

DESCRIPTION FOR PURCHASE

No. 435

for

TOOL SET, AIRCRAFT ARMAMENT REPAIRMAN, TEAM

8 MAR 2004

1. Scope. This tool set provides the necessary components to repair and maintain the aircraft armament systems and support equipment currently in the Army inventory. The tool set is intended for use by MOS 15J, 15X, 15Y (formerly MOS 68J/68X per MOS change document dated 25 April 2003) repairman.

1.1 Abstract. The Aircraft Armament Repair, Team Tool Set is specifically organized to provide the aviation armament repairman the tools needed to repair aircraft armament. The Aircraft Armament Repair, Team Tool Set will provide maintainer type tools designed to supplement the Aircraft Armament Repair, Individual Tool Set. The general design and layout of the tool set has been specified to the degree that is required to assure that the set serves the daily life style and work needs of the repair teams. The mission may include repair and maintenance of weapon systems utilized by rotary wing aircraft such as the Blackhawk, Apache, and Kiowa helicopters. None-the-less, the set is simple but organized in a way to support the needs of the users. The set consists of a tool chest with a hinged lid and a set of various maintainer type hand tools contained in various removable trays in specific foam cutouts. The usual operating procedure will be to transport the chest to the work site, open it, remove the tools on a "as required" basis and replace the tool in its specified location when the maintenance task is completed.

2. Applicable documents. The following document forms a part of this specification to the extent specified herein. Unless otherwise specified, the issue of the document shall be the latest listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS), and supplement thereto, that is cited in the solicitation.

Commercial Item Description A-A-1927D - Padlock (dated 9 July 1993)

Society of Automotive Engineer (SAE) Aerospace Standard (AS) 954E

Copies of Federal Specifications may be obtained from the General Services Administration Business Service Office in Washington, DC, call (202) 619-8925.

3. Product requirements.

3.1 General description. The Aviation Armament Repairman, team Tool Set consists of a tool chest, the tool load, (see Table 1 at the end of this document and paragraphs numbered 3.5.1 to 3.5.76) and such items, devices or characteristics as necessary to provide rapid inventory capability and tool position retention during transportation and rough handling.

3.2 Design.

3.2.1 Construction of the set. The set shall be new and constructed of parts and materials that are without defects. Each set shall be delivered assembled and loaded with the Table I items so that the set can be immediately used for its intended purpose.

3.2.2 Materials. Unless otherwise specified herein, the set and its various items shall be made of any suitable materials that will meet the performance requirements set forth in this specification. The chemical and physical characteristics of high-density polyethylene have been used in chests of this type that have met the performance requirements herein. Other materials may be offered so long as it can be demonstrated that they meet the same performance requirements. All of the tool rollups shall be made of woven materials. Woven nylon and other aramid fiber materials shall be manufactured with UV inhibitor included in the fibers unless the fibers are otherwise chemically inert to UV attack. Detailed requirements are given for each item individually in the paragraphs below, where special requirements are warranted. All cloth materials used in the tool roll ups supplied to the Government shall comply with Federal requirements for domestic sources and production relating to canvas and other woven products. Refer to FAR 225.7002-1 Restrictions, (a)(4), (7) and (8) and FAR 225.7002-2 Exemptions.

3.2.3 Workmanship. The quality of workmanship imparted to the set shall equal or exceed that typically provided to domestically produced commercial products of this type. The sets presented for acceptance shall have been manufactured 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.

3.2.4 Weight. The weight of the fully assembled and loaded chest shall not exceed 185 pounds.

3.3 Chest. The chest shall be constructed of any material that provides the characteristics described below.

3.3.1 General exterior configuration. The chest shall be constructed with a base and a lid that shall be attached with a hinge/hinges between the base and lid.

3.3.2 Hardware. All metal hardware items on the chest shall be corrosion resistant zinc or nickel plate steel and shall be able to withstand long term attacks from corrosive atmospheric conditions.

3.3.3 Handles. The chest shall include two handles on both the front and back of the chest and one handle on each end, totaling six handles. The handles shall be rated, as pairs, for not less than 250 pounds of weight. Handles shall be affixed using mechanical fasteners that cannot be readily removed, i.e. rivets or screws that cannot be removed with a screwdriver. (Reason: In the absence of another tethering point, the handle will be used to tie the chest to a fixed post, pillar or another chest with a cable and padlock for security. If the handle can be easily removed, then the chest can be carried away without having to defeat the cable or padlock. Furthermore, if the handles are used to secure the chest in a moving vehicle they need to be able to withstand higher forces than those encountered in a simple lift and carry situation.)

3.3.4 Security. The chest shall include a locking feature for the entire chest that utilizes a padlock. Padlocks shall conform to the requirements of Commercial Item Description A-A-1927D, dated July 1993 or later. Padlock shall be Type II. Padlock shall be keyed individually. The key need not be captured in the lock tumbler when the padlock is open. Padlocks do not require chains. Padlocks shall be of solid construction, either brass or bronze, 1/4" to 5/16" shackle diameter, and a minimum of 7/8" clearance between body and

shackle. The chest shall also include a means to tether the chest to a post, or pillar, by means of a chain that can be run from chest to chest, through the handles, or other tethering devices, and then locked with a padlock(s).

3.3.5 Interface dimensions. The exterior dimensions of the chest, including handles, stacking features, etc., and shall not exceed 24 inches in height, 22 inches in width and 33 inches in length. The interior of the chest shall be large enough to hold all of the items to be loaded. These exterior dimensions are given as maximum conditions. They cannot be exceeded under any circumstances. Chests of smaller dimensions are valued highly for this tool set and should be utilized, if at all possible. The chest shall still meet the other requirements of the Description for Purchase.

3.3.6 Water entry resistance. The chest shall prevent water from entering the chest, when the lid is closed with all of its latches properly applied. If a rubberized seal is used to meet this requirement, then it shall be easily replaced when damaged in the field.

3.3.7 Stack ability. The chest shall be designed for stack ability, avoiding the placement of handles, clasps, or other features in such a position as to interfere with stacking. Protrusions on the chest, which enhance the stack ability feature, shall be placed in such a manner that a soldier can use the top of the chest as a working surface.

3.3.8 Crush resistance. The chest, when closed, latched, and in its normal resting position shall protect its contents from damage. It shall withstand, without damage or permanent deformation to itself, a load consisting of one other identical fully loaded tool chest stacked on top of it for one hour. After the removal of the top chest the chest that was on the bottom shall retain its original shape.

3.3.9 Impact resistance. When fully loaded, closed, latched and placed in its normal resting position in a room temperature environment the chest shall withstand impacts from dropped objects. As a minimum it shall withstand an impact from a steel bar weighing at least 3 pounds, with a cross section no larger than 3/16 X 1 inch and with an edge radii no larger than 1/16 inch. This bar shall have been dropped in free fall from a height of 8 feet, and shall have landed narrow end down on the lid of the chest. The chest shall absorb this blow without suffering permanent deformation to its general overall configuration. The impact shall not cause penetration of the lid by the steel bar.

3.3.10 Finish. The exterior surface finish shall be clean and corrosion resistant and shall have no sharp edges or projections.

3.3.11 Color. The color of the chest shall be olive drab and the coloring agent shall be part of the base material such that no painting is ever required to maintain the color.

3.3.12 Pressure differential compensation. The chest shall be designed to compensate for differential pressures that may develop as a result of changes in temperature or in altitude. A device such as pressure relief valve may serve this purpose.

