AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. Contract ID Code	Page
Firm Fixed Price	1 Of 3

2. Amendment/Modification No.	3. Effective Date	4. Requisition/Purchase Req No.	5. Project No. (If applicable)
0004	2013OCT22	SEE SCHEDULE	

6. Issued By Code W56HZV

U.S. ARMY CONTRACTING COMMAND
MICHAEL W. WILSON
WARREN, MICHIGAN 48397-5000
HTTP://CONTRACTING.TACOM.ARMY.MIL

EMAIL: MICHAEL.W.WILSON3@US.ARMY.MIL

7. Administered By (If other than Item 6) Code

8. Name And Address Of Contractor (No., Street, City, County, State and Zip Code)

Code | Facility Code

[X] **9A. Amendment Of Solicitation No.**
W56HZV-13-R-0419

9B. Dated (See Item 11)
2013AUG19

[ ] **10A. Modification Of Contract/Order No.**

10B. Dated (See Item 13)

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

[X] **The above numbered solicitation is amended as set forth in item 14. The hour and date specified for receipt of Offers**

[ ] **is extended,** [X] **is not extended.**

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing items 8 and 15, and returning 2 signed **copies of the amendments: (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.**

12. Accounting And Appropriation Data (If required)

13. THIS ITEM ONLY APPLIES TO MODIFICATIONS OF CONTRACTS/ORDERS
It Modifies The Contract/Order No. As Described In Item 14.

[ ] **A. This Change Order is Issued Pursuant To: The Changes Set Forth In Item 14 Are Made In The Contract/Order No. In Item 10A.**

[ ] **B. The Above Numbered Contract/Order Is Modified To Reflect The Administrative Changes (such as changes in paying office, appropriation data, etc.) Set Forth In Item 14, Pursuant To The Authority of FAR 43.103(b).**

[ ] **C. This Supplemental Agreement Is Entered Into Pursuant To Authority Of:**

[ ] **D. Other (Specify type of modification and authority)**

E. IMPORTANT: Contractor [ ] **is not,** [ ] **is required to sign this document and return _____ copies to the Issuing Office.**

14. Description Of Amendment/Modification (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

SEE SECOND PAGE FOR DESCRIPTION

Except as provided herein, all terms and conditions of the document referenced in item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. Name And Title Of Signer (Type or print)		16A. Name And Title Of Contracting Officer (Type or print)	
15B. Contractor/Offeror _____ (Signature of person authorized to sign)	**15C. Date Signed**	**16B. United States Of America** By /SIGNED/ (Signature of Contracting Officer)	**16C. Date Signed**

Name of Offeror or Contractor:

SECTION A - SUPPLEMENTAL INFORMATION

Buyer Name: MICHAEL W. WILSON
Buyer Office Symbol/Telephone Number: CCTA-HBF-P/(586)282-3526
Type of Contract: Firm Fixed Price
Kind of Contract: Supply Contracts and Priced Orders

*** End of Narrative A0000 ***

The purpose of this amendment 0004 to solicitation W56HZV-13-R-0419 is to do the following:

1. Revise the description and NSN for item 3.4.63 in attachments 0001 and 0002 as follows:

From:
3.4.63 Wrench, Hook, Spanner, Part # JC497, NSN 5120009120932

To:
3.4.63 Wrench, Spanner, Part # JC497, NSN 5120001572133

2. All other terms and conditions of solicitation W56HZV-13-R-0419 remain unchanged and in full force and effect. The solicitation closing date is not extended and no new proposals will be accepted.

*** END OF NARRATIVE A0004 ***

Name of Offeror or Contractor:

SECTION J - LIST OF ATTACHMENTS

List of Addenda	Title	Date	Number of Pages	Transmitted By
Attachment 0001	HMEE-I FIELD LEVEL TOOLS SET LIST	22-OCT-2013	003	DATA
Attachment 0002	DESCRIPTION FOR PURCHASE	22-OCT-2013	030	DATA

The following is a complete list of all 76 tools included in one complete field level tool set.

