

**INCH-POUND**

MIL-B-44374  
6 September 1989  
SUPERSEDING  
MIL-B-43246C  
31 March 1982

## MILITARY SPECIFICATION

### BINDING ASSEMBLY, SNOWSHOE, SNOW AND ICE TRAVERSING EQUIPMENT (SITE)

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

#### 1. SCOPE

1.1 Scope. This specification covers one type and size of snow and ice traversing snowshoe binding assembly consisting of a nylon synthetic rubber covered pad, tongue and protector; aluminum instep and clamp; corrosion resisting machine screws, rivets and washers; cadmium plated carbon steel buckles and hooks; nylon thread and webbing.

#### 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 listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.2).

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: U.S. Army Natick Research, Development, and Engineering Center, Natick, MA 01760-5014 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 8465

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SPECIFICATIONS

FEDERAL

- DDD-L-20 - Label: For Clothing, Equipage, and Tentage, (General Use)
- PPP-B-636 - Boxes, Shipping, Fiberboard

MILITARY

- MIL-L-35078 - Loads, Unit: Preparation of Semiperishable Subsistence Items; Clothing, Personal Equipment and Equipage; General Specification For

STANDARDS

MILITARY

- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes
- MIL-STD-129 - Marking for Shipment and Storage
- MIL-STD-147 - Palletized Unit Loads
- MIL-STD-731 - Quality of Wood Members for Containers and Pallets

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Naval Publications and Forms Center, (ATTN: NPODS), 5801 Tabor Avenue, Philadelphia, PA 19120-5099.)

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 are those cited in the solicitation.

DRAWINGS

U.S. ARMY NATICK RESEARCH, DEVELOPMENT, AND ENGINEERING CENTER

- 2-10-156 - Binding Assembly, Snowshoe
- 2-10-157 - Pad, Assembly
- 2-10-162 - Pad, Pattern

(Copies of drawings are available from the U.S. Army Natick Research, Development, and Engineering Center, ATTN: STRNC-EMSS, Natick, MA 01760-5014.)

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2.2 Non-Government publications. The following document forms a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

D 3951 - Standard Practice for Commercial Packaging

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103-1187.)

(Non-Government standards and other publications are normally 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 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 4.3.

3.2 Guide samples. Samples of the end item, when furnished, are solely for guidance and information (see 6.4). Variations from the specification may appear in the samples, in which case the specification shall govern.

3.3 Materials. The materials shall be as specified on Drawing 2-10-156 and all subsidiary drawings and parts lists pertaining thereto. It is encouraged that recycled material be used when practical as long as it meets the requirements of this specification.

3.4 Design and construction. The design and construction of the snowshoe binding shall conform to the design, shape and dimensions shown on Drawing 2-10-156 and all subsidiary drawings as specified herein.

3.4.1 Stitchings. All stitchings shall be as specified on Drawing 2-10-157 and subsidiary drawings pertaining thereto.

3.4.1.1 Automatic stitching. Automatic machines may be used to perform any of the stitch patterns provided the requirements for the stitch pattern, stitches per inch, and size and type of thread are met, and at least three or more tying, overlapping, or back stitches are used to secure the ends of stitching.

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3.4.1.2 Type 301 stitching. Ends of all stitching shall be backstitched or overstitched as specified on the drawings except where ends are turned under or caught in other seams or stitching. Thread tensions shall be maintained so that there will be no loose stitching resulting in loose bobbin or top thread or excessively tight stitching resulting in puckering of the materials sewn. The lock shall be imbedded in the materials sewn.

3.4.1.2.1 Repairs of type 301 stitching. Repairs of type 301 stitching shall be as follows:

a. When thread breaks or bobbin run-outs occur during stitching, the stitching shall be repaired by restarting the stitching a minimum of 3/16 inch back of the end of the stitching.

b. Thread breaks, or two or more consecutive skipped or runoff stitches noted during inspection of the item (in-process or end item) shall be repaired by overstitching. The stitching shall start a minimum of 3/16 inch in back of the defective area, continue over the defective area, and continue a minimum of 3/16 inch beyond the defective area onto the existing stitching. Loose or excessively tight stitching shall be repaired by removing the defective stitching without damaging the materials, and restitching in the required manner.

(When making the above repairs in a. and b. above, the ends of the stitching are not required to be backstitched.)

3.4.1.3 Thread ends. All thread ends shall be trimmed to 1/4 inch maximum length.

3.4.2 Setting of rivets. A hole shall be prepunched or predrilled before inserting the rivet. The hole shall be smaller than the outside diameter of the rivet barrel so that the barrel must be forced through the hole. The rivet shall be securely clinched without splitting in a manner that will prevent detachment from or cutting of the adjacent material. Unless otherwise specified, the washer may be on either side of components on which installed.

