GGG-E-926b
September 18, 1963

SUPERSEDING
Int. Fed. Spec. GGG-E-00926a (GSA-FSS)
June 22, 1961 and
Fed. Spec. GGG-E-926
October 3, 1933

FEDERAL SPECIFICATION

EXTRACTOR; COTTER-PIN

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers cotter-pin extractors required for removing cotter pins on automotive, material-handling, and all other types of mechanical equipment that employ cotton-pin locking devices.

1.1.1 *Federal specification coverage.* Federal specifications do not include all varieties of the commodity indicated by the title of the specification, but are intended to cover only those generally purchased by the Federal Government.

1.2 Classification.

1.2.1 *Type.* The cotter-pin extractor covered by this specification shall be of one type as hereinafter specified.

2. APPLICABLE SPECIFICATIONS AND STANDARDS

2.1 Specifications and standards. The following specifications and standards, of the issues in effect on date of invitation for bids or request for proposal, form a part of this specification:

Federal Standards:

Fed. Std. No. 102—Preservation, Packaging, and Packing Levels.

Fed. Std. No. 123—Marking for Domestic Shipment (Civilian Agencies).

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards, and Handbooks as outlined under General Information in the Index of Federal Specifications, Standards, and Handbooks and at the prices indicated in the Index. The Index, which includes cumulative monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

(Single copies of this specification and other product specifications required by activities outside the Federal Government for bidding purposes are available without charge at the General Services Administration Regional Offices in Boston, New York, Washington, D. C., Atlanta, Chicago, Kansas City, Mo., Dallas, Denver, San Francisco, and Auburn, Wash.

(Federal Government activities may obtain copies of Federal Specifications, Standards, and Handbooks and the Index of Federal Specifications, Standards, and Handbooks from established distribution points in their agencies.)

Military Specification:

MIL-H-15424—Hand Tools, Packaging of.

Military Standards:

MIL-STD-105 — Sampling Procedures and Tables for Inspection by Attributes.

MIL-STD-129—Marking for Shipment and Storage.

MIL-STD-130—Identification Marking of U. S. Military Property.

(Copies of Military Specifications and Standards required by suppliers in connection with specific

FSC 5120

procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

3. REQUIREMENTS

3.1 Illustration. The illustration shown herein is descriptive and not restrictive. It is included for the convenience of requisitioning, and purchasing officers and manufacturers, and is not intended to preclude the purchase of extractors which are otherwise in accordance with this specification.

3.2 Material. The cotter-pin extractors covered by this specification shall be of forged steel, heat treated to withstand the tests specified in 4.4.

3.3 Design. The handle portion of the cotter-pin extractor shall be square, hexagonal, or octagonal in cross section and shall be not less than 5/16 nor more than 3/8 inch across the flats. The overall length shall be not less than 6 nor more than 9 inches when measured as shown in figure 1. One end of the extractor shall be of circular cross section for a length of approximately 2 inches. This portion shall taper from the nominal diameter of the handle to a point the diameter of which shall be not less than 1/32 inch nor more than 3/64 inch. The opposite end shall be shaped in the form of a chisel. The ends shall be curved in opposite directions to a radius approximately 1-1/2 inches as shown in figure 1.

3.4 Hardness. The extractor shall be suitably hardened and tempered. The chisel shall be properly ground. Each end of the extractor shall be not less than 32 nor more than 45 measured on the Rockwell C scale, the readings to be taken 1/8 inch back from each end under a 150-kilogram load.

3.5 Finish. Extractors shall be smoothly finished and free from rough or sharp edges. Otherwise, the finish shall conform to the manufacturer's standard practice.

3.6 Marking.

3.6.1 *Civil agencies.* Each extractor shall be plainly and permanently marked with the manufacturer's name or with a trademark of such known character that the source of manufacture may be readily determined.

3.6.2 *Military agencies.* The extractors shall be marked in a plain and permanent manner with the manufacturer's name or trademark of such known character that the source of manufacture may be readily determined, and with the symbol "U.S." in accordance with MIL-STD-130.

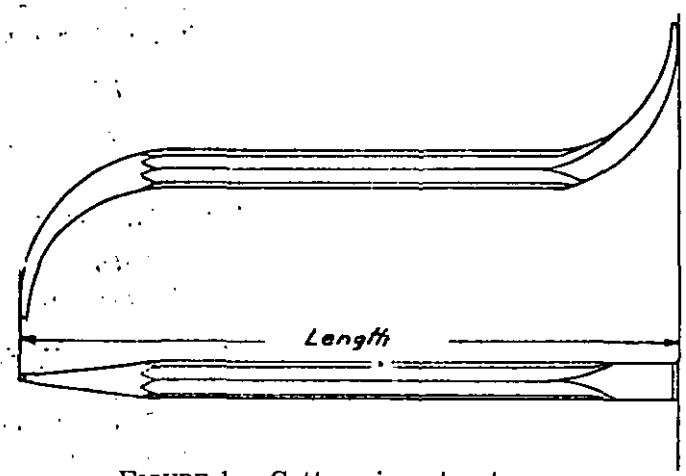

FIGURE 1.—Cotter-pin extractor.