SUPPLIER P/N	NSN	QTY	SUPPLIER CAGE	ITEM NAME	DESCRIPTION
CAS 10750	3040016121910	1	45225	ADAPTER,HOUSING	ENGINE PLATE ADAPTER
GLA72A	5120013551895	1	55719	ADAPTER,SOCKET WREN	3/4" FEMALE TO 1" MALE
GLA12B	5120013785897	1	55719	ADAPTER,SOCKET WREN	3/4" MALE TO 1/2" FEMALE
GLAS1E	5120013551894	1	55719	ADAPTER,SOCKET WREN	3/4" FEMALE TO 1/2" MALE
A2A	5120013350696	1	55719	ADAPTER,SOCKET WREN	3/8" FEMALE TO 1/2" MALE
GFAT1E	5120013350700	1	55719	ADAPTER,SOCKET WREN	3/8" TO 1/4"
4 F6X-S	4730006233887	1	30780	ADAPTER,STRAIGHT,PI	
3824591	5120012855193	1	0B8S3	BARRING TOOL,GEAR	
0154003	5306015570908	6	0Y3H3	BOLT,MACHINE	M12 X 1.75 X 40 MM, DIN 933, CLASS 10.9, ZINC. USE WITH ENGINE LIFTING BEAM (P.N 347/21067)
D9DT-2	5330016186789	1	30780	BONDED SEAL	
803-12	7920005142417	1	7S147	BRUSH,ACID SWABBING	
3M 250	4520016186661	1	76381	CARTRIDGE PREHEATER	POLYURETHANE REACTIVE (PUR) EASY 250 CARTRIDGE PREHEATER, 120V, DUAL TEMP
12252157	4940010467109	1	19200	CHARGING KIT,PRESSU	
4 G6X	4730016186446	1	30780	CONNECTOR	FEMALE/FEMALE, 37 DEGREE SWIVEL/NPTF
FRH240S	5120013351162	1	55719	CROWFOOT ATTACHMENT	SOCKET WRENCH, 3/4"
FRHM10	5120013551682	1	55719	CROWFOOT ATTACHMENT	SOCKET WRENCH, 10 MM
FCOM24A	5120011086646	1	55719	CROWFOOT ATTACHMENT	SOCKET WRENCH, 24 MM
FC48A	5120001848412	1	55719	CROWFOOT ATTACHMENT	3/8" DRIVE, 1-1/2"
FC44A	5120013351137	1	55719	CROWFOOT ATTACHMENT	3/8" DRIVE, 1-3/8"
FCO32A	5120013351091	1	55719	CROWFOOT ATTACHMENT	3/8" DRIVE, 1"
FCO22A	5120014513185	1	55719	CROWFOOT ATTACHMENT	3/8" DRIVE, 11/16"
FCO30A	5120013351090	1	55719	CROWFOOT ATTACHMENT	3/8" DRIVE, 15/16"
FCO28A	5120013351089	1	55719	CROWFOOT ATTACHMENT	3/8" DRIVE, 7/8"
FCO18A	5120013351152	1	55719	CROWFOOT ATTACHMENT	3/8" DRIVE, 9/16"
BF802	5340010870092	1	55719	CUP,SUCTION	
5120-00-679-5655	5120006795655	1	80244	DISPENSER,SEALANT	
3164707	4910016042709	1	15434	DRIVE GEAR,HOLDER	FUEL PUMP RETENSION TOOL
SAE J514 4-4 140239C	4730000358036	1	81343	ELBOW,PIPE	90 DEGREE
347/21067	2510991549956	1	0JKF0/K7599	ENGINE LIFTING BEAM	
TA360	5210013882682	1	55719	GAGE,TORQUE ANGLE	
3823138	5220993379069	1	15434	GAUGE,BELT TENSION	
892/01244	5120996027612	1	0JKF0	INSERTER,BEARING AN	BUSHING TOOL
3824078	4920014760297	1	15434	INSTALLATION AND RE	BUSHING INSTALL AND REMOVAL TOOL
AWM5D	5120014288036	1	55719	KEY,SOCKET HEAD SCR	5 MM
AWM8D	5120014287967	1	55719	KEY,SOCKET HEAD SCR	8 MM
AWM19D	5120014288027	1	55719	KEY,SOCKET HEAD SCR	L-SHAPED, 19 MM HEX
WK100	5110016187973	1	55719	KNIFE,PIPE	WINDSHIELD, CUSHION GRIP, URETHANE CUT OUT, 18"
21300	6625012602387	1	9A194	LIGHT,TEST	
23417	4030016186735	4	94882	LINK BRACKET	
892/01027	5120994232460	1	0JKF0/K7599	MANDREL/INSERTER, SEAL	BLUNT, METAL
892/01021	4910991826225	1	0JKF0/K7599	MANDREL/SLEEVE	LARGE, PLASTIC
892/01019	4910991823103	1	0JKF0/K7599	MANDREL/SLEEVE	MEDIUM, PLASTIC
892/01018	4910997318648	1	0JKF0/K7599	MANDREL/SLEEVE	SMALL, PLASTIC
4F42EDMX	4730016186432	1	30780	NIPPLE	MALE/MALE, 37 DEGREE FLARE/BSPP
892/01242	5120998130570	1	0JKF0	PARK BRAKE ADJ TOOL	
SG3ASH45BR	5120014287876	1	55719	PICK,MINIATURE	
892/01245	4910016186679	1	0JKF0	POWERTRAIN CART	
347/21071	4910016186416	1	0JKF0	POWERTRAIN STAND	
L873	5120014371706	1	55719	RATCHET HEAD,SOCKET	REVERSIBLE, 1" DRIVE
M10-1/8F80HG	4730015218068	1	93061	REDUCER,PIPE	
J-36400-5	5120013748969	1	33287	REMOVER,ELECTRICAL	
90065A263	5305016186580	2	39428	SCREW,MACHINE	NO. 10 X 4 IN. LONG, 18-8 STAINLESS STEEL, FLAT HEAD. USED IN REMOVAL OF FRONT MAIN SEAL.
SAM14E	5120014373682	1	55719	SCREWDRIVER ATTACHM	SOCKET WRENCH (14 MM)
SAM17E	5120014373685	1	55719	SCREWDRIVER ATTACHM	SOCKET WRENCH (17 MM)
SA24E	5120013673468	1	55719	SCREWDRIVER ATTACHM	3/4" HEX
FTX27E	5120013673534	1	55719	SCREWDRIVER ATTACHM	3/8" DRIVE, T-27

BLPTS1427	5120016187983	1	55719	SCREWDRIVER ATTACHM	1/4" DRIVE, STUBBY, BLUE-POINT, T-27
892/00334	5120997609968	1	0JKF0/K7599	SEAL FITTING TOOL/RAM SEAL	GLAND SEAL
213-3220	5120015783506	1	55899	SETTING TOOL,WINDSH	
EE2802DTX8	2835010782081	1	23755	SLING,NYLON	
IM943	5130002362240	1	55719	SOCKET,SOCKET WRENCH	1" DRIVE, 2-15/16"
IM883	5130002931372	1	55719	SOCKET,SOCKET WRENCH	1" DRIVE, 2-3/4"
IM843	5330007824395	1	55719	SOCKET,SOCKET WRENCH	1" DRIVE, 2-5/8"
LDH702	5120013786588	1	55719	SOCKET,SOCKET WRENCH	3/4" DRIVE, 2-3/16"
FS321	5120013551624	1	55719	SOCKET,SOCKET WRENCH	3/8" DRIVE, 6 PT., 1"
IM803	5130011896358	1	55719	SOCKET,SOCKET WRENCH	1" DRIVE, 2-1/2"
IM683	5130218196910	1	55719/09698	SOCKET,SOCKET WRENCH	1" DRIVE, 2-1/8"
02054728	4920015943018	1	1FLG9	TEST SET,PNEUMATIC	ACCUMULATOR CHARGE
892/01092	5180991316041	1	0JKF0	TOOL KIT,VEHICULAR	WHEEL HUB KIT
12258956	6685011931733	1	34345	TRANSMITTER,PRESSUR	10,000 PSI TRANSDUCER
3680G	2640007624640	1	27783	VALVE EXTENSION,TIRE	
8090411075	4820014918505	1	27783	VALVE,PNEUMATIC TANK	INCLUDES CAP
94768A107	5310016186426	6	39428	WASHER,FLAT	M12, 13 X 26 X 5 MM THK, 18-8 STAINLESS STEEL. USE WITH ENGINE LIFTING BEAM (P/N 347/21067)
J 35751	6150013542604	1	33287	WIRING HARNESS	JUMPER WIRE SET
JC497	5120001572133	1	5Z572	WRENCH, SPANNER	
J-50000	5120016187978	1	45225	WRENCH,ADJUSTABLE	CYLINDER REPAIR

