

MIL-STD-284A
20 September 1963

SUPERSEDING
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MILITARY STANDARD

VISUAL INSPECTION GUIDE

FOR

RUBBER FOOTWEAR



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FSC 8435

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DEPARTMENT OF DEFENSE
WASHINGTON, D.C.

Visual Inspection Guide For Rubber Footwear
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1. This standard has been approved by the Department of Defense and is mandatory for use by the Departments of the Army, the Navy, and the Air Force.
2. Recommended corrections, additions, or deletions should be addressed to Headquarters, DSA, Standardization Division, Washington, D.C.

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1. SCOPE

1.1 PURPOSE. The purpose of this standard is to

- (a) Provide a uniform standard of quality for the acceptance of rubber footwear.
- (b) Facilitate inspection of rubber footwear.
- (c) Standardize inspection for all suppliers.

(d) Provide a training manual for Government inspectors and increase their efficiency.

1.2 SCOPE. This standard defines and depicts the most common defects which occur in the manufacture of insulated and non-insulated rubber foot-wear and which may be determined during visual inspection of end product.

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2. REFERENCED DOCUMENTS

2.1 The issues of the following documents in effect on date of invitation for bids form a part of this standard to the extent specified herein.

MIL-STD-177 — Rubber Products; Terms
for Visible Defects of.

STANDARDS

MILITARY

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

(Copies of specifications, drawings, standards, and publication required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer).

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3. DEFINITIONS

3.1 GENERAL DEFINITIONS. Definitions of Standard MIL-STD-105 are applicable.

3.2 SPECIFIC DEFINITIONS. For the purpose of this standard the applicable definitions included in Standard MIL-STD-177 and the Definitions stated below shall apply. Where a definition is covered in both Standard MIL-STD-177 and below, and are different, the definitions given below shall govern.

3.2.1 Critical area. The critical areas consist of the upper, the sole, the heel, and the inner structure.

3.2.2 Uncritical area. The uncritical areas consist of the top binding and the reinforcing parts.

3.2.3 Allowable dimensions of defects. In determining "over" or "under" for the type of defect, the largest dimension in any direction governs.

3.2.4 Blister. Any soft area that presents an irregular surface or protuberance without a break on the surface.

3.2.5 Crease. A crease is a fold mark, like a pleat, where surfaces are not stuck together.

3.2.6 Marred stock. Marred stock is imperfect surface stock caused when the uncured rubber struck or touched nonrubber objects or was otherwise injured during processing.

3.2.7 Pit. A pit is a small open void in the surface of the rubber.

3.2.8 Wrinkle. A wrinkle is a furrow or fold in the surface which may be stuck together.

3.2.9 Bloom. A bloom is material migrating to the surface to form a blush or discoloration.

3.2.10 Burned gum. Burned gum is rubber that has been carbonized or deteriorated resulting from excessive heat or corrosive chemicals.

3.2.11 Front stay. The front stay is the strip which is placed along the front of the rubber footwear to provide reinforcement and to help anchor the buckles.

3.2.12 Chafing strip. A chafing strip is a textile strip placed in insulated boots for purposes of comfort and reinforcement.

3.2.13 Foxing. Foxing is a ribbon of rubber which encircles the lower outer edge of rubber footwear.

3.2.14 Pocket. A pocket is the cavity in the tongue area or tongue-bellows area of the boot, extending the length of the eyelets or fasteners.

3.2.15 Ski-shelf. The ski-shelf is a small section of rubber attached above the outside at the heel and toe sections of the insulated boot.

3.2.16 Vamp. The vamp is the top forepart of footwear which covers the front part of the foot.

3.2.17 Pressed stock. Parts having a raised design or embossing which has been flattened due to pressure from stacking.

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4. GENERAL REQUIREMENTS

4.1 GENERAL Sampling inspection procedures shall be conducted in accordance with Standard MIL-STD-105 or other applicable Military standards.

definitions established in this standard shall be considered a complete statement of defects which may occur and which may be inspected for, except for specific additional requirements that may appear in the procurement documents.

