

Description for Purchase (DFP)
for the
Purging Kit, Fire Control
NSN: 4931-00-065-1110

1. Scope

1.1. Scope. The Fire Control Purging Kit is specifically organized to provide the soldier with the components necessary to purge fire control systems at the field and sustainment maintenance levels. The kit consists of a toolbox with a hinged lid and the components of the purging kit are stored inside the toolbox. The usual operating procedure will be to transport the chest to the work site, open it, remove the component(s) on a “as required” basis and replace the component(s) in its specified location when the maintenance task is completed.

2. Applicable Documents

2.1. General. The documents listed in this section are specified in sections 3, 4 or 5 of this DFP. This section does not include documents cited in other sections of this DFP or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents cited in sections 3 or 4 of this DFP, whether or not they are listed.

2.2. Government documents.

2.2.1. Specifications, standards and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those dated on or before the date of issue for this DFP revision.

MILITARY SPECIFICATION

MIL-STD-129	Military Marking for Shipment and Storage
MIL-STD-1472	Design Criteria Standard Human Engineering
MIL-STD-1916	DoD Preferred Methods for Acceptance of Product
MIL-STD-2073	Standard Practice for Military Packaging

(Copies of these documents are available online at <http://assist.daps.dla.mil/quicksearch/> or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.2.2. Other Government documents, drawings and publications. The following other government documents, drawings and publications form a part of this DFP to the extent specified herein. Unless otherwise specified, the issues of these documents are those dated on or before the date of issue for this DFP revision.

DRAWINGS

Army drawing 10552433, revision A, dated 09 August 1967.

COMMERCIAL ITEM DESCRIPTIONS (CID)

A-A-50271	Plate, Identification
A-A-59486	Padlock Set (Individually Keyed or Keyed Alike)

(Copies of these documents are available online at <http://assist.daps.dla.mil/quicksearch/> or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094)

2.3. Non-Government publications. The following document(s) form a part of this DFP to the extent specified herein. Unless otherwise specified, the issues of these documents are those dated on or before the date of issue of this DFP revision.

AMERICAN SOCIETY OF TESTING AND MATERIALS

ASTM D3575	Standard Test Methods for Flexible Cellular Materials Made From Olefin Polymers
ASTM D6251	Wood-Cleated Panelboard Shipping Boxes
ASTM D4169	Standard Practice for Performance Testing of Shipping Containers and Systems
ASTM-D5118	Standard Practice for Fabrication of Fiberboard Shipping Boxes
ASTM-D4169	Standard Practice for Performance Testing of Shipping Containers and Systems

(Application for copies should be addressed to the American Society for Testing and Materials, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428.)

SOCIETY OF AUTOMOTIVE ENGINEERS

SAE J530	Automotive Pipe Fittings
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(Copies of the above publications are available from the Society of Automotive Engineers Aerospace Standards, Phone: 877-606-7323, email: custsvc@sae.org, <http://www.sae.org>)

AMERICAN NATIONAL STANDARDS INSTITUTE

ANSI Z535.4	Product Safety Signs and Labels
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(Application for copies should be addressed to the American National Standards Institute, Customer Service Department, 25 W 43rd Street, 4th Floor, New York, NY, 10036)

2.4. Order of precedence. Unless otherwise noted herein or in the contract, in the event of a conflict between the text of this DFP and the references cited herein, the text of this DFP shall take precedence. Nothing in this DFP, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. Requirements

3.1. 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 and TACOM local clause 52.246-4534, Preproduction Verification of the contract. 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 in Section D of the contract.

3.2. 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 3.2.1) 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.

3.2.1 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.

3.3. Warranty. All components shall be supplied with the warranties as specified in Table 1 below. The offeror shall state the length and terms of the warranties in response to the

solicitation. The warranty period shall start from the day that the item is first delivered and accepted by the Government. Lifetime warranty shall be unconditional regardless of fault by either party.

3.4. Components. The tool set listed in Table 1 is considered "Brand Name or Equal." Offerors may offer the brand name item or equivalent item from other manufacturers determined to be equal to the specified product. Equal items shall meet the salient characteristics of the brand name items to be acceptable for award as set forth in paragraphs 3.4.1 through **Error! Reference source not found.** below. The tool set shall be furnished with the brand name or equal components and corresponding quantities as listed in Table 1 below.