Description For Purchase (DFP)
For HMEE-I Field Level Tools Set

1. SCOPE

1.1 Scope. This Description For Purchase (DFP) covers the items to be included in the HMEE I Field Level Tools Set.

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, 4 and 5 of this DFP, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications, standards and handbooks. Unless otherwise specified the following specifications, standards and handbooks of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation form a part of this Purchase Description to the extent specified herein.

Military Standards
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

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 the most current revisions as of this date of issue for this DFP as listed in the ASSIST military database and supplement thereto, cited in this solicitation.

Commercial Item Descriptions
A-A-50271 Plate, Identification
A-A-59486 Padlock (Key Operated)

(Copies of these documents are available online from the ASSIST military database 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 Purchase Description to the extent specified herein. The issues of the documents which are indicated as DOD adopted shall be the issue listed in the current DODISS and the supplement thereto if applicable.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASME B107.1 Socket Wrenches (inch)
ASME B107.10 Handles and attachments for Hand Socket Wrenches
ASME B107.100 Flat Wrenches
ASME B107.400 Strike Tools
ASME B107.410 Struck Tools
ASME B107.500 Pliers
ASME B107.600 Screwdrivers

(Copies of the above publications are available from The American Society of Mechanical Engineers, Three Park Avenue, New York, NY 10016-5990)

AMERICAN SOCIETY FOR TESTING AND MATERIALS
ASTM D3575 Standard Test Methods for Flexible Cellular Materials Made From Olefin Polymers

(Copies of the above publications are available from ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959)

AMERICAN NATIONAL STANDARDS INSTITUTE
ANSI Z535.4 Product Safety Signs and Labels

2.4 Order of precedence. In the event of a conflict between the text of this Purchase Description and the references cited herein, the text of this Purchase Description shall take precedence.

3. REQUIREMENTS

3.1 Preproduction Verification. When specified, the contractor shall furnish one or more sets for preproduction verification inspection. The sets submitted shall be in accordance with the requirements of this Specification. The approved preproduction sample and the production items 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 Purchase Description. All items supplied under this contract shall be identical to the approved preproduction verification sample.

3.2 Industrial quality tools. Unless otherwise specified, all components supplied with this set shall be industrial quality.

3.2.1 Industrial quality tools definition. 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, and that have demonstrated market acceptance as described in paragraph 3.2.3.

3.2.2 Use. 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 slip-page, and strict tolerances.

3.2.3 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/professional quality 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 or professional quality. If the offered components have not achieved industrial/professional market acceptance; or have not been satisfactorily supplied to the Government under current or recent contracts for the same or similar requirements, then 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.

3.2.4 Warranty. The offeror shall state the length and terms of any manufacturers express warranties in response to the solicitation. These commercial warranties shall become part of the contract or delivery order.

3.3 Quantities. The HMEE I Field Level Tool sets shall be furnished with quantity (Qty) and Unit of Issue (U/I) as specified in Table 1. Note FSG= Federal Supply Group

3.4 Components.

TABLE 1: Components

Para	Nomenclature	Unit of Issue	Qty
3.4.1	Engine Plate Adapter	EA	1
3.4.2	Adapter, Socket Wrench 3/4" to 1"	EA	1
3.4.3	Adapter, Socket Wrench 1/2" to 3/4"	EA	1
3.4.4	Adapter, Socket Wrench 3/4" to 1/2"	EA	1
3.4.5	Adapter, Socket Wrench 3/8" to 1/2"	EA	1
3.4.6	Adapter, Socket Wrench 3/8" to 1/4"	EA	1
3.4.7	Adapter, Straight, Pipe	EA	1
3.4.8	Baring Tool for Gear	EA	1
3.4.9	Machine Bolt	EA	6
3.4.10	Bonded Seal	EA	1
3.4.11	Acid Swabbing Brush	EA	1
3.4.12	Cartridge Pre-Heater	EA	1
3.4.13	Pressure Charging Kit	EA	1
3.4.14	Connector	EA	1
3.4.15	Crowfoot 3/4" Attachment	EA	1
3.4.16	Crowfoot 10.0 mm Attachment	EA	1
3.4.17	Crowfoot 24 mm Attachment	EA	1
3.4.18	Crowfoot 1-1/2" Attachment	EA	1
3.4.19	Crowfoot 1-3/8" Attachment	EA	1
3.4.20	Crowfoot 1" Attachment	EA	1

