MIL-C-679B
24 May 1976
SUPERSEDING
MIL-C-679A
11 May 1965

MILITARY SPECIFICATION

CUTTER, RIVET, SHEAR TYPE

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

1. SCOPE

1.1 Scope. This specification covers requirements of a manually operated squeeze type of rivet cutter used for cutting small size rivets having universal or countersunk heads to the lengths desired.

2. APPLICABLE DOCUMENTS

2.1 The following documents of the issue in effect on date of invitation for bids or requests for proposal, form a part of this specification to the extent specified herein.

SPECIFICATIONS

Federal

PPP-P-40	- Packaging and Packing of Hand Tools

STANDARDS

Military

MIL-STD-105	- Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-130	- Identification Marking of U. S. Military Property
MS20426	- Rivet, Solid, Countersunk 100°, Precision Head, Aluminum and Aluminum Alloy
MS20427	- Rivet, Solid, 100° Countersunk Head, Carbon Steel, Corrosion Resistant Steel, Monel, and Copper
MS20470	- Rivet, Solid, Universal Head, Aluminum and Aluminum Alloy

3. REQUIREMENTS

3.1 Preproduction sample. Unless otherwise specified (see 6.2), before production is commenced, a sample rivet cutter assembly shall be subjected to inspections and testing as required in section 4. Approval of the preproduction sample does not relieve the contractor of his responsibility for

compliance with all provisions of this specification. The preproduction sample shall be manufactured by the contractor in the same facilities and by the same methods to be used for the manufacture of the production items.

3.2 Design and construction.

3.2.1 Design. The rivet cutter covered by this specification shall be in general agreement with Figure 1 as a typical example. Rivet cutters shall be properly proportioned in all parts so as to be strong, durable, and easy to operate. Details not specifically covered herein shall conform to the manufacturer's standard practice for first quality tools.

3.2.2 Construction. The rivet cutter shall be designed and constructed for cutting rivets of the sizes applicable to the capabilities of the cutter and of all alloys conforming to MS20426, MS20427, and MS20470 into lengths from 1/4 inch to 3/4 inch in increments of 1/16 inch. The cut shall be smooth; the total distortion of the rivets shall not exceed 0.015 inches and the rivets shank diameters shall not be increased because of the cutting operation by more than 0.003 inches at any point.

3.2.2.1 Rivet size capabilities. The rivet cutter shall have capabilities of cutting 1/16, 3/32, 1/8, 5/32, 3/16, and 1/4 inch diameter rivets.

3.2.3 Cutter operation. The rivet cutter shall be operable by manually pressing the handles toward each other.

3.2.4 Cutter size. The overall dimensions shall not exceed 16 inches in length and 5 inches in width, in the closed position.

3.2.5 Cutter weight. The weight of the cutter shall not exceed 2½ pounds.

3.2.6 Operating force. The operating force required by the rivet cutter for cutting 1/4 inch carbon steel rivets in accordance with MS20427 shall not exceed 75 pounds. The points of application for determining the operating force required shall be not less than one inch from the outer extremities of the handles.

3.2.7 Cutting blades. The cutting blades shall be constructed of a material of sufficient hardness and durability as to withstand the cutting test and drop test as specified in 4.9 and 4.10. The rivet receiver holes shall be chamfered 45^{o} x 1/64 inch for easy access and removal of rivets.

3.2.8 Joints. The cutter shall have either lap or box joints at the option of the contractor. There shall be no excessive sidewise movement, play or other indications of looseness of the two halves of the tool in the open or closed position that would cause uneven cutting or distortion of the rivet.

3.2.9 Stops. The cutter shall be provided with a positive stop so that holes in the sheering plates of the cutter shall be in alignment to receive the rivet when the handles are in the open position.

3.2.10 Handles. The handles shall be made entirely of metal, of the grade and class normally used in the manufacture of this item, and shall be comfortable to the hands of the operator. The handles shall be sufficiently strong to withstand clamping in a vise without injuring or bending of the handles.