TABLE 1: Components

PARA	ITEM DESCRIPTION	UI ¹	QTY ²	WTY ³	FSC ⁴
3.4.1	Nipple, Outlet	EA	1	M	4730
3.4.2	Set, Adapter, Assembly	SE	1	M	4931
3.4.3	Hose, Non-metallic	EA	1	M	4720
3.4.4	Tee, Pipe	EA	1	M	4730
3.4.5	Tool box, Portable	EA	1	L	5140
3.4.6	Valve, Connection	EA	1	M	4820
3.4.7	Valve Extension, Tire, 1-1/4 inch	EA	1	M	2640
3.4.8	Valve Extension, Tire, 4-7/16 inch	EA	1	M	2640
3.4.9	Valve, Regulating	EA	1	M	4820
3.4.10	Valve, Relief	EA	1	M	4820

¹QTY: Quantity

²UI (unit) definitions:

EA = Each KT = Kit
SE = Set PG = Package

³WTY (Warranty) Column definitions:

L = Original Equipment Manufacturer's Lifetime warranty, Unconditional Warranty
M = Original Equipment Manufacturer's warranty
N = No Warranty

⁴FSC = Federal Supply Class

3.4.1. Nipple, Outlet. The outlet nipple shall be made of brass and shall have a nominal length of 1-1/16 inches. The designation for the inlet thread shall be 1/4-18 NPT and the designation for the outlet thread shall be 9/16-18 UNF-2A, right hand thread. Brand Name: Harris Products Group, part number 9000194 or equivalent.

3.4.2. Set, Adapter Assembly. The adapter assembly set shall consist of three adaptors, each containing a neoprene washer. The adaptors shall have a nominal length of 2 inches and shall be made of from a 7/16 inch stainless steel hexagonal rod. One end of the adaptors shall have 5/16-32 NEF-2A threads and a 3/16 inch diameter inlet. The other end shall have a 3/64 inch inlet and shall be furnished in three different thread sizes: 10-32 UNF-2A, 10-24 UNC-2A and 8-32 UNC-2A. This end of the adapter shall feature a neoprene washer. The adaptors shall

be constructed in accordance with drawing number 10552433. The drawing can be found in Appendix A.

3.4.3. Hose, Non-metallic. The non-metallic hose shall have a nominal length of 25 feet and shall be made of oil resistant nitrile. The hose shall have an inner diameter of ¼ inch with a working pressure of 250 to 400 pounds per square inch (psi). A brass ferrule shall be attached to each end of the hose. The ferrules shall have an inner diameter of ½ inches with a nominal length of 1 inch. The hose shall feature fittings on each end. One end shall feature a hose fitting with a B-nut with 9/16 – 18 UNF-2B right hand threads. The fitting shall have a barbed nipple to insert into a ¼ inner diameter hose. The other end shall feature a pump connection coupling for a ¼ inch tire valve. The coupling shall have a barbed nipple to insert into a ¼ inch inner diameter hose. Brand Name: JGB Enterprises, part number 8572414 or equivalent.

3.4.4. Tee, Pipe. The pipe tee shall be made of brass and shall have a ¼ - 18 NPTF size designation. The pipe tee shall have two female connections 90° apart, and a male connection 180° from a female connection. The pipe tee shall have a nominal length of 1.69 inches from male to female end. The pipe tee shall conform to Figure 17C of SAE J530. Brand Name: Parker Hannifin, part number 2225P-4 or equivalent.

3.4.5. Tool box, Portable. The portable tool box shall be used to house all of the components of the Fire Control Purging Kit. All of the components listed in Table 1 shall be organized within the tool box using a tool retention feature to prevent movement during shipment and storage. The tool box shall characteristics shall be in accordance with Section 3.5 herein. Brand Name: Starlight Cases, part number SC-061016 or equivalent.

