[INCH-POUND]
A-A-3049
November 6, 1996

COMMERCIAL ITEM DESCRIPTION

HAMMER, PNEUMATIC, PORTABLE (RIVETING HAMMER)

The General Services Administration has authorized the use of this Commercial Item Description for the procurement of the type II, class 1 and 2 hammers specified in OO-R-421B for all federal agencies.

1. SCOPE.

1.1 Scope. This Commercial Item Description covers pneumatic riveting hammers used for riveting in the aircraft industry and other assembly operations. The pneumatic riveting hammers can also be used for a variety of chipping, pin driving, and peening applications.

2. CLASSIFICATION.

2.1 Classification. Not applicable.

3. SALIENT CHARACTERISTICS.

3.1 Design. The riveter shall be designed for continuous-duty operation in an industrial environment. Riveters shall be fabricated with high grade materials of rugged construction suitable for the purpose intended. The riveters shall be reliable and effective when operated with compressed air line pressures of between 80 and 100 pounds per square inch gauge (psig). During operation, the sound pressure level, when measured at an unobstructed distance of one meter, shall not exceed 95dB(A), when tested in accordance with the Compressed Air and Gas Institute's, "CAGI-PNEUROP Test Code for the Measurement of Sound from Pneumatic Equipment". The air inlet connection shall consist of a well secured brass or ferrous fitting having an internally threaded 1/4-inch National Pipe Thread (NPT). The riveter shall be fitted with an air strainer, which can be readily removed for cleaning, which can effectively retain solid particles in the compressed air supply. Parts requiring lubrication shall be properly enclosed so as to prevent entrance of foreign particles and leakage of lubricant. Parts having the same manufacturer's part numbers shall be completely interchangeable without any modification. The riveters shall be similar to Figure 1. The riveter shall accommodate the riveter set shank diameter specified in Table I.

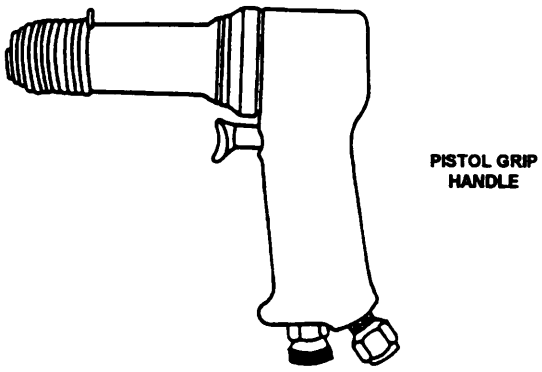

Figure 1. Hammer, pneumatic, portable (riveting hammer).

Beneficial comments, recommendations, additions, deletions, clarifications, etc., and any other data which may improve this document should be sent to: General Services Administration, Federal Supply Service, Tools and Appliances Commodity Center, Kansas City, MO 64131.

TABLE I. Hammer, pneumatic, portable (riveting hammer)

National Stock Number	Capacity 1/ rivet size (inch)	Piston		Air consumption scfm (max)	Impact frequency blows/min (min-max)	Rivet set shank size (inch)
		Stroke, (inches) (approx.)	Diameter (inch) (approx.)			
5130-00-904-0682	1/8	2 to 3	1/2 or 9/16	14	2300 to 2900	.401
5130-00-595-8339	3/16	3 to 4	1/2 or 9/16	15	1500 to 2100	.401
5130-00-241-3483	1/4	4 to 5-1/2	1/2 or 9/16	16	1300 to 1800	.401
5130-00-242-7223	3/8	5-1/2 to 7	3/4	22	800 to 1500	.498

1/ For aluminum, dural, and soft iron cold rivets

3.1.1 Handle. The riveter shall be equipped with an aluminum or composite pistol grip handle. The handle and cylinder barrel shall be locked together in such a manner that they will not come loose while in service.

