

**U.S. DEPARTMENT OF AGRICULTURE  
FOREST SERVICE**

**SPECIFICATION**

**PULASKI TOOL**

1. SCOPE

1.1 Scope. This specification covers the pulaski tool, which is a combination ax and mattock.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 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 in effect on the date of the invitation for bids or request for proposals (see 6.2).

SPECIFICATIONS

FEDERAL

TT-C-490 - Cleaning Methods for Ferrous Surfaces and Pretreatments for Organic Coatings

STANDARDS

FEDERAL

FED-STD-123 - Marking for Shipment (Civil Agencies)  
FED-STD-376 - Preferred Metric Units for General Use by the Federal Government  
FED-STD-595 - Colors (Requirements for Individual Color Chips)

(Unless otherwise indicated, copies of federal specifications and standards are available from the Standardization Documents Order Desk, Building 4D, 700 Robbins Ave., Philadelphia, PA 19111-5094.)

Beneficial comments (recommendations, additions, deletions) and any pertinent data that may be used in improving this document should be addressed to: USDA Forest Service, Missoula Technology and Development Center, Building 1, Fort Missoula, Missoula, MT 59804-7294 by using the Specification Comment Sheet at the end of this document or by letter.

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2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those in effect on the date of the invitation for bids or request for proposals.

**DRAWINGS**

**USDA FOREST SERVICE**

MTDC-632 - Pulaski Tool

(Copies are available from USDA Forest Service, Missoula Technology and Development Center, Building 1, Fort Missoula, Missoula, MT 59804-7294.)

2.2 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 in effect on the date of the invitation for bids or request for proposals.

**AMERICAN SOCIETY FOR QUALITY CONTROL (ASQC)**

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

(Copies are available from the American Society for Quality Control, 611 East Wisconsin Avenue, Milwaukee, WI 53202.)

**AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)**

D 5118 - Standard Practice for Fabrication of Fiberboard Shipping Boxes

D 3951 - Standard Practice for Commercial Packaging

E 18 - Standard Test Methods for Rockwell Hardness and Rockwell Superficial Hardness of Metallic Materials

(Copies are available from ASTM, 100 Barr Harbor Dr., West Conshohocken, PA 19428-2959.)

**AMERICAN NATIONAL STANDARDS INSTITUTE, INC. (ANSI)**

B46.1 - Surface Texture (Surface Roughness, Waviness, and Lay)

(Copies are available from American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.)

**IRON AND STEEL SOCIETY**

Alloy, Carbon and High Strength Steel, Semifinished for Foraging, Hot Rolled Bars; Cold Finished Steel Bars; Hot Rolled Deformation and Plain Concrete and Reinforced Bar

(Copies are available from Iron and Steel Society, 410 Commonwealth Dr., Warrendale, PA 15086.)

NATIONAL MOTOR FREIGHT TRAFFIC ASSOCIATION, INC., AGENT

National Motor Freight Classification

(Copies are available from American Trucking Association, Inc., Traffic Department, 1616 P St. NW, Washington, DC 20036.)

(Non-Government standards and other publications normally are available from the organizations that prepare or distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 Order of precedence. In the event of 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. Unless otherwise specified (see 6.2), a sample shall be subjected to first article inspection (see 6.3) in accordance with 4.3.

3.2 Materials and construction. The pulaski tool shall conform in all respects to the design, details, dimensions, and materials specified herein and in the referenced drawing, MTDC-632. Should there be conflicts between the text of this document and the drawing, this document takes precedence, unless otherwise specified.

3.2.1 Tool head. The tool head shall be configured as specified in MTDC-632 and herein. Tool head weight shall not be less than 3 pounds 11 ounces nor more than 4 pounds 2 ounces.

3.2.1.1 Steel composition. The tool head shall be forged from fully killed plain carbon AISI/SAE steel containing 0.72 to 0.93 percent carbon, 0.30 to 0.90 percent manganese, not more than 0.040 percent phosphorus, and not more than 0.050 percent sulfur. Steel composition of the head shall be determined as specified in 4.5.1.1.

