

DRAFT
US ARMY ARDEC
Combat Maintenance Systems Engineering
Description for Purchase
For
Explosive Ordnance Disposal
Optimization Kit

1 SCOPE

This Description for Purchase (DFP) describes a set of tools to be used by the Army's explosive ordnance disposal teams.

1.1 Abstract. The Explosive Ordnance Disposal (EOD) Tool Kit is specifically organized to provide the military EOD technicians with a combination of common tools and special tools and equipment that may be quickly transported to a threatened site and used to locate, identify, disarm and remove unexploded ordnance of various types. The items described in this DFP are intended to supplement and thereby upgrade the EOD tool kit. The kit serves a function that is inherently life threatening and that requires intensive training.

2 APPLICABLE DOCUMENTS

None

3 PRODUCT REQUIREMENTS

3.1 General description. This tool kit consists of 26 items. One item will be provided as Government Furnished Material (GFM), one item requires a particular brand-name product, and two items have brand-name or equal requirements. For the two items that have brand-name or equal requirements, offerors may offer the brand name components or equivalent components from other manufacturers determined to be equal to the specified product. Equal components shall meet the salient characteristics of the brand name components to include the same or better form, fit, function, quality and warranty as the brand-name items to be acceptable for award. The citation of trade or manufacturers' names does not constitute an endorsement by the Government. Tools listed in Federal supply groups 51 and 52 are subject to the Berry Amendment and shall be produced in the United States. Such items as described above are identified in Table 1 and the requirements identified therein.

3.2 Preproduction verification. When specified in the contract, the contractor shall furnish one or more sets for preproduction verification inspection in accordance with Section 4 herein. The sets submitted shall be in accordance with the terms of the contract. Approval of the preproduction verification shall not relieve the contractor of the responsibility to furnish

equipment in accordance with the requirements of this DFP. All items supplied under this contract shall be identical to the preproduction verification sample; including packaging requirements specified in the contract or delivery order.

3.3 Cloth materials. All of the cloth based products shall be made of woven man-made fiber material with UV inhibitor included in the material. Detailed requirements are given for each item individually in the paragraphs below. Cotton and other natural fiber products as well as synthetic fabric or coated synthetic fabric, including all textile fibers and yarns that are for use in such fabrics are subject to the Berry Amendment and shall be grown, reprocessed, reused, or produced in the United States.

3.3.4 Workmanship. The quality of workmanship imparted to the components provided to meet the requirements herein shall equal or exceed that typically provided to similar commercial kits of this type. The components presented for acceptance shall have been assembled with skill and care; shall be uniform, neat, and clean; and shall be free from irregularities and anomalies that degrade form, fit, function, performance or appearance.

3.3.5 Warranty information. Warranty literature shall be provided for each item supplied. Warranty information shall be protected to resist damage from moisture and shall be bundled with the printed materials covered under 3.4. In Table 1 “N” means no warranty required, “M” means manufacturer’s stated warranty, “L” means lifetime warranty. The offeror shall state the length and terms of the warranties in response to the solicitation.

3.3.6 Warranty placard. Each set shall be provided with a weather resistant placard on the unit pack or a laminated sheet placed with the other warranty information, see paragraph 3.5.5, displaying the following information:

For tool warranty and replacement issues
Contact The Tools Group
<https://tools.army.mil>
or
Toll Free: 1-877-4-PMSKOT or 1-877-476-7568
DSN: 312-786-3403
Commercial: 586-282-3403
E-Mail: usarmy.detroit.tacom.mbx.ilsc-questions@mail.mil

3.4 Tools and related items to be provided. The total quantities of each item required are given in the column marked “Qty” and are to be provided in the specified quantity per each kit assembled. The table represents the quantity of items for one assembled kit. The paragraph numbers used here begin where the paragraphs numbers in the larger tool set description left off. These are additional tools and are numbered accordingly.