3.4 Interior tool storage system

The interior storage system shall utilize removable trays that are easily withdrawn from the box. Each tray of tools shall be provided handles as needed for two persons to lift it out of the chest. The combined weight of a single tray shall not exceed 73 pounds (two person lift). The interior storage system shall provide for rapid inventory capability and shall provide protection to the tools so that they do not damage each other or

the chest itself during transportation or rough handling. The interior tools storage system shall be constructed of materials that are light-weight, non-corrosive, and entirely compatible with the tools to be stored in them. High-density polyethylene sheet stock, and vacuum formed polypropylene, have served this purpose well in the past. If foam material is used then it shall be high-density polyethylene closed cell foam of 4 pound density minimum, or any other foam with similar characteristics. Foam surfaces that could accumulate moisture in inclement weather conditions shall be coated to enhance the ability to dry the liners by hand with a towel. This is to help prevent corrosion on the tools.

3.5 Tools and related items to be loaded into the set. The components listed in paragraphs 3.5.1 thru 3.5.76 shall be acquired and loaded into the trays of the tool chest. The total quantities of each item required are given in the column marked “qty” on Table 1. All tools shall be of an industrial or professional quality. Industrial/professional quality carpenter’s tools are normally distinguished from general purpose and home owner quality tools in that they are designed for constant and rigorous use by professionals in an industrial construction environment. Only industrial/professional quality tools that have a verifiable market place acceptance shall be included in this tool set.

Disclaimer: In order to help clarify the Government’s requirements digital images of actual tools available in the commercial market place have been included along with the verbal descriptions of the tools. The use of any particular image does not imply that the Government has a preference for a specific brand of tool, nor does it imply that the tool in the image automatically meets our requirements, especially as they relate to those requirements driven by law regarding tools that must be made inside the United States or its territories or any other governing rules, regulations and laws. The verbal description of the tool is the controlling requirement. It is the responsibility of the suppliers and manufacturers to assure that tools offered to fulfill the need meet all of the requirements related to the tool.

3.5.1 ADAPTER, SOCKET WRENCH, EXT.: 1/4 IN SQ DR, LOCKING



3.5.2 ADAPTER, SOCKET WRENCH, EXT.: 3/8 IN SQ DR, LOCKING



3.5.3 ADAPTER, SOCKET WRENCH: 1/2 IN FEMALE TO 3/8 IN MALE



3.5.4 NOT USED

3.5.5 BIT, SCREWDRIVER, CROSSTIP (2): # 2 TIP, 1/4 IN HEX DR



3.5.6 BIT, SCREWDRIVER, CROSSTIP (3): # 3 TIP, 1/4 IN HEX DR



3.5.7 BIT, SCREWDRIVER, CROSSTIP, HI-TORQ (10): # 10 TIP



3.5.8 BIT, SCREWDRIVER, CROSSTIP, HI-TORQ (8): # 8 TIP, 1/4 HEX



3.5.9 BLOWER, WATCHMAKER'S: Bulb type, squeeze expels air for removing dirt or foreign matter from small parts.



- 3.5.10 **BOX, SMALL PARTS:** Six equal compartments, plastic, transparent, hinged lid, 8 in long, 4-1/8 in deep, 1-5/32 in high



- 3.5.11 **BRUSH, FILE CLEANER:** Combination brush and file card, 9" \pm 1" overall length, fiber bristles 5/8 in long nominal, metal wire bristles 1/4" long nominal



- 3.5.12 **CALIPER, DIAL:** Steel, 0-6 in measurement length, 0.100 in graduations on scale, 0.001 in graduations on dial, one rotation of dial equals 0.100 in, inside and outside measuring, with case



- 3.5.13 **CALIPER, MICROMETER, OUTSIDE:** 0-1 INCH, graduations in thousandths of an inch



- 3.5.14 CLAMP, SCISSORS, CURVED: stainless steel, serrated jaws with curved end, adjustable grip lock with plastic coated grips, 5 inches long nominal.



- 3.5.15 CLAMP, SCISSORS, STRAIGHT: stainless steel, serrated jaws with straight end, adjustable grip lock with plastic coated grips, 5 inches long nominal



- 3.5.16 CRIMPING TOOL, TERMINAL, HAND, MANUAL: Consists of two parts, crimping frame with handle and crimping die. Ability to crimp wire sizes ranging from 10AWG through 26 AWG. Ability to crimp various sizes and types of ferrules, coaxial connectors, contacts, splices and terminal lugs to cables and wires. (know source: Daniels Manufacturing Corporation. Kit – includes tool and crimping dies for above wire sizes NSN – 5120-00-596-9313)



- 3.5.17 CROWFOOT, SOCKET WRENCH (0.838): 3/8 DR, 15/16 IN OPENING, chrome or satin finish



3.5.18 CROWFOOT, SOCKET WRENCH (1.5): 1/2 DR, 1-1/2 IN OPENING, chrome or satin finish



3.5.19 CROWFOOT ATTACHMENT (CUSTOM PART, SEE ATTACHED DRAWING)

3.5.20 DRILL, ELECTRIC, PORTABLE: Cordless, 18 volt, two battery packs, one 18 volt battery charger, 1/2" keyless chuck, variable speed reversible, minimum of 2 speed settings, 20-24 position pre-selected torque settings, detachable side handle (optional), and one full lock-up setting, with carrying case.



3.5.21 DRILL SET, TWIST: W/CASE, 29 piece drill set with metal drill index, sizes from 1/16 in diameter to 1/2 in diameter in 1/64 in increments, jobber length, right hand twist



3.5.22 EXTRACTOR SET, SCREW: 10 pcs, with tool roll up, sizes 1 through 9



3.5.23 FILE, HAND: HALF RD, AMERICAN PATTERN, 10 IN LONG



3.5.24 FILE, HAND: KNIFE TYPE, 7" \pm 1" OVERALL LENGTH, SECOND CUT



3.5.25 FILE SET, NEEDLE, HAND: 12 pc set, 6 \pm 1/2 in overall length, cut type 4, with tool roll up, consisting of one each of the following: 1/2 round file, barrette file, crossing file, equaling file, flat-tapered, joint style, knife file, marking file, round file, slitting file, square file, triangular file.



- 3.5.26 FILE, THREAD RESTORER: Square file, double ended, smooth square shank handle at center, has 8 pitch sizes 11, 12,13, 14, 16, 18, 20, 24 Threads per inch (TPI)



- 3.5.27 FINGER, MECHANICAL: 11-14" in overall length, four fingers, activated by plunger on opposite end, flexible



- 3.5.28 GAGE, THICKNESS: METRIC, 20 BLADES: .050-1.00 MM in .050 MM increments, blade sized marked on each blade, with holder & locking screw



- 3.5.29 GAGE, THICKNESS: STANDARD, 25 BLADES: blade dimension 1/2 in wide x 3 in long, thicknesses .0015, .002-.025 in .001 in increments, sizes marked on blade, with holder & locking screw



3.5.30 GLOVES, RUBBER, INDUSTRIAL: synthetic or natural rubber, 14 inches long nominal, cuff type - gauntlet



3.5.31 GOGGLES, INDUSTRIAL: frame material – plastic, lens material – plastic polycarbonate, color - clear



3.5.32 HAMMER, HAND, DEADBLOW: 4lb \pm 1/2lb head weight, fiberglass handle, plastic non-marring hammer face, rubber non-slip cushioned grip, 2-5/8 in head diameter, 13 in handle length nominal



3.5.33 HANDLE, FILE: Adjustable



- 3.5.34 HANDLE, SOCKET WRENCH: 1/2 SQ DR, 16" – 19" OVERALL LENGTH, HINGED TYPE, chrome or satin finish



- 3.5.35 HEAT SINK, SOLDERING: heavy duty, copper jaws, made of spring steel



- 3.5.36 HEATER GUN, TYPE ELECTRIC: variable heat control, temperature range from 100⁰ F (± 10⁰ F) to 1100⁰ F (± 50⁰ F), 120V.