3.2.1.2 Hardness. Both the ax bit and mattock shall be hardened to a value of not less than 53 nor more than 58 on the Rockwell C scale. Ax bit hardness shall extend to a distance of 1-1/4 ±1/4 inches back from the cutting edge. On the mattock, hardness shall extend for 2 ±1/4 inches back from the sharpened edge. Within 1 inch of the eye of the tool, the steel hardness shall not exceed 45 on the Rockwell C scale. All hardness values shall be determined as specified in 4.5.1.2. Specified hardnesses shall extend through the entire thickness of the tool head steel.

3.2.1.3 Head finish. The head shall be pretreated for painting in accordance with TT-C-490, then painted with a black enamel matching color chip 27038 of FED-STD-595 to provide a rust-resistant finish. The sharpened surfaces, which shall extend back 1/2 inch from cutting edges, shall be coated with a suitable rust preventive such as light oil, lacquer, or biodegradable wax after sharpening. Working surfaces and cutting edges shall be finished as specified below. The remainder of the tool head may be as forge finished.

3.2.1.3.1 Working surfaces. Working surfaces (except cutting edges) shall be ground to a finish having a roughness of not more than 125 microinches as defined by ANSI B46.1. The working surface for the ax end is defined as extending 2 inches  $\pm 1/4$  inch back from the ax cutting edge on both sides of the tool. The working surface for the mattock end is defined as extending 2 inches  $\pm 1/4$  inch back from the mattock cutting edge on the top outside portion of the tool. Only the outside surface of the mattock end is considered a working surface.

3.2.1.3.2 Cutting edges. Cutting edges shall be ground to a finish having a roughness of not more than 64 microinches as defined by ANSI B46.1. Neither ax nor mattock blade shall have evidence of ridges, bumps, or depressions. Both edges shall be smooth and sharp, without nicks or nonconformities. The cutting edge of the ax shall be sharpened and ready for use in accordance with the sharpening gauge shown on sheet 2 of drawing MTDC-632 to meet the requirements in 4.5.2.2. The dimensions specified for the sharpening gauge are exact dimensions; no tolerances are allowed. The cutting edge of the mattock shall be beveled and sharpened to a sharp edge and shall meet the angle requirements shown in MTDC-632.

3.2.2 Handle. The handle shall be shagbark hickory (*Carya ovata*), shellbark hickory (*Carya laciniosa*), or mockernut hickory (*Carya tomentosa*) of any natural commercial color. The handle dimensions shall conform in all respects to drawings MTDC-632. The handle centerline shall be parallel to the cutting edge of the ax blade. Each handle shall have a wedging slot cut in the head end as shown on the drawings for the insertion of the wedge. The handle shall fit snugly into the eye of the tool head (see 3.2.4). The knob end of the handles shall be chamfered or rounded. The wood shall be sound and free from crooks, bows, cracks, splits, scores, or other defects that may affect appearance or serviceability.

3.2.2.1 Handle finish. The handle, including the knob end, shall be smoothly finished and protected with at least one coat of clear lacquer. No wax or stain is permitted. The lacquer shall permit visual inspection of the wood, prevent absorption of water, and protect the handle over long periods of storage. The protective coating shall be applied evenly over the surface and shall be free from runs, drips, sags, blisters, wrinkles, frothing, wet or tacky spots, or other defects. Flame hardening is optional to the manufacturer.

3.2.2.2 Moisture content. Moisture content of the handle at the time of assembly shall not exceed 12 percent when tested as specified in 4.5.2.1.

3.2.2.3 Replacement handles. Replacement handles shall conform to the requirements of 3.2.2, 3.2.2.1, and 3.2.2.2. A plastic wedge conforming to 3.2.3 shall be taped to each handle.

3.2.3 Plastic wedge. A plastic wedge of high impact polystyrene, ABS, or PVC plastic shall be used when setting the tool head to the handle (see 6.4). The dimensions and configuration of the wedge shall be in accordance with MTDC-632.

