

**LIGHTWEIGHT EXTENSION LADDERS
"HIMCO" FIBERGLASS
DESCRIPTION, USE, INSPECTION, MAINTENANCE
AND TESTING PROCEDURE**

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1. GENERAL

1.01 This section covers the description, use, inspection, maintenance and testing of Himco fiberglass extension ladders.

1.02 The general rules for the operation of wood extension ladders also apply to the Himco fiberglass ladder. They are outlined in Plant Series Section 081-740-105 under the following headings: Safety Precautions — Selecting Length of Ladder — Selecting Footing — Provisions for Supporting Upper End — Raising and Lowering — Transporting.

1.03 This section has been reissued to:

- (a) Change title.
- (b) Include principal safety precautions.
- (c) Include testing procedures.

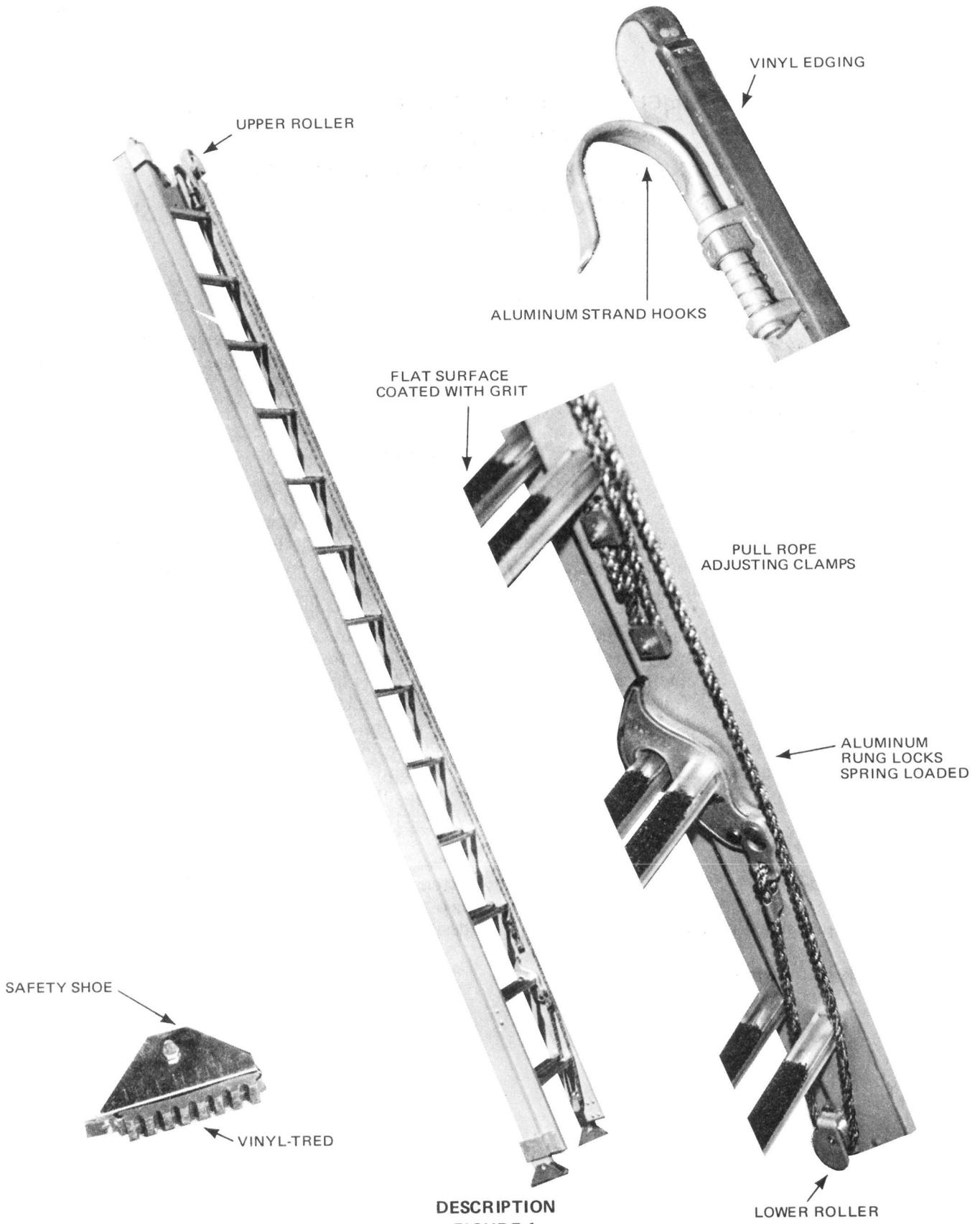
(d) Update text.