- 3.5.37 KEY SET, SOCKET HEAD SCREW: 13 PC, with case, includes sizes 0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", and 3/8"; ball hex type.



- 3.5.38 **KNIFE, PUTTY:** Flexible steel blade, $3\text{-}1/2'' \pm 1/2''$ blade length, $1\text{-}1/4'' \pm 1/4''$ blade width, $3\text{-}3/4'' \pm 1/2''$ handle length, wood or plastic handle



- 3.5.39 **LIGHT, EXTENSION: FLUORECSENT,** transparent clear lens, closed end tube w/hook on end, 25 foot cord, 120 volt, $20'' \pm 2''$ overall length of light assembly



- 3.5.40 **MIRROR INSPECTION:** Round, $1\text{-}1/4$ in diameter, unbreakable mirror, handle length $8 \pm 1/2''$, fixed handle or telescoping.



- 3.5.41 **SOLDERING IRON, CORDLESS:** Uses 4 AA batteries, has the ability for rapid heating and cooling of soldering tip



- 3.5.42 PLIERS, RETAINING RING: INT/EXT STRAIGHT, 0.070 IN DIA TIP, 7-1/2 in overall length nominal, vinyl grips, accommodates bore diameter from 7/16 in to 2 in



- 3.5.43 PLIERS, RETAINING RING: INTERNAL STRAIGHT, 0.070 IN DIA TIP



- 3.5.44 PLIERS, ARC JOINT: 10 in overall length nominal, 7 adjustment grooves, 0-2 in capacity, cushioned grips



- 3.5.45 PUNCH, CENTER, SOLID: tool steel, 4 in nominal overall length, 5/32 in diameter point, hexagonal or knurled round shank acceptable



- 3.5.46 PUNCH SET, DRIVE PIN: 5 pieces, long length, with case or tool roll up, consisting of the following sizes: 1/8 in point dia, 3/16 in point dia, 1/4 in point dia, 5/16 in point dia, and 3/8 in point dia



3.5.47 PUNCH, DRIVE PIN: 1/16 IN TIP DIA, 4 IN LONG



3.5.48 PUNCH, DRIVE PIN: 3/16 IN TIP DIA, 4 IN LONG



3.5.49 REMOVAL TOOL, MODULE: (known source: DEUTSCH Engineered Connecting Devices, part number CTJ-R12)



3.5.50 REMOVAL TOOL, SOCKET: (known source: DEUTSCH Engineered Connecting Devices, part number CTJ-R06)



- 3.5.51 RETRIEVING TOOL, MAGNETIC: permanent magnet, telescoping handle 15-1/4 in - 18 in min closed length, 26 in - 27-1/2 in max extended length, knurled end or plastic grip acceptable



- 3.5.52 RULE, STEEL, MACHINIST'S: 6 in long, steel, flexible, black markings, 1/32 in and 1/64 in graduations on one side, 1/10 in and 1/100 in graduations on opposite side, 1/2 in wide



- 3.5.53 SCREW STARTER, HAND: Cross tip starter on one end, slotted screw starter on opposite end, cross tip end is #2 size, flat tip end has a 0.090 in wide by 0.025 in thick stationary blade and a 0.100 in by 0.025 in movable blade



- 3.5.54 SCREWDRIVER, CROSS TIP: # 2 TIP, 18" \pm 1" BLADE LENGTH, 22" \pm 1" OVER ALL LENGTH



- 3.5.55 SCREWDRIVER, FLAT TIP: 16 \pm 1" blade length, 1/4" \pm 1/16" tip width, plastic handle



3.5.56 SOCKET: 1/2 SQ DR, 1-3/8 IN WR SIZE, STD LENGTH, 12 PT



3.5.57 SOCKET: 3/8 SQ DR, 1 IN WR SIZE, DEEP REACH, 12 PT



3.5.58 SOCKET: 3/8 SQ DR, 12 MM WR SIZE, DEEP REACH, WITH BOLT CLEARANCE OF AT LEAST 66.7MM AND OVERALL LENGTH OF 82.6MM, 12 PT (known part: NSN 5120-01-348-9096)



3.5.59 SOCKET, SOCKET WRENCH (CUSTOM PART, SEE ATTACHED DRAWING)

3.5.60 SPANNER ATTACHMENT SET, SOCKET: 1/2" drive, 1.75" to 4" capacity range, 3 pin arms, pin diameters of .152", .246", and .308". 1 key arm. (known source: GSA, NSN 5120-00-513-1754)

3.5.61 SPANNER ATTACHMENT SET, SOCKET: 3/8" drive, .75" to 2" capacity range, 3 pin arms, pin diameters of .089", .121", .183". 1 key arm. (known source: GSA, NSN 5120-00-596-8652)

3.5.62 STONE, SHARPENING: Fine, 4" \pm 1/2" L, 1"-2"W, 1/4"-3/8" THICK



3.5.63 STONE, SHARPENING: MED GRIT, 4" \pm 1/2" L, 1"-2" W, 3/8" – 5/8" THICK



3.5.64 STONE, SHARPENING: ROUND, fine grit, 1/2" DIA, 6" \pm 1/2" LONG



3.5.65 STRIPPER WIRE, HAND: manually operated, spring loaded handles, must remove a min of 3/4 in wire in one operation, 10-22 AWG and AN capacity, cushioned grips, replaceable cutter blades

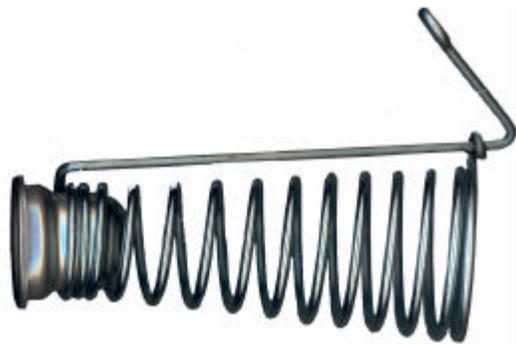


3.5.66 SOLDERING OUTFIT: 20 piece set, with carrying/storage case (known source Weller P/N WTCPK), consisting of the following components:

DESOLDERING ATTACHMENT:



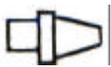
HOLDER, SOLDERING IRON:



SOLDERING IRON,ELECTRIC: electric, 24V, 48 watts



TIP, DESOLDERING: .038" orifice:



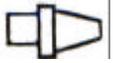
TIP, DESOLDERING: .046" orifice:



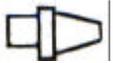
TIP, DESOLDERING: .059" orifice:



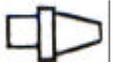
TIP, DESOLDERING: .063" orifice



TIP, DESOLDERING: .078" orifice



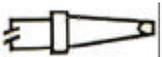
TIP, DESOLDERING: .090" orifice



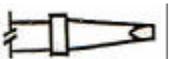
TIP, SOLDERING: 1/16" screwdriver, 600⁰ F



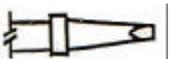
TIP, SOLDERING: 3/32" screwdriver, 600⁰ F