3.2.4 Head to handle joint. To ensure the head to handle joint maintains its integrity and strength when the tool is exposed to wide fluctuations in relative humidity during storage and field use, a plastic wedge (see 3.2.3) and an epoxy adhesive both shall be used to secure them together. The type of epoxy adhesive used shall be at the option of the contractor. The wedge shall be fully inserted into the tool handle's wedging slit to ensure a strong head to handle joint meeting the test requirements of 4.5.2.3, 4.5.2.4, and 4.5.2.6. The handle and plastic wedge shall be cut off flush with the tool head at the top of the tool eye.

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3.2.5 Pull apart strength. The head to handle joint shall not loosen or separate when subjected to the tests specified in 4.5.2.3 and 4.5.2.4. Loosening shall be defined as any measurable movement within the tool head to handle connection.

3.2.6 Alignment. Handled pulaskis shall not be misaligned or warped more than 1/2 inch from a line formed by extension of the cutting edge of the ax blade over the knob end of the handle when tested as specified in 4.5.2.5.

3.2.7 Practical cutting ability. The tools shall be able to pass the practical cutting test as specified in 4.5.2.6 without damage or deformation of the cutting edges.

3.3 Identification marking. Each tool head shall be marked in a permanently legible manner as follows.

3.3.1 Trademark. The manufacturer's name or trademark shall be metal stamped in 1/4 inch high size maximum near the center of the eye on one side of the tool head or on the flat area of the side of the head near the heel.

3.3.2 FSS. The FSS mark shall be stamped in 1/4 to 1/2 inch high letters on the same side and adjacent to the trademark or manufacturer's name as specified in 3.3.1.

3.4 Workmanship. The head shall be free of cracks, pits, laps, rust, burrs, cupping, or other defects that may affect serviceability, durability, and appearance. The enamel paint shall be a continuous, uniform, smooth, dry coating having no area without paint except for the cutting edges, which shall be coated as specified. The tool shall conform to the quality of product established by this specification. It shall be manufactured using the best commercial workmanship in all respects.

3.5 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 FED-STD-376, and all other requirements of this specification are met.

## 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements (examinations and tests) as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his/her own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in this specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items shall meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

4.1.2 Responsibility for dimensional requirements. Unless otherwise specified in the contract or purchase order, the contractor is responsible for ensuring that all specified dimensions have been met. When dimensions cannot be examined on the end item, inspection shall be made at any point or at all points in the manufacturing process necessary to ensure compliance with all dimensional requirements.

4.1.3 Certification of compliance. Unless otherwise specified, certificates of compliance supplied by the manufacturer of the item, component, or material, listing the specified test method and test results obtained, may be furnished in lieu of actual lot by lot testing performed by the contractor (see 4.3.2). When certificates of compliance are submitted, the Government reserves the right to check test such items to determine the validity of the certification.

4.2 Sampling for inspections and tests. Sampling for inspections and tests shall be made in accordance with ANSI/ASQC Z1.4. The inspection level and acceptable quality level (AQL) shall be as specified. All Pulaski tools manufactured at one time shall be considered a lot for purposes of acceptance inspection and test. A sample unit shall be one complete pulaski tool with handle.

4.3 Quality conformance inspection. Each end item lot shall be sampled and inspected as specified in 4.3.4.1 and 4.3.4.2. The packaging shall be sampled as specified in 4.4. Unless otherwise specified (see 6.2), first articles submitted in accordance with 3.1 shall be inspected as specified in 4.3.4.1 and 4.3.4.2 except that packaging and packing is not required when first articles are presented. The presence of any defect or failure to pass any test shall be cause for rejection of the first article. As part of quality conformance inspections, data analysis shall be submitted to determine compliance of the steel composition as specified in 4.5.1.1 and steel hardness as specified in 4.5.1.2. See also 4.5.1.3.

4.3.1 Component and material inspection. In accordance with 4.1, components and materials shall be inspected in accordance with all the requirements of referenced documents, drawings, and standards unless otherwise excluded, amended, modified, or qualified in this specification or applicable purchase document.