3.4.6. Valve, Connection. The connection valve shall have a nominal working pressure of 3000 psig. The connection valve shall feature a 1/8-27 NPT air line connection located 90° from a bar-type handle. The connection valve shall thread onto high pressure valves and shall have a female thread size of 0.305-32 inches. The connection valve shall be compatible with the valve extensions described in paragraphs 3.4.7 and 3.4.8. Brand Name: Schrader Bridgeport, part number 005560099 or equivalent.

3.4.7. Valve Extension, Tire, 1-1/4 inch. The tire valve extension shall have a nominal length of 1-1/4 inches and shall have a corrosion resistant finish. The extension shall be straight and shall be furnished with a valve cap. Brand Name: Schrader Bridgeport, part number 7744 or equivalent.

3.4.8. Valve Extension, Tire, 4-7/16 inch. The tire valve extension shall have a nominal length of 4-7/16 inches and shall have a corrosion resistant finish. The extension shall be straight and shall be furnished with a valve cap. Brand Name: Schrader Bridgeport, part number 4820 or equivalent.

3.4.9. Valve, Regulating. The regulating valve shall be a two stage regulator for use with nitrogen. The regulator shall have a nominal inlet pressure of 3000 psig with a delivery range of 0-15 psig. The inlet connection shall be CGA #580 and the outlet connection shall be 9/16-18 UNF. The regulator shall two gages 2 to 2.5 inches in diameter. The outlet gage shall have a

range of 0-15 psig and the inlet gage shall have a range of 0-4000 psig. The regulator shall feature a relief valve. Brand Name: ESAB, part number 19057 or equivalent.

3.4.10. Valve, Relief. The relief valve shall be made of brass with a nominal length of 1.62 inches. The relief valve shall have a nominal working pressure of 3000 psi at 70°F with a nominal cracking pressure of 10 psi. The inlet and outlet of the valve shall have 0.25 NPT male threads. The flow coefficient of the valve shall be 0.35. The valve shall feature an internal O-ring constructed of ethylene propylene. The valve shall be furnished with a green deflector cap. Brand Name: Swagelok, part number B-4CP2-EPDG-10 or equivalent.

3.5. Tool box Requirements. The Fire Control Purging Kit shall consist of the prescribed tool load as specified in Table 1 and other items, devices or characteristics as necessary to provide rapid inventory capability and tool position retention during transportation and rough handling. The nominal dimensions of the tool box shall be 18”L x 12”W x 8”D. Brand Name: Starlight Cases, part number SC-061016 or equivalent.

3.5.1. Materials. The tool box shall be non-metallic. The contractor is free to choose any materials in the manufacture of the tool box. However, all provisions of this DFP must be met, regardless of the choice of materials. The tool box shall be new and constructed of parts and materials that shall be corrosion resistant or suitably processed to resist corrosion. Hardware that protrudes into the tool box interior shall not present a hazard to users’ hands or the tool load. The use of toxic chemicals, hazardous substances, and ozone depleting chemicals (ODCs) shall be avoided.

3.5.2. Handle. The handle shall be located on the top center of the tool box and shall be installed 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 tool box to a fixed post, pillar or another tool box with a cable and padlock for security. If the handle can be easily removed, then the tool box can be carried away without having to defeat the cable or padlock. Furthermore, if the handles are used to secure the tool box in a moving vehicle they need to be able to withstand higher forces than those encountered in a simple lift and carry situation.) Handles shall not affect the strength and firmness of the case and shall provide adequate clearance for use with work gloves.

3.5.3. Hardware. All metal hardware items on the tool box shall be corrosion resistant stainless steel and shall be able to withstand long term attacks from corrosive atmospheric conditions.

3.5.4. Color. The tool box shall be subdued and any of the following colors: dark blue, dark green, black, tan or olive drab.

3.5.5. Finish. The exterior surface finish of the tool box shall be clean, corrosion resistant, non-reflective, non-glossy and shall have no sharp edges or projections.

3.5.6. Human Engineering. Each tool box, including the handle and clasps, shall be designed so that the tool box can be carried, opened, and closed by a person wearing insulated

work gloves. Each clasp or latch shall be able to be opened and closed using only one gloved hand. It shall require no more than 20 pounds of force to open or close the latch. If a bar type handle is used the clearance for the hand inside the handle shall be not less than 2 inches by 4.5 inches. If a recessed, molded type handle is used the space provided for the hand shall be not less than 2 inches (from palm side to knuckle side) by 5.25 inches (thumb side to little finger side) and ¾ inch clearance for the finger tips.