3.4.1 Industrial quality tools. All components supplied with this set shall be industrial quality. For the purposes of this procurement, the term “industrial quality tools” versus household-use tools or general purpose tools are defined as tools commercially marketed and manufactured for constant, rigorous, industrial or professional environment use. The items

offered shall have either achieved industrial market acceptance (as defined in paragraph 3.4.2) or have been satisfactorily supplied to the Government under current or recent contracts for the same or similar requirements. Industrial quality tools are used primarily by skilled professionals and technicians in such areas as machine shops, automotive maintenance and repair facilities, aircraft maintenance and repair facilities, industrial automotive assembly plants, fleet maintenance facilities, and airline service facilities. The tools will be used for specialized applications in an environment of virtual constant use, (i.e. around-the-clock 8 hour shifts), with applications requiring high torque, low slippage, and strict tolerances.

3.4.2 Market acceptance. Market acceptance is demonstrated by the component having a higher percentage of sales to industrial/professional customers than to retail or government customers. Advertising or marketing literature that indicates “professional grade” or “industrial quality”, or merely stating that an item is “professional grade” or “industrial quality” is insufficient to establish industrial quality tools since these are terms for which there is no generally accepted definition. A claim that an item is manufactured to an industry consensus standard is also insufficient to establish industrial quality tools. The contracting officer may require offerors to provide evidence of market acceptance in the professional or industrial market. Evidence of acceptance by industrial/professional customers includes sales to fleet operators, distributors, contractors, industrial and professional users, and sales to distributors who retail exclusively to the professional or industrial market.

Table 1

Para no.	Nomenclature	Qty per kit	FSG	Warranty
3.4.187	Epoxy kit	1	80	N
3.4.188	Monitor, Multi-gas, Confined Space	1	65	M
3.4.189	Not used			
3.4.190	Cord, 3mm dia.	3	40	M
3.4.191	Bags, polyethylene, 3 mils	100 ea	81	N
3.4.192	Bandages, Plaster of Paris (12 bandages per box)	2 boxes	65	N
3.4.193	Recharger, Battery, Solar Powered	1	61	M
3.4.194	Detector, Trip wire	1	13	M
3.4.195	Template Tool, EOD (Government furnished)	3	13	N
3.4.196	Detector, Metal	1	66	M
3.4.197	Hook and Line Kit	3	13	M
3.4.198	Knife, ceramic blade	3	73	M
3.4.199	Backpack, EOD	1	84	M
3.4.200	Flashlight	3	62	M
3.4.201	Mirror, with telescoping handle	2	51	M
3.4.202	Camera, digital	1	67	M
3.4.203	Memory card	1	70	M
3.4.204	Wrench, pipe, aluminum	1	51	M
3.4.205	Light, helmet	3	62	M
3.4.206	Lantern, LED	1	62	M
3.4.207	Tweezers	1	65	M
3.4.208	Hemostat, locking, straight	2	65	M
3.4.209	Hemostat, locking, curved	2	65	M
3.4.210	Bucket, collapsible	5	84	M

Para no.	Nomenclature	Qty per kit	FSG	Warranty
3.4.211	Light, puck style	6	62	M
3.4.212	Probe, mine, titanium	2	13	M

3.4.187 Epoxy kit. The epoxy system shall be a binary epoxy adhesive compound mixing at a 1:1 ratio, delivered in a dual barreled syringe with manually operated plungers. The work life of the mixed epoxy compound shall be approximately 4 minutes and the application time shall be approximately 2 minutes. The compound shall achieve a functional cure in approximately 1 hour and full cure in approximately 2 hours. The epoxy system shall work at temperatures between -20 F and +200 F. The delivered epoxy compound shall be clear in color. The cured state sheared strength of the compound shall be 2300 pounds per square inch (PSI) or higher. The epoxy compound shall work on substrates of metal, wood, brick, stone, and some plastics. The system shall deliver 25 milliliters of compound or more.