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4.3.2 Certification. Unless otherwise specified (see 6.2), as part of first article presentations and lot inspections, it shall be acceptable for the contractor to provide certificates of compliance for all materials and components in lieu of actual lot by lot testing, except as specified in 4.3.2.1. In addition, when the contractor changes component or material suppliers, a new certification based on actual test results shall be required. All certificates shall include as a minimum:

- Specification, type, class, form, etc. as applicable
- Quantity purchased
- Purchase source, address, and telephone number
- Purchase date
- Lot number traceable to materials used in production
- Contract number

4.3.3 In-process inspection. Inspection shall be made at any point or during any phase of the manufacturing process to determine whether cut lengths, cut parts, markings for location of components, and location of assembled component parts are in accordance with specified requirements. Whenever nonconformance is noted, corrections shall be made to the parts affected and lot in process. Components that cannot be corrected shall be removed from production.

4.3.4 End item examination.

4.3.4.1 End item visual examination. The end items shall be examined for the defects list in table I on a lot by lot basis. The lot size shall be expressed in units of complete Pulaski tools. The inspection level shall be S-3, and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 4.0 for major defects and 15.0 for combined major and minor defects. Unless otherwise specified, defects shall be scored on an individual basis.

TABLE I. End item visual defects

<u>Examine</u>	<u>Defect</u>	<u>Classification</u>	
		<u>Major</u>	<u>Minor</u>
Tool head	Working and cutting surfaces not finished as specified.	X	
	Not free of cracks, laps, burrs, cupping, and rust.	X	
	Unbeveled portion not painted to provide rust-resistant finish.		X
	Beveled edges not protected with suitable rust preventive.		X
	Cutting edges not sharpened as specified.	X	
Plastic wedge	Missing.	X	
	Not fully driven into wedging slit.	X	
	Eye end of handle and wedge not cut off flush with tool head.		X
Handle	Wood not as specified.	X	
	Not free from crooks, bows, cracks, splits, and other defects.	X	
	No epoxy used in the head to handle joint.	X	
	Centerline not parallel to cutting edge of ax blade.	X	
	Misaligned on tool head.	X	
	Finish not as specified.	X	
	Coating not free of defects such as sags, runs, and drips.	X	
Markings: <u>FSS and trademark</u>	Omitted, incomplete, incorrect, illegible, misplaced, or size of characters not as specified.		X

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4.3.4.2 End item dimensional examination. End items shall be examined for the defects listed in table II on a lot by lot basis. Only those dimensions that can be evaluated without damaging or disassembling the end items shall be examined. The inspection level shall be S-3. An AQL, expressed in terms of defects per hundred units, shall be 6.5.

TABLE II. End item dimensional defects

Examine	Defect	Classification	
		Major	Minor
Tool head	Dimensions and configuration not as specified.	X	
	Weight not as specified.	X	
	Hardness not as specified.	X	
	Cutting edge angles not as specified.	X	
	Marking not as specified (FSS and manufacturer's name/symbol).		X
Plastic wedge	Dimensions and configuration not as specified.	X	
Handle	Dimensions not as specified.	X	
	High point of handle not as specified.	X	

4.4 Packaging inspection. An examination shall be made to determine that packing and marking comply with the section 5 requirements. Defects shall be scored in accordance with the list below. The sample unit shall be one shipping container fully packaged except that it shall not be palletized and it need not be closed. Shipping containers fully packaged that have not been palletized shall be examined for defects in closure. The lot size shall be the number of shipping containers in the end item inspection lot. The inspection level shall be S-2 and the AQL shall be 2.5 defects per hundred units.

<u>Examine</u>	<u>Defect</u>
Markings	Omitted; incorrect; illegible; of improper size, location, sequence, or method of application.
Materials	Any component missing or not as specified. Any component damaged, affecting serviceability.
Workmanship	Inadequate application of components, such as: incomplete closure of container flaps, improper taping, loose strapping, inadequate stapling. Bulged or distorted container.
Contents	Number per container is more or less than required.

4.5 Tests.

4.5.1 Component material testing.

4.5.1.1 Steel composition test. A repeatable consensus standard test method shall be used to verify steel composition as required in 3.2.1.1. Any failure shall fail the lot.