TIP, SOLDERING: 1/8" screwdriver, 600⁰ F



TIP, SOLDERING: 1/8" screwdriver, 700⁰ F



TIP, SOLDERING: 5/64" screwdriver, 700⁰ F



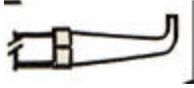
TIP, SOLDERING: 3/64" screwdriver, 600⁰ F bent



TIP, SOLDERING: 3/64" screwdriver, 700⁰ F bent



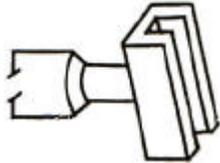
TIP, SOLDERING: conformal coating – stripping



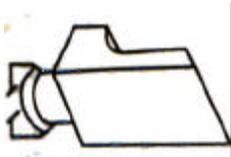
TIP, SOLDERING: wire stripping



TIP, SOLDERING: dual in-line



TIP, SOLDERING: flat pack



BRUSH, FLUX: 6" OVERALL LENGTH NOMINAL, METAL HANDLE



3.5.67 NOT USED:

3.5.68 TOOL KIT, CRIMPING TOOL AND TURRETS: Ability to crimp wires sizes ranging from 12gauge to 22 gauge or larger. Kit contains: 1 crimping tool, 2 turrets, 1 inspection gauge, and 1 9/64" hex key wrench. (known source: Daniels Manufacturing Corporation. Kit part number DMC 7, NSN 5180-00-921-5771)



- 3.5.69 **TWEEZERS, CRAFTSMEN'S:** blunt tip with serrated face, self closing (normally closed), 6-1/2 in nominal overall length



- 3.5.70 **WISE SET, PIN:** 5 pc set, 4 single end handles with hollow handles and a collet chuck w/case, handle A 0.0-0.055 in capacity, handle B 0.055-0.075 in capacity, handle C 0.045-0.125 in capacity, handle D 0.110-0.187 in capacity



- 3.5.71 **WRENCH, PLIER:** 10" nominal length, curved serrated jaws, adjustable using knurled threaded knob.



- 3.5.72 **WRENCH, TORQUE:** 1/2 SQ DR, STANDARD REVERSIBLE RATCHETING HEAD, 500-2500 IN/LB, IMPULSE TYPE



- 3.5.73 **WRENCH, TORQUE:** 1/2 SQ DR, STANDARD REVERSIBLE RATCHETING HEAD, 50-250 FT/LB, IMPULSE TYPE



- 3.5.74 **WRENCH, TORQUE:** 1/4 IN SQ DR, 0-80 IN/OZ, BEAM TYPE



- 3.5.75 WRENCH, TORQUE: 1/4 SQ DR, STANDARD REVERSIBLE RATCHETING HEAD, 40-200 IN/LB, IMPULSE TYPE



- 3.5.76 WRENCH, TORQUE: 3/8 SQ DR, STANDARD REVERSIBLE RATCHETING HEAD, MINIMUM TORQUE CAPACITY OF 100-150 IN/LB, AND MAXIMUM TORQUE CAPACITY OF 750-1000 IN/LBS, IMPULSE TYPE



3.6 General performance.

3.6.1 Human engineering. . The chest, including the handles and clasps, shall be designed so that the chest can be carried, opened, and closed by persons wearing insulated work gloves. If a bar type handle is used, the clearance for the hand inside the handle shall be not less than 2 inches by 4.25 inches.

3.6.2 Cold temperature performance. When loaded with the specified tools, closed, latched, and stored for three hours at a temperature no warmer than -25F, the chest shall withstand a fall to a concrete floor surface from 24 inches landing on its bottom without sustaining damage, without latches coming open, and continue to be operable with latches and handles working and lid opening and closing without difficulty.

3.6.3 Ambient temperature rough handling resistance. A fully loaded chest shall withstand being dropped from a height of 60 inches onto a concrete floor and being rolled over on the floor, 360 degrees, four times, once over each lower edge without sustaining any deformation or damage to the chest.

- a. 3.7 Markings. Tool Layout: A diagram showing the location of each component in its loaded position shall be provided with each chest and shall be permanently affixed to the inside of the lid.

b. Warranty information for the tools and the chest shall be permanently affixed to the inside of the lid of the chest. Warranty information shall include the following:

1. Government contract and delivery order number
2. Date of manufacture (month and year)

3. Instructions for submitting a claim including
 - (i) Preferred claim method – via Internet site at <http://aeprs.ria.army.mil>
 - (ii) Alternate claim method – via email to QAWQDRS@ria.army.mil or via fax to (309) 782-6653 or DSN 793-6653. Call (309) 782-7698 or DSN 793-7698 for verification or assistance.
 - (iii) Information required to submit a claim including –
 - Individual with responsibility to authorize claim
 - Date and location of incident
 - Unit location and DODAAC
 - Ship to address
 - Description of circumstances of component failure
4. Name and address of contractor, and any other means of contacting the contractor such as data fax number or e-mail address.

5. A complete list of warranties for each component including the nomenclature, manufacturer's part number and NSN, when known, shall also be permanently affixed to the inside of the lid.

4 Verifications.

4.1 Quality assurance. Product verification shall be performed in accordance with the following requirements.

4.2 Responsibility for verification. Unless otherwise specified in the contract, the contractor is responsible for the performance of all verification requirements as specified herein. Except as otherwise specified in the contract, the contractor may use his own or any other facilities suitable for the performance of the verification requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the verifications set forth in the specifications where such verifications are deemed necessary to assure supplies and services conform to prescribed requirements.

4.3 Responsibility for compliance. All delivered items must meet all requirements of this 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.

4.4 Product examination. Visually, dimensionally, and manually examine each of two sample chests per lot to determine conformance with the requirements of 3.2 through 3.3.5, 3.3.10, 3.3.11, 3.4, 3.5 and 3.7. Visual examination shall include verification of completeness of manufacture and assembly, proper cleaning, and freedom from the identified defects. Dimensional examination includes measuring dimensions as specified and weighing the unit. Manual examinations shall include the operation of movable parts by hand to assure proper functioning. Failure of any sample unit to pass any examination shall result in the inspection of each unit of that lot for the failure. Units, which fail any examination, shall not be offered to the government for acceptance.

4.5 Performance verification. The performance verification procedures specified in paragraphs 4.5.1 through 4.5.7 shall be performed using four units randomly selected from the first month's delivery quantity. Failure of any of the four units to pass any of these verification procedures shall result in actions necessary to correct the failure, followed by re-performance of all verifications. Only units, which incorporate the necessary corrections, shall be offered to the government for acceptance. Necessary corrective actions shall not be construed as an excusable reason for extending delivery dates or restructuring the contract delivery schedule.

4.5.1 Stack ability verification. A fully loaded chest shall be stacked on top of another fully loaded chest to verify stack ability. Failure to stack securely, wobbling, or rocking shall constitute failure of this requirement (see 3.3.7).

4.5.2 Human engineering verification. A fully loaded tool chest shall be used by persons wearing insulated work gloves. Inability of the persons to carry the fully loaded chest, unlock, open and close drawers, close, and re-lock the chest while wearing the gloves shall constitute failure of this requirement (see 3.6.1).

4.5.3 Crush resistance verification. A fully loaded chest shall be stacked upon another fully loaded chest for not less than one hour. Any damage to the chests, permanent deformation, or failure to retain shape shall constitute failure of this requirement (see 3.3.8).

4.5.4 Impact resistance verification. A fully loaded chest shall be inspected for resistance to damage from impacts with sharp falling objects. A steel bar weighing not less than 3.0 pounds, with a cross section no larger than 3/16 X 1 inch and with an edge radii no larger than 1/16 inch shall be dropped in free fall from a height of not less than 8 feet. The bar shall land narrow end down on the chest. Any damage or effect beyond minor denting of the exterior shall constitute failure of this requirement (see 3.3.9).