3.4.21	Crowfoot 11/16" Attachment	EA	1
3.4.22	Crowfoot 15/16" Attachment	EA	1
3.4.23	Crowfoot 7/8" Attachment	EA	1
3.4.24	Crowfoot 9/16" Attachment	EA	1
3.4.25	Suction Cup	EA	1
3.4.26	Sealant Dispenser	EA	1
3.4.27	Gear Drive Holder	EA	1
3.4.28	Elbow Pipe	EA	1
3.4.29	Gage, Torque Angle	EA	1
3.4.30	Tension Belt Gauge	EA	1
3.4.31	Installation and Removal Tool	EA	1
3.4.32	Allen Wrench, 5mm	EA	1
3.4.33	Allen Wrench, 8mm	EA	1
3.4.34	Allen Wrench, 19mm	EA	1
3.4.35	Pipe, Knife	EA	1
3.4.36	Light Test	EA	1
3.4.37	Link Bracket	EA	4
3.4.38	Nipple	EA	1
3.4.39	Miniature Pick	EA	1
3.4.40	Ratchet Head, Socket	EA	1
3.4.41	Reducer, Pipe	EA	1
3.4.42	Screw, Machine	EA	2
3.4.43	Screwdriver Attachment, 14mm	EA	1
3.4.44	Screwdriver Attachment, 17mm	EA	1
3.4.45	Screwdriver Attachment, 3/4"	EA	1
3.4.46	Screwdriver Attachment, 0.195", T-27	EA	1
3.4.47	Screwdriver Attachment, 0.75", T-27	EA	1
3.4.48	Setting Tool, Windshield	EA	1
3.4.49	Nylon Sling	EA	1
3.4.50	Socket Wrench, 2-15/16"	EA	1
3.4.51	Socket Wrench, 2-3/4"	EA	1
3.4.52	Socket Wrench, 2-5/8"	EA	1
3.4.53	Socket Wrench, 2-3/16", 3/4" drive	EA	1
3.4.54	Socket Wrench, 1", 3/8" drive	EA	1
3.4.55	Socket Wrench, 2-1/2"	EA	1
3.4.56	Socket Wrench, 2-1/8"	EA	1
3.4.57	Test Set, Pneumatic	EA	1
3.4.58	Pressure Transmitter	EA	1
3.4.59	Tire Extension Valve	EA	1
3.4.60	Pneumatic Tank Valve	EA	1
3.4.61	Flat Washer	EA	6
3.4.62	Wiring Harness	EA	1
3.4.63	Wrench, Spanner	EA	1
3.4.64	Adjustable Wrench	EA	1
3.4.65	Remover, Electrical	EA	1

3.4.1 Engine Plate Adapter. This shall be equal to or better than an SPX 1750A 6000 lbs engine stand.

3.4.2 Adapter, Socket Wrench 3/4" to 1". This is a Standard 3/4" female to 1" male socket wrench adapter. The total length is 2.625". The material is steel with an oxide chrome finish.

3.4.3 Adapter, Socket Wrench 1/2" to 3/4". This is a Standard 1/2" female to 3/4" male socket wrench adapter. The total length is 1.938". The material is steel with an oxide chrome finish.

3.4.4 Adapter, Socket Wrench 3/4" to 1/2". This shall be a Standard 3/4" female to 1/2" male socket wrench adapter. The approximate total length shall be 2.125". The material shall be steel with an oxide chrome finish.

3.4.5 Adapter, Socket Wrench 3/8" to 1/2". This shall be a Standard 3/8" female to 1/2" male socket wrench adapter. The approximate total length shall be 1.312". The material shall be steel with an oxide chrome finish.

3.4.6 Adapter, Socket Wrench 3/8" to 1/4". This shall be a Standard 3/8" female to 1/4" male socket wrench adapter. The total approximate length shall be 1.125". The material shall be steel with an oxide chrome finish.

3.4.7 Adapter, Straight, Pipe. This shall be an adapter hydraulic fitting. The dimensions shall be approximately 0.250 nominal diameter and 1.3 overall length. The first end shall be a female 37 degree flare swivel nut, style 3 with optional end connection and .438" nominal thread length, 0.250" outside diameter and a UNF thread series designator. The second end shall be male of plain connection style. It shall have an approximate thread length of 0.125 and thread series designator NPT.

3.4.8 Barring Tool for Gear. This shall be equal to or better than a Cummins Inc barring tool for a gear with a 1/2" drive. The second end shall fit a series B and C Cummins engine. The approximate dimensions shall be 2.68" Length, 1.5" drive head diameter and 1.105" adapter side diameter.

3.4.9 Machine Bolt. This shall be a metal screw M12 x 1.75 x 40mm, DIN 933 with a zinc finish.

3.4.10 Bonded Seal. This shall be a metal ring with an attached rubber inner seal. The metal outer ring shall have an approximate Outer Diameter (OD) of 15.9mm. The rubber inner ring shall have an approximate Inner Diameter (ID) of 10.4mm. This is for use on ISO 1179/DIN 3852-2 port. Rubber shall be 90-Durometer Nitrile.

3.4.11 Acid Swabbing Brush. This shall be a bristle and horse hair brush with a 1/4" round, 5" long tubular handle. The overall brush width shall be approximately .375" and the nominal length shall be approximately 5.750".

3.4.12 Cartridge Pre-heater. This shall be a polyurethane reactive (PUR) easy 250 cartridge pre-heater. It shall be 120V and dual temperature.

3.4.13 Pressure Charging Kit. This shall be the standard kit consisting of a C/O Plug (PN 8762813), a valve assembly (PN 8762772), a valve (PN 8687044), two adapters (PN 10870258 and PN 11668842), two hose assembly's (PN 9338049 and PN 9338048), a socket (PN 8762812), a guage (PN 8743890), a manifold (PN 8762771), a nipple (PN 190413) and a regulator (PN 11668061).

3.4.14 Connector. This shall be a steel Female/Female, 37 degree swivel/NPTF hydraulic fitting. Connection end 1 shall be a straight 1/8" inch 28 pitch thread size. Connection end 2 shall be a 37 degree 1/4", 20 pitch thread size.

3.4.15 Crowfoot 3/4" Attachment . This shall be a 56 Flare Nut, 3/8" drive, 3/4" wrench with a nominal length of 1.781 and a steel oxide chrome finish.

3.4.16 Crowfoot 10.0mm Attachment. This shall be a 56 Flare Nut, 3/8" drive,10.0mm wrench with a nominal length of 35.3 and a steel oxide chrome finish.

3.4.17 Crowfoot 24mm Attachment. This shall be an open end, 3/8" drive, 24 mm wrench with a nominal length of 58.4mm and a steel oxide chrome finish.

3.4.18 Crowfoot 1-1/2" Attachment. This shall be an open end, 3/8" drive, 1-1/2" wrench with a nominal length of 2.781" and a steel oxide chrome finish.

3.4.19 Crowfoot 1-3/8" Attachment. This shall be an open end, 3/8" drive, 1-3/8" wrench with a nominal length of 1.250" and a steel oxide chrome finish.

