INCH-POUND
MIL-PRF-423G
16 August 2010
SUPERSEDING
MIL-PRF-423F
22 January 1996

PERFORMANCE SPECIFICATION

RIPPING TOOLS, METAL DRUM, PAVING BREAKER

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers ripping tools used with a lightweight paving breaker for opening metal drums.

1.2 Classification. The ripping tools are of the following types, as specified (see 6.2):

Type I - For cutting out heads of metal drums
Type II - For splitting metal drums lengthwise

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents in other sections of this specification 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 requirement documents cited in sections 3 and 4 of this specification, whether or not they are listed.

2.2 Government documents.

Comments, suggestions, or questions on this document should be addressed to U.S. Army RDECOM, Tank Automotive Research, Development and Engineering Center, ATTN: RDTA-EN/STND/TRANS MS #268, 6501 E. 11 Mile Road, Warren, MI 48397-5000 or emailed to DAMI_STANDARDIZATION@conus.army.mil. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at https://assist.daps.dla.mil.

AMSC N/A FSC 3820

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 cited in the solicitation or contract (see 6.2).

COMMERCIAL ITEM DESCRIPTIONS

A-A-52558 - Breakers, Paving, Pneumatic-Powered (0.857 Inch Hexagon by 3.25 Inch Chuck)

(Copies of these documents are available from https://assist.daps.dla.mil/quicksearch/ or from the Document Automation and Production Service, 700 Robbins Avenue, Building 4/D, Philadelphia, PA 19111-5094.)

2.2.2 Other Government documents, drawings, and publications. The following other Government document forms a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation or contract (see 6.2).

NUCLEAR REGULATORY COMMISSION (NRC)

Code of Federal Regulations (CFR) - Title 10, Parts 30 and 40

(Copies of these documents are available from www.gpoaccess.gov/cfr/index.html or U.S. Government Printing Office, 732 North Capitol St. NW, Washington, DC 20401.)

2.3 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract (see 6.2).

AMERICAN SOCIETY FOR QUALITY CONTROL (ASQC)

ANSI/ASQC Z1.4 - Sampling Procedures and Tables for Inspection by Attributes

(Copies of these documents are available from American Society for Quality, 600 North Plankinton Avenue, Milwaukee, WI 53203 (or website: http://www.asq.org/) or American National Standards Institute, 25 West 43rd Street, New York, NY 10036 (or website: http://www.ansi.org/).

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME Y14.5 - Dimensioning and Tolerancing

(Copies of these documents are available from American Society of Mechanical Engineers, 3 Park Avenue, New York, NY, 10016-5990 (or website: www.asme.org) or American National

Standards Institute, 25 West 43rd Street, New York, NY 10036 (or website: http://www.ansi.org/).

ASTM INTERNATIONAL

ASTM A686	-	Specification for Tool Steel, Carbon (DoD Adopted)
ASTM E18	-	Rockwell Hardness and Rockwell Superficial Hardness of Metallic Materials (DoD Adopted)

(Copies of these documents are available from www.astm.org or ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.)

SAE INTERNATIONAL

SAE J437 - Selection and Heat Treatment of Tool and Die Steels

(Copies of these documents are available from www.sae.org or SAE Customer Service, 400 Commonwealth Drive, Warrendale, PA 15096-0001.)

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

3. REQUIREMENTS

3.1 First article. When specified (see 6.2), a sample shall be subjected to first article inspection (see 6.3) in accordance with 4.2.

3.2 Materials. Materials used shall be in accordance with the manufacturer's materials specifications for ripping tools. Steel, when used, shall be forged steel as specified in ASTM A686. The ripping tools shall be fabricated from compatible materials, inherently corrosion resistant or treated to provide life protection against the various forms of corrosion and deterioration that may be encountered in any of the applicable operating and storage environments to which the ripping tools may be exposed. Asbestos, cadmium, and radioactive materials shall not be used in this item. Radioactive material is defined by Title 10, Code of Federal Regulations (CFR) Parts 30 and 40, and other radioactive material in which the specific activity is greater than 0.002 microcuries per gram or the activity per item equals or exceeds 0.01 microcuries (see 4.4.1)

3.2.1 Dissimilar metals. Dissimilar metals shall not be used in intimate contact with each other unless protected against galvanic corrosion (see 4.4.2).

3.2.2 Identification of materials and finishes. The contractor shall identify the specific material, material finish or treatment for use with component and subcomponent, and shall make

information available upon request to the contracting officer or designated representative (see 4.4.1 and 4.4.2).

3.2.3 Heat treatment. After forging, the ripping tools shall be normalized, hardened and tempered. The hardness shall be not less than Rockwell C50 when tested as specified in 4.4.4. The heat treatment shall be as specified in SAE J437.