Since this is a general revision, arrows ordinarily used to indicate changes have been omitted.

2. DESCRIPTION

2.01 The "Himco" Lightweight Fiberglass Extension Ladder consists of two sections of equal length, each having parallel side rails and equally spaced aluminum rungs. Each side rail has a fiberglass reinforced wood core encased in a fiberglass covering. The top surfaces of the aluminum rungs are coated with epoxy and carborundum grit to provide a non-slip surface. Unobstructed climbing space is provided by rail mounted pulleys and an endless pull rope. Spring loaded aluminum rung locks engage automatically when tension on the pull rope is released. Safety shoes and aluminum strand hooks are standard equipment. See Figure 1.

2.02 "Himco" extension ladders are supplied in 28 and 32 foot sizes. (The size of an extension ladder is the sum of the lengths of the two sections, not the length that the ladder is designed to reach.)



3. SAFETY PRECAUTIONS (Also See 081-740-105)

3.01 All Himco fiberglass extension ladders, whether new, Class "C", or repaired must be thoroughly inspected and dead-weight tested at time of receipt. This procedure should also be used to verify the condition of any Himco ladder that has been dropped. (Paragraph 6.02)

3.02 Before placing a ladder against a suspension strand, test the strength of the suspension strand and its supports as outlined in Section 627-295-500.

Note: The following are specifically prohibited as supports for ladders, aerial platforms, or cable cars.

- 2.2M strand.
- Slack spans (spans placed at reduced tension due to inadequate anchorage).
- Strands, regardless of size, that are attached to buildings.

4. RAISING AND LOWERING (Also See 081-740-105)

4.01 The length of an extension ladder and the work location shall determine the number of craftsmen required for the raising and lowering operation. Generally, it is permissible for one craftsman to raise or lower extension ladders up to 28 feet in length. Two craftsmen are required for ladders up to 40 feet in length.

4.02 Extending the ladder. See Fig. 2.

(a) With the ladder in an upright position, hold the left side rail firmly with the left hand.

Be careful that the aluminum guide attached to the sliding section does not strike the hand during raising and lowering operations.

(b) Place the toe of the right foot over the right vinyl-tred safety shoe to help balance the ladder.

(c) With the right hand, grasp the pull rope at about 6 inches above your head. Pull down on the rope and raise the upper section two rungs at a time. Repeat until the desired height is reached.

(d) Do not engage the rung hooks of the upper section higher than the second rung from the top of the lower section.