3.4.20 Crowfoot 1" Attachment. This shall be an open end, 3/8" drive, 1" wrench with a nominal length of 2.094" and a steel oxide chrome finish.

3.4.21 Crowfoot 11/16" Attachment. This shall be equivalent of the Snap-On skinny style, open end, 3/8" drive, 11/16" wrench.

3.4.22 Crowfoot 15/16" Attachment. This shall be an open end, 3/8" drive, 15/16" wrench with a nominal length of 2.125" and a steel oxide chrome finish.

3.4.23 Crowfoot 7/8" Attachment. This shall be an open end, 3/8" drive, 7/8" wrench with a nominal length of 1.969" and a steel oxide chrome finish.

3.4.24 Crowfoot 9/16" Attachment. This shall be an open end, 3/8" drive, 9/16" wrench with a nominal length of 1.625" and a steel oxide chrome finish.

3.4.25 Suction Cup. This shall be a heavy duty construction dual suction cup with a single pull release. It shall have two 4.000" rubber suction cups, and approximate frame dimensions of height 4" and length 10.25".

3.4.26 Sealant Dispenser. This shall be a standard ratchet type 16 oz sealant dispenser of steel construction for cartridges only.

3.4.27 Gear Drive Holder. This shall be a fuel pump retention tool with a 1/2" drive. The dimensions are approximately 3.998" OD

and 3.077" ID. There is a second ID is approximately 1.990" and is not a through hole.

3.4.28 Elbow, Pipe. This shall be a 90 degree male/female hydraulic fitting. Connection end 1 shall be male, tapered 1/4" with an 18 pitch thread and a .6" thread length. Connection end 2 shall be female and tapered 1/4" with an 18 pitch thread.

3.4.29 Gage, Torque Angle. This shall be a 1/2" Square male and female drives. It shall have dial in graduated degrees and an adjustable holding rod.

3.4.30 Tension Belt Gauge. This shall be equal to or better than a Kent-Moore for Cummins engines 5,000 lb Tension belt gauge. This is used for 10-15 Rib K section, V-ribbed belts. The dimensions are approximately 8" height, 5-1/4" width and 3-1/4" thickness.

3.4.31 Installation and removal tool. This shall be the bushing install and removal tool forward repair system model M7.

3.4.32 Allen Wrench, 5mm. This shall be a standard 5mm Allen Wrench. The long portion of the "L" shall be approximately 74mm in length. The short end is to be modified in the field by following the 'manufactured tools work package'.

3.4.33 Allen Wrench, 8mm. This shall be a standard 8mm Allen Wrench. The long portion of the "L" shall be approximately 88mm in length. The short end is to be modified in the field by following the 'manufactured tools work package'.

3.4.34 Allen Wrench, 19mm. This shall be a standard 19mm Allen Wrench. The long portion of the "L" shall be approximately 190mm in length. The short end of the "L" shall be approximately 86mm.

3.4.35 Pipe Knife. This shall be a cushion grip Windshield urethane cut out tool. It shall be approximately 18" in length.

3.4.36 Light Test. This shall be heavy duty electronic test equipment. It shall have a 48.0" individual wire, with a 36 AC or DC Maximum. There shall be a clip for mounting

3.4.37 Link Bracket. This shall be a center pull hoist ring with a hex socket head 3/4" bolt that has a thread pitch of 250. The capacity shall be 5,000 lbs and have a ring height of approximately of 4.6".

3.4.38 Nipple. This shall be a male/male hydraulic fitting. One connection end shall be a 37 degree flare, 1/4" with a 20 pitch thread. The second connection end shall be a 1/8" straight end with a 28 pitch thread. The overall length shall be approximately 1.414".

3.4.39 Miniature Pick. This shall be an instinct soft grip pick with a 45 degree angle on the blade. The sizing shall be of the approximate dimensions: total length 6,blade length 3.125".

3.4.40 Ratchet Head, Socket. This shall be the head of a socket wrench with a reversible 1" drive. The sizing shall have approximate dimensions: head depth 1.5", head width 3.125" and head length 7.875". It shall be an oxide chrome finish.

3.4.41 Reducer, Pipe. This shall be a hydraulic fitting and shall be a female 37 degree flare, 1/4" with 18 pitch threads to a male 1/8" with 28 pitch threads.

3.4.42 Screw, machine. This shall be a flat head stainless steel screw and shall have the approximate dimensions: NO. 10, 4" in length.

3.4.43 Screwdriver Attachment, 14mm. This shall be a hex head socket driver with a 1/2" drive and a 14mm bit. The overall length shall be approximately 81mm. It shall have an oxide chrome finish. The finish on the base shall be oxide chrome.

3.4.44 Screwdriver Attachment, 17mm. This shall be a hex head socket driver with a 1/2" drive and a 17mm bit. The overall length shall be approximately 93.7mm. It shall have an oxide chrome finish. The finish on the base shall be oxide chrome.

3.4.45 Screwdriver Attachment, 3/4". This shall be a hex head socket driver with a 1/2" drive and a 3/4" bit. The overall length shall be approximately 4.063". It shall have an oxide chrome finish. The finish on the base shall be oxide chrome.

3.4.46 Screwdriver Attachment, 0.195". This shall be a star head socket driver with a 3/8" drive, T-27. The Bit diameter shall be .195" and the overall length approximately 1.75". The finish on the base shall be oxide chrome.

3.4.47 Screwdriver Attachment, 0.75". This shall be a star head socket driver with a 1/4" drive, T-27. The overall length shall be approximately 0.75". The finish on the base shall be satin chrome.

3.4.48. Setting Tool, Windshield. This shall be a plastic tool used to push in the rubber seal of the windshield. The approximate length shall be 8".

3.4.49 Nylon Sling. This shall be a polyester web sling with dimensions 2" x 8'. It shall be eye and eye style, with the following minimum capacities: 6400 lbs vertical, 5000 lbs choker, 12800 lbs basket.