4.2 EXCEPTIONS. The description and

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5. DETAIL REQUIREMENTS

5.1 CLASSIFICATION OF DEFECTS. The classification of defects shall be as shown in tables I and II, and in figures 1 to 23. The classification given to a defect is based on the effect such de-

fect has on the serviceability or appearance of the end item, in accordance with definitions given in Standard MIL-STD-105.

TABLE I. Classification of Defects

Defect	Major	Minor	Figure
Blister 1/16 to 1/4 inch, any area.....		X	
Blister 1/4 to 1/2 inch, uncritical area.....		X	
Blister over 1/4 inch, critical area.....	X		
Blister over 1/2 inch, uncritical area.....	X		1
Bloom, any area.....		X	
Blown stock over 1/64 inch, critical area.....	X		
Blown stock over 1/16 inch, under 1/8 inch, uncritical area.....		X	
Blown stock 1/8 inch or more, uncritical area.....	X		2
Burned gum, critical area.....	X		
Burned gum, uncritical area.....		X	
Color or finish of exterior of footwear including all components not as specified..	X		
Color of interior not as specified.....		X	
Color or finish of exterior parts nonuniform.....		X	
Contact scar 1/4 to 1/2 inch, any area.....		X	
Contact scar 1/2 inch or more, any area.....	X		3
Crease, critical area.....	X		
Crease, uncritical area.....		X	
Cuts, tears or holes, any area.....	X		4,5,6,19,20
Embedded foreign material, critical area except outsole.....	X		1
Embedded foreign material in outsole 1/16 to 1/8 inch.....		X	
Embedded foreign material in outsole 1/8 inch And over.....	X		
Embedded foreign material any size, uncritical area.....		X	
Insole short by 1/8 to 1/4 inch.....		X	
Insole short by 1/4 inch or more.....	X		
Looseness or poor adhesion (any separation between gum parts or gum parts and fabric).	X		7,8,9,10,11
Lump over 1/16 inch, critical area.....	X		
Lump over 1/4 inch, uncritical area.....		X	
Marred stock 1/4 inch or more, critical area.....	X		12, 14, 15
Marred stock over 1/8 inch, under 1/4 inch, critical area.....		X	
Marred stock 1/2 inch or more, uncritical area.....	X		13
Marred stock over 1/4 inch, under 1/2 inch, uncritical area.....		X	
Operation omitted or not properly performed seriously affecting serviceability, e.g. value misplaced on insulated footwear.	X		
Operation not properly performed affecting serviceability, but not seriously e.g. ski-shelf slightly off center uninsulated footwear.		X	
Pairing-Variation in height more than 1/4 inch but less than finch.....		X	
Pairing-Variation in height more than 1/2 inch.....	X		
Pairing-Right and left not of same size and type.....	X		
Part malformed, seriously affecting serviceability (unless otherwise classified herein) e.g. vamp malformed which may result in discomfort to user.	X		
Part malformed affecting serviceability but not seriously (unless otherwise classified herein) e.g. malformation in sole to a degree resulting in slight loss in traction.		X	
Part missing or not as specified seriously affecting serviceability.....	X		
Part missing or not as specified affecting serviceability but not seriously.....		X	

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TABLE I. Classification of Defects-(Continued)