3.5.7. Water Entry Resistance. When closed and fastened, the tool box shall withstand immersion in water, without water entry, to a depth of no less than 1 meter (3.28 feet) to the uppermost surface of the tool box for no less than 30 minutes when tested in accordance with test method 512.4 of MIL-STD-810. The tool box shall be conditioned so that their temperature is no less than 27°C (80.6°F) above the water temperature prior to immersion. The tool boxes shall be tied down using the handles, the tiedown points or weighted with other loaded tool boxes stacked upon the test item. Prior to conditioning and testing, the tool boxes shall have been unlatched, opened, closed and re-latched no fewer than 10 times. If a rubberized seal is used to meet the requirements, then it shall be easily replaced when damaged in the field.

3.5.8. Impact Resistance. When closed, latched and placed in its normal resting position in a room temperature environment, the tool box shall withstand impacts from dropped objects. At a minimum they 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 edge radii no larger than 1/16 inch. The 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 tool boxes. The tool box 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.

3.5.9. Elevated Temperature Resistance. A fully loaded tool box, closed, latched, and stored at a temperature of 170°F for 3 hours shall withstand being dropped from a height of 36 inches onto a concrete floor. The tool box shall not sustain any permanent damage or degradation to the proper functioning of the tool box, or the tools being damaged, becoming dislodged and moving freely around in the tool box. The tool box shall be designed for storage and handling in temperatures of no less than 170°F and use in temperatures of no less than 120°F.

3.5.10. Ambient Temperature Rough Handling Resistance. At ambient temperature a fully loaded tool box shall withstand being dropped 4 times from 60 inches to a concrete floor, each time landing on a different one of the four bottom edges. After being dropped, the locking features and the tool box shall operate properly without degradation of performance. The fully loaded tool box shall then withstand being rolled over on the floor so it's top is on the ground as well as being rolled 360 degrees, four times, once over each side. All this shall be accomplished without sustaining any permanent damage or degradation to the proper functioning of the tool box, or the tools being damaged, becoming dislodged and moving freely around in the tool box.

3.5.11. Cold Temperature Resistance/Performance. The tool box shall be designed for storage, use and handling in cold weather down to -25°F or colder. When loaded with the specified tools, closed, latched, and stored for three hours at a temperature no warmer than -25°F, the tool box shall withstand falls to a concrete floor surface from 24 inches without

sustaining damage and continue to be operable with latches and handles working and lid opening and closing without difficulty. This requirement shall be supplemented by the requirement for warranty as stated in the contract.

3.5.12. Pressure Differential Compensation. The tool box 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 shall serve this purpose. The device shall not alter the waterproof, dustproof, or any other design requirement of the tool box.

3.5.13. Physical Security. The tool box shall include a locking feature for the entire tool box that uses one or two padlocks conforming to the requirements of Commercial Item Description A-A-59486. With the padlock installed, the tool box locking feature (exclusive of the padlock) shall resist intrusion by prying for no less than 2 minutes. The eye through which the padlock fits shall be capable of withstanding a pull of no less than 250 pounds.

3.5.14. Rapid Inventory. The tool storage system of the Fire Control Purging Kit components in the tool box shall facilitate rapid inventory. Storage methods employed shall enable the operator to verify within ten minutes or less that all items are present and secured in their designated storage locations. In the event an item is absent from the set, the user shall be provided with the means to identify the specific item by name and description. It is desired that any one missing item in a tool box be identifiable within five minutes. Photos or drawings of the tool layout shall be permanently attached to the inside of the tool box lid and shall be water and dust resistant through lamination or some other means of sealing.

Each component shall be permanently marked with its corresponding part number from the manufacturer in accordance with customary commercial practice. In the absence of a manufacturer's marking, a label containing the component part number and manufacturer shall be securely fastened to the component for initial inventory purposes.

3.6. Inputs and interfaces.

3.6.1. Component List. The items identified in Table 1 shall be loaded into the tool boxes. All tools shall be of an industrial or professional quality. Only industrial/professional quality tools that have a verifiable market place acceptance shall be included in this tool set.