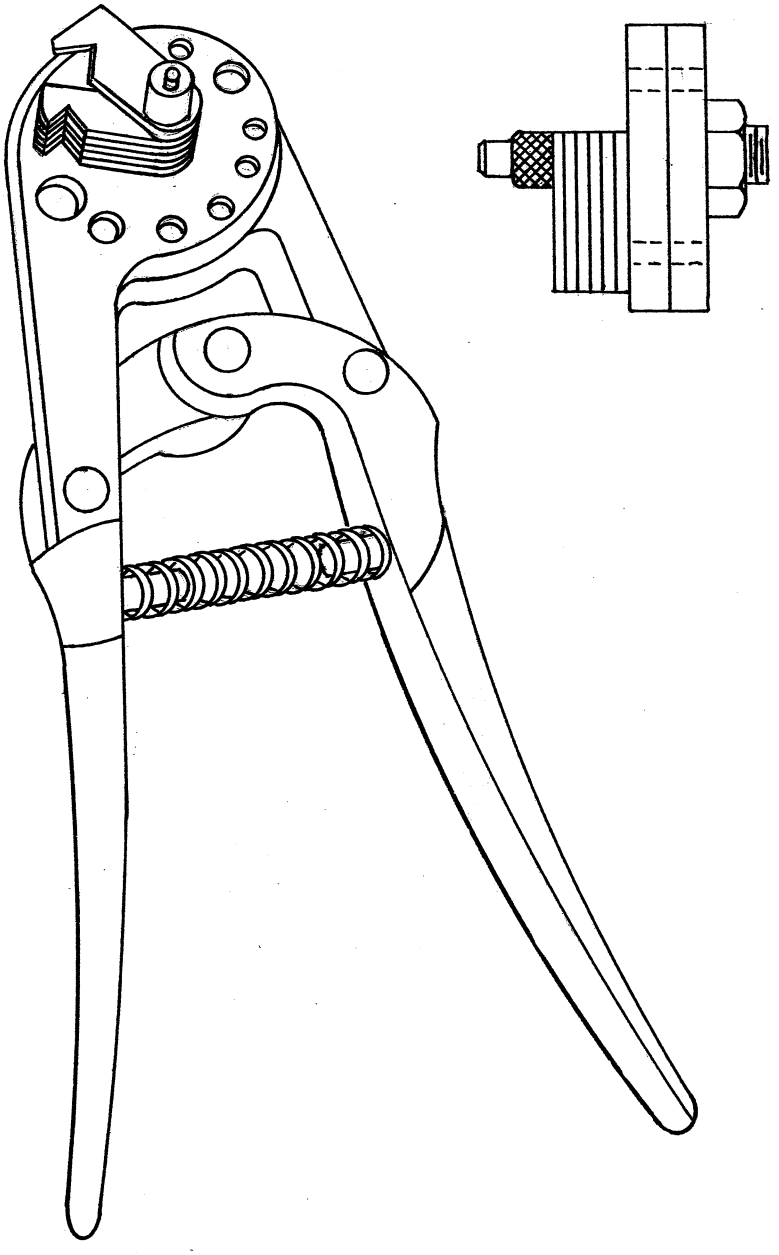

FIGURE 1

3.2.11 Rivet length gauging. The cutter assembly shall have provisions for setting lengths for rivets to be cut in length increments of 1/16 inch for a length range from 1/4 to 3/4 inches inclusive. If a leaf type gauging device is provided, each leaf shall be free to move independently of the others.

3.2.12 Miscellaneous parts. All connecting bolts and hinge pins shall be heat treated to a Rockwell hardness of 35 to 45 on the "C" scale.

3.2.13 Interchangeability. All parts having the same manufacturer's part number shall be directly and completely interchangeable with each other with respect to assembly and performance.