Defect	Major	Minor	Figure
Part poorly positioned affecting serviceability	X
Part poorly positioned affecting appearance but not serviceability . . . . .	. . . . .	X . . . . .	. . . . .
Pita up to 1/16 inch in length and 1/32 inch in depth, critical area except outsole. . . . .	. . . . .	X . . . . .	. . . . .
Pits over 1/16 inch in length and 1/32 inch in depth, critical area except outsole.	X . . . . .	. . . . .	16
Pits in outsole over 1/16 inch but less than 1/8 inch . . . . .	. . . . .	X . . . . .	. . . . .
Pits in outsole 1/8 inch or over. . . . .	. . . . .	. . . . .	. . . . .
Pressed stock, any area . . . . .	. . . . .	X . . . . .	. . . . .
Started heel	X . . . . .	. . . . .	17
Started sole	X . . . . .	. . . . .	18
Stuck parts any area	X . . . . .	. . . . .	. . . . .
Vulcanization poor or incomplete.	X . . . . .	. . . . .	. . . . .
Wrinkled stock under 1/4 inch, critical area . . . . .	. . . . .	X . . . . .	. . . . .
Wrinkled stock 1/4 inch or more, critical area	X . . . . .	. . . . .	22,23
Wrinkled stock 1/2 inch or more, unmitical area . . . . .	. . . . .	X	21

TABLE II. Classification of Miscellaneous Defects

Defect	Minor
Metal parts*	
Not specified number of eyelets or buckles	X
Unequal number of eyelets or buckles between sides	X
Eyelets too tightly clinched (cutting surrounding rubber)	X
Eyelets loosely clinched (may become detached)	X
Sharp edge or burr	X
Eyelet or buckle broken seriously affecting serviceability	X
Eyelets or buckle broken affecting serviceability but not seriously.	X
Textile parts	
Loose wrinkles	X
Fabric not as specified	X
Marking (as applicable)	
Omitted, incorrect, illegible, not accomplished in the specified manner, or not in the proper location.	X

1 When applicable.

Copies of specifications, standards, drawings, and publications required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.

Copies of this standard for military use may be obtained as indicated in the foreword to, or the general provisions of, the Index of Military Specifications and standards.

Copies of this Standard may be obtained for other than official use individuals, firms, and suppliers from the Superintendent of Documents, US. Government Printing Office, Washington, D.C.

The title identifying symbol should be stipulated when requesting copies of military standards.

Custodians:

Army-GL
Navy-S&A
AirForce-MAA

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*FIGURE 1. Blister, heel reinforcing piece, uncritical area. (major)
Embedded foreign material, Aid area. (major)*