3.4.188 Confined space multi-gas monitor. The multi-gas monitor shall be a self-cleaning, handheld or pocket-sized unit capable of being clipped onto the operator's clothing. The device shall detect oxygen (O₂) and report the level detected as a percent by volume, shall detect combustible gasses relative to the Lower Explosive Limit (LEL) and report the level as a percent of atmosphere, shall detect volatile organic compounds (VOC) and report the level a parts per million (ppm), shall detect carbon monoxide (CO) and report the level as parts per million (ppm), and hydrogen sulfide (H₂S) and report the level as parts per million (ppm). The detector shall be easy to calibrate and include an automatic data logging feature. The detector shall also utilize a bright red flashing LED visible alarm and a loud audible alarm for immediate warning of dangerous conditions. The battery shall provide up to 16 hours of continuous operation. The detector shall be provided with a charging cradle that doubles as an external battery charger. The detector shall include an intake pump that will draw usable samples of atmosphere from up to 100 feet away and shall give an alarm warning when the pump experiences a low flow condition that does not support accurate and timely assessment of environmental gaseous conditions. The monitor shall include an integral fresh air calibration system as a self test feature. The monitor shall be stored in an injection molded polyethylene or polypropylene case with positive snap closure and contoured protective interior cushioning. Any and all required calibration equipment that is not built into the monitor shall be provided with the monitor and shall be stored in its own separate carrying case.

3.4.189 Not used.

3.4.190 Non-stretching cord, small diameter. The cord shall be constructed as a hollow braided 12-strand rope using 100% Ultra High Molecular Weight Polyethylene (UHMWPE) with a specific gravity not less than 0.98 that was formed by extruding gel through a spinneret. The cord shall be a single ply construction, 1/8 inch or 3mm in diameter, weighing approximately 0.5 lbs/100 feet. The average tensile strength shall be not less than 1,600 lbs (726

Kg.). The cord shall have a urethane coating. The elongation factor shall be less than 5% when the cord is stressed to 40% of maximum rated working load. The cord shall be provided as a single coil 300 feet long.

3.4.191 Bags, polyethylene. The polyethylene bags shall be clear, not less than 3 mils thick and not less than 39 gallons in total rated capacity. The bags shall be provided in units of rolls or boxes with not less than 50 bags in a roll or box. The total number of bags required per EOD kit is 100 bags. All 100 can be packaged as a single unit box or roll if they are available that way.

3.4.192 Plaster of Paris bandages. The standard medical plaster cast bandage shall be approximately 3 inches wide by 108 inches (3 yards) long. Each individual bandage shall be wrapped in waterproof packaging and then stored 12 each per box. The gypsum plaster used in the bandage shall be quick-setting, the plaster setting process activate upon immersion in water and shall produce low heat levels as a byproduct of the reaction. The required quantity is a total of 24 bandages, stored 12 per box, in 2 boxes.

3.4.193 Solar powered battery recharger. A solar powered portable battery recharging system shall be provided that is capable of recharging BB-2590, MBITR batteries and other standard nickel cadmium and lithium ion batteries ranging in sizes from AAA to D. The recharger shall also act as a continuous power source for laptop computers and other small electronics. The solar panel shall deliver no less than 60 watts of power. The recharger shall also provide service as a converter to go between 12 volt and 24 volt automotive electrical systems utilizing NATO slave cable adapters and standard cigar lighter adapters to draw energy and then deliver it converted to charge the above batteries and operate the identified electronics systems. The recharger shall also be capable of taking 120-230 VAC, 50/60 Hz power input to recharge batteries or power devices. See for example the Rucksack Enhanced Portable Power System at <http://www.bren-tronics.com/btc-70824.html>.

3.4.194 Tripwire detector. A trip wire detector equal to the brand and part number given here shall be provided. The salient characteristics to be met are:

- A balanced telescoping pole
- Hardened storage rod for protection
- Case cap shall be hard mounted to the feeler
- Weight: 3oz or less
- Dimensions: 0.75"x14.5" (61" Extended).

Brand name: Zero Point Inc, Virginia Beach, VA, part number: ZPTWF.
<http://www.zeropointusa.com/products/tools/tripwire-feeler/>



3.4.195 EOD template tool or fragmentation/ordnance gauge. This item shall be Government furnished to the contractor for assembly into the EOD Optimization Kit. The template tool is 6 inches by 4 inches by 0.019 inches (0.5mm) thick.