3.7. Loading Tool Boxes. The components listed in Table 1 shall be acquired and loaded in the tool boxes in accordance with the storage system specified herein.

3.7.1. Interior tool storage system. To the maximum extent practical, the tool box shall be designed with an interior tool storage system that shall protect the tools against damage from rough handling, shock, and vibration encountered during transportation, shipping and handling. Suitable cushions and restraints shall be provided to keep all components in place and stowed items secured inside the tool box. The interior storage system shall also allow the tools in the tool box to be immediately located and withdrawn from the tool box without having to sort through the other tools in the process. The storage system shall be configured in a manner that the users can immediately locate and identify a missing tool.

3.7.2. Proximate Storage. The contractor shall lay out the components and assemble them into layers with cut outs for each individual tool. Items normally used together, to the maximum extent practical, shall be stored in the same proximity within the tool box.

3.7.3. Organizers. The tool organizing liners shall fill the tool box to prevent as much movement as possible. The organizing layer shall retain tools in position to provide for rapid inventory of the tool load, and to maintain the position of tools under rough handling and shipping conditions. If foam is used, it shall be closed cell and have a water absorption limit of no more than 0.020 lbs/ft² over cut surfaces when tested in accordance with ASTM D3575. The organizing liner shall provide contrasting color underneath the tools to aid in rapid inventory; contrasting color examples could include but are not limited to the following: light on dark such as white/red on top and black underneath the tool or dark on light such as black on top and white/red underneath the tool.

The materials used in the tool organizing liner shall be resistant to water, refrigerants, automotive oils, greases, lubricants, fuels including gasoline, diesel fuel, JP-8 and JP-4, acids, bases, coolants, aircraft hydraulic fluid, alcohols and cleaning agents. Each contoured retention feature shall securely hold tools in place so that when a tool box is turned over, the tools will be retained in position. Each contoured retention feature shall allow easy removal of the tool and shall include as necessary pick holes, cut out or recessed areas or protrusion of tools above the tool organizing liner. Each retention feature shall be smooth and free from rough edges.

3.7.4. Markings.

3.7.4.1. Tool Layout. A diagram showing the location and part number of each component in its loaded position shall be provided with each tool box and shall be permanently affixed to the inside of the lid. The manner in which the diagram is permanently affixed to the inside of the lid shall not inhibit the ability to open or close the container. This diagram shall serve as an inventory sheet to facilitate rapid inventory. The diagram shall be water and dust resistant and durable.

3.7.4.2. Warranty Information. Warranty information for the tools and the tool box shall be permanently affixed to the inside of the lid of the tool box. 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
https://pmskot.army.mil/SKO_Warranty.html
 - (ii) Alternate claim method – via email to USARMY.DETROIT.PEO-CS-CSS.MAIL.PM-SKOT@MAIL.MIL or call 1-877-476-7568 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 DODAA
 - 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.

3.7.4.3. Non-Warranty. For the non-warranty ordering of replacement tools from the contractor, the procedures as determined by the contractor (including phone number, web site and email address if they are applicable) may be provided separately or included with or near the above information. All information shall be provided on a permanent, water resistant, scuff resistant label, which is permanently affixed to the inside of the lid of the tool box.

3.7.4.4. Replacement Components. Replacement components may be ordered directly from the field under the PM-SKOT Web Site using the replacement unit prices in the contract. When replacement components are purchased they shall be covered by the same warranty type as the components supplied as part of this kit. The warranty period for the replacement components shall begin from the day that the item is first delivered and accepted by the Government.

3.7.4.4.1. The offeror is required to submit replacement prices for those components listed in Table 1 of this DFP in accordance with "Instructions, Conditions, and Notices to Offerors" of the solicitation. The replacement prices shall cover the entire length of the contract.

3.7.4.5. Warranty Label. The tool box shall have a warranty label that is permanently affixed to the inside of the lid of the tool box. The label shall be provided on a water resistant, scuff resistant label, which is permanently affixed to the inside of the lid of the tool box. The label shall be identical to that pictured in Figure 1. For more information on this label, contact the contracting officer.