NOTE.—Body or handle portion may be square, hexagonal, or octagonal in cross section

4. SAMPLING, INSPECTION, AND TEST PROCEDURES

4.1 Inspection responsibility. Unless otherwise specified herein, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own or any other inspection facilities and services 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 that supplies and services conform to prescribed requirements.

4.2 Sampling for acceptance inspection.

4.2.1 *Lot.* All extractors offered for delivery at one time shall be considered a lot for purposes of sampling and inspection.

4.2.2 *Sampling for visual and dimensional examination.* A random sample of extractors shall be selected from each lot for inspection of visual and dimensional characteristics (see 4.3) in accordance with MIL-STD-105 at inspection level III for lots of 40 and under, inspection level II for lots of 41 to 300, and inspection level I for lots of 301 and over. The acceptable quality level (AQL) shall be 1.5 percent defective.

4.2.3 *Sampling for lot acceptance tests.* A random sample of extractors shall be selected from each lot in accordance with the appendix to MIL-STD-105 at inspection level L7. The AQL shall be 2.5 percent defective. However, the sample size shall be the number associated with the letter in the table in the appendix and the acceptance number shall be zero until the AQL permits one or greater.

4.3 Visual and dimensional examination. Each of the sample extractors selected in accordance with 4.2.2 shall be visually and dimensionally examined to determine conformance with this specification. Any extractors in the sample containing one or more visual or dimensional defects shall be rejected, and if the number of defective extractors in any sample exceeds the acceptance number for that sample, the lot represented by the sample shall be rejected.

4.3.1 *Lot acceptance tests.* Each of the sample extractors selected in accordance with 4.2.3 shall be tested as specified in 4.4.

4.4 Test procedures.

4.4.1 *Hardness test.* Extractors shall be subjected to a hardness test to determine conformance with 3.4. The hardness requirements as specified shall be tested on a hardness-testing machine utilizing the Rockwell C scale. In conducting the Rockwell hardness test care shall be exercised to assure that the flat and tapered surfaces of the extractors under test shall be free from any case hardness, decarburization or paint and be at right angles to the axis of the penetrator of the testing machine.

4.4.2 *Deflection test.* Each sample extractor shall be subjected to a deflection test as follows: The point end of the extractor shall be held in a vise inserted under a suitable metal edge or held in any other suitable manner while a momentary force is applied in a manner that will tend to straighten the curved portion. The force so applied shall be sufficient to reduce the bend by at least one half of its original curvature. The chisel end of the extractor shall then be inserted in a fixed slot having a maximum of 1/8 inch and a force of 80 inch-pounds applied to the handle to cause a stress at the chisel end. No cracks, chipping, breakage, or deformation shall occur as a result of this test.

5. PREPARATION FOR DELIVERY

(Civil agencies should refer to Fed. Std. No. 102 for definitions and applications of the various levels of packaging protection for supplies and equipment.)

5.1 Cleaning, preservation, and packaging.

5.1.1 *Level A.* Level A cleaning, preservation, and packaging shall be in accordance with level A of MIL-H-15424.

5.1.2 *Level C.* Level C cleaning, preservation, and packaging shall be in accordance with the contractor's commercial practice.

5.2 Packing.

5.2.1 *Level A.* Level A packing shall be in accordance with MIL-H-15424.

5.2.2 *Level B.* Level B packing shall be in accordance with MIL-H-15424.

5.2.3 *Level C.* Tools, preserved and packaged as specified in 5.1.1 or 5.1.2 as specified (see 6.1), shall be packed in a manner to insure carrier acceptance and safe delivery at destination. Containers shall be in accordance with the rules or regulations of carriers as applicable to the mode of transportation.

5.3 Marking.

5.3.1 *Military agencies.* In addition to any special marking required by the contract or order, marking for shipment shall be in accordance with MIL-STD-129.

5.3.2 *Civil agencies.* In addition to any special marking specified in the contract or order, each unit and intermediate package and shipping container shall be marked in accordance with Fed. Std. No. 123.

6. NOTES

6.1 Ordering data. Purchasers should exercise any desired options offered herein, and procurement documents should specify the following:

(*a*) Title, number, and date of this specification.
(*b*) Level of preservation, packaging, and packing required (5.1 and 5.2).
(*c*) Special marking, if required (5.3.1 and 5.3.2).

6.2 Transportation descriptions and minimum weights applicable to this commodity are:

Rail:

Tools, *not otherwise* indexed by name. Carload minimum weight 30,000 pounds.

Motor:

Tools, hand, not otherwise indexed. Carload minimum weight 30,000 pounds, subject to Rule 115, National Motor Freight Classification.

MILITARY CUSTODIANS:

Army—GL

Navy—Sh

Air Force—MOA