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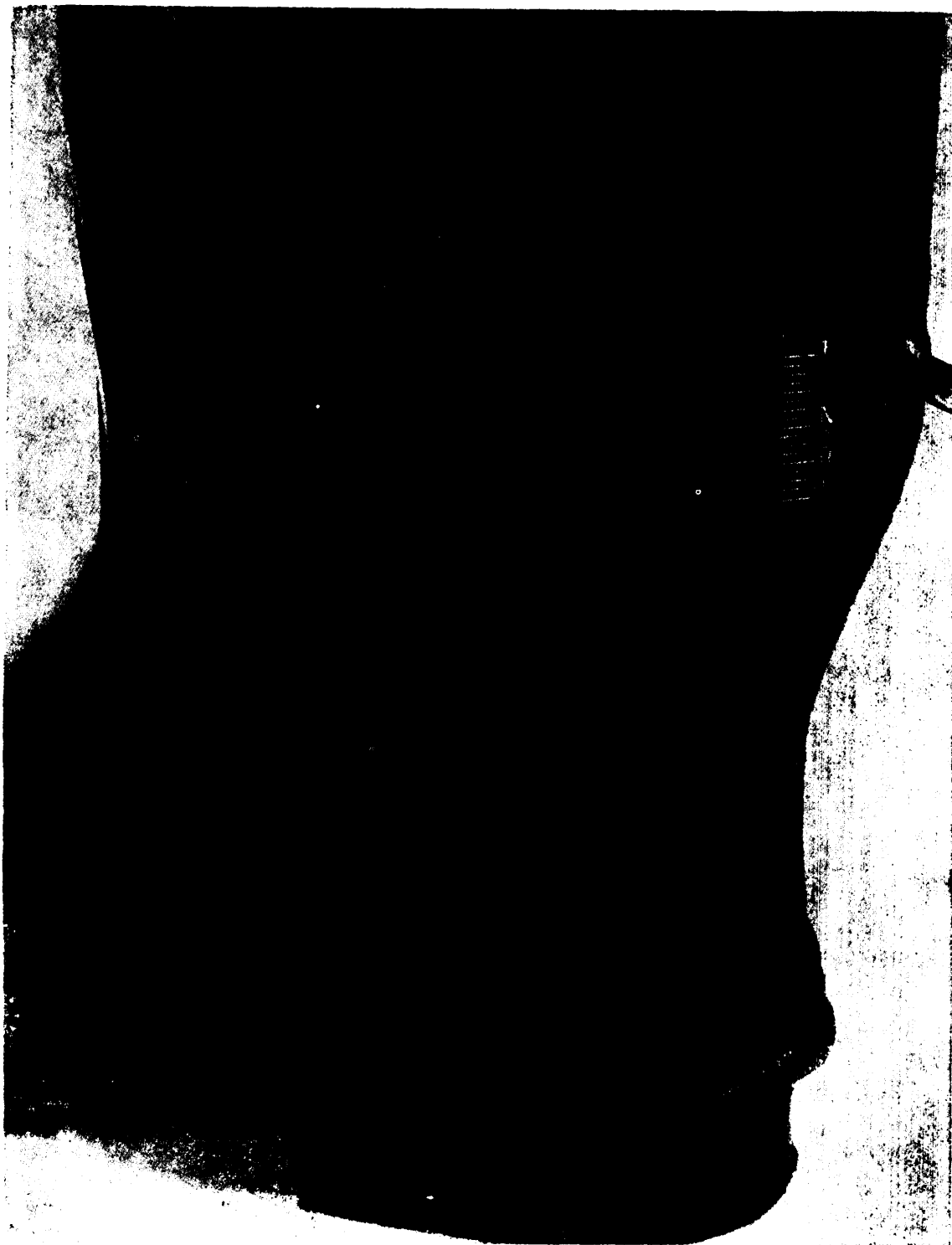


Figure 2. Blown stock,heel reinforcing piece,uncritical area.(Major)