4.03 Lowering the ladder. See Fig. 3.

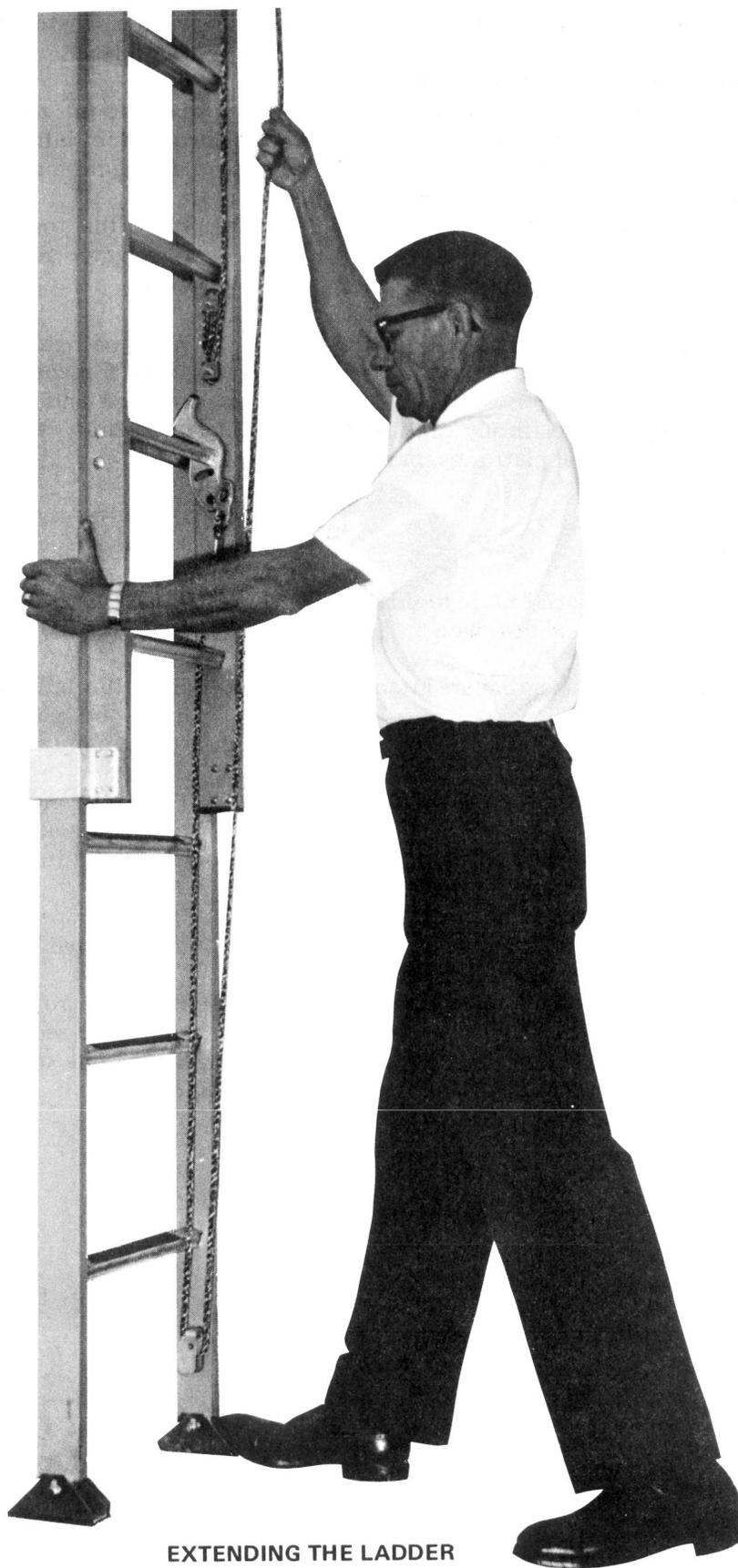
(a) Hold the left side rail firmly with the left hand and place the toe of the right foot against the right safety shoe for stability.

(b) Grasp the pull rope with the right hand at about shoulder height. Pull down just enough for the rung locks to clear the rung.

(c) Pull the rope out like a bow string until the lock is tilted back enough to pass the rungs.

(d) Hold the rope in this position and lower the upper section of the ladder one or two rungs at a time until it is in its fully retracted position.

CAUTION: 3.02 (D)
DO NOT ENGAGE THE
RUNG HOOKS OF THE
TOP SECTION HIGHER
THAN THE SECOND
RUNG FROM THE TOP
OF THE LOWER SECTION.