3.1.2 Throttle. A nonleaking throttle shall be provided for controlling and regulating the air tool supply. The throttle shall be capable of varying the impact frequency of the riveter throughout the frequency range during operation. This type of throttle is known as a "tease" or "feathering" throttle. An on/off throttle is not acceptable. The throttle shall automatically and positively shut off the air supply when released.

3.1.3 Air volume (power) regulator. The riveter shall be furnished with an air volume (power) regulator. The regulator shall be built into the tool. The regulator shall have varying degrees of restriction for regulating the volume of air flow. When in the wide open position, the riveter air consumption shall not exceed that shown in Table I.

3.1.4 Barrel and piston. The barrel shall be heat treated to a Rockwell hardness of not less than 50 nor more than 62 on the C scale. The piston shall be heat treated to a Rockwell hardness of not less than 57 nor more than 62 on the C scale. The piston shall be harder that the barrel.

3.1.5 Nozzle. The inside diameter of the nozzle shall be capable of accommodating the applicable rivet set shank size specified in Table I.

3.1.6 Retainer. A beehive type wire retainer shall be furnished with each tool.

3.2 Identification marking. The tool shall be marked with the manufacturer's name or identifying symbol and the state or country of manufacture, unless otherwise specified. All identification markings shall be engraved, etched, molded, or indented directly on the item's surface in such a manner that it remains clearly legible throughout the life of the item.

3.3 Workmanship. Details of workmanship shall be in accordance with the best commercial practice. Paints, coatings, platings, and finishes shall be smooth, adherent, continuous, and not stained or discolored. External surfaces shall be free of tool and gouge marks, nicks, or other surface imperfections. The item shall be free from manufacturing workmanship defects (e.g., sharp or rough external edges, corners, or surfaces) and material workmanship defects (e.g., pits, rips, fins, burrs, tears, nodules, cracks, blisters) which may adversely impact the item's serviceability, durability, safety, or appearance.

4. REGULATORY REQUIREMENTS.

4.1 Recovered materials. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

4.2 Metric products. Products manufactured to metric dimensions will be considered on an equal basis with those manufactured using inch-pound units, provided they fall within the tolerances specified (using conversion tables contained in the latest revision of Federal Standard 376) and all other requirements of this document are met. If a product is manufactured to metric dimensions and those dimensions exceed the tolerances specified in the inch-pound units, a request should be made to the contracting officer to determine if the product is acceptable.

5. QUALITY ASSURANCE PROVISIONS.

5.1 Product conformance. The product provided to the Government shall conform to the contractually specified requirements. For product characteristics and requirements which are not contractually specified, the provided product shall conform to the producer's own drawings, standards, specifications, and quality assurance practices for the highest quality product commercially offered by the producer. If the product is not commercially offered by the producer, the best commercial practices shall apply. The Government reserves the right to require proof of such conformances prior to first delivery and thereafter as provided for under the provisions of the contract.

5.2 Responsibility for inspection. Unless otherwise specified, the contractor is responsible for the performance of all inspection requirements and may use any commercial facilities (including the contractor's own facilities) suitable for performance of the inspection requirements, unless disapproved by the Government. The Government reserves the right to perform any inspections deemed necessary to assure the item conforms to the specified requirements.

5.3 Bid sample(s). When a bid sample requirement is specified in the solicitation, the bid sample(s) shall be inspected for all salient characteristics by the Government. A failure of any bid sample to meet the salient characteristics shall be cause for rejection.

5.4 First article sample(s). When a first article requirement is specified in the contract, the first article sample(s) shall be inspected for all salient characteristics. A failure of any first article sample to meet the salient characteristics shall be cause for rejection. First article inspection shall consist of the following evaluations in the sequence listed: Inspection, Air consumption test, Impact frequency test, Driver retainer test, Sound pressure level test, and Service test.

5.5 Production lot testing. Production lot testing shall consist of the following evaluations conducted in the sequence listed: Inspection, Air consumption test, Impact frequency test, and Driver retainer test.