3.4.50 Socket Wrench, 2-15/16". This shall be a 6 point impact socket wrench with a 1" drive and a 2-15/16" socket. The 'overall length' x 'head width' x 'base width' shall be approximately 4.250" x 4.125" x 2.375". The finish shall be oxide black industrial.

3.4.51 Socket Wrench, 2-3/4". This shall be a 6 point impact socket wrench with a 1" drive and a 2-3/4" socket. The 'overall length' x 'head width' x 'base width' shall be approximately 4.000" x 3.750" x 2.375". The finish shall be oxide black industrial.

3.4.52 Socket Wrench, 2-5/8". This shall be a 6 point impact socket wrench with a 1" drive and a 2-5/8" socket. The 'overall length' x 'head width' x 'base width' shall be approximately 3.750" x 3.750" x 2.375". The finish shall be oxide black industrial.

3.4.53 Socket Wrench, 2-3/16". This shall be a 12 point shallow socket wrench with a 3/4" drive and a 2-3/16" socket. The 'overall length' x 'head width' x 'base width' shall be approximately 3.250" x 2.938" x 2.750". The finish shall be oxide chrome.

3.4.54 Socket Wrench, 1". This shall be a 6 point shallow socket wrench with a 3/8" drive and a 1" socket. The 'overall length' x 'head width' x 'base width' shall be approximately 1.375" x 1.313" x 1.250". The finish shall be oxide chrome.

3.4.55 Socket Wrench, 2-1/2". This shall be a 6 point impact socket drive wrench with a 1" drive and a 2-1/2" socket. The 'overall length' x 'head width' x 'base width' shall be approximately 3.625" x 3.500" x 2.375". The finish shall be oxide black industrial.

3.4.56 Socket Wrench, 2-1/8". This shall be a 6 point impact socket drive wrench with a 1" drive and a 2-1/8" socket. The 'overall length' x 'head width' x 'base width' shall be approximately 3.250" x 3.125" x 2.375". The finish shall be oxide black industrial.

3.4.57 Test Set, Pneumatic. This shall be a Hydac accumulator charge kit FPK style gauge unit.

3.4.58 Pressure Transmitter. This shall be a Kulite 10,000 PSI transducer

3.4.59 Tire Extension Valve. This shall be a rigid metal, B7straight extension. The male and female thread shall be .302" with a 32 pitch. The overall length shall be approximately 1.562".

3.4.60 Pneumatic Tank Valve. This shall be a brass fitting with a 300 degree raring. Cap thread shall be .305", 32 pitch and an approximate length of .336". The connection end shall be 1/8" with a 28 pitch thread. The overall length shall be approximately .850" Spring shall be corrosion resistant and cap shall be included.

3.4.61 Flat Washer. This shall be an M12 18-8 stainless steel washer with approximate dimensions 13 x 26 x 5 mm.

3.4.62 Wiring Harness. This shall be equal to the SPX Corporation jumper wire set with Part Number J35751.

3.4.63 Wrench, Spanner. This shall be an adjustable, fixed pivot point, forged alloy steel 2" to 4-3/4" span capacity. The approximate dimensions shall be 11.375" overall length, 0.351" thickness and 0.250 pin diameter.

3.4.64 Adjustable Wrench. This shall be equal to or better than the SPX Corporation cylinder repair adjustable wrench Part Number J-50000. It shall be a 3/4" drive with a min/max range from 55mm to 106mm. Approximate overall dimensions are 10.125" x 7.500" x 1.157" (L x W x D). The closed position overall dimension is 12.593".

3.4.65 Remover, Electrical. This shall be equal or better than the Kent-Moore NO. J35888 DDEC repair kit. This is used to remove the weather pack terminal.

3.5 Tool Set Container Design. The HMEE-I Field Level Tool set container shall be in accordance with Attachment 0003 and any special provisions contained herein. Within the container, the prescribed tool load as specified in Table 1 may be held within tool box (es). The tool set container shall consist of all field level tools listed in the tools Attachment 0001. The field level tools container shall be capable of locking. The locking device shall be a padlock. The padlock shall be included in this set in accordance with paragraph 3.5.10.

3.5.1 Materials. The contractor is free to choose any materials. However, all provisions of this DFP must be met, regardless of the choice of materials. Hardware that protrudes into the container and tool boxes within the container 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 not be used.

3.5.2 Weight. Each unloaded tool box and removeable piece within the field tools container shall be capable of being lifted and moved by manpower. The weight limit of a fully loaded tool box shall be in accordance with MIL-STD-1472, 5.9.11.3.1 & Table XVII, Male

and Female, scenario C: carry 33 feet as described in the table below or by forklift without modification or use of an adapter on the cases.

TABLE 2
MIL-STD-1472 Lifting Requirements for Males and Females

A: Lift 5 feet from floor		B: Lift 3 feet from floor		C: Carry 33 feet	
#-Person Lift	Max Load (lbs)	#-Person Lift	Max Load (lbs)	#-Person Lift	Max Load (lbs)
1	37	1	44	1	42
2	74	2	88	2	84
3	102	3	121	3	116
4	130	4	152	4	147
5	157	5	187	5	179
6	185	6	220	6	210
7	213	7	253	7	242
8	241	8	286	8	273
9	268	9	319	9	305
10	296	10	352	10	336

3.5.2.1 Warning Marking Tool Box. Each tool box shall have a warning label prominently displayed on the exterior of the box. The warning label shall state the number of persons required to lift the tool box (i.e. "Two person lift required", "Three person lift required", etc) as well as the weight of the object in accordance with MIL-STD-1472, 5.9.11.3.9. This requirement will be waived if the total weight of the filled tool box is equal to or less than the weight of a one-person lift.

3.5.2.2 Warning Marking Layers. If layers are used and any one layer inside a tool box weighs more than a 1-person lift (42-lbs in accordance with MIL-STD-1472, 5.9.11.3.1 & Table XVII, Male and Female, scenario C: carry 33 feet), that layer shall have a warning label prominently displayed and permanently affixed to the top of the layer. The warning label shall state the number of persons required to lift the layer (i.e. "Two person lift required", "Three person lift required", etc) as well as the weight of the layer in accordance with MIL-STD-1472, 5.9.11.3.9.