3.2.4 Recycled, recovered, or environmentally preferable materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the materials meet or exceed the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

3.3 Design and construction. The ripping tools shall be as shown in figure 1 for cutting out heads from metal drums, as shown in figure 2 for splitting metal drums lengthwise, and as specified herein. No deviation from the prescribed dimensions or tolerances is permissible without prior approval of the contracting officer. The ripping tools are for use with paving breakers as specified in A-A-52558 (see 4.4.1 and 4.4.2).

3.4 Performance. The ripping tools shall not be susceptible to damage, wear, or scoring, when subjected to the battering force of a paving breaker when tested as specified in 4.4.3.

3.5 Finish. The finished ripping tools shall have a natural metal surface (see 4.4.2).

3.6 Identification marking. Identification marking shall include, as a minimum, the following information permanently marked on the exterior of the ripping tools (see 4.4.2).

a. Ripping tool
b. Manufacturer’s serial number
c. Manufacturer’s brand or firm name, or code number
d. Type number
e. Date of manufacture (quarter and year)
f. Contract or order number
g. US.

3.7 Government-loaned property. Unless otherwise specified (see 6.2), the following property in the quantities indicated will be loaned by the Government (see 6.5).

Item	Description	Identification	Quantity
1	Breaker, paving, pneumatic power	MIL-B-385	1

3.8 Workmanship. The ripping tools shall be free of defects such as rust, cracks, and other defects that could impair their operation or serviceability (see 4.4.2).

4. VERIFICATION

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

a. First article inspection (see 4.2).
b. Conformance inspection (see 4.3).

4.2 First article inspection.

4.2.1 First article examination. The first article ripping tool shall be examined as specified in table I, as applicable. Presence of one or more defects shall be cause for rejection.

TABLE I. Examination schedule.

Category	Defect	Method of examination
Major:		
101	Material deterioration and control not as specified (see 3.2).	Visual
102	Dissimilar metals not as specified (see 3.2.1).	Visual
103	Identification of materials not as specified (see 3.2.2).	Visual
104	Heat treatment not as specified (see 3.2.3).	Functional
105	Dimensions and tolerances not as specified (see 3.3).	SIE 1/
106	Workmanship not as specified (see 3.8).	Visual
Minor:		
201	Finish not as specified (see 3.5).	Visual
202	Identification marking not as specified (see 3.6).	Visual

1/ SIE = Standard Inspection Equipment

4.2.2 First article tests. The first article ripping tool shall be tested as specified in table II.

TABLE II. Test schedule.

Requirement	Test	First article inspection	Conformance inspection
Heat treatment (see 3.2.3)	4.4.4	X	X
Performance (see 3.4)	4.4.3	X	X

4.3 Conformance inspection.

4.3.1 Lot. A lot shall consist of ripping tools of one type only.

4.3.2 Sampling. Sample size for examination and tests shall be determined in accordance with ANSI/ASQC Z1.4. A lot shall be accepted when zero defects are found and rejected when one or more defects are found.

4.3.3 Examination. Samples selected as specified in 4.3.2 shall be examined for the defects specified in table I, as applicable.

4.3.4 Tests. Samples selected as specified in 4.3.2 shall be tested as specified in table II.

4.4 Methods of inspection.

4.4.1 Materials and design inspection. Conformance to 3.2, 3.2.2 and 3.3 shall be determined by inspection of contractor records providing proof or certification that materials and design conform to requirements. Applicable records shall include drawings, specifications, design data, receiving inspection records, processing and quality control standards, vendor catalogs and certifications, industry standards, test reports, and rating data.

4.4.2 Defects. Conformance to 3.2.1, 3.2.2, 3.3, 3.5, 3.6 and 3.8 shall be determined by examination for the defects listed in table I. Examination shall be visual, functional, or by measurement with SIE.

4.4.3 Performance tests. Conformance to 3.4 shall be determined by using the ripping tool for a period of 30 minutes in conjunction with the paving breaker conforming to A-A-52558, for its intended purpose (see 1.2), to determine that there is no damage, wearing or scoring of the ripper tool. The ripper tool shall be disassembled and checked for damage, wear, or scoring. Parts showing damage, wear or scoring shall constitute failure of this test.

4.4.4 Heat treatment test. The ripping tools shall be prepared and tested as specified in ASTM E18. Impressions shall be taken at each 2-inch (5 centimeters (cm)) interval along the length of the ripping tool, beginning as near to the cutting end as practicable. Nonconformance to 3.2.3 shall constitute failure of this test.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When packaging of materiel is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activities within the Military Service or Defense Agency, or within the military service's system commands. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature which may be helpful, but is not mandatory.)

6.1 Intended use. The ripping tools are intended for use with paving breakers as specified in MIL-B-385 to open metal drums.