EXTENDING THE LADDER
FIGURE 2



LOWERING THE LADDER
FIGURE 3

SECTION 081-740-925PT

5. INSPECTION AND MAINTENANCE

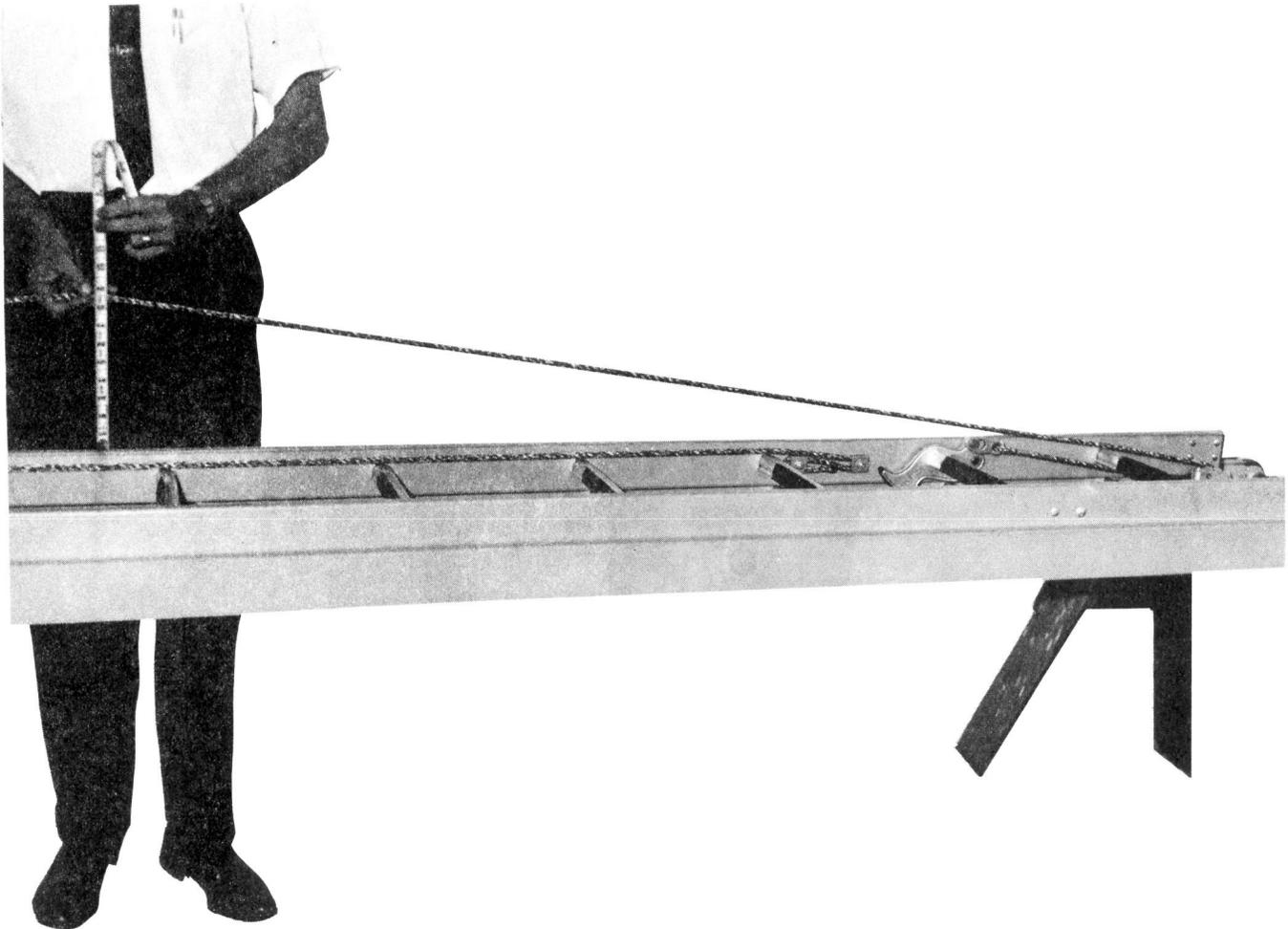
5.01 The Himco ladder shall be tested for strength every 6 months as outlined in Part 6.