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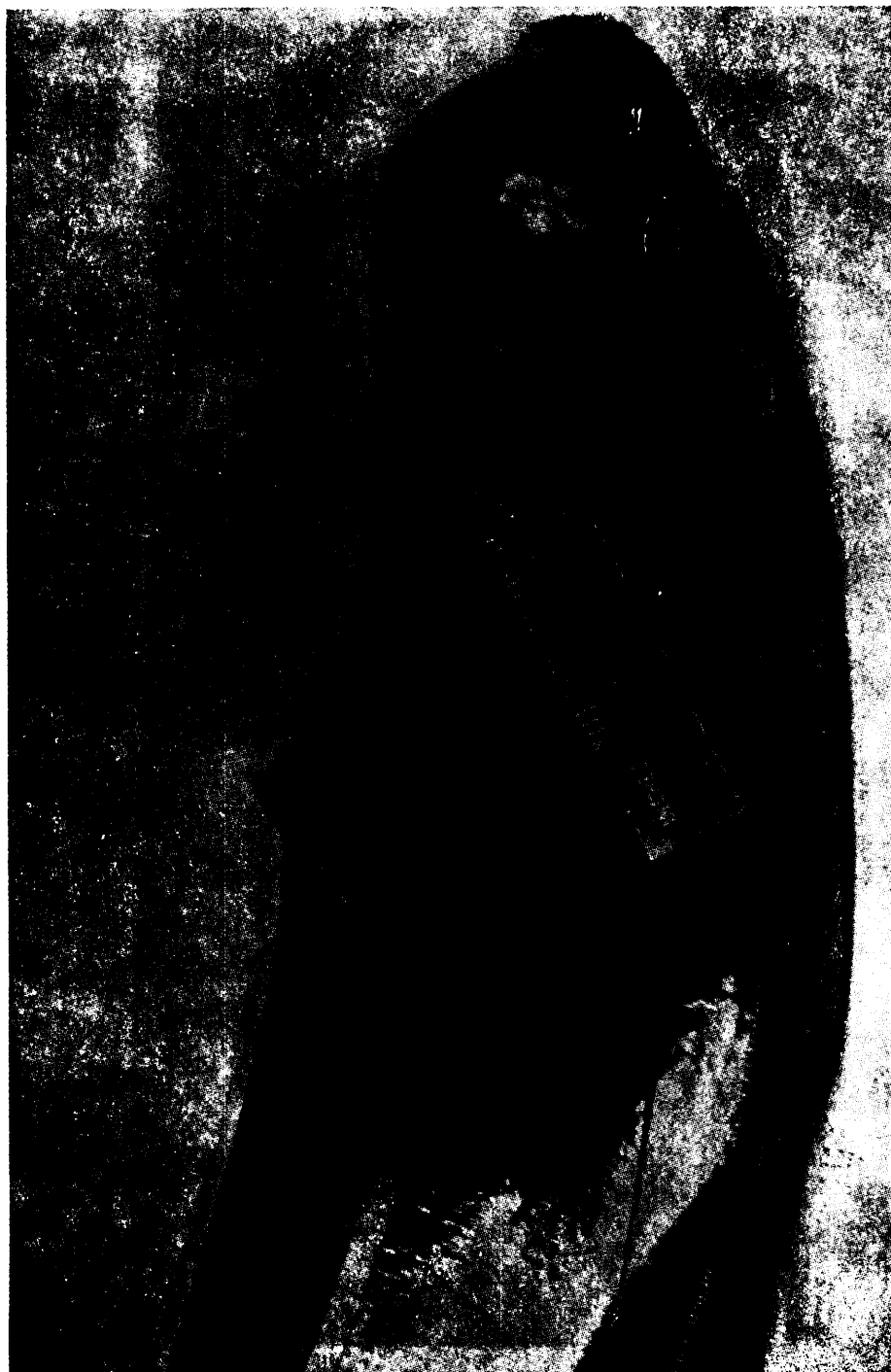


FIGURE 3. *Contact scar, vamp, critical area. (Major)*

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Figure 4. *Cut pocket, critical area. (Major)*

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Figure. 5. *Hole, front at av, ut)c, it iral area. (Mojor)*

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Figure 6. *Hole, heel reinforcing piece, area area. (Major)*

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FIGURE 7. *Looseness, chafing strip, critical area. (Major)*

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Figure 8. *Looseness, front stay, uncritical area. (Major)*

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Figure 9. *Looseness heel uncritical area .(Major)*