3.3 Finish. Unless otherwise specified (see 6.2), non-utile cutter assembly surfaces shall be coated or painted to minimize corrosion. This finish shall be optional to the producer with the exception that there shall be no cadmium plating used on any component of the assembly.

3.4 Identification of product. Unless otherwise specified (see 6.2), the cutters shall be permanently marked for identification in accordance with MIL-STD-130.

3.5 Workmanship. Components of the cutter shall be snug fitting, without loose or wobbly motion that could cause distortion of rivets being cut, shall be free of sharp projections, burrs, or rough edges that could cause injury, and shall be free of repairs made on defective castings.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own facilities or any commercial laboratory acceptable to the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Classification of inspection. Inspection shall be classified as follows:

a. Preproduction inspection.
b. Sampling inspection.

4.3 Preproduction inspection. Unless otherwise specified (see 6.2), before production of the required quantity is commenced, a sample cutter assembly shall be manufactured that shall be subjected to tests and inspections as specified in 4.6 with Table II, 4.7, 4.8, 4.9, 4.9.1, and 4.10. In the event of a failure of any of these tests, adequate corrective measures shall be taken and preproduction inspections and tests shall be repeated.

4.4 Sampling inspection. Sampling for inspection and acceptance shall be in accordance with requirements of MIL-STD-105 and shall be in accordance with the inspection level and the acceptable quality level as specified in Table I. Sampling inspections shall consist of the tests and inspections as specified in 4.6 with Table II, 4.7, 4.8, 4.9, 4.9.1, and 4.10. In the

event of failure of a sample, its representative lot shall be considered as being unacceptable until corrective measures have been taken and retesting has been accomplished.

4.5 Inspection of materials and components. In accordance with 4.1, the supplier is responsible for assurance that materials and components used were manufactured, tested, and inspected in accordance with this specification and in accordance with requirements of referenced specifications and standards.

4.6 Visual examination. Each cutter assembly submitted for this inspection shall be examined for defects set forth in Table II.

4.7 Examination for dimensions and weight. Each cutter assembly submitted for this inspection shall be inspected for any deviation from requirements of rivet size capabilities of 3.2.2.1, rivet length cutting capability of 3.2.2, cutter size of 3.2.4, and cutter weight of 3.2.5.

4.8 Cutting force test. The design of jigs or fixtures necessary for this test shall be optional to the producer. Each cutter assembly submitted for inspection shall be subjected to this test to determine conformance to 3.2.6. The cutting force shall be applied at as close to a right angle to the handle as practical and at a point on the handle of not less than one-inch from the extreme outer end.

4.9 Performance test. Each cutter assembly submitted for inspection shall be submitted to performance testing. This test shall consist of cutting three aluminum alloy 1100 rivets in accordance with MS20426 and three carbon steel rivets in accordance with MS20427 for a total of six rivets of each size applicable to the cutter's capability. After conclusion of this test, the cutter assembly shall be submitted to visual inspection for any evidence of possible failure that would include any distortion of handles or blades and any evidence of cutting edges turning or becoming dull.

4.9.1 Inspection of cut rivets. The rivets that were subjected to cutting tests of 4.9 shall be inspected to determine conformance within the maximum allowable distortions or diameter changes of 3.2.2.

4.10 Drop test. Each cutter assembly submitted for inspection shall be subjected to drop testing. This test shall consist of dropping the cutter assembly from a height of not less than 6 feet onto a concrete floor for a total of 2 drops so that the impact of the drops will be once on each of the cutting blades.

4.11 Inspection of preparation for delivery. Each item offered for delivery shall be subjected to inspection of preparation for delivery to determine conformance to requirements of section 5.