4.5.1.2 Hardness test. Hardness tests to determine compliance with 3.2.1.2 shall be in accordance with ASTM E 18. Two samples shall be selected for testing. Both the ax blade and the mattock blade of each sample shall be tested. A blade cross-section shall be cut along the centerline (half way between each end of the edge) perpendicular to the plane of the blade. Cutting of the cross-section shall be done in such a manner as not to alter the state or hardness of the blade during the cutting process. Three hardness readings shall be taken on the centerline of the ax blade, at 1/4 inch, 1/2 inch, and 1 inch from the edge. Three readings shall also be taken on the centerline of the mattock blade, at 1/4 inch, 1/2 inch, and 1 inch from the edge. Any readings not within specified requirements shall constitute a major defect (see 4.5.1.3).

4.5.1.3 Steel testing documentation. To meet the requirements of 4.5.1.1, a test report/analysis from the steel manufacturer shall be acceptable in lieu of lot by lot testing when validated by the contractor's own tests on the first lot of steel received. The contractor need not retest again unless a new steel supplier is used. Lot by lot hardness testing may be performed any time after tool heads are heat treated. Hardness testing need not be repeated as part of end item testing.

4.5.2 End item testing. Unless otherwise specified, the sample size for testing shall be S-2 with an AQL of 4.0 for all testing.

4.5.2.1 Handle moisture content testing. A test report from the handle manufacturer shall accompany each lot of handles. In addition, moisture content testing to meet the requirements of 3.2.2.2 shall be part of quality conformance inspection. Moisture testing shall be performed in the following manner: Using a calibrated moisture meter, readings shall be obtained from each end of the handle and its mid point. The handle's moisture content will then be determined by averaging the three readings.

4.5.2.2 Ax blade sharpening test. To comply with the requirements of 3.2.1.3.2, the ax bit of each sample tool shall meet the dimensional tolerances described below and shall be able to be inserted evenly into the sharpening gauge to within 1/32 inch of the apex of the gauge:

- a. The cutting edge is to be measured and bisected. This line shall be the centerline for the measurements.
- b. Thickness shall be measured with a caliper at the inspection point (1/4 inch, 1/2 inch, and 1 inch,  $\pm 1/16$  inch from blade edge). If anywhere within the range allowed, blade thickness is acceptable, as specified by drawing MTDC-632 (sheet 1), this point shall be marked and a measurement taken back to the edge.
- c. Two more points shall be chosen by moving  $1/2 \pm 1/16$  inch along the edge of the ax from the bisecting line on both sides and measuring away from the edge the same distance as used in paragraph b. The thickness at these points shall be measured.
- d. The three thicknesses shall be averaged and the average used to determine compliance with the requirements.
- e. The procedure outlined in paragraphs b, c, and d shall be repeated for the remaining distances from the edge.

4.5.2.3 Tool head to handle joint test. The tool head to handle joint test to determine compliance with 3.2.4 shall consist of a 4,500  $\pm 150$  inch-pound moment loading applied through three cycles. The axis for the moment loading shall be a line perpendicular to the side of the tool head and projecting through the estimated center of the tool eye. A load cycle shall be the full moment load, as defined in this paragraph, applied in both clockwise and counterclockwise directions. Two suggested methods for applying the required moment loading are illustrated in figure 1.

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4.5.2.4 Pull apart test. A pull apart test to determine compliance with 3.2.5 shall be conducted as follows: Each sample tool shall be tested in a standard tensile test machine in such a manner as to pull the head off the handle. The tool shall not pull apart or loosen when subjected to a force of 3,500 pounds.

4.5.2.5 Handle alignment test. Alignment testing to determine compliance with 3.2.6 shall be conducted as illustrated in figure 2. Before clamping the blade, the center of the knob end of the handle shall be established as accurately as possible by visual sight on its circular or elliptical surface. After clamping the blade vertically, one end of a piece of thread shall be taped directly over the cutting edge and the other end shall be fastened to the rule of a carpenter's square or equivalent. With the thread held tight, the square shall be moved back and forth until the thread falls directly over the full length of the cutting edge. At this point, the distance from the edge of the square to which the thread is attached to the center of the handle knob shall be measured to the nearest 1/8 inch. The maximum allowable distance of this measurement shall be 1/2 inch.