4.5.5 Cold temperature verification. One of the chests shall be loaded with its full complement of items and stored for 3 hours in a cold temperature environment no warmer than -25 degrees F. The chest shall then be removed from the cold temperature environment and all moving parts shall be operated. Within five minutes of being removed from the cold temperature environment the fully loaded chest shall then be dropped from a height of 24 inches onto a hard floor surface. Failure of the doors, drawers, locks or handles to operate properly or deformation or breakage of the chest shall constitute failure of this requirement (see 3.6.2).

4.5.6 Water entry resistance demonstration. Water entry resistance demonstration may be performed using either of three methods. The first is a submersion method in which the chest is completely immersed in a tank of water. The second is a pneumatic procedure in which a pressure gage is attached to the chest and an air line attached to build pressure inside the chest. Of note, this is a destructive test. The third is a wind blown rain procedure. The three methods are offered to take advantage of the various existing verification apparatus that may be available in the commercial market place. If the chest utilizes an easily replaceable seal, remove the existing seal and replace it (i.e., put it back in place, or put a new one in its place, depending upon design) prior to running any of the procedures.

4.5.6.1 Water immersion procedure. Close and fasten the chest, with or without the tool load in it. At the contractor's option, a weight may be placed in the chest to keep it from floating or any other tie down method may be used so long as it does not affect the operation of the seal. Immerse the chest in a tank of water to a depth at which the lid is under water and orient the chest with the closed lid in its upright position. Keep the chest under water for not less than 10 minutes. After ten minutes remove the chest from the tank and towel dry the exterior. Open the chest and conduct a visual inspection of the inside. Make note of any water found on the interior of the chest. Accumulation of moisture inside the chest shall constitute failure of this requirement (see 3.3.6.).

4.5.6.2 Pneumatic procedure. Drill a hole in the side of a chest and insert a pneumatic pressure gage. Drill another hole and insert a pneumatic fitting. The hole for the pressure relief valve may be utilized for this purpose so long as the valve itself is certified to hold not less than the same pressure for the same amount of

time. Close and latch the chest, with or without the tool load in it. Attach a source of compressed air and raise the pressure inside the chest to one half (.5) pound per square inch gage, or higher. Detach the source of the compressed air and hold the pressure for 30 minutes, or longer. The pressure as shown on the gage shall not decrease more than 10 percent in the 30 minute time period. Failure to hold the required pressure for the required time period shall constitute a failure of the requirement (see 3.3.6).

4.5.6.3 Rain and wind blown rain procedure. Close and fasten the chest with or without the tool load in it. At the contractor's option, a weight may be placed in the chest to keep it from being blown around by the force of the wind. Submit the chest to the following verification procedure utilizing apparatus that meets the requirements as stated.

4.5.6.3.1 Rain and wind generating apparatus.

a. The rain making apparatus shall produce falling rain at the rate of 4 inches per hour. The water distribution device shall produce droplets having a diameter range predominantly between 0.5 mm and 4.5 mm. The rain shall be dispersed completely over the chest when accompanied by the prescribed wind. Position the spray nozzles at a height sufficient to ensure the drops approach terminal velocity. Water used for this verification procedure can be from local water supply sources. It is not necessary to use de-ionized or distilled water for this verification procedure.

b. The wind source shall produce horizontal wind velocities of 40 miles per hour. The wind velocity shall be measured at the position the chest will be in before placing the chest in the verification apparatus. The wind source shall cause the rain to beat directly and uniformly upon the chest.

4.5.6.3.2 Controls. Immediately prior to performing the verification:

a. Verify the rainfall rate to be 4 inches per hour or more

b. Verify the wind velocity to be 40 mph or higher

d. Adjust the temperature differential between the water and the chest to be no less than 10 degrees C. The chest shall be the warmer value.

4.5.6.3.3 Interruptions. Interruption of the water entry resistance verification procedure is unlikely to generate any adverse effects. Therefore, if an interruption occurs, the procedure may be continued from the point of interruption.

4.5.6.3.4 Procedure. Follow the 4 step procedure as outlined below. Accumulation of moisture inside the chest shall constitute failure of this requirement (see 3.6.6.)

Step 1. With the chest in the apparatus and in its normal storage position, adjust the rainfall rate to 4 inches per hour.

Step 2. Adjust the wind speed to 40 mph and maintain it for at least 30 minutes.

Step 3. Rotate the test item to expose it to the rain and blowing wind source on all four sides of the chest. Include all four sides in the same 30 minute period.

Step 4. Remove the chest from the test apparatus, towel dry the exterior, open the chest and conduct a visual inspection of the inside making note of any water found on the interior of the chest. Accumulation of moisture inside the chest shall constitute failure of this requirement (see 3.3.6.).

4.5.7 Ambient temperature rough handling verification. Load a chest with a full tool load, close and fasten. Drop the chest from a height of 60 inches onto a hard floor surface. Inspect the chest for cracks, breaks, dents or other damage that renders it less usable. Roll the chest over on the floor, 360 degrees, so that the chest becomes completely inverted, and do so four times, in the four different directions, going over each of the four lower edges. Set the chest upright. Open the chest. Remove each tray and inspect the tools to assure that all tools are still in their proper storage position. Failure of the chest to withstand being dropped without sustaining damage as described above or failure of the tool organizing liner to retain the tools such that no tools are damaged and any displaced tool can be immediately replaced into its proper storage location shall constitute failure of this requirement (see 3.6.3)

4.6 Changes to materials, processes, or configuration. The contracting officer 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 the verifications of paragraph 4.5 to be repeated.

4.7 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 conformance with requirements, at its own facility and at its own expense, at any time during the life of the contract and return to the contractor for warranty replacement such product that does not conform to the specified requirements and to require the contractor to implement actions to prevent the recurrence of any detected non-conformances in all future items.

4.8 Warranty. Different tools are offered with different warranties in the commercial marketplace. In recognition of this fact the Government requires that warranties as indicated in the table below be provided for the following tools as a minimum. In addition, the tool chest shall be provided with a five-year warranty.

TABLE I

paragraph	Warranty	NAME	QTY
3.5.1	LT	ADAPTER, SOCKET WRENCH, EXT.: 1/4 IN SQ DR, LOCKING	01
3.5.2	LT	ADAPTER, SOCKET WRENCH, EXT.:3/8 IN SQ DR, LOCKING	01
3.5.3	LT	ADAPTER, SOCKET WRENCH:1/2 IN FEMALE TO 3/8 IN MALE	01
3.5.4		NOT USED	01
3.5.5	NONE	BIT, SCREWDRIVER, CROSSTIP (2): # 2 TIP, 1/4 IN HEX DR	05
3.5.6	NONE	BIT, SCREWDRIVER, CROSSTIP (3): # 3 TIP, 1/4 IN HEX DR	02
3.5.7	NONE	BIT, SCREWDRIVER, CROSSTIP, HI-TORQ (10): # 10 TIP,	01