3.5.3 Handles. The handle(s) on each tool box shall each be rated for not less than 1-1/2 times the weight of the fully loaded tool box. The handles 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.)

If only one handle is required (i.e. for a one-person lift described in Table 2), that handle shall be placed on top of the tool box and centered right to left. If more than one handle is used, the handles shall be spaced in such a manner that the lifters do not interfere with each other while lifting. The toolbox shall contain no less than one handle per person.

Handles shall not affect the strength and firmness of the case. While in use, the handles shall stop at a 90-degree angle to the face of the case. If a bar type handle is used, the clearance for the hand inside the handle shall be not be less than 2 inches by 4.25 inches. The handles on the upper half of the tool box (lid) may be the same as the handles used on the lower half of the tool box, or may be smaller if required for proper fit onto the lid.

3.5.4 Hardware. All metal hardware items on the container and the tool box(s) within shall be corrosion resistant stainless steel and shall be able to withstand long term attacks from corrosive atmospheric conditions exceeding 12 months.

3.5.5 Color. The field level tools container and tool box(s) within shall be subdued and non-reflective and any of the following colors: dark blue, dark green, black, tan or olive drab. (See 3.2.3 of attachment 0003)

3.5.6 Finish. The interior and exterior surface finish of the field level tools container and all tool boxes shall be clean, corrosion resistant, non-reflective, non-glossy and shall have no sharp edges or projections.

3.5.7 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 \'be inch clearance for the finger tips. If drawers are used, each drawer shall be able to be opened by a person wearing insulated work gloves.

3.5.8 Ambient Temperature Rough Handling Resistance. At ambient temperature, each fully loaded tool box shall withstand being rolled over on the floor so its 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.

3.5.9 Rapid Inventory. The tool storage system of the HMEE-I Field Level tool sets 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 the tools container be identifiable within five minutes. Photos or drawings of the tool layout shall be permanently attached to the inside of the tool box(s) lid and shall be water and dust resistant through lamination or some other means of sealing. The photos or drawings shall be labeled with the corresponding drawer or layer number as well as all components within that layer. Each component shall be labeled with its corresponding part number.

3.5.10 Physical Security. The field level tools container shall include a locking feature. A padlock shall be used as the locking feature. The padlocks shall be key-operated, tumbler type padlocks conforming to CID A-A-59486. Each tool set shall be provided with a rust proof flexible aircraft cable not greater than 12 inches in length riveted under the hasp and with a loop to engage the hasp and retain the padlock when it is loose. All padlocks supplied for each tool set shall be keyed alike so that one tool set can be opened with a single key regardless of the number of locks.

3.6 Inputs and Interfaces.

3.6.1 Component List. The items identified in Table 1 shall be loaded into the field level tools container. All tools boxes and tools that do not fit into tool boxes shall be tightly secured for transport within the tools container. All tools shall be of an industrial or professional quality.

3.7 Loading Field Level Tools Container. The components to be supplied for the tools container shall be acquired and loaded in accordance with the storage system specified herein.

3.7.1 Interior tool storage system. To the maximum extent practical, the tools set 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 (i.e. foam inserts and blocking and bracing shall be provided to keep all components in place and stowed items inside the tools container) shall be provided to keep all components in place and stowed items secured inside the tools container.

3.7.2 Proximate Storage. The contractor shall lay out the components and assemble them into layers or drawers with foam 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.

If layers are used within the tool box, each layer shall feature handles, straps, ties or some other device to aid in layer removal. The handles, straps, ties, or some other device shall be of correct length and position to facilitate the ease of layer removal. (i.e. it is easier to remove a layer with straps/handles on the narrow ends rather than placing them on the wide ends.) Layers shall not protrude past the interior edges of the tool box; they shall sit inside the lower portion of the tool box providing correct placement and making it easier to reattach the lid correctly (preventing layers from getting in the way due to unwanted movement).

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 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.

If stacking organizing liners within the tool box, each organizing liner shall feature 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. If the weight of the individual layer is more than a one-person lift, a permanent warning shall be prominently displayed on the foam in a visible place. The lift requirements shall be in accordance with that described in paragraph 3.5.2 herein.

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 Container Labels.

3.7.4.1 Tool Layout. A diagram showing the location of each component in its loaded position shall be provided with each tools set and shall be permanently affixed to the inside of the container. If there is multiple tool boxes, the diagram shall call out which tool box a specific tool is in. This shall be done by showing the location of each tool box within the tools container and also by labeling the tool box by name, number or letter. Each tool box shall have a diagram of the tools within it, permanently affixed to the inside of the lid. This shall not inhibit the ability to open or close the container. These diagram(s) shall serve as an inventory sheet to facilitate rapid inventory. The diagram shall be water and dust resistant and durable.

3.8 Safety.

3.8.1 Lift Hazards. Caution signs shall be provided for all items that exceed the safe limits for a single person to lift using both hands. Product safety signs and labels shall conform to ANSI Z535.4. The number of persons assigned for lifting each item shall be determined using the guidance per paragraph 5.9.11.3.1 of MIL-STD-1472.

3.9 Plates.

3.9.1 Data Plate. Each tools set 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: HMEE Type I Tool Set
b. End Item LIN: TBD (provided by the Government)
c. End item NSN: TBD (provided by the Government)
f. Weight_____Lbs, Volume_____cu ft, Length____in, Width_____in, Height_____in
g. Manufacturer: CAGE
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.

3.9.2 Plates and Labels. All identification, warning and instruction plates and labels shall be permanently affixed to the HMEE-I tools set. 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 HMEE-I tools set. Marking shall be accomplished in a manner that does not adversely affect the life and utility of the HMEE-I field level tools or its equipment. All plates and labels shall be printed using the English language and may be supplemented by graphical symbols.