3.5 Marking. The identification marking shall be applied in the locations shown on Drawing 2-10-162 and shall conform to type IV, class 5 of DDD-L-20, except that the marking medium may be blue and the legend shall consist of the letters "U.S.", the contractors name and the contract number shall be printed with characters a minimum of 1/4 inch in height.

3.6 Instruction sheet. A clear instruction sheet shall be furnished with each pair of bindings. The instruction sheet shall contain the information shown on figure 1.

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3.7 Workmanship. The end item shall conform to the quality of product established by this specification.

## 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 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.

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

- a. First article inspection (see 4.3).
- b. Quality conformance inspection (see 4.4).

4.3 First article inspection. When a first article is required (see 3.1 and 6.2), it shall be examined for the defects specified in 4.4.3 and 4.4.4.

4.4 Quality conformance inspection. Unless otherwise specified, sampling for inspection shall be performed in accordance with MIL-STD-105.

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

4.4.2 In-process inspection. Inspection of subassemblies shall be made to ascertain that construction details which cannot be examined in the finished product are in accordance with specified requirements. The Government reserves the right to exclude from consideration for acceptance, any material or service for which in-process inspection has indicated nonconformance.

4.4.3 End item visual examination. The end items shall be examined for the defects listed in table I. The lot size shall be expressed in units of snowshoe binding assemblies. The sample unit shall be one snowshoe binding assembly. The inspection level shall be II (see 6.5).

TABLE I. End item visual defects

Examine	Defect	Classification	
		Major	Minor
Webbing	Any hole, cut, tear, or smash	101	
	Multiple floats		201
	Abrasion mark, slub, or broken end or pick		202
	Not uniform in color		203
	Not specified color		204
Hardware, general	Broken or malformed, corroded areas, burrs, or sharp edges	102	
	Finish omitted or not as specified	103	
	Any required component missing or improperly installed causing failure to serve intended purpose	104	
	Size or type not as specified	105	
	Area of no finish		205
Stitch type	Wrong stitch type	106	
Stitch tension	Loose, resulting in loose top or bobbin thread; tight, resulting in excessive puckering of fabric on seam		206

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TABLE I. End item visual defects (cont'd)

Examine	Defect	Classification	
		Major	Minor
Stitches per inch	One less than minimum specified		207
	Two or more less than minimum specified	107	
	One or more in excess of maximum specified		208
	NOTE: Variation in the number of stitches per inch caused by the operator speeding up the machine and pulling the webbing in order to sew over heavy places or heavy seams, or turning corners shall be classified as follows:		
	(a) Within the minor defect classification - no defect		
	(b) Within the major defect classification - minor defect		
Thread breaks	Not overstitched as specified		209
	NOTE: Thread break not backstitched or overstitched shall be classified as an open seam.		
Ends of stitching (not held down by other stitching or turned under in a hem)	Not backstitched	108	
	Backstitched less than 3/16 inch		210
	Not secured as specified when stitching is performed on an automatic machine		211
Box stitching	Incomplete:		
	-One row of stitching omitted -Two or more rows of stitching omitted	109	212
Stitching	Any row of stitching missing (except box stitching)	110	
Stitching margin	Not as specified		213

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TABLE I. End item visual defects (cont'd)

Examine	Defect	Classification	
		Major	Minor
Components and assembly	Any component or required operation omitted or not as specified (unless otherwise classified herein)	111	
	Mend, darn, patch, or splice	112	
	Needle chew		214
	Ends of straps not cut as specified		215
Cut end of webbing	Not fused (when applicable)	113	
	Fused but contains frayed edges or loose fibers		216
Cord	Ends not seared	114	
	Knot not securely tied at each end	115	
Thread ends	Not trimmed to 1/4 inch or less		217
Identification marking	Missing	116	
	Not type specified		218
	Not size specified		219
	Not in specified location		220
	Incomplete, misspelled, or illegible		221

4.4.4 End item dimensional examination. The end items shall be examined for conformance to the dimensions specified on the drawings. Only those dimensions that can be evaluated without damaging or disassembling the end items shall be examined. Any dimension not within the specified tolerance shall be classified as a defect. The lot size shall be expressed in units of snowshoe binding assemblies. The sample unit shall be one snowshoe binding assembly. The inspection level shall be S-3 (see 6.5).

4.4.5 Packaging examination. The fully packaged end items shall be examined for the defects listed below. The lot size shall be expressed in units of shipping containers. The sample unit shall be one shipping container fully packaged. The inspection level shall be S-2 (see 6.5).