3.4.196 Metal detector. The ground metal detector shall detect metal targets. The detected presence of target materials shall be indicated by a specific tone to be immediately recognized by the operator, and the tone shall be convertible to a visual indicator for operations in stealth mode. The unit shall be designed to collapse upon itself for storage and transport by hand, unfolding and setting up for operation within a maximum of 20 seconds without the use of hand tools or more than one person to perform the setup operation. The detector shall weigh no more than 2.5 kilograms. The telescoping arm shall withstand a 2 meter drop without damage resulting in loss of function. The detector shall operate from batteries that are standard and readily available to user units. The unit shall be water resistant and remain fully functional after having been immersed at depths of two meters. The acoustic signal shall be modulated to indicate the relative size and center of a mass detected. The unit shall readily adapt to soil conditions that include high mineral and metal oxide content without the requirement to recalibrate as soil conditions change. The unit shall operate successfully in all environmental conditions and shall not alter its sensitivity or detection capability due to changes in temperature, humidity, wet or dry conditions or air pressure. The unit shall operate successfully to detect targets placed within the range of environmental interferences from portable transceivers, power lines and portable generator sets. The units shall operate successfully when used in the same location with other detecting units that are as close as 1 meter. The unit shall be operable with the detection head retracted as well as extended. The unit shall include built in self diagnostics to include a battery status indicator. Calibration of the unit shall require not more than one minute. When the unit fails to properly self calibrate the unit shall report the condition to the user. The metal detector shall operate in an Electronic Countermeasure (ECM) environment.

3.4.197 Small hook and line kit. Small MOLLE Custom Textile Container shall be mountable to current Army Body Armor or tactical vest. The kit shall contain one each of the following items:

- XXS Nylon Stuff Sack with 200 feet of 2.5 mm diameter Dyneema® Line with 25 foot increment marks. The line breaking strength shall be no less than 1400 pounds.
- Two Hooks centered on a heavy duty hinge allowing the hooks to collapse onto each other and an eyelet on the non-hook end allowing attachment of a pull line
 - Tactical cutting hook knife with pull ring
 - Micro Vise Grips with eyelet for attachment of pull line
 - Clear path stakes
 - Carabineer with built-in pulley



3.4.198 Ceramic knife. The knife shall have a Zirconia Ceramic (ZrO₂) material blade and fixed (non-folding) non-metallic handle with blade protective sheath. The blade shall be 3 inches long. The overall length shall be approximately 7 inches. See for example the EOD knife at www.ceramicknife.org.

3.4.199 EOD backpack. London Bridge Trading Company brand name, part number LBT-2418A, CAGE 0EYB3. The color shall be tan.



3.4.200 Flashlight. The flashlight shall be a dual-output design utilizing a Light Emitting Diode (LED) as a light source. Light emitted from the LED shall be reflected from the LED housing by means of an internal reflecting mirror that collects and projects 99% or more of the emitted light out through the front lens. The LED shall emit two levels of light, selectable by a pushbutton on/off/selector switch that allows for one handed operation of the flashlight. The high output range of the flashlight shall provide not less than 60 lumens of light with a runtime period of not less than 6 hours before the output drops below 50 lumens. The low output range shall provide not less than 3 lumens for runtime period of not less than 100 hours. The flashlight shall be no longer than 5.5 inches and no larger in diameter than 1.1 inches. The flashlight shall weigh no more than 3.8 ounces with its batteries installed. The internal parts of the flashlight shall be protected from weather and water by sealed entries. The flashlight shall be powered by 2 each type 123A lithium ion batteries.



3.4.201 Mirror, with telescoping handle. An oval inspection mirror with 1-inch x 2-inches dimensions and with an extension handle that collapses to an overall length of 8 inches or smaller and extends to an overall length of 24 inches or greater shall be provided. The adjustable mirror head shall have full 360 degree range of motion in all directions to allow access to hard-to-reach places. The mirror shall include a textured cushioned grip on the handle.