5.6 Inspection. It shall be determined that the sample units meet all salient characteristics stated in the requirements section of this document. Any sample containing one or more defects shall be rejected, and if the number of rejected units exceeds the acceptance number for that sample, the lot represented by the sample shall be rejected.

5.7 Air consumption test. Each sample riveter shall be subjected to a test to determine compliance with the requirements for air consumption specified in Table I. The test shall be conducted with compressed air at 90 pounds per square inch (psig) measured at the end of the hose attached to the air meter. The air supply to the riveter shall be through a 5/8-inch inside diameter hose approximately 10 feet in length. The test shall be conducted with the rivet set held against a plate. Air consumption shall be determined with either a liquid displacement meter or a flow meter. Failure of the sample to meet this requirement shall be cause for rejection.

5.8 Impact frequency test. Each sample riveter shall be subjected to an impact frequency test to determine compliance with the requirements for impact frequency specified in Table I. The 90 psig air source shall be applied and the rivet set held against a plate. The unit shall be operated and an "Askania" hand vibrograph or a suitable vibrometer shall be used to determine compliance with the impact frequency blows per minute requirements of Table I. Failure to meet these requirements shall be cause for rejection of the riveter and the lot it represents.

5.9 Driver retainer test. Each sample riveter with driver and retainer installed shall be connected to the 90 psig air supply and the unit shall be operated "free in air" (not under load) for a 20-second minimum duration. Any separation of the driver or retainer from the tool shall be cause for rejection of the riveter and the lot it represents.

5.10 Sound pressure level test. Each sample riveter shall be subjected to a sound pressure level test in accordance with the Compressed Air and Gas Institute's, "CAGI-PNEUROP Test Code for the Measurement of Sound from Pneumatic Equipment. The sound pressure level shall not exceed 95 dB(A) for any size riveter. The following modifications to the ANSI requirements apply:

a. The entire instrumentation system shall be calibrated before each test series allowing a minimum instrument warm-up of five minutes if transistorized, and 30 minutes if vacuum tube. Recalibration shall be performed if any instrument adjustment is necessary during the progress of the test.

b. The ambient noise level of the background noise shall be at least 10 db than the measurement taken with the riveter running in all tool and microphone orientations. In addition, the sound produced by the energy absorbing device, used in the "on load" test, must be at least 10 dbA below the machine's own sound output.

5.11 Service tests. Each sample riveter shall be subjected to a service test to determine the durability of the riveter and all components, ease of operation and general serviceability. The service test consists of the following two parts:

a. The test sample shall be installed in a testing machine (see Figure 3) and operated in cycles of 10 seconds on and 30 seconds off for 150 hours minimum.

b. At the completion of the 150 hour test, the sample shall be given a practical service test consisting of driving or installing 50 tempered aluminum rivets of the largest diameter for which the riveter is rated, to determine ease of operation. Rivets, rivet sets, and test plates shall be furnished by the contractor or supplier. The time allowed for completion of this test shall be four hours maximum.

Upon completion of the service test, the riveter shall be disassembled and the various parts examined. Any riveter having broken, cracked, or deformed parts shall be rejected. Riveters satisfactorily completing the service test shall again be subjected to the practical service tests and shall conform to the applicable requirements. Failure of any sample to meet these requirements shall be cause for rejection of the sample and the lot it represents.