<u>Examine</u>	<u>Defect</u>
Marking (exterior and interior)	Omitted; incorrect; illegible; of improper size, location, sequence, or method of application



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<u>Examine</u>	<u>Defect</u>
Instruction sheet	Missing
Materials	Any component missing, damaged, or not as specified
Workmanship	Open and noncontinuous heat seal and closure of polyethylene bag Excess air not expelled from within the polyethylene bag Inadequate application of components, such as: incomplete sealing or closure of flap, improper taping, loose strapping, or inadequate stapling Bulged or distorted container
Content	Number of snowshoe bindings per container is more or less than required

4.4.6 Palletization examination. The fully packaged and palletized end items shall be examined for the defects listed below. The lot size shall be expressed in units of palletized unit loads. The sample unit shall be one palletized unit load, fully packaged. The inspection level shall be S-1 (see 6.5).

<u>Examine</u>	<u>Defect</u>
Finished dimensions	Length, width, or height exceeds specified maximum requirement
Palletization	Pallet pattern not as specified Interlocking of loads not as specified Load not bonded as specified
Weight	Exceeds maximum load limits
Marking	Omitted; incorrect; illegible; of improper size, location, sequence, or method of application

## 5. PACKAGING

5.1 Preservation. Preservation shall be level A.

5.1.1 Level A preservation. Two complete bindings (one mated pair) and the instruction sheet shall be compactly arranged and unit packed in a close-fitting clear plastic bag. Each bag shall be closed by means of heat sealing. Prior to, or during closure, excess air shall be expelled.

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5.2 Packing. Packing shall be level A, B or Commercial, as specified (see 6.2).

5.2.1 Level A packing. Eighty pair of bindings preserved as specified in 5.1, shall be packed in a snug-fitting fiberboard shipping container conforming to style RSC-L, grade V2s of PPP-B-636. The inside of each shipping container shall be fitted with a box liner conforming to type CF, class weather-resistant, variety DW, grade V15c of PPP-B-636. The shipping container shall be of a size palletizable in accordance with the appendix of MIL-STD-147. Each shipping container shall be closed in accordance with method III, waterproofed in accordance with method V, and reinforced as specified in the appendix of PPP-B-636. Shipping containers shall be arranged in accordance with MIL-L-35078 for the type and class of load specified (see 6.2). Strapping shall be limited to nonmetallic strapping, except for type II, class F loads.

5.2.2 Level B packing. Eighty pairs of bindings preserved as specified, shall be packed in a snug-fitting fiberboard shipping container conforming to style RSC-L, type CF (variety DW) or SF, class domestic, grade 275 of PPP-B-636. The inside of each shipping container shall be fitted with a box liner conforming to type CF, class domestic, variety DW, grade 275 of PPP-B-636. The shipping container shall be of a size palletizable in accordance with the appendix of MIL-STD-147. Each container shall be closed in accordance with method II, as specified in the appendix of PPP-B-636.

5.2.2.1 Weather-resistant fiberboard containers. When specified (see 6.2), the shipping container shall be grade V3c, V3s or V4s fiberboard box fabricated in accordance with PPP-B-636 and closed in accordance with the appendix thereof.

5.2.3 Commercial packing. Bindings preserved as specified in 5.1, shall be packed in accordance with ASTM D 3951.

5.3 Palletization. When specified (see 6.2), bindings packed as specified in 5.2.2 or 5.2.3, shall be palletized on a 4-way entry pallet in accordance with load type Ia of MIL-STD-147. Pallet type shall be type I (4-way entry), type IV, or type V in accordance with MIL-STD-147. Pallets shall be fabricated from wood groups I, II, III, or IV of MIL-STD-731. Each prepared load shall be bonded with primary and secondary straps in accordance with bonding means C and D, or film bonding means F or G. Pallet pattern shall be in accordance with the appendix of MIL-STD-147.

5.4 Marking. In addition to any special marking required by the contract or purchase order, unit packs, shipping containers and palletized unit loads shall be marked in accordance with MIL-STD-129 or ASTM D 3951, as applicable.

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5.4.1 Plastic bagged unit packs. Plastic bagged unit packs shall have the required identification legibly printed or stamped in black directly on the bag across the center face or on a white paper label inserted within the bag so as to permit ready identification.

## 6. NOTES

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

6.1 Intended use. The binding is intended to to be used with the magnesium trail snowshoe. The binding will accomodate either a right or left shoe or boot.