4.5.2.6 Practical cutting test. The practical cutting test to determine compliance with 3.2.7 shall consist of striking hardwood knots of any size a minimum of 20 heavy blows (10 with the ax edge and 10 with the mattock edge). After striking a minimum of 20 heavy blows, there shall be no evidence of chipping, dulling, or turning over of either of the cutting edges, loosening of the handles or wedges, or any other damages to the tool heads or handles.

## 5. PREPARATION FOR DELIVERY

5.1 Packaging. The cutting edges of both the ax and mattock ends of each tool shall be protected with a fiberboard sleeve securely fastened in place. All other preservation shall be in accordance with ASTM D 3951.

5.2 Packing. Ten tools, packaged as specified in 5.1 shall be packed for shipment as illustrated in figure 3. Packaging and packing shall comply with the Uniform Freight Classification and the National Motor Freight Classification. Boxes shall be type CF, class domestic, variety DW, grade 500, style FTC of ASTM D 5118. Inside dimensions of each box shall be 37-1/2 inches long by 18-1/2 inches wide by 8 inches deep. Tolerances on all dimensions are -1/2 inch, +1 inch. Metal fasteners shall be used on all corners and joints. The boxes shall have the flaps outside the side panels of the body and inside the end panels of the cover. When set up, the flaps of the cover shall not overlap, but shall have sufficient length to be securely fastened to the adjoining walls with no less than five staples.

5.3 Marking. In addition to any special marking required by the contract or purchase order, shipping containers shall be marked in accordance with FED-STD-123.

## 6. NOTES

6.1 Intended use. The pulaski tool is used primarily for clearing brush, small logs, and other surface debris and digging in the soil for constructing firelines on wildfires and controlled burn operations.

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. If a first article sample is not required (see 3.1 and 6.3).
- c. Packing and marking instructions in addition to those specified (see section 5).

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6.3 First article. Unless otherwise specified (6.2) a first article shall be inspected and approved under the appropriate provisions of Federal Acquisition Regulation (FAR) 52.209. The first article should be a preproduction sample. The contracting officer should specify the appropriate type of first article and the number of units to be furnished. The contracting officer should also include specific instructions in acquisition documents regarding arrangements for selection, inspection, and approval of the first article.

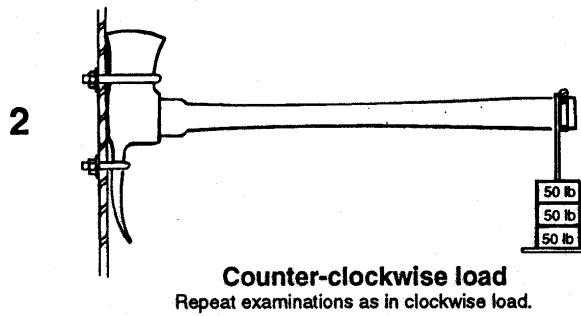
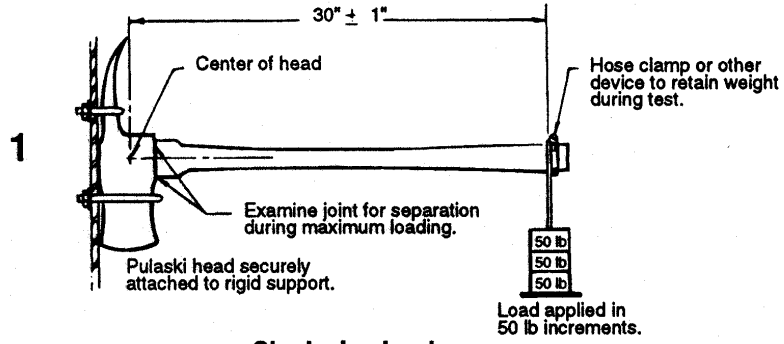
6.4 Sources of supply. Two possible sources for plastic wedges meeting the requirements of this document are:

Diversified Plastics  
3721 Grant Creek Rd.  
Missoula, MT 59801  
(406) 543-6653