5.02 Himco ladders shall be inspected by a supervisor every 2 months. The dead-weight test may be omitted for this inspection.

5.03 Each craftsman using a ladder must determine that it is in good condition and that its appearance does not indicate deterioration, abuse, or damage sufficient to affect its strength or safety. He shall make a weekly inspection to assure himself that the ladder meets requirements outlined in 5.04 through 5.08.

5.04 Check the pull rope for tension as follows: See Fig. 4.

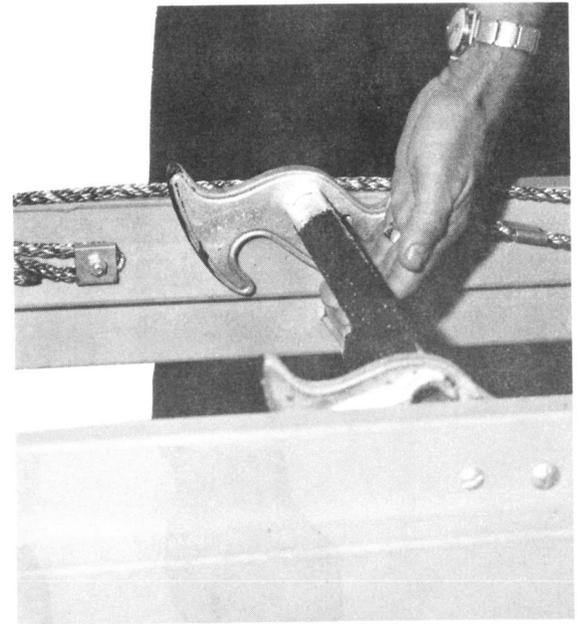
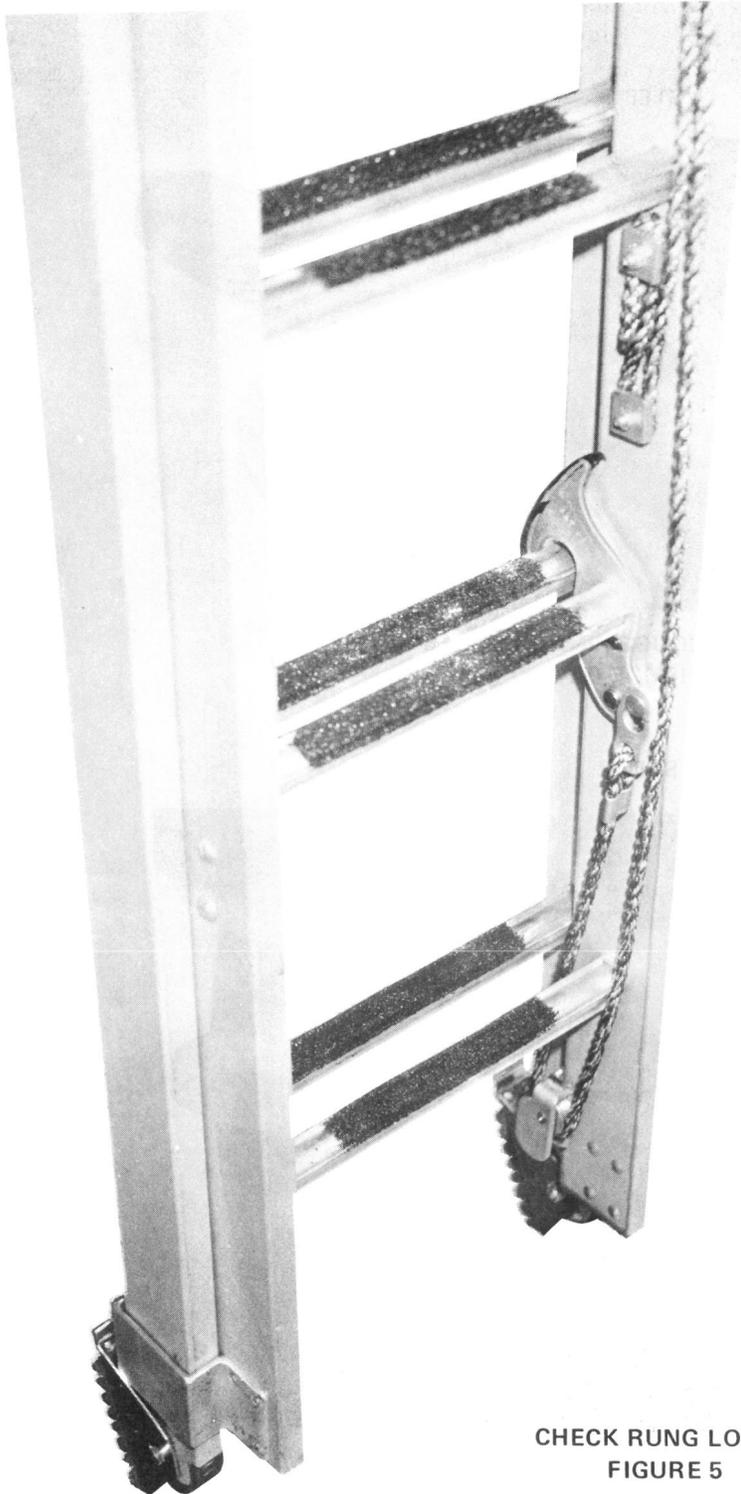
- (a) With the ladder in the horizontal retracted position, move the top section until the rung locks are free of the rung.
- (b) Grasp the pull rope near the center of the ladder and pull it up, away from the ladder.
- (c) The distance between rope and ladder should be from 6 to 12 inches before the rung locks are actuated.
- (d) Adjust the rope length at the clamps on the top section.
- (e) The rung locks will not engage properly if the rope is too tight.