Figure 1: PM SKOT Warranty Label



3.8. Plates.

3.8.1. Data Plate. Each tool box shall have a data plate permanently and legibly marked with the following information, including all information required to be inserted in the blanks indicated.

- a. End Item Nomenclature: Purging Kit, Fire Control
- b. End Item LIN: P70517
- c. End item NSN: 4931-00-065-1110
- d. End Item Serial No.: *
- e. Specification data: TACOM-ARDEC DFP 659
- f. Weight____Lbs, Volume____cu ft, Length____in,
Width____in, Height____in
- g. Manufacturer: CAGE or NSCM and PIN
- h. Contract or Purchase Order No.: _____
* Format optional

The data plate shall conform to Commercial Item Description A-A-50271 Composition A, Class 2 or Composition D. The data plate shall be placed in a plainly visible location on the exterior of each tool box, but not on the lid, when it is closed in preparation for shipment or storage.

3.8.2. Plates and Labels. All identification, warning and instruction plates and labels shall be permanently affixed to the Fire Control Purging Kit tool box. They shall be resistant to deterioration caused by heat, cold, solar radiation, water, and petroleum products to the extent that they will remain intact and readily legible for 5 years or the expected life of the Fire Control Purging Kit. Marking shall be accomplished in a manner that does not adversely affect the life and utility of the Fire Control Purging Kit or its equipment. All plates and labels shall be printed using the English language and may be supplemented by graphical symbols.

3.8.3. Workmanship. The quality of workmanship imparted to the Fire Control Purging Kit shall equal or exceed that typically provided to domestically produce commercial products of this type. The Fire Control Purging Kit 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.

4. QUALITY ASSURANCE PROVISIONS

4.1. General provisions. The product verifications and conformance inspections stated herein shall be performed to determine whether the item conforms to Section 3 of this Description for Purchase. Unless otherwise specified in the contract, all verifications and inspections shall be performed in accordance with the conditions specified herein. The contractor is responsible for the performance of all product verifications and conformance inspections specified herein. The Government will not accept Certificates of Conformance as a

basis for compliance to the product verifications and conformance inspections specified herein. The contractor may use his own or any other facilities suitable for the performance of the verifications and inspections, unless disapproved by the Government. A Government representative shall be present during the verification and performance inspections performed by the contractor. The Government reserves the right to perform any of the verifications and inspections set forth in this DFP, at a later date and in its own facilities, where such verifications and inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.1.1. Classification of inspections. The inspection requirements specified herein are classified as follows:

- a. Product performance verification (see paragraph 4.2)
- b. Conformance inspection (see paragraph 4.3)

4.2. Product performance verification. Product performance verification is performed before full production begins and is intended to verify that the product is designed and manufactured to meet the requirements of this specification. It includes visual and manual inspections, some of which result in measured or counted values, as well as tests and demonstrations to prove compliance of the tested product and all of its assemblies and subcomponents with the requirements of this specification. It also includes the product conformance inspections, as described in paragraph 4.3, that will be performed during production to prove that all inspected characteristics are in compliance at the beginning of production. Product submittal, inspections and acceptance criteria are as follows:

- a. Submission. The contractor shall submit one or more sets for product verification and conformance inspections. (see 3.1)
- b. Inspections to be performed. As determined by the Government, the set assemblies, components and specimens may be subjected to any or all of the verifications and inspections specified.
- c. Rejection. If any kit assembly, component or specimen fails to comply with any of the applicable requirements, the entire kit shall be rejected. The Government reserves the right to terminate further verifications and inspections upon any failure of a kit assembly, specimen or component to comply with any of the requirements.