6.2 Acquisition requirements. Aquisition documents must specify the following:

- a. Title, number, and date of this specification.
- b. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1 and 2.2).
- c. When a first article is required (see 3.1, 4.3, and 6.3).
- d. Levels of preservation and packing (see 5.1 and 5.2).
- e. When weather-resistant grade fiberboard shipping containers are required for level B packing (see 5.2.2.1).
- f. When palletization is required (see 5.3).
- g. Acceptance criteria required (see 6.5).

6.3 First article. When a first article is required, it shall be inspected and approved under the appropriate provisions of 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 Sample. For access to samples, address the contracting activity issuing the invitation for bids.

6.5 Acceptance criteria. The acceptance criteria below are recommended for use. The acceptance criteria as specified in the contract or purchase order shall be binding. Unless otherwise specified, the following acceptance criteria are in accordance with MIL-STD-105.

6.5.1 For end item visual examination. An acceptable quality level (AQL), expressed in terms of defects per hundred units, of 6.5 for major defects and 15 for total (major and minor combined) defects is recommended.

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6.5.2 For end item dimensional examination. An AQL, expressed in terms of defects per hundred units, of 10 is recommended.

6.5.3 For packaging examination. An AQL, expressed in terms of defects per hundred units, of 2.5 is recommended.

6.5.4 For palletization examination. An AQL, expressed in terms of defects per hundred units, of 6.5 is recommended.

6.6 Source of supply. Source of supply for the hypalon 45 coated nylon specified on the drawings 2-10-162 and 2-10-164 is as follows:

Archer Rubber Company  
213 Central St.  
Milford, MA 01757

6.7 Subject term (key word) listing.

Military personnel  
Movement aide  
Footwear securing device

Custodians:

Army - GL  
Navy - NU  
Air Force - 99

Preparing activity:

Army - GL  
(Project 8465-0016)

Review activities:

Army - MD  
Air Force - 82  
DLA - CT

User activities:

Navy - MC  
Air Force - 45

### Figure I

#### Instructions for Attaching the Snowshoe Binding to the Snowshoe

1. Disassemble (if assembled) the snowshoe binding by removing the two screws that hold the binding retaining plate to the main body of the binding.
2. With the screws and locknuts removed from the binding, roll back the two layers of plastic coated fabric that protects the underside of the instep crampon and remove the binding retaining plate.
3. Place the main body of the binding on the snowshoe binding crossbar so that the screw holes in the binding are just forward of the crossbar.
4. Place the retaining plate over the crossbar on the underside of the snowshoe and binding so that the two holes line up.
5. Roll the two layers of plastic coated fabric back over the binding retaining plate so that the holes line up with the holes in the retaining plate and the holes in the main body of the snowshoe binding.
6. Place the screws down through the top of the snowshoe binding, retaining plate and two layers of plastic coated fabric.
7. Secure the complete assembly by attaching the two locknuts to the screws, and tighten.

# STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

*(See Instructions - Reverse Side)*

<b>1. DOCUMENT NUMBER</b> MIL-B-44374	<b>2. DOCUMENT TITLE</b> Binding Assembly, Snowshoe, Snow and Ice Traversing Equipment (Site)
<b>3a. NAME OF SUBMITTING ORGANIZATION</b>	<b>4. TYPE OF ORGANIZATION (Mark one)</b> <input type="checkbox"/> VENDOR <input type="checkbox"/> USER <input type="checkbox"/> MANUFACTURER <input type="checkbox"/> OTHER (Specify): _____
<b>5. PROBLEM AREAS</b>	
a. Paragraph Number and Wording:	
b. Recommended Wording:	
c. Reason/Rationale for Recommendation:	
<b>6. REMARKS</b>	
<b>7a. NAME OF SUBMITTER (Last, First, MI) - Optional</b>	<b>b. WORK TELEPHONE NUMBER (Include Area Code) - Optional</b>
<b>c. MAILING ADDRESS (Street, City, State, ZIP Code) - Optional</b>	<b>8. DATE OF SUBMISSION (YYMMDD)</b>

**INSTRUCTIONS:** In a continuing effort to make our standardization documents better, the DoD provides this form for use in submitting comments and suggestions for improvements. All users of military standardization documents are invited to provide suggestions. This form may be detached, folded along the lines indicated, taped along the loose edge (*DO NOT STAPLE*), and mailed. In block 5, be as specific as possible about particular problem areas such as wording which required interpretation, was too rigid, restrictive, loose, ambiguous, or was incompatible, and give proposed wording changes which would alleviate the problems. Enter in block 6 any remarks not related to a specific paragraph of the document. If block 7 is filled out, an acknowledgement will be mailed to you within 30 days to let you know that your comments were received and are being considered.

**NOTE:** This form may not be used to request copies of documents, nor to request 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 referenced document(s) or to amend contractual requirements.

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