**CHECKING PULL ROPE TENSION
FIGURE 4**

5.05 With the rung locks positioned between two rungs, manually operate the lock toward the front of the ladder. Upon release, the spring should restore the lock to its normal locking position without binding. If the spring is broken or if the lock binds, return the ladder for repair. See Fig. 5.

5.06 Check the rung lock pivot bolts and bushings frequently. Bolts and Allen head locking wedge inside the bushing should always be kept tight. See Figure 5.



CHECK RUNG LOCKS
FIGURE 5

SECTION 081-740-925PT

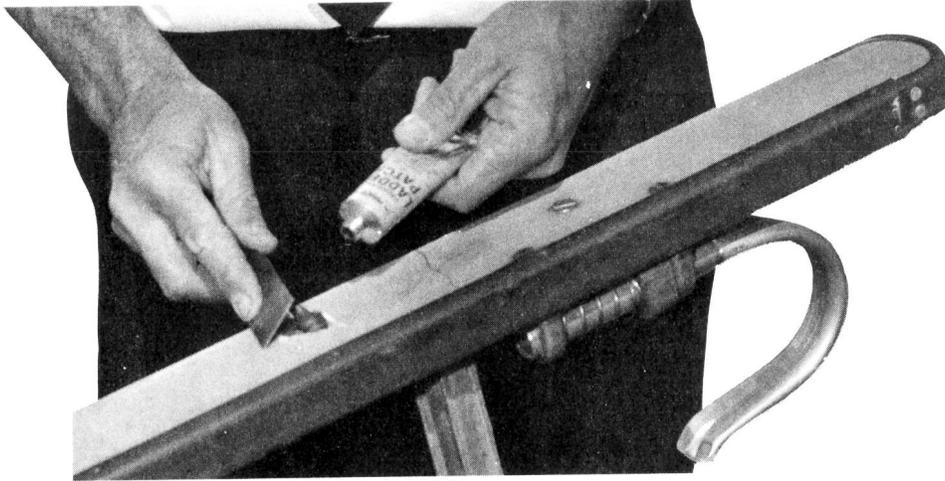
5.07 The safety shoe should pivot smoothly and the vinyl tread should be in good condition. Safety shoes may be ordered separately and replaced in the field.