3.4.202 Digital camera. The camera shall have no less than a 10.1 megapixel CMOS Sensor, a 2.5-inch LCD monitor, and Live View Function. The camera shall contain an 18-55mm lens, video cable, USB interface cable, battery pack, and battery charger, a protective carrying case, a strap, and a lens cap or an automatic retracting lens.

3.4.203 Memory card. Two each, 8 GB (gigabyte) Secure Digital (SD) memory cards shall be provided to be used with above camera.

3.4.204 Aluminum pipe wrench. The pipe wrench shall have a straight handle with a 1-1/2 inch jaw capacity and 10 inch nominal overall length. The handle shall be aluminum (non-magnetic). The movable jaw and the jaw inserts shall be forged steel.

3.4.205 Helmet Light. The helmet light shall be a compact, multiple-output helmet light utilizing white LEDs, two red LEDs, and one blinking infrared LED that serves as a personal Identify Friend or Foe (IFF) beacon. The Helmet Light shall include a durable, watertight polymer body colored tan. The helmet light shall attach via a mount that clamps to the rim of any Modular Integrated Communications Helmet (MICH). Once the mount is attached, the light shall be easily slid onto the mount, where it shall lock in place. The light shall be easily removed from the mount. The light shall be delivered with a carry clip that shall allow the light to be attached to any MOLLE or ALICE vest. The light shall be housed in a damage resistant water tight body. The light shall be controlled by two toggle switches and a pressure switch. The light shall be powered by a single 123A battery that is easily removed for servicing, replacement or transfer to other helmets. The total weight with battery and mount shall not exceed 3.2 oz. The light system shall provide the following performance characteristics in terms of output and runtime.

White High: 19.2 lumens/6 hrs
Red High: 2.5 lumens/20 hrs
White Med: 5.0 lumens/28 hrs
Red Med: 0.8 lumens/48 hrs
White Low: 1.4 lumens/48hrs
Red Low: 0.3 lumens/96 hrs
Tertiary IFF beacon: 1.72 mW/120 hrs

3.4.206 LED lantern. The lantern shall have high, low and flashing output settings with a burn time of not less than 4.75 hrs at 300 lumens and not less than 1.75 hrs at 710 lumens. The lantern shall illuminate areas up to 450 yards away (411.5 meters), and shall provide a 120° rotating head. The lantern shall have a battery status indicator and include 12V and 120V charging capability. The lantern shall weigh not more than 3.5 pounds, shall not exceed an overall length of 9 inches and shall be black or dark green in color.

3.4.207 Tweezers. The tweezers shall be nominally 120 mm long and made of antimagnetic stainless steel. The tips shall be flat and round point, coated for non-conductivity, non-sparking and heat and chemical resistance.

3.4.208 Hemostat, locking straight. The hemostat shall be 6 -1/4 inch long, straight configuration and made of titanium.

3.4.209 Hemostat, locking curved. The hemostat shall be 6 -1/4 inch long, curved configuration and made of titanium.

3.4.210 Bucket, collapsible. The bucket shall have not less than a 5 quart capacity, shall be a maximum height of 9.25 inches (23.5 cm) at full extension and shall fold to storage configuration of not more than 2 inches. The bucket diameter shall not exceed 11-1/4 inches and shall have a carrying handle. The bucket shall be watertight.

3.4.211 Puck style light. The puck style light shall be 4.25 inches (12cm) diameter by 1.25 inches (3.5 cm) tall, and shall weight not more than 7 ounces (200g) with battery installed. The lights shall operate at all temperatures in the range between -40°F and +212°F. The light element shall be a light emitting diode that shall be visible at night at a distance of 900 meters across open water or a flat unobstructed field, and up to 10 miles through open clear air as viewed from a mountain side. The light shall be clearly discernable in daylight conditions at distances up to 300 meters. The case of the light shall be sealed against weather conditions, rain, wind, and submersion in water at depths up to 80 feet. The light shall be powered by lithium battery(s). A fully charged battery shall provide no less than 8 hours of continuous on time during which the visibility conditions given above shall be met. The LED color shall be red. The housing color shall be olive drab.