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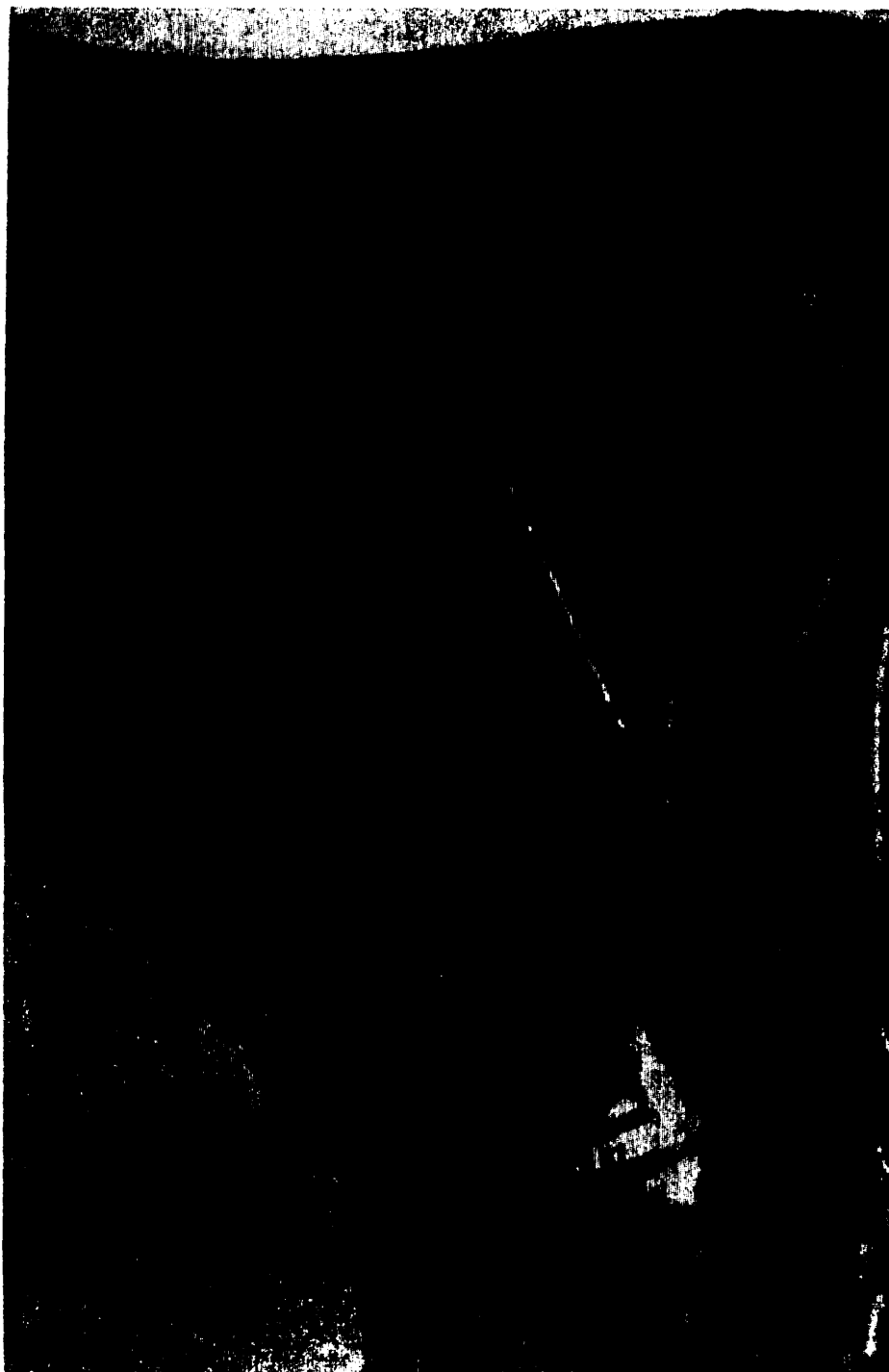


FIGURE 10. *Looseness, rolled foring, uncritical area. (Major)*

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FIGURE 11. Looseness, top binding, uncritical area. (Major)