6.2 Acquisition requirements. Acquisition documents must specify the following:

a. Title, number, and date of this specification.
b. Type required (see 1.2).
c. If required, the specific issue of individual documents referenced (see 2.2.1, 2.2.2 and 2.3).
d. If first article inspection is required, and time frame for submission of samples (see 3.1).
e. If the Government will loan property other than as specified in 3.7.
f. Packaging requirements (see 5.1).

6.3 First article. When a first article inspection is required, the item should be a preproduction model. The first article should consist of one or more units. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examinations, approval of the first article test results and disposition of the first article. Invitation for bids should provide that the Government reserves the right to waive the requirement for samples for first article inspection to those bidders offering a product which has been previously acquired or tested by the Government, and that bidders offering such products, who wish to rely on such production or test, must furnish evidence with the bid that prior Government approval is presently appropriate for the pending contract. Bidders should not submit alternate bids unless specifically requested to do so in the solicitation.

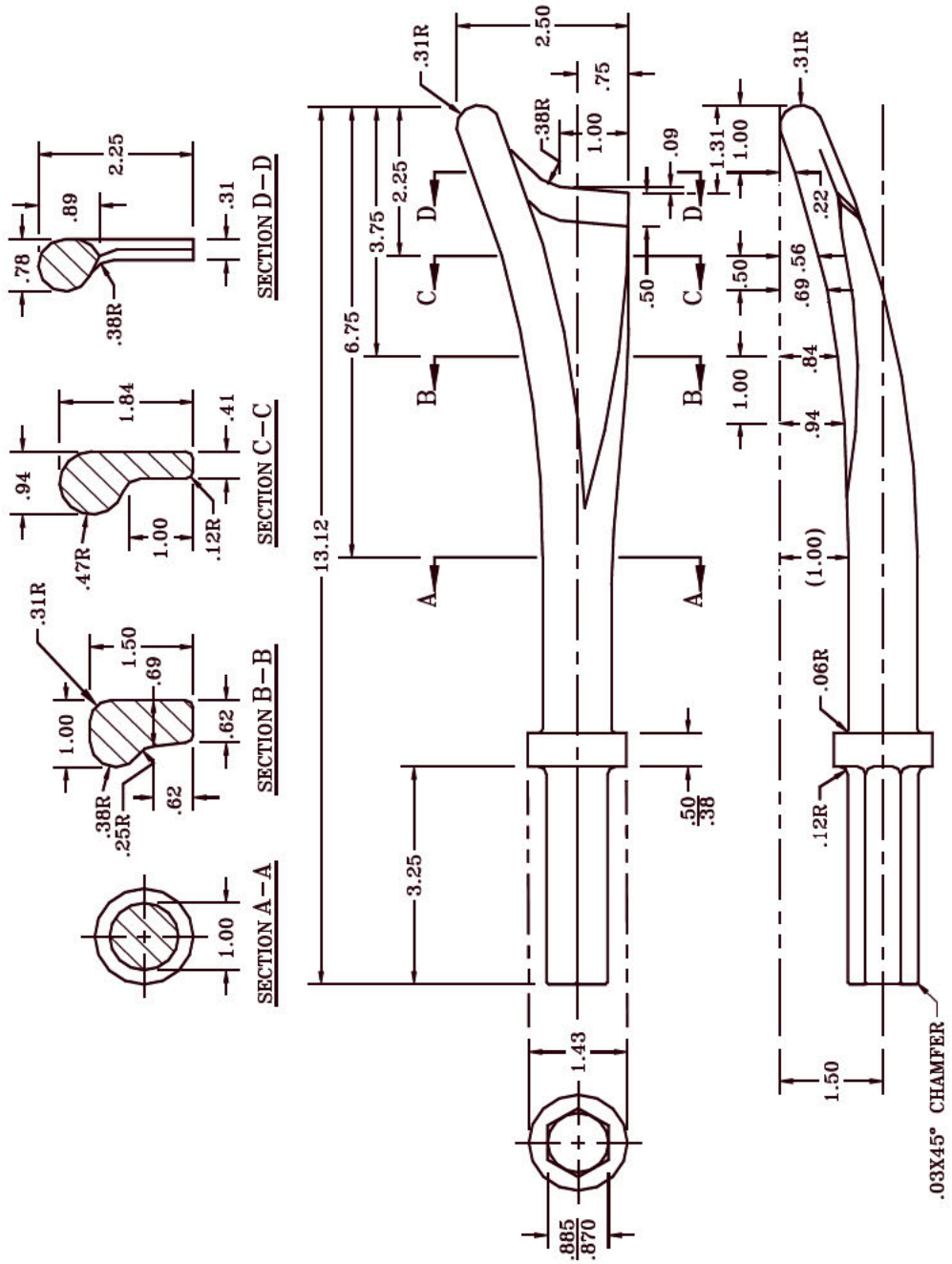
6.4 Provisioning. The contracting officer should include provisioning requirements for repair parts, as necessary, and instruction on shipment of ripping tools.