5.08 Be sure the vinyl strips on the back edges of the rails are firmly in place.

5.09 Small holes or chips in the fiberglass covering may be repaired with "Fiberglass Ladder Patch" as shown in Figures 6A and 6B.

5.10 Do not attempt to patch the fiberglass covering if there is obvious damage to the wood core or longitudinal fiberglass rovings. Mark as defective and return for repair as outlined in local instructions.

STEP 1



**REPAIRING GOUGES IN SIDE RAILS
FIGURE 6A**

STEP 2

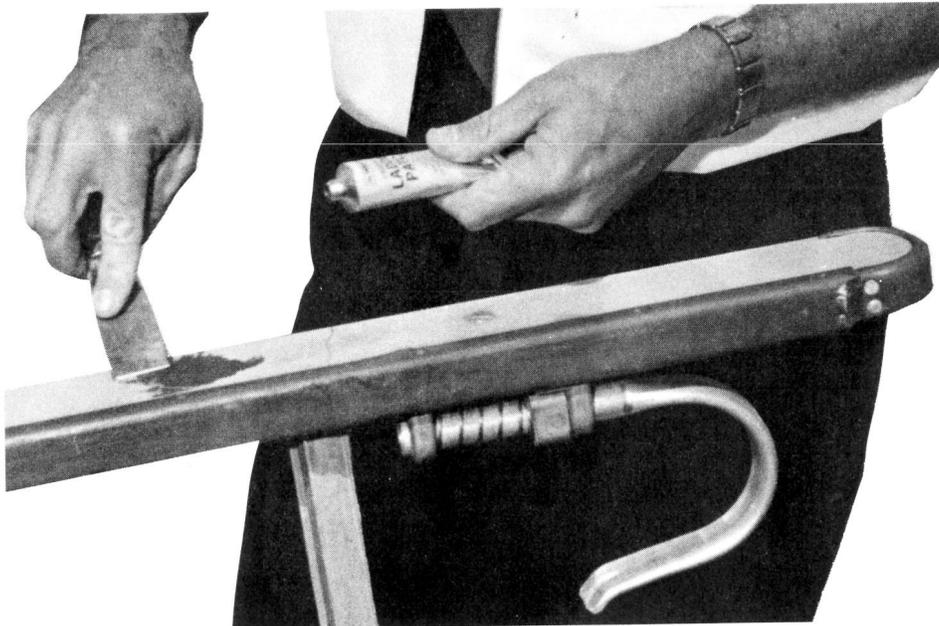


FIGURE 6B

6. TESTING PROCEDURES

6.01 Check for broken rails as shown in Fig. 7.

If the rail is broken, the cracking of wood fibers will be heard. If it is determined that the rail is broken, do not intentionally apply enough pressure to break the rail off. Tag the ladder as unsafe and return for repair in accordance with local instructions.