TABLE I

Paragraph	Test	Inspection Level	Acceptable Quality Level
4.6 with Table II	Visual Examination	II	2.5-major 6.5-total
4.7	Dimensions	S3	4.0
4.7	Weight	I	1.5
4.8	Cutting force	S3	4.0
4.9	Performance test	S3	1.5
4.9.1	Cut rivets	S3	4.0
4.10	Drop test	S3	1.5

TABLE II

Examine	Defect	Classification Major	Classification Minor
Finish	Indication of rust	X	
	Not finished as specified	X	
	Not smoothly finished		X
	Scratch or mar		X
Design	Any characteristic not in accordance with the specified requirements	X	
Construction and workmanship	Part missing, or not specified type	X	
General (Applicable to all components and assemblies)	Fractured, split, punctured, sprung, malformed, or otherwise impaired	X	
	Not connected or joined as specified	X	
	Sharp burr or sliver	X	
	Functioning component that is inoperative, or will not function as intended.	X	
	Parts not interchangeable	X	
	Gauging means not provided as specified	X	
	Shearing plates not aligned to receive rivets in the stop position	X	

TABLE II
(Cont.)

Examine	Defect	Classification Major	Minor
Bolts, nuts, screws and other types of threaded components	Missing, not approved type, broken, threads stripped, or fractured	X	
Marking	Missing, illegible not as specified		X

5. PREPARATION FOR DELIVERY

5.1 Preservation, packaging, packing, and marking--shall be in accordance with PPP-P-40. Preservation, packaging, and packing shall be level A, B, or C as specified (see 6.2).

6. NOTES

6.1 Intended use. The cutters covered by this specification are intended for cutting small size rivets having universal or countersunk heads to lengths desired.

6.2 Ordering data. Procurement documents should specify the following:

a. Title, identification and date of this specification.
b. If preproduction sample is not required (see 3.1 and 4.3).
c. Finish requirement, if different (see 3.3).
d. Marking, if different (see 3.4).
e. Preservation, packaging, packing, and marking required (see 5.1).

6.3 Definitions. As pertaining to this specification, definitions are as follows:

a. Outer extremities of handles (see 3.2.6). This is the ends of the handles that are farthest from the cutting areas.
b. As applicable to sampling inspection in accordance with MIL-STD-105, defects are in terms of defects per hundred units, and "lot size" shall consist of all the cutters of one type offered for acceptance at one time.

6.4 Superseding information. This specification revision covers requirements for Type I rivet cutter as referenced in "A" revision of MIL-C-679. Due to lack of requirements of the item by the Government, requirements of Type II rivet cutters, as referenced in "A" revision of MIL-C-679, are deleted from this specification revision.

Custodians:

Army-GL
Air Force-84

Review Activity:

Army-GL

User Activity:

Army-WC

Preparing Activity:

Air Force-84

Project Number:

5110-0263

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

OMB Approval
No. 22-R255

INSTRUCTIONS: The purpose of this form is to solicit beneficial comments which will help achieve procurement of suitable products at reasonable cost and minimum delay, or will otherwise enhance use of the document. DoD contractors, government activities, or manufacturers/ vendors who are prospective suppliers of the product are invited to submit comments to the government. Fold on lines on reverse side, staple in corner, and send to preparing activity. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements. Attach any pertinent data which may be of use in improving this document. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity.

DOCUMENT IDENTIFIER AND TITLE
MIL-C-679B Cutter, Rivet, Shear Type

NAME OF ORGANIZATION AND ADDRESS

CONTRACT NUMBER

MATERIAL PROCURED UNDER A
☐ DIRECT GOVERNMENT CONTRACT ☐ SUBCONTRACT

1. HAS ANY PART OF THE DOCUMENT CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?
   A. GIVE PARAGRAPH NUMBER AND WORDING.

   B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES

2. COMMENTS ON ANY DOCUMENT REQUIREMENT CONSIDERED TOO RIGID

3. IS THE DOCUMENT RESTRICTIVE?
   ☐ YES ☐ NO *(If "Yes", in what way?)*

4. REMARKS

SUBMITTED BY *(Printed or typed name and address - Optional)*

TELEPHONE NO.

DATE

DD FORM 1 JAN 72 1426

REPLACES EDITION OF 1 JAN 66 WHICH MAY BE USED

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