3.4.212 Probe, mine, titanium. A non-magnetic mine probe equal to the brand and part number given here shall be provided. The salient characteristics to be met are:

- 5 pieces
- 28.5inches long (assembled and extended)
- 0.25inches diameter
- made of non-magnetic titanium

Brand name: Mission Knives

Model number: TA-1 (5 piece)

<http://www.osograndeknives.com/Mission/mission - ta-1 5 piece titanium mine probe set.htm>

4 VERIFICATIONS

The tools offered shall be demonstrated in such a manner to verify that they meet all of the contract requirements.

4.1 Responsibility for verification. The contractor is responsible for the pre-production verification of all requirements set forth in this specification. The contractor shall demonstrate to the Government, in front of appointed witnesses, that the product offered for acceptance meets all of the specified requirements. Before pre-production verification approval, the acquisition of material or components for, or the commencement of production of, the balance of the contract quantity is at the sole risk of the Contractor. Before product verification approval, the costs thereof shall not be allocable to this contract for termination settlements if the contract is terminated for the convenience of the Government. The contractor may also be required to perform verifications during production when requested by the Procuring Contracting Officer (PCO) as necessary to assure that all subsequent production items also meet the same requirements (See 4.6). The contractor may use his own, or any other, facilities suitable for the performance of the pre-production verification in accordance with the procedures specified herein, and subsequent production verification, unless disapproved by the Government.

4.2 Responsibility for compliance. All delivered items must meet all requirements of this DFP and the contract. The absence of any verification requirements shall not relieve the contractor of the responsibility of assuring that all products submitted to the Government for acceptance comply with all requirements of the contract.

4.3 Visual inspection procedures. Visually, dimensionally, and manually examine each item of the tool set to determine conformance with the requirements of section 3 and section 5 of this DFP. Visual examination shall include verification of completeness of manufacture and assembly, proper cleaning, and freedom from manufacturing defects. Dimensional examination includes measuring dimensions, as specified, and weighing the components. Manual examinations shall include the operation of movable parts, by hand, to assure proper functioning. Failure to pass any examination shall be construed as a failure to present a product that meets the contract requirements.

4.4 Performance demonstration. The contractor shall demonstrate that all the requirements of section 3 and the contract have been satisfied. Failure of a sample unit to pass any of these verifications shall be construed as a failure to present a product that meets the contract requirements.

4.5 Changes to materials, processes, or configuration. The PCO shall be informed of any changes to the materials, processes, or configuration of any characteristic of the units. The contracting officer shall determine if the reported changes to materials, processes, or configuration shall require any of the verifications under Section 4 to be repeated.

4.6 Conformance of subsequent production quantity. All products offered for acceptance throughout the life of the contract shall conform to all of the requirements of the contract. The Government reserves the right to re-verify any of the verifications and inspections set forth in this DFP at any time during the life of the contract whenever there is a lapse in production for a period in excess of one year; or whenever a change occurs in place of performance, manufacturing process, material used, specification, or source of supply and return to the contractor for replacement such product that does not conform to the specified requirements.

When any of the conditions above occur, the Contractor shall notify the Contracting Officer so that a determination can be made concerning the need for additional verifications and inspections set forth in this DFP. Costs of any additional verifications and inspections shall be borne by the Contractor, unless the change was directed by the Government. Further, any production delays caused by additional verifications and inspections will not be the basis for an excusable delay as defined in FAR 52.212-4 of this contract. Such delays shall not form the basis for adjustment in contract price or delivery schedule.

5 PRESERVATION, PACKING, AND PACKAGING.

5.1 Preservation, Packing, Packaging and Marking. Preservation, packing, packaging and marking shall be in accordance with the contract or delivery order.

6 NOTES

(This section contains information of a general or explanatory nature that may be helpful. There are no mandatory requirements in this section.)

6.1 Intended use. The EOD supplemental tools are primarily intended for use by personnel engaged in the detection, identification, disarming, removal or destruction in place of unexploded ordnance and Improvised Explosive Devices.