3.10 Workmanship. The quality of workmanship imparted to the HMEE-I tools set shall equal or exceed that typically provided to domestically produce commercial products of this type. The HMEE-I tools set 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 contractor may use his own or any other facilities suitable for the performance of the verifications and inspections, unless disapproved by the Government. 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 4.2)
b. Conformance inspection (see 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, which 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 in paragraphs 4.2, 4.3 and all sub paragraphs.

c. Rejection. If any set assembly, component or specimen fails to comply with any of the applicable requirements, the entire set shall be rejected. The contractor shall be responsible for the costs associated with the retesting of any failed set assembly, component or specimen. The Government reserves the right to terminate further verifications and inspections upon any failure of a set assembly, specimen or component to comply with any of the requirements.

4.2.1 Ambient temperature rough handling and organizer demonstration. Load a chest with a full component load, close and fasten. Roll the chest over on the floor, 360 degrees, so that the chest becomes completely inverted, and do so four times, once in each of the four different directions, going over each of the four lower edges. Set the chest upright. Open the chest and inspect the components to assure that all components are still in their proper storage position. Failure of the component organizing liner to retain the components such that no components are damaged and any displaced component can be immediately replaced into its proper storage position shall constitute failure of this requirement. (see 3.5.8, 3.7.3)

4.2.2 Tool box construction verifications. Verify that the components of the chest meet the requirements of paragraph 3.5 and all sub paragraphs.

4.2.2.1 Materials. Verify that the tool box is constructed of parts and materials that are corrosion resistant or suitably processed to resist corrosion. Verify hardware that protrudes into the tool box interior does not present a hazard to users hands or the tool load. (see 3.5.1)

4.2.2.2 Weight and warning label. Verify the weight limit of the fully loaded tool box(s) conforms to MIL-STD-1472, 5.9.11.3.1 & Table XVII, Male and Female, scenario C: carry 33 feet as described in the table of paragraph 3.5.2, or by forklift without modification or use of an adapter on the box. Verify the tool box(s) has a warning label prominently displayed on the exterior of the box that states the number of persons required to lift the tool box as well as the weight of the object in accordance with MIL-STD-1472, 5.9.11.3.9. Verify in the case where layers are used and any one layer inside a tool box weighs more than a 1-person lift (42-lbs in accordance with MIL-STD-1472, 5.9.11.3.1 & Table XVII, Male and Female, scenario C: carry 33 feet), that layer contains a warning label prominently displayed and permanently affixed to the top of the layer. Verify the warning label states the number of persons required to lift the layer. (see 3.5.2, 3.5.2.1, 3.5.2.2, 3.8.1)

4.2.2.3 Plates and Labels. Verify all identification, warning and instruction plates and labels are permanently affixed to the tools set and tool box(s) within and contains the information as described in paragraph 3.9.1, including all information required to be inserted in the blanks indicated. Verify all plates and labels are printed using the English language and may be supplemented by graphical symbols. (see 3.9.1, 3.9.2)

4.2.2.4 Handles. Verify each handle is rated for not less than 1-1/2 times the weight of the fully loaded tool box. Verify the handles are installed using mechanical fasteners that cannot be readily removed, i.e. rivets or screws that cannot be removed with a screwdriver. Verify if only one handle is required that the handle is placed on top of the tool box and centered right to left. Verify if more than one handle is used, that the handles are spaced in such a manner that the lifters do not interfere with each other while lifting. Verify that while in use, the handles located on the sides of the tool box stop at a 90-degree angle to the face of the box. Verify if a bar type handle is used, the clearance for the hand inside the handle is not less than 2 inches by 4.25 inch. (see 3.5.3)

4.2.2.5 Hardware. Verify by objective evidence that all metal hardware items on the tool box are corrosion resistant stainless steel and able to withstand long term attacks from corrosive atmospheric conditions. (see 3.5.4)

4.2.2.6 Color. Verify the field level tools container and tool box(s) within are subdued, non-reflective one of the following colors: dark blue, dark green, black, tan or olive drab. (see 3.5.5)

4.2.2.7 Finish. Verify the exterior surface finish of each tool box is clean, corrosion resistant, non-reflective, non-glossy and have no sharp edges or projections. (see 3.5.6)

4.2.2.8 Human engineering demonstration. Verify a fully loaded component chest shall be used by persons wearing insulated work gloves. Inability of the persons to carry the fully loaded chest, unlock, open and remove items, replace items, close and re-lock the chest, while wearing the gloves, shall constitute failure of this requirement. (see 3.5.7)

4.2.2.9 Rapid inventory demonstration. Verify the tool storage system for the Measuring Tool Set components in the tools set 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 tools container and lid of the tool box(s) 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 3.5.9)

4.2.2.10 Physical Security. Verify the field level tools container has a locking feature. Verify the tool box top and base as well as drawers (if applicable) cannot open once locked shut and that no tool can be removed. Verify a key-turn lock or padlock is used as the locking feature. Verify the field level tools container has a rust proof flexible aircraft cable not greater than 12 inches in length is riveted under the hasp and with a loop to engage the hasp and retain the padlock when it is loose. Verify all padlocks supplied for each field level tools container is keyed alike so that one field level tools container can be opened with a single key regardless of the number of locks. (see 3.5.10)

4.2.2.11 Interior component storage system. Verify that each retention feature is capable to hold components in place without damage following the rough handling test of paragraph 3.5.8. Provide objective evidence that each retention feature allows for the easy removal of the components. (see 3.5.8, 3.7.1)

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 3.4.24)

4.3.3 Workmanship. Verify the quality of workmanship imparted to the field level tools set and its components equal or exceed that typically provided to domestically produced, commercial chests of these types. Verify the chests presented for acceptance have been manufactured with skill and care; uniform, neat, and clean; and free from irregularities and anomalies which degrade form, fit, function, performance or appearance. (see 3.10)

4.3.4 Components and related items loaded into the set. Verify all the components, as listed on Table 1, are loaded into the chest in the quantities indicated. (see 3.3, 3.4)

4.3.5 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)

4.3.6 Warranty. Verify that warranties of all components are provided in accordance with manufacturing requirements as specified in the contract. (see 3.2.1, 3.7.4.2, 3.7.4.3)

4.3.7 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 requirements.

5. Preservation, Packing and Packaging RESERVED. See Attachment 0003.