4.2.1. Tool kit chest verification. Verify the portable tool box holds the components in an organized manner. Verify that when opened, the portable tool box allows all components to be viewed at once. (see 3.5)

4.2.1.1. Materials. Verify the portable tool box is new and constructed of parts and materials that are free of defects. Verify that any hardware that protrudes into the portable tool box interior does not present a hazard to users' hands or the tool load. Verify with objective evidence that the materials used in the portable tool box are resistant to corrosion. (see 3.5.1)

4.2.1.2. Handle. Verify the portable tool box includes a minimum of one handle which is rated for 1-1/2 times the weight determined of a fully loaded portable tool box. Verify the handle is affixed using fasteners that cannot be readily removed. (see 3.5.2)

4.2.1.3. Hardware. Verify all metal hardware items on the portable tool box are corrosion resistant stainless steel and capable to withstand corrosive atmospheric conditions. (see 3.5.3)

4.2.1.4. Finish and Color. Verify the exterior surface finish of each portable tool box is clean, corrosion resistant, non-reflective, non-glossy and has no sharp edges or projections. Verify the color of the portable tool box is subdued. (see 3.5.4 and 3.5.5)

4.2.1.5. Human engineering. Verify a fully loaded portable tool box can be used by a person wearing insulated work gloves. Inability of the persons to carry the fully loaded portable tool box, unlock, open and remove items, replace items, close and re-lock the tool box, while wearing the gloves. Verify each clasp or latch can be opened and closed using only one gloved hand. Measure the force to open or close the latch to verify it does not exceed 20 pounds of force. If a bar type handle is used verify the clearance for the hand inside the handle is not less than 2 inches by 4.5 inches. If a recessed, molded type handle is used verify the space provided for the hand is not less than 2 inches (from palm side to knuckle side) by 5.25 inches (thumb side to little finger side) and 3/4 inch clearance for the finger tips. (see 3.5.6)

4.2.1.6. Water entry resistance. Verify the portable tool box when closed and fastened shall withstand immersion in water, without water entry, to a depth of no less than 1 meter (3.28 feet) to the uppermost surface of the portable tool box for no less than 30 minutes when tested in accordance with test method 512.4 of MIL-STD-810. The portable tool box shall be conditioned so that its temperature is no less than 27°C (80.6°F) above the water temperature prior to immersion. The portable tool box shall be tied down using the handles or the tiedown points or weighted with other loaded portable tool boxes stacked upon the test item. Prior to conditioning and testing, the portable tool box shall have been unlatched, opened, closed and re-latched no fewer than 10 times. Upon removal from immersion, presence of any water inside the portable tool box shall constitute failure to meet this requirement. (See 3.5.7)

4.2.1.7. Impact resistance. A fully loaded portable tool box shall be inspected for resistance to damage from impacts of 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 no 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 3.5.8)

4.2.1.8. Elevated temperature rough handling resistance. Fully load a portable tool box with a simulated tool load and condition it at a temperature of no less than 170°F for no less than 3 hours. Within five minutes after conditioning drop the portable tool box from a height of 36 inches minimum onto a concrete floor. Verify the portable tool box did not sustain any permanent deformation or damage. (see 3.5.9)

4.2.1.9. Ambient temperature rough handling resistance. At ambient temperature drop a fully loaded portable tool box 4 times from a height of 60 inches minimum onto a concrete floor, each time landing on a different one of the four bottom edges. Verify after the drop test that the locking features and the portable tool box operates properly without degradation of performance. Following the drop test the fully loaded portable tool box shall be rolled over on the floor so it's top is on the ground as well as being rolled 360 degrees, four times, once over each side. Verify the portable tool box did not sustain any permanent damage or degradation to the proper functioning of the chest, or the tools being damaged, becoming dislodged and moving freely around in the portable tool box. (see 3.5.10)

4.2.1.10. Cold temperature resistance/performance. A fully loaded portable tool box shall be stored for 3 hours in an environment no warmer than a cold temperature of -25°F. Within 5 minutes the tool box shall be removed from the cold temperature environment and be dropped from a height of 24 inches minimum onto a concrete floor surface. Verify all of the latches, locks and handles operate properly, lid opening and closing without difficulty and drawers opening and closing without difficulty without permanent deformation or breakage of the portable tool box. (see 3.5.11)

4.2.1.11. Pressure relief. Verify that portable tool box contains a pressure relief valve. The failure to change air pressure or the accumulation of water and dust within the tool chest constitute failure of this requirement. (See 3.5.12)

4.2.1.12. Physical Security. Verify the portable tool box is equipped with a locking bar or front panel capable of locking all drawers and the top till in the tool box with a single lock. Verify the locking mechanism is capable of accommodating a padlock with a shackle diameter of no less than 0.385 inches. (see 3.5.13)

