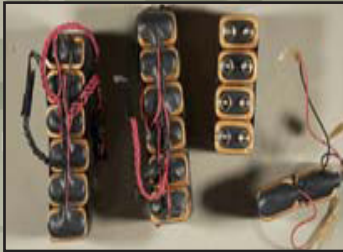
Ammo Cans -Usually Green with Yellow Writing, May be Taped Closed, Wires May be Protruding Out
Bags - Flour, Sugar, Fertilizer Bags, or Blue Unmarked Bags - Burlap, Plastic, etc. - Used to Hide Finished HME
Barrels & Drums -Plastic & Metal -Yellow, Blue, etc.
Bowls -Plastic Mixing Bowls, Tupperware Type w/ Lids: Red, Green, Yellow, Blue, etc.
Buckets -Plastic & Metal -Black, Blue, Red, Yellow, Green, etc., All Sizes
Cooking Pots, Mixing Bowls, Pressure Cookers -Aluminum, Metal, or Plastic
Coolers -Water Coolers -e.g. Igloo
Flour, Sugar, or Fertilizer Bags -Burlap, Plastic, etc. -Used to Hide Finished HME
Jerry Cans -Plastic & Metal -Red, Blue, Yellow, Green, Tan, etc.
Jugs -Plastic -Orange, Yellow Palm Oil, Green, Blue, Black, etc., All Sizes
Munitions Casings -Empty or Refilled with HME, Detcord or Wiring May be Protruding Out
Steel or Metal Pipes -Closed on One End and Fragmentation on the Other, Wires or Detcord
Supplies -(Unusual Quantities or Out-of-Character for Surroundings) Glue, Hot Glue Gun, Packing Tape, Plastic Bags or Sheeting, Wires of Any Gauge
Tanks & Cylinders -Propane, Freon, Oxygen

Power Sources

Disposable batteries are the most common power source for IEDs



Cache - Large Supply of Loose Batteries



Batteries Taped / Connected Together or
Wires Soldered to Terminals



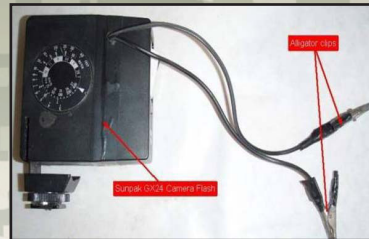
12v Vehicle Battery



D Cells in Holder - Wired



6v and 12v Vehicle Battery



Camera Flash - Wired

Power Sources



Cache –Battery Packs Sealed in Black Tape



Battery Packs –Sealed in Packing Tape

Indicators (Observables): Any of the Following Materials May be Used in IEDs

Battery Cradles, 9v Battery Terminal Connectors

Camera Flashes –Wires May be Attached

Disposable Batteries (AA, C, D, 9v) -Unusual Quantity for Location

Disposable Batteries (AA, C, D, 9v) –Taped or Packaged Together, Wires Soldered To Terminals & Taped Together

Supplies –(Unusual Quantities or Out-of-Character for Surroundings) Epoxy Type Glue, Glue, Hot Glue Gun, Soldering Iron, Solder, Tape, Thin Gauge Wire

Vehicle Batteries (6v & 12v) -Unusual Quantity for Location

Vehicle Batteries (6v & 12v) –Taped or Packaged Together, Wires Soldered to Terminals & Taped Together

Initiators

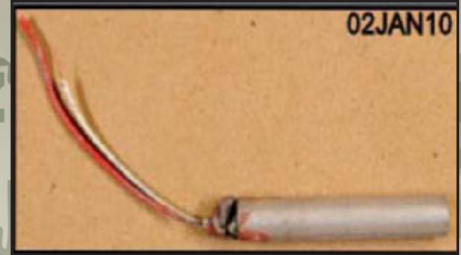
Blasting caps, detonation cords, or combinations of the two are the predominant initiators for IEDS