		¼ IN HEX DRIVE	
3.5.8	NONE	BIT, SCREWDRIVER, CROSSTIP, HI-TORQ (8): # 8 TIP, 1/4 HEX DRIVE	01
3.5.9	NONE	BLOWER, WATCHMAKER'S:	01
3.5.10	NONE	BOX, SMALL PARTS: Six equal compartments, plastic, transparent, hinged lid, 8 in long, 4-1/8 in deep, 1-5/32 in high	02
3.5.11	NONE	BRUSH, FILE CLEANER: Combination brush and file card, 9" ± 1" overall length, fiber bristles 5/8 in long nominal, metal wire bristles ¼" long nominal	01
3.5.12	MFR	CALIPER, DIAL: Steel, 0-6 in measurement length, 0.100 in graduations on scale, 0.001 in graduations on dial, one rotation of dial equals 0.100 in, inside and outside measuring, with case	01
3.5.13	MFR	CALIPER, MICROMETER, OUTSIDE: 0-1 INCH	01
3.5.14	MFR	CLAMP, SCISSORS, CURVED:	01
3.5.15	MFR	CLAMP, SCISSORS, STRAIGHT:	01
3.5.16	MFR	CRIMPING TOOL, TERMINAL, HAND, MANUAL: Consists of two parts, crimping frame with handle and crimping die. Ability to crimp wire sizes ranging from 10AWG through 26 AWG. Ability to crimp various sizes and types of ferrules, coaxial connectors, contacts, splices and terminal lugs to cables and wires. (know source: Daniels Manufacturing Corporation. Kit – includes tool and crimping dies for above wire sizes NSN – 5120-00-596-9313)	01
3.5.17	LT	CROWFOOT, SOCKET WRENCH (0.838): 3/8 DR, 15/16 IN OPENING, chrome or satin finish	01
3.5.18	LT	CROWFOOT, SOCKET WRENCH (1.5):1/2 DR,1-1/2 IN OPENING, chrome or satin finish	01
3.5.19		CROWFOOT ATTACHMENT (CUSTOM PART, SEE ATTACHED DRAWING)	
3.5.20	MFR	HAMMER DRILL, ELECTRIC, PORTABLE: Cordless, 18 volt, two battery packs, one 18 volt battery charger, ½" keyless chuck, variable speed reversible, minimum of 2 speed settings, 15-24 position pre-selected torque settings, 3 mode settings – hammer drilling, driving and drilling, detachable side handle (optional), and one full lock-up setting, with carrying case (known source: Makita 8443 DWDE).	01
3.5.21	NONE	DRILL SET, TWIST: W/CASE 29 piece drill set with metal drill index, sizes from 1/16 in diameter to 1/2 in diameter in 1/64 in increments, jobber length, right hand twist, cobalt	01
3.5.22	MFR	EXTRACTOR SET, SCREW: 10 pcs, with case, sizes 1 through 9	01
3.5.23	NONE	FILE, HAND: HALF RD, AMERICAN PATTERN, 10 IN LONG	01
3.5.24	NONE	FILE, HAND: KNIFE TYPE, 6 IN LONG, SECOND CUT	01

	NONE	FILE SET, NEEDLE, HAND: 12 pc set, 6 in overall length, with case, consisting of one each of the following: 1/2 round file, barrette file, crossing file, equaling file, flat-tapered, joint style, knife file, marking file, round file, slitting file, square file, triangular file.	01
3.5.25			
	NONE	FILE, THREAD RESTORER: Square file, double ended, smooth square shank handle at center, has 8 pitch sizes 11, 12,13, 14, 16, 18, 20, 24 Threads per inch (TPI)	01
3.5.26			
	MFR	FINGER, MECHANICAL: 12 in overall length, four fingers, activated by plunger on opposite end, flexible	01
3.5.27			
	MFR	GAGE, THICKNESS: METRIC, 20 BLADES: .050-1.00 MM in .050 MM increments, blade sized marked on each blade, with holder & locking screw	01
3.5.28			
	MFR	GAGE, THICKNESS: STANDARD, 25 BLADES: blade dimension 1/2 in wide x 3 in long, thicknesses .0015, .002-.025 in .001 in increments, sizes marked on blade, with holder & locking screw	01
3.5.29			
	MFR	GLOVES, CHEMICAL: synthetic or natural rubber, 14 inches long nominal, cuff type - gauntlet	01
3.5.30			
	MFR	GOGGLES, INDUSTRIAL: frame material – plastic, lens material – plastic polycarbonate, color - clear	01
3.5.31			
	LT	HAMMER, HAND, DEADBLOW: 4 pound head weight, fiberglass handle, plastic non-marring hammer face, rubber non-slip cushioned grip, 2-5/8 in head diameter, 13 in handle length	01
3.5.32			
3.5.33	NONE	HANDLE, FILE: Adjustable	01
	LT	HANDLE, SOCKET WRENCH: 1/2 SQ DR, 18" LONG, HINGED TYPE, chrome or satin finish	01
3.5.34			
3.5.35	MFR	HEAT SINK, SOLDERING:	01
	MFR	3.5.67 HEATER GUN, TYPE ELECTRIC: variable heat control, temperature range from 100 ⁰ F (± 10 ⁰ F) to 1100 ⁰ F (± 50 ⁰ F), 120V.	
3.5.36			01
3.5.37	LT	KEY SET, SOCKET HEAD SCREW: 13 PC, 0.050- 3/8 IN	01
	LT	KNIFE, PUTTY: Flexible steel blade, 3-1/2" ± 1/2" blade length, 1-1/4" ± 1/4" blade width, 3-3/4" ± 1/2" handle length, wood or plastic handle	01
3.5.38			
	MFR	LIGHT, EXTENSION: FLUORECSENT, transparent clear lens, closed end tube w/hook on end, 25 foot cord, 120 volt, 20" ± 2" overall length of light assembly	01
3.5.39			
	LT	MIRROR INSPECTION: Round, 1-1/4 in diameter, unbreakable mirror, handle length 8 ± 1/2", fixed handle or telescoping.	01
3.5.40			
3.5.41	MFR	SOLDERING IRON, CORDLESS: Uses 4 AA batteries, has the ability for rapid heating and cooling of soldering tip	01

3.5.42	LT	PLIERS, RETAINING RING: INT/EXT STRAIGHT, 0.070 IN DIA TIP, 7-1/2 in overall length nominal, vinyl grips, accommodates bore diameter from 7/16 in to 2 in	01
3.5.43	LT	PLIERS, RETAINING RING: INTERNAL STRAIGHT, 0.070 IN DIA TIP	01
3.5.44	LT	PLIERS, ARC JOINT: 10 in overall length nominal, 7 adjustment grooves, 0-2 in capacity, cushioned grips	01
3.5.45	MFR	PUNCH, CENTER, SOLID: tool steel, 4 in nominal overall length, 5/32 in diameter point, hexagonal or knurled round shank acceptable	01
3.5.46	MFR	PUNCH SET, DRIVE PIN: CONSISTING OF 5 PIECES, LONG LENGTH: 5 pieces, long length, 8 in nominal overall length, consisting of the following sizes: 1/8 in point dia, 3/16 in point dia, 1/4 in point dia, 5/16 in point dia, and 3/8 in point dia	01
3.5.47	MFR	PUNCH, DRIVE PIN: 1/16 IN DIP DIA, 4 IN LONG	01
3.5.48	MFR	PUNCH, DRIVE PIN: 3/16 IN TIP DIA, 4 IN LONG	01
3.5.49	MFR	REMOVAL TOOL, MODULE:	01
3.5.50	MFR	REMOVAL TOOL, SOCKET:	01
3.5.51	MFR	RETRIEVING TOOL, MAGNETIC: permanent magnet, telescoping handle 15-1/4 in - 18 in min closed length, 26 in - 27-1/2 in max extended length, knurled end or plastic grip acceptable	01
3.5.52	LT	RULE, STEEL, MACHINIST'S: 6 in long, steel, flexible, black markings, 1/32 in and 1/64 in graduations on one side, 1/10 in and 1/100 in graduations on opposite side, 1/2 in wide	01
3.5.53	LT	SCREW STARTER, HAND: Cross tip starter on one end, slotted screw starter on opposite end, cross tip end is #2 size, flat tip end has a 0.090 in wide by 0.025 in thick stationary blade and a 0.100 in by 0.025 in movable blade	01
3.5.54	LT	SCREWDRIVER, CROSS TIP: # 2 TIP, 11" BLADE LENGTH, 22" L	01
3.5.55	LT	SCREWDRIVER, FLAT TIP: 16-17" blade length, plastic handle	01
3.5.56	LT	SOCKET: 1/2 SQ DR, 1-3/8 IN WR SIZE, STD LENGTH, 12 PT	01
3.5.57	LT	SOCKET: 3/8 SQ DR, 1 IN WR SIZE, DEEP REACH, 12 PT	01
3.5.58	LT	3/8 SQ DR, 12 MM WR SIZE, DEEP REACH, WITH BOLT CLEARANCE OF AT LEAST 66.7MM AND OVERALL LENGTH OF 82.6MM, 12 PT (known part: NSN 5120-01-348-9096)	01
3.5.59	MFR	SOCKET, SOCKET WRENCH (CUSTOM PART, SEE ATTACHED DRAWING)	01