V & B Manufacturing Co.  
P.O. Box 268  
Walnut Ridge, AR 72476  
(870) 886-3525

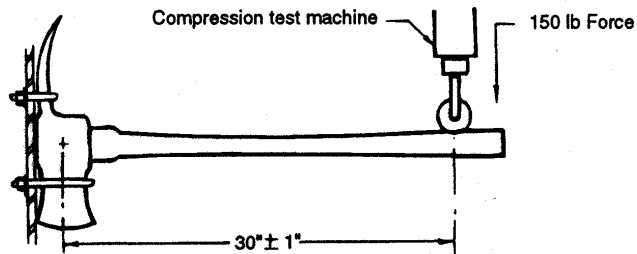
6.5 Preparing Activity. USDA Forest Service, Missoula Technology and Development Center (MTDC), Building 1, Fort Missoula, Missoula, Montana 59804-7294.

**Suggested method 1**



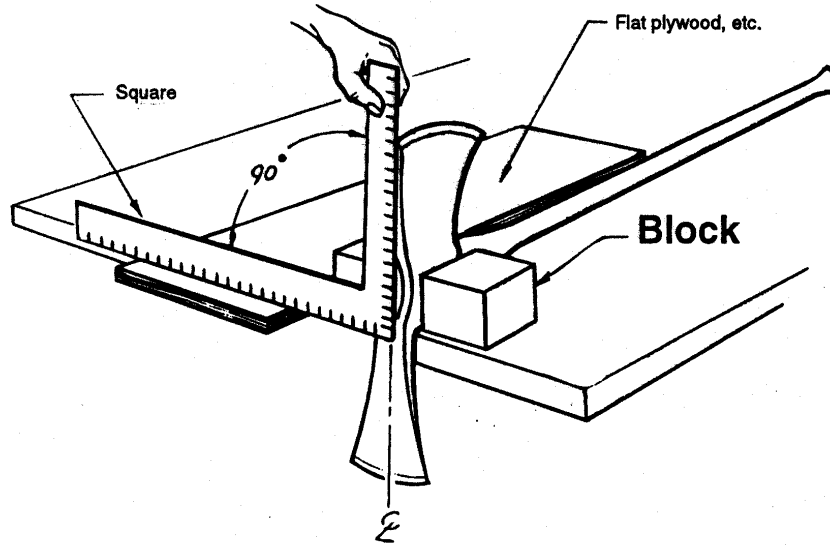
- 3 Repeat steps 1 and 2 two more times.  
(A total of three load cycles)
- 4 Examine head end of eye for joint separation.

**Suggested method 2**



**Figure 1.-Tool head to handle joint test.**

1 Block pulaski head perpendicular to table.



2 Measure handle for misalignment.

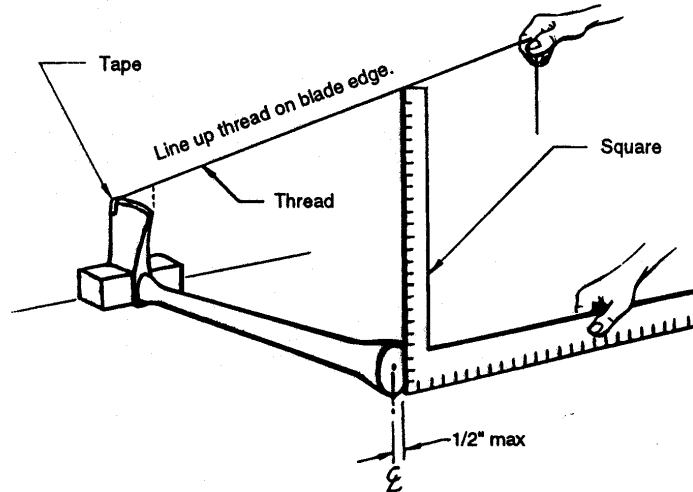


Figure 2.-Handle alignment test.