6.02 The "HIMCO" ladder shall be tested for strength every 6 months. Testing procedure is as follows:

- (1) Extend ladder to full working length (4 foot overlap) and place horizontally on two

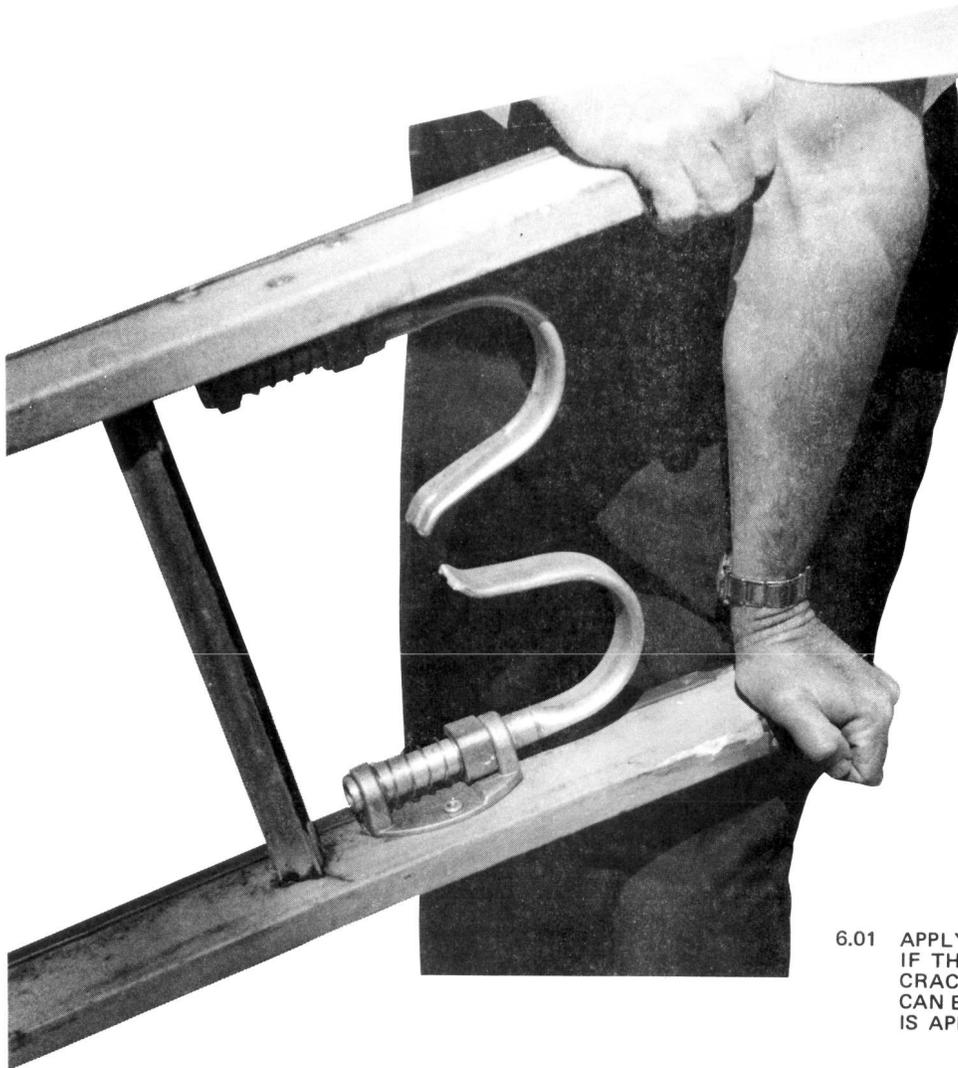
30-inch high sawhorses or their equivalent. Ladder ends are to extend 6 inches beyond each support.

- (2) Place 200 pounds of dead weight in the center of the ladder. Place weight slowly.

The 200 pound dead weight test could cause the ladder to break so stand clear as weight is placed.

- (3) Invert ladder and repeat procedure.

Do not use the dead weight test on ladders that obviously need major repair.



6.01 APPLY PRESSURE, AS SHOWN; IF THE RAIL IS BROKEN THE CRACKING OF WOOD FIBERS CAN BE HEARD WHEN PRESSURE IS APPLIED.

CHECKING FOR BROKEN SIDE RAILS
FIGURE 7