6.5 Government loaned property. The contracting officer should arrange to lend the property listed in 3.7.

6.6 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

6.7 Subject term (key word) listing.

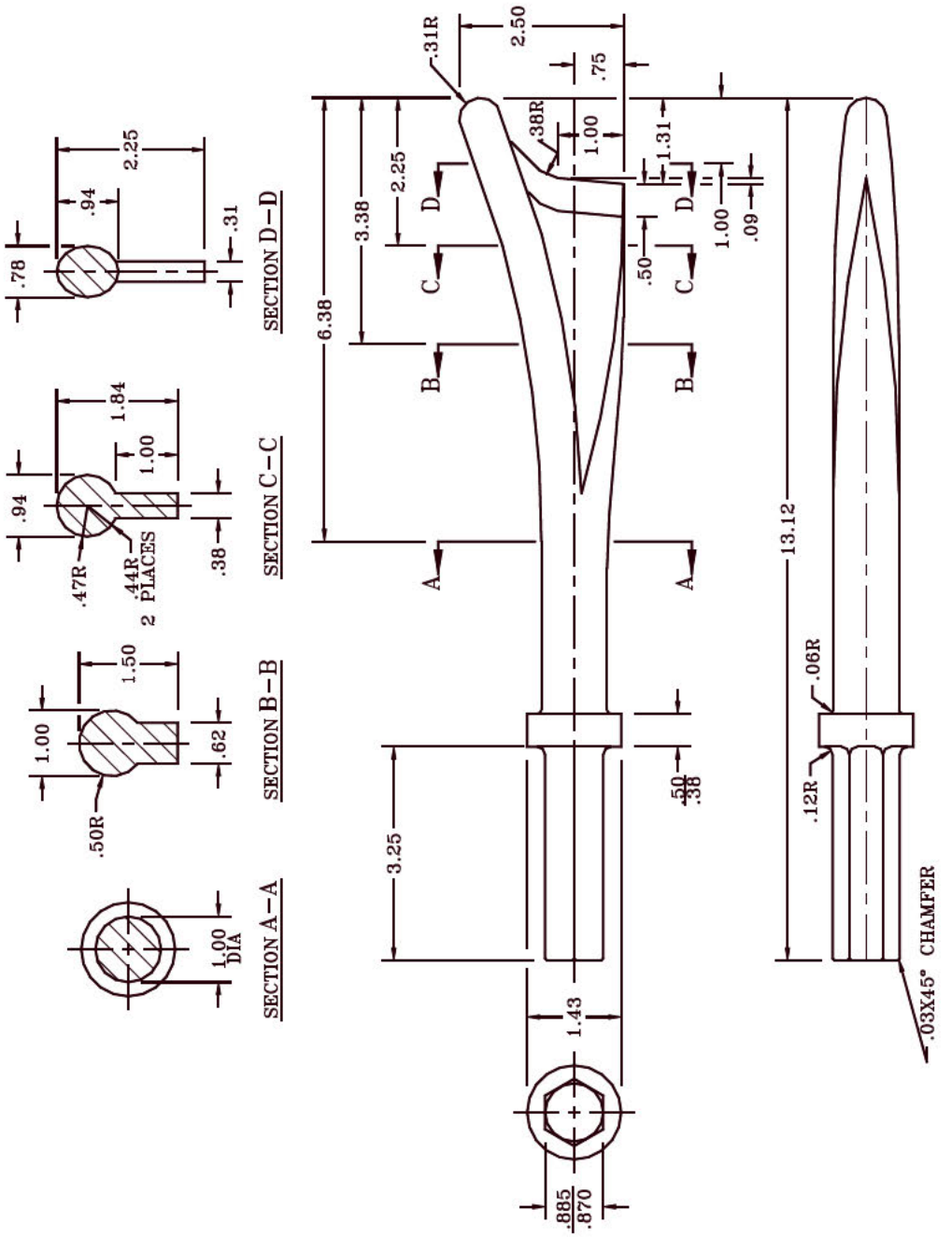
Cutting
Lightweight
Opening
Pneumatic-powered
Splitting



NOTES:

1. All dimensions are in inches.
2. Unspecified tolerance is ±0.03.
3. For interpretation of dimensioning and tolerancing, see ASME Y14.5.

FIGURE 1. Type I (tool for cutting out heads from metal drums).



NOTES:

1. All dimensions are in inches.
2. Unspecified tolerance is ±0.03.
3. For interpretation of dimensioning and tolerancing, see ASME Y14.5.

FIGURE 2. Type II (tool for splitting metal drums lengthwise).

Custodians:
Army - AT
Air Force - 99

Review Activities:
Air Force - 84
DLA - CC

Preparing Activity:
Army - AT

(Project 3820-2010-001)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at https://assist.daps.dla.mil.