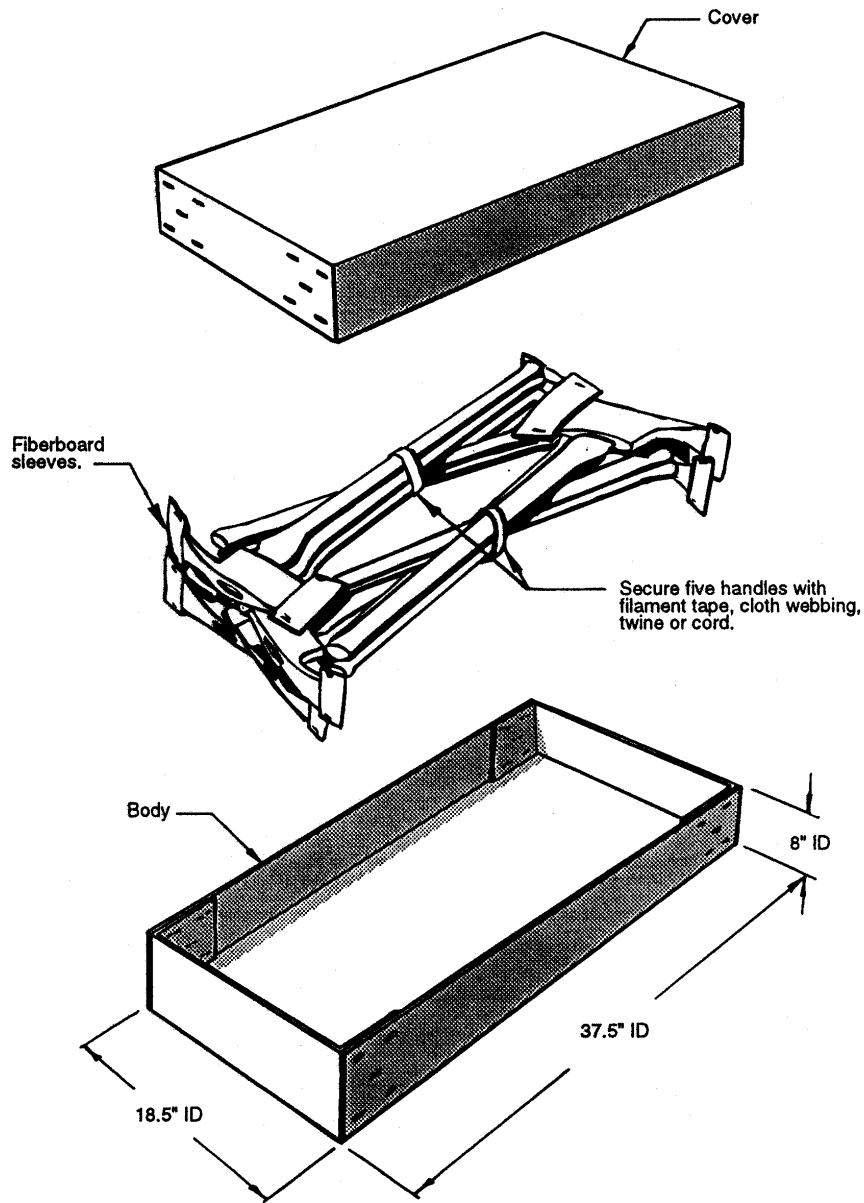
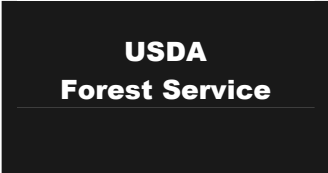


Figure 3.-Securing and packaging.



# Standardization Document Improvement Proposal

This form is provided to solicit beneficial comments that may improve this document and enhance its use. Contractors, government activities, manufacturers, vendors, and users are invited to submit comments to:

USDA Forest Service  
Missoula Technology and Development Center  
Building 1, Fort Missoula  
Missoula, MT 59804-7294

Attach any additional pertinent information that may be of use in improving this document to this form and mail in an envelope. A response will be provided when the submitter includes their name and address.

NOTE: This form shall not be used to submit requests for waivers, deviations, or clarification of specification requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the document, or to amend contractual requirements.

Document Identification: **5100-355E - PULASKI TOOL**

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Date: _____	_____

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Reason for recommended change(s): \_\_\_\_\_  
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