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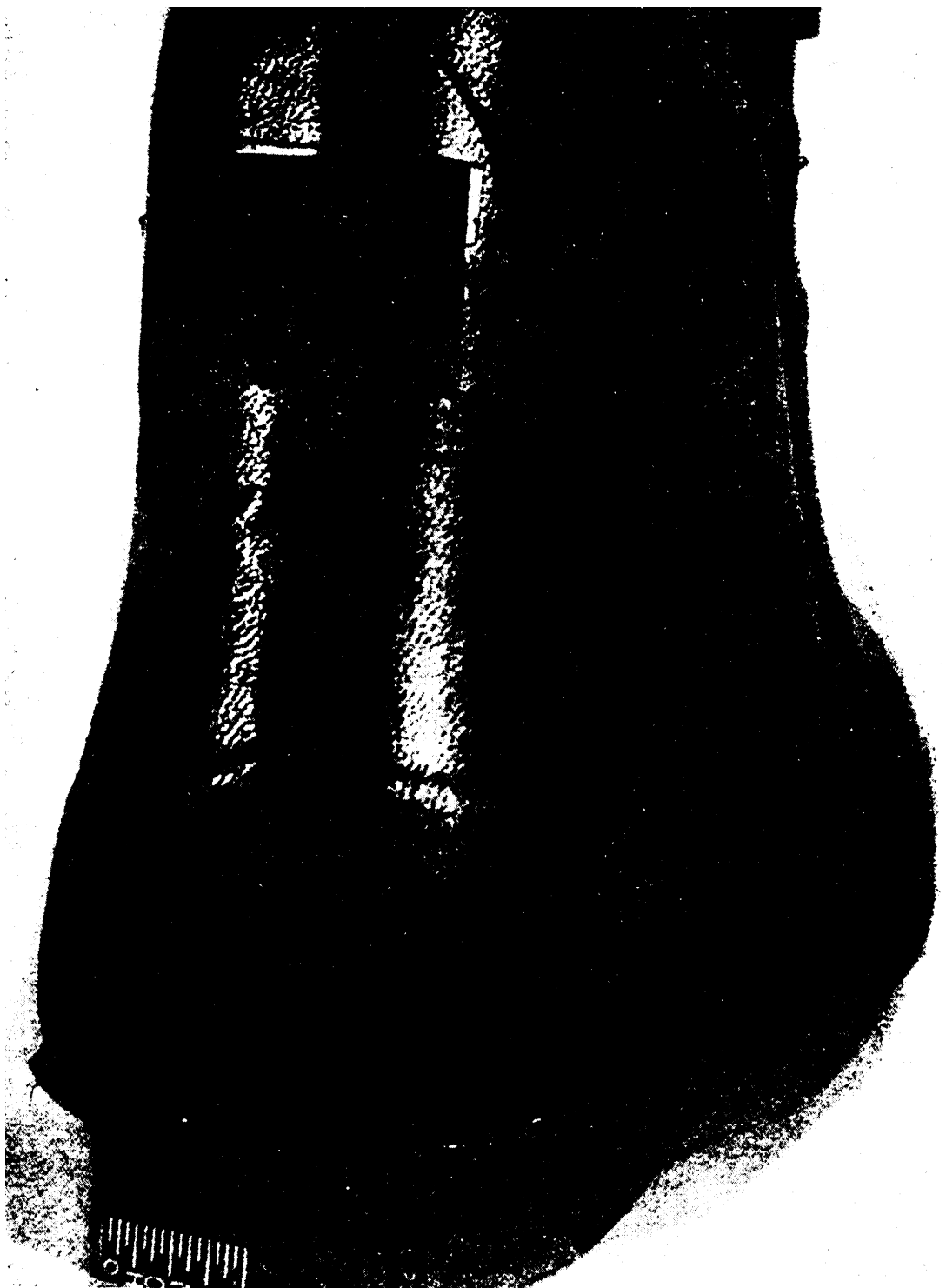


FIGURE 12. *Marred stock, heel, critical area. (Major)*

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Figure 13. *Marred stock heel reinforcing piece, uncritical area. (Major)*

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FIGURE 14. Marred sole, critical area. (Major)