4.2.1.13. Rapid inventory demonstration. Verify the tool storage system for the Measuring Tool Set components in the tool box facilitates rapid inventory. Demonstrate that the storage methods employed enable an operator to verify within ten minutes or less that all items are present and secured in their designated storage locations. Demonstrate, by randomly removing one or several tools, that the user can determine any missing items in a tool box and identify the missing items within five minutes. Verify photos or drawings of the tool layout is permanently attached to the inside of the tool box lid and is water and dust resistant through lamination or some other means of sealing. Verify the photos or drawings are labeled with the corresponding drawer or layer number as well as all components within that layer. (see 3.5.14)

4.2.1.14. Organizers. Verify the tool organizing liners fill the portable tool box to prevent as much movement as possible. Verify that if foam is used, it is closed cell and has a water absorption limit of no more than 0.020 lbs/ft² over cut surfaces when tested in accordance with ASTM D3575. Verify the organizing liner provides contrasting color underneath the tools to aid in rapid inventory. Verify if stacking organizing liners within the tool box, each organizing liner has a rigid bottom strong enough to hold the tools positioned within the layer as well as handles, ties, ropes, or some other device to aid in the removal of each layer. Verify with objective evidence the materials used in the tool organizing liner is resistant to water, refrigerants, automotive oils, greases, lubricants, fuels including gasoline, diesel fuel, JP-8 and JP-4, acids,

bases, coolants, aircraft hydraulic fluid, alcohols and cleaning agents. Verify each contoured retention feature securely hold tools in place so that when a portable tool box is turned over, the tools will be retained in position. Verify each contoured retention feature allows easy removal of the tool and includes as necessary pick holes, cut out or recessed areas or protrusion of tools above the tool organizing liner. Verify each retention feature is smooth and free from rough edges. (see paragraph 3.7.3)

4.3. Conformance inspection. Conformance inspection shall be applied to the first units inspected at the Product Performance Verification step (see 4.2) and to production units being offered for acceptance under the contract. These inspections shall include all verifications listed under paragraph 4.3 and shall be limited to the examination of product to verify compliance with design requirements established during product performance verification.

4.3.1. Inspection lot formation. Inspection lots shall be formed in accordance with Section 4 of MIL-STD-1916.

4.3.1.1. Sampling plan determination. Sampling inspections shall be conducted in accordance with MIL-STD-1916 using Verification Level I.

4.3.1.2. Rejection. Failure of any unit to pass any verification shall be cause for rejection of the lot.

4.3.2. Product examination. Visually, dimensionally, and manually examine each set to determine conformance with the requirements. 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. (see 3.4.1 thru 3.4.10)

4.3.3. Components and related items of the tool set. Verify the tool set is furnished with all the components in quantities indicated as listed in Table 1. (see 3.4)

4.3.4. Industrial quality components. When required, verify that the components provided conform to industrial standards through substantial evidence of sales to industrial customers. (see 3.2)

4.3.5. Warranty. Verify that warranties of all components are provided in accordance with manufacturing requirements as specified in the contract. (see 3.3)

4.3.6. Packaging. Verify that unit packaging, unit package markings, shipping containers, shipping container markings, packing lists, quality certification heat treatment markings and unitization requirements are in accordance with Section 5 of this DFP. Failure to comply with the requirements may be cause for rejection.

4.4. 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 additional verifications.

4.5. 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.

5. PACKAGING REQUIREMENTS

The Packaging Requirements shall be in accordance with Section D of the contract.

History of Changes

1. Initial Release: 6 March 2012
2. Revision A: 29 August 2012
 1. Added TACOM local clause 52.246-4534 to paragraph 3.1.
 2. Changed “Suggested Source” to “Brand Name” throughout the document.
 3. Added “Brand Name...” to paragraph 3.5.
 4. Added paragraphs 3.7.4.4, 3.7.4.4.1 and 3.7.4.5.
 5. Added Certificate of Conformance verbiage to paragraph 4.1.
 6. Removed paragraph 5 and all subparagraphs and added a reference to Section D.