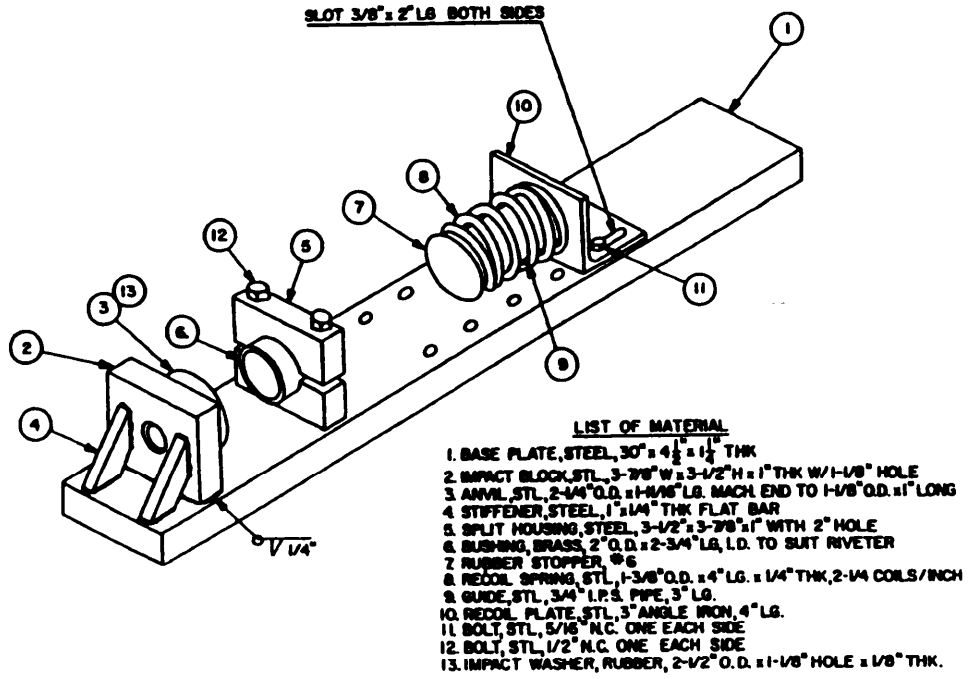

Figure 3. Service testing machine for riveting hammers.

6. PACKAGING.

6.1 Packaging. Requirements of preservation, packing, packaging, and marking of packages shall be as specified in the contract or order.

7. NOTES.

(This section contains information of a general or explanatory nature that is not mandatory.)

7.1 Addresses for obtaining copies of referenced documents:

Federal Specifications and Standards: Federal Supply Service Bureau, Specification Section, Suite 8100, 470 L'Enfant Plaza, SW, Washington, DC 20407.

Federal Acquisition Regulations (FAR): Government Printing Office, Superintendent of Documents, Washington, DC 20402-9371.

ANSI/ASQC Z1.4: American Society for Quality Control, P.O. Box 3005, 611 East Wisconsin Avenue, Milwaukee, WI 43201-4606.

CAGI-PNEUROP Test Code for the Measurement of Sound from Pneumatic Equipment is available from the Compressed Air and Gas Institute, 1300 Summer Avenue, Cleveland, OH 44115.

7.2 Ordering data. Purchasers should select the preferred options permitted herein and should include the following information in procurement documents:

(a) Title, number, and date of this Commercial Item Description.
(b) When applicable, the appropriate NSN(s).
(c) If bid samples are required, the number of samples required, and the subjective inspection requirements.
(d) If first article samples are required and the number of samples required.
(e) If lot sampling inspection is required and the applicable lot sampling requirements. For example:

Sampling for inspection. Sampling for inspection (both examinations and testing) shall be in accordance with ANSI/ASQC Z1.4.

Examinations. Each sample tool shall be examined for all salient characteristics. The Inspection Level shall be S-3 with an Acceptable quality level (AQL) of 2.5 percent defective.

Testing. Each sample tool shall be tested for all salient characteristics. The Inspection Level shall be S-2 with an Acceptable quality level (AQL) of 2.5 percent defective."

(f) What preservation, packing, packaging, and marking of packages are required.

7.3 National Stock Numbers (NSNs). Applicable NSNs are as shown in Table I. The NSNs shown in Table I may not be indicative of all possible NSNs associated with this CID.

MILITARY INTERESTS:

NONE: DoD has no registered interest in revisions or notices to this Commercial Item Description until further notice.

PREPARING ACTIVITY:

GSA - FSS