	LT	SPANNER ATTACHMENT SET, SOCKET: ½" drive, 1.75" to 4" capacity range, 3 pin arms, pin diameters of .152", .246", and .308". 1 key arm. (known source: GSA, NSN 5120-00-513-1754)	01
3.5.60			
	LT	SPANNER ATTACHMENT SET, SOCKET: 3/8" drive, .75" to 2" capacity range, 3 pin arms, pin diameters of .089", .121", .183". 1 key arm. (known source: GSA, NSN 5120-00-277-9076)	01
3.5.61			
	NONE	STONE, SHARPENING: Fine, 4" ±1/2" L, 1"-2"W, 1/4"-3/8" THICK	01
3.5.62			
	NONE	STONE, SHARPENING: MED GRIT, 4" L, 1-3/4" W, 1/2" THICK	01
3.5.63			
	NONE	STONE, SHARPENING: ROUND, fine grit, ½" DIA, 6" ± 1/2" LONG	01
3.5.64			
	LT	STRIPPER WIRE, HAND: manually operated, spring loaded handles, must remove a min of 3/4 in wire in one operation, 10-22 AWG and AN capacity, cushioned grips, replaceable cutter blades	01
3.5.65			
	MFR	SOLDERING OUTFIT: 20 piece set, with carrying/storage case, consisting of the following components:	01
3.5.66			
		DESOLDERING ATTACHMENT:	01
		HOLDER, SOLDERING IRON:	01
		SOLDERING IRON, ELECTRIC: 24V, 48W	01
		TIP, DESOLDERING: .038" orifice	01
		TIP, DESOLDERING: .046" orifice	01
		TIP, DESOLDERING: .059" orifice	01
		TIP, DESOLDERING: .063" orifice	01
		TIP, DESOLDERING: .078" orifice	01
		TIP, DESOLDERING: .090 orifice	01
		TIP, SOLDERING: 1/16", screwdriver 600° F	01
		TIP, SOLDERING: 3/32", screwdriver 600° F	01
		TIP, SOLDERING: 1/8", screwdriver 700° F	01
		TIP, SOLDERING: 5/64", screwdriver 700° F	01
		TIP, SOLDERING: 3/64", screwdriver 600° F	01
		TIP, SOLDERING: 3/64", screwdriver 700° F	01
		TIP, SOLDERING: conformal coating, stripping	01
		TIP, SOLDERING: wire stripping	01
		TIP, SOLDERING: dual in-line	01
		TIP, SOLDERING: flat pack	01
			01
3.5.67		Not used	01
	MFR	TOOL KIT, CRIMPING TOOL AND TURRETS: : Ability to crimp wires sizes ranging from 12gauge to 22 gauge or larger.	01
3.5.68			

Kit contains: 1 crimping tool, 2 turrets, 1 inspection gauge, and 1 9/64" hex key wrench. (known source: Daniels Manufacturing Corporation. Kit part number DMC 7, NSN 5180-00-921-5771)

3.5.69	LT	TWEEZERS, CRAFTSMEN'S: blunt tip with serrated face, self closing (normally closed), 6-1/2 in nominal overall length	01
3.5.70	LT	WISE SET, PIN: 5 pc set, 4 single end handles with hollow handles and a collet chuck w/case, handle A 0.0-0.055 in capacity, handle B 0.055-0.075 in capacity, handle C 0.045-0.125 in capacity, handle D 0.110-0.187 in capacity	01
3.5.71	LT	WRENCH, PLIER: 10" nominal length, curved serrated jaws, adjustable using knurled threaded knob	01
3.5.72	MFR	WRENCH, TORQUE: 1/2 SQ DR, 300-2500 IN/LB, IMPULSE TYPE	01
3.5.73	MFR	WRENCH, TORQUE: 1/2 SQ DR, 50-250 FT/LB, IMPULSE TYPE	01
3.5.74	MFR	WRENCH, TORQUE: 1/4 IN SQ DR, 0-80 IN/OZ, BEAM TYPE	01
3.5.75	MFR	WRENCH, TORQUE: 1/4 SQ DR, 40-200 IN/LB, IMPULSE TYPE	01
3.5.76	MFR	WRENCH, TORQUE: 3/8 SQ DR, STANDARD REVERSIBLE RATCHETING HEAD, MINIMUM TORQUE CAPACITY OF 100-150 IN/LB, AND MAXIMUM TORQUE CAPACITY OF 750-1000 IN/LBS, IMPULSE TYPE	01

LT= Life Time

MFR= Manufacturer's Warranty

NONE= No Warranty Required

5 PRESERVATION, PACKING, AND PACKAGING. Preservation, Packing and Packaging shall be in accordance with ASTM-D-3951 plus the following additional requirements.

5.1 The tools and the tool chest shall be blocked, braced and cushioned to withstand the rigors of the shipping and handling environment. The tools shall be protected from galvanic corrosion, denting, bumping, scratching or other detrimental effects that could impair the function or useful life of the tools.

5.2 If oak or chestnut wood products are used in the performance of this contract, these wood or wood products must be free of all bark. All non-manufactured wood used in packaging shall be heat-treated to a core temperature of 56 degrees Celsius for a minimum of 30 minutes. The box/pallet manufacturer and the manufacturer of wood used as inner packaging shall be affiliated with an inspection agency accredited by the Board of Review of the American Lumber Standard Committee. Each box/pallet shall be marked to show the conformance to the International Plant Protection Convention Standard. Boxes/pallets and any wood used as

inner packaging made of non-manufactured wood shall be heat-treated. The quality mark shall be placed on both ends of the outer packaging, between the end cleats or end battens; on two sides of the pallet.

5.3 Unless otherwise specified herein, shipments to the same destination of identical items having a total packaged displacement exceeding 50 cubic feet shall be palletized unless forklift - handling features such as skids are included on containers.

5.4 Workmanship shall be such that when proper procedure is followed, materials and equipment being processed will be provided the maximum protection against corrosion, deterioration, and be suitable for storage to the level of packaging specified.

5.5 Each tool set and all of its parts shall be packed in one shipping container for shipment to its final destination.

5.6 Marking Requirements. Container markings shall be in capital letters of equal height, shall be proportionate to the available marking space and shall contain the following information (if applicable) in the order listed.