Knotted Detcord - Booster



Blasting Caps –Electric



Blasting Caps - Improved Electric



Firing Device – Military Grade



Mine Fuse



Grenade Fuse

Initiators -Various



PMN Mine –Anti-Personnel Mine



Christmas Tree Light Bulbs

Indicators (Observables): Any of the Following Materials May be Used in IEDs

Anti-Personnel Mine (PMN) –Used to Initiate Main Charges

Blasting Cap(s) –Electric & Improvised Electric with Pair of Wires Protruding from One End

Blasting Caps and Detcord Taped Together

Detonation Cord Coiled Up and Taped

Detonation Cord Wrapped in Tape (Black Electrical, Plastic Packing Tape)

Detonation Cord Knotted or Knotted with Blasting Cap in Center

Fuses -Grenade or Mine Fuses

Improvised Blasting Caps -(Pens, Ammo Casings, Light Bulbs, etc.), Pair of Wires Protruding from One End

Objects With Detonation Cord or Electrical Wiring Protruding (may be Wrapped in Black Tape)

Plastic Pen Bodies (e.g. Bic Ink Pens) –Notched Out, DetCord Attached, Red Nail Polish or Tape Over Notch

***** (Caution –These are Extremely Sensitive) *****

Small Cylinder(s) Crimped onto Detcord or with Wires Protruding (Improvised)

Supplies –(Unusual Quantity or Out-of-Character for Surroundings) DetCord, Epoxy Type Glue, Glue, Hot Glue Gun, Ink Pens, Thin Metal Tubes, Thin Gauge Wire

IED Factory

(IED factories are typically found to be disorganized and sloppy)



Wood Scraps for Pressure Plates



Main Charges -Yellow Palm Oil Containers (YPOC)



Tools Used to Build Pressure Plates



Empty Fertilizer Bags and YPOCs

IED Factory



Cache -Various PPs Under Construction



Cache -Completed PPs



Concealed Underground Storage / Cache



Cache -Fragmentation

IED Factory



HME –Unknown Type



Wire –White Lamp Cord



Battery Packs in Plastic Bags

Indicators (Observables): Any of the Following Materials May be Used in IEDs

Bags or Sacks -Fertilizer, Flour, Sugar, etc. -Burlap, Plastic, Paper

Batteries –Unusual Quantity, Taped Together, Terminals Soldered with Wire, Battery Packs with Wires Protruding Out

Bowls –Metal or Plastic Mixing Bowls, Tupperware Type w/ Lids: Red, Green, Yellow, Blue, etc.

Chemicals –Plastic Bags or Containers with Unknown Chemicals, Mixtures, Powders Inside

Fragmentation –Loose Ball bearings, Nuts, Bolts, Bullets, Shell Casings, Scrap Metal, Rocks, Glass, etc.

Jugs -Plastic -Orange, Yellow Palm Oil, Green, Blue, Black, etc., All Sizes

Location –Mostly Found Inside Covered Structures, Have Been Found Outside

Military Munitions and Munitions Casings -Empty or Refilled with HME, Detcord or Wiring May be Protruding Out

Pressure Cookers –Aluminum (Various Sizes & Types)

Supplies of: Glue, Hot Glue Gun, Packing Tape, Plastic Bags or Sheeting, Rubber Inner Tubes

Tanks & Cylinders -Propane, Freon, Oxygen

Tools –Wood Saws, Hammers, Knives, Wire Cutters, Scissors, Volt Meters

Wood Boards & Scrap Wood –Various Sizes

Wires of Any Gauge

CONTACT:

JIEDDO INTEGRATED SIGNATURES PROGRAM

FOR COMMENTS AND UPDATES VISIT:

[HTTP://WWW.INTELINK.SGOV.GOV/BLOGS/_JEDRECOGGUIDE](http://www.intelink.sgov.gov/blogs/_jedrecogguide)

HME/BE RECOGNITION GUIDE –AFGHANISTAN IS ALSO
AVAILABLE IN HARD AND SOFT COPY