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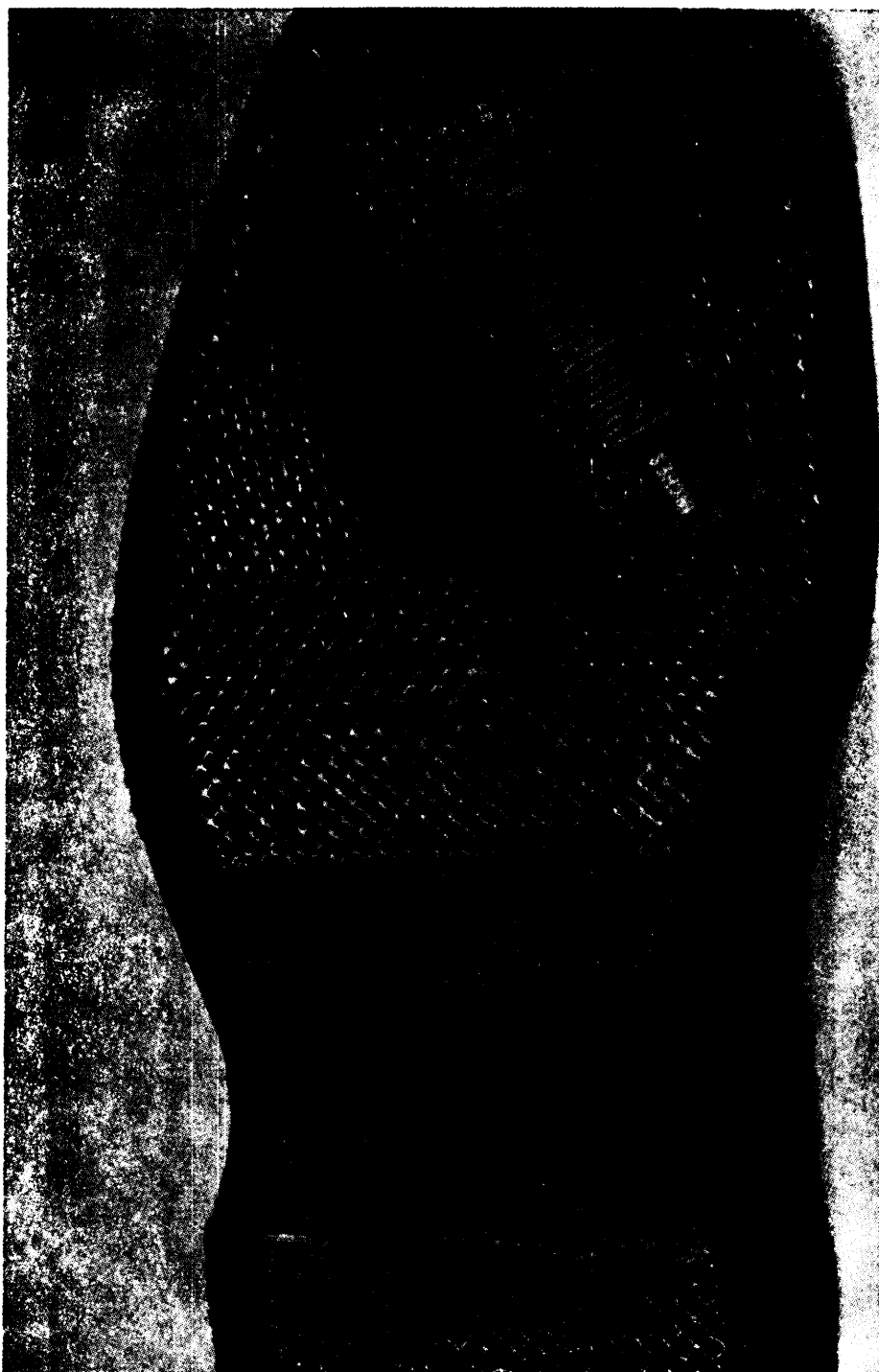


FIGURE 15. *Marred stock, sole, critical area. (Major)*

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FIGURE 16. vamp, critical area. (Major)

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FIGURE 17. *Started heel, critical area. (Major)*

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FIGURE 18. *Started sole, critical area. (Major)*

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Figure 19. *Tear, foxing, uncritical area.* (Major)

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FIGURE 20. Tear, vamp, critical area. (Major)

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FIGURE 21. *Wrinkle, heel reinforcing piece, uncritical area (Minor)*

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FIGURE 22. *Wrinkle, inner shell, critical area. (Major)*

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FIGURE 23. *Wrinkle, vamp, critical area. (Major)*