- a. NSN/NATO stock number.
- b. CAGE code of the company awarded the contract, and part number of the item as specified in the contract.
- c. Quantity and unit of issue (for this tool set the unit of issue is 1 each).
- d. Level of protection and date packed.
- e. Contract or purchase order number.

5.6.1 Markings on the shipping container shall be grouped into three distinct categories: 1) identification markings, 2) contract data markings and 3) address markings.

5.6.1.1 Identification Markings: (as applicable)

- a. National Stock Number.
- b. CAGE code of the company awarded the contract and part number of the item in the container.
- c. Quantity and unit of issue (Qty -1 each / UOI – 1 each).
- d. Level of protection and date packed _____.
- e. Gross weight _____ and cube _____.
- f. Item description: ENGINEER, CONSTRUCTION, CARPENTER'S TOOL KIT

5.6.1.2 Contract Data Markings. The contract data marking placed under the identification markings, shall consist of the contract or purchase order number.

5.6.3 Address Markings. The address markings placed to the right of the identification and contract data markings (if space is available) shall consist of the following information in the order shown.

- a. Transportation Control Number (This shall serve as the single standard shipment identification number when a TCN is required.)
- b. FROM: Name and address of the contractor (including nine-digit zip code). When supplies are

shipped from a subcontractor, only the name and address of the company awarded the contract shall be used.

- c. TO: Name and address of consignee (DOD Activity Address Code (DODAAC) and in the clear address if applicable

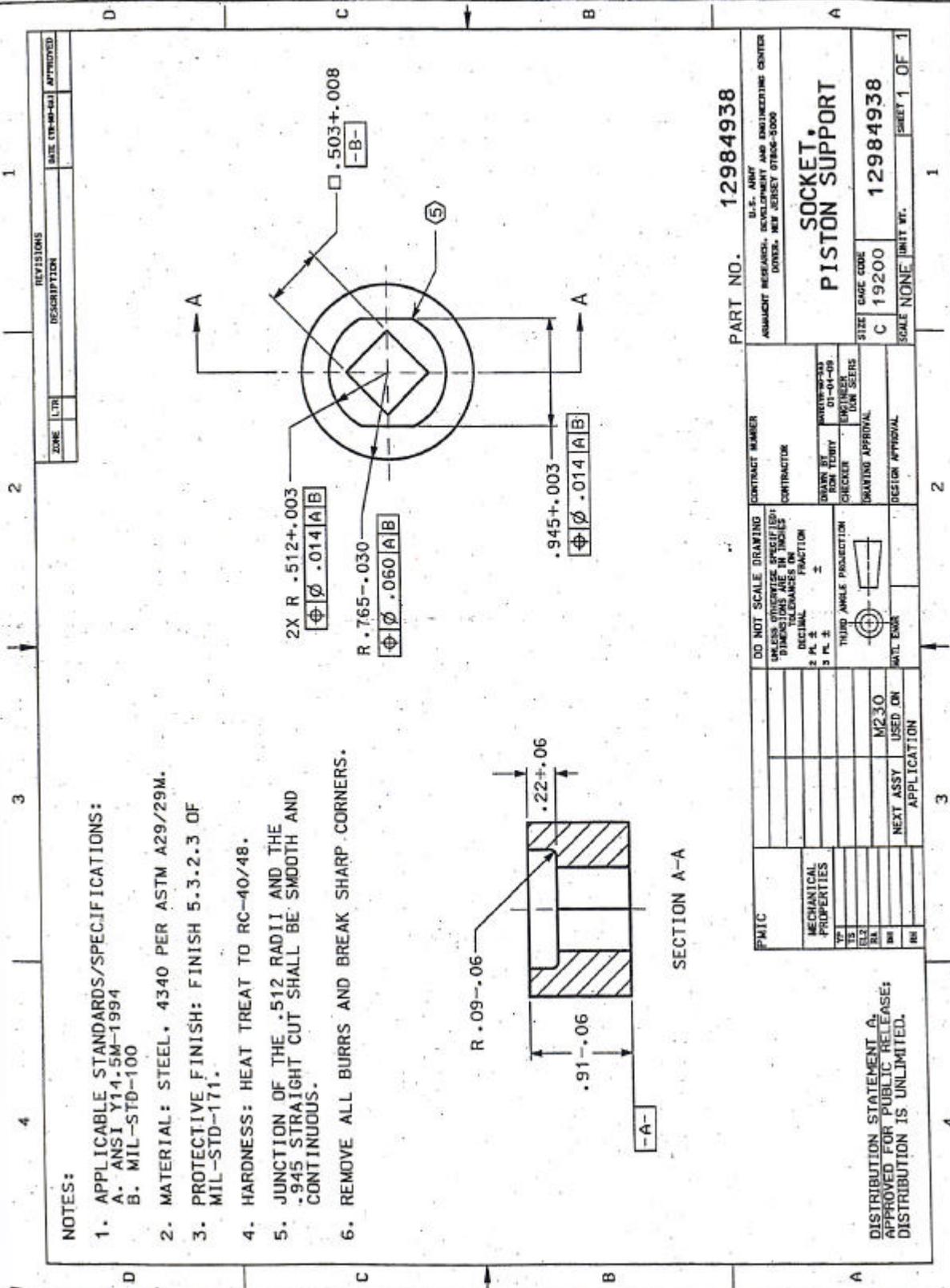
In addition to the above information, the NSN/NATO stock number shall be bar coded on the unit packs and intermediate containers. The following shall be bar coded on the shipping container. All bar coding shall use the 3 of 9 format in accordance with ANSI MH10.8.1-2000

NSN/NATO stock number.

Contract or order number.

CAGE code of the company awarded the contract.

Contract Line Item Number (CLIN) if applicable.



NOTES:

1. APPLICABLE STANDARDS/SPECIFICATIONS:
 A. ANSI Y14.5M-1994
 B. MIL-STD-100
2. MATERIAL: STEEL, 4340 PER ASTM A29/29M.
3. PROTECTIVE FINISH: FINISH 5.3.2.3 OF MIL-STD-171.
4. HARDNESS: HEAT TREAT TO RC-40/48.
5. JUNCTION OF THE .512 RADI AND THE .945 STRAIGHT CUT SHALL BE SMOOTH AND CONTINUOUS.
6. REMOVE ALL BURRS AND BREAK SHARP CORNERS.

SECTION A-A

REVISIONS		DATE (YY-MM-DD)	APPROVED
ZONE	LT#	DESCRIPTION	

PART NO. 12984938

U.S. ARMY
 ARMAHUNT RESEARCH, DEVELOPMENT AND ENGINEERING CENTER
 DOWNS, NEW JERSEY 07806-3000

SOCKET PISTON SUPPORT

SIZE C 19200 UNIT WT. 12984938
 SCALE NONE

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES

DECIMAL FRACTION

2 PL ±

3 PL ±

THIRD ANGLE PROJECTION

MAIL BOX

CONTRACT NUMBER

CONTRACTOR

DESIGNED BY: BAREWICK/330
 DATE: 01-01-99

CHECKER: BOW TERRY

ENGINEER: LUM SEERS

DRAWING APPROVAL

DESIGN APPROVAL

FMIC

MECHANICAL PROPERTIES

TP

TS

EL

RA

BM

RM

NEXT ASSY USED ON: M230

APPLICATION

DISTRIBUTION STATEMENT A:
 APPROVED FOR PUBLIC RELEASE;
 DISTRIBUTION IS UNLIMITED.

TEAM 5120-01-509-7571
 SOCKET WRENCH