E FIBERGLASS EXTENSION LADDER AND ATTACHMENTS DESCRIPTION AND USE

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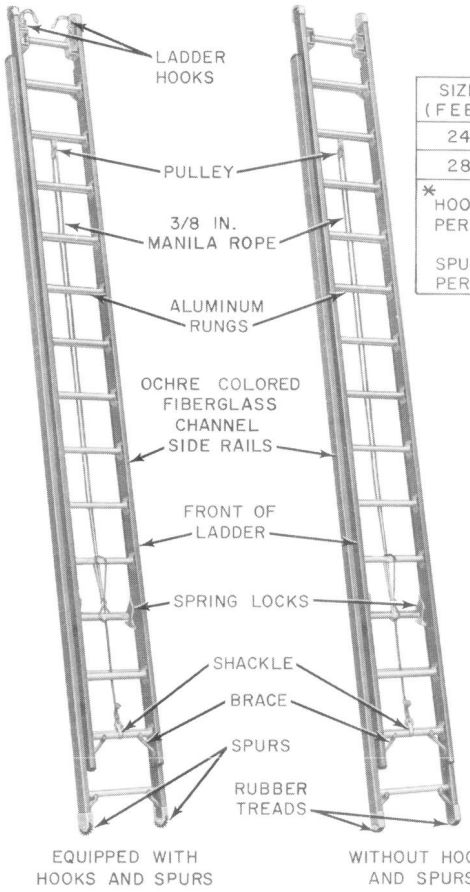
1. GENERAL

1.01 This section is issued to provide information on the new E fiberglass extension ladder and associated attachments.

1.02 Information contained in this section complements the information in Section 081-740-105 as referenced in following paragraphs. It is intended that this section be canceled and information contained herein be combined with Section 081-740-105 at a later date.

2. DESCRIPTION

2.01 The E extension ladder (Fig. 1) is provided for use when working aloft in installation, construction, and maintenance work.



SIZE (FEET)	WEIGHT * (APPROX. LB)
24	49
28	57

* HOOKS 2 LBS. PER PAIR APPROX.
SPURS 2-1/4 LBS. PER PAIR APPROX.

Fig. 1—E Fiberglass Extension Ladders

2.02 The E extension ladder is available in 24- and 28-foot sizes only. The ladder consists of two sections with parallel side rails of ochre colored, fiberglass reinforced channels and has tubular aluminum rungs. The upper section (fly) is equipped with automatic spring locks which

engage rungs of the lower section (base). A 3/8-inch manila rope and pulley are provided for raising and lowering the "fly". The ladder "base" may be equipped with spurs. When ordered without spurs the base is equipped with rubber treads. Where work is to be done on aerial cable, the ladder may be obtained equipped with rotatable ladder hooks (Fig. 2).

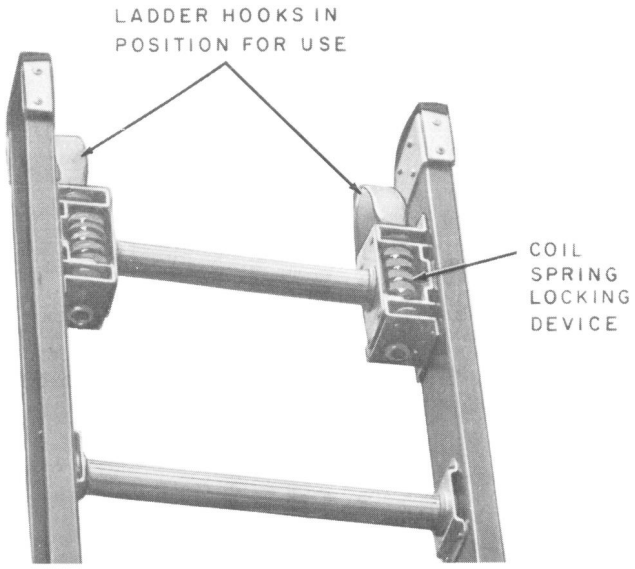


Fig. 2—Ladder Hooks

3. SAFETY PRECAUTIONS

3.01 The ***SAFETY PRECAUTIONS*** outlined in Section 081-740-105 shall be observed when using an extension ladder. The following additional precautions shall also be observed.

3.02 Always erect the extension ladder with the fly (upper section) on top of the base (lower section) in the overlap area.

3.03 Extension ladders not equipped with ladder hooks shall be placed against the strand so that at least three feet extend above the strand when the craftsman is in position on the ladder. No ladder shall be used to gain access to a roof unless the fly is extended at least three feet above the point of support at eave, gutter, or roof line.

3.04 Do not allow fly to freefall while lowering.

4. SELECTING LENGTH OF LADDER

4.01 See Section 081-740-105 for selection of ladder length.

Note: The E fiberglass extension ladder is available in 24- and 28-foot sizes only.

5. B LADDER TREAD

5.01 The B ladder tread (Fig. 3) may be used to reduce fatigue while the craftsman is working at constant heights for a considerable length of time. The ladder tread is hooked on two consecutive rungs of the ladder to provide a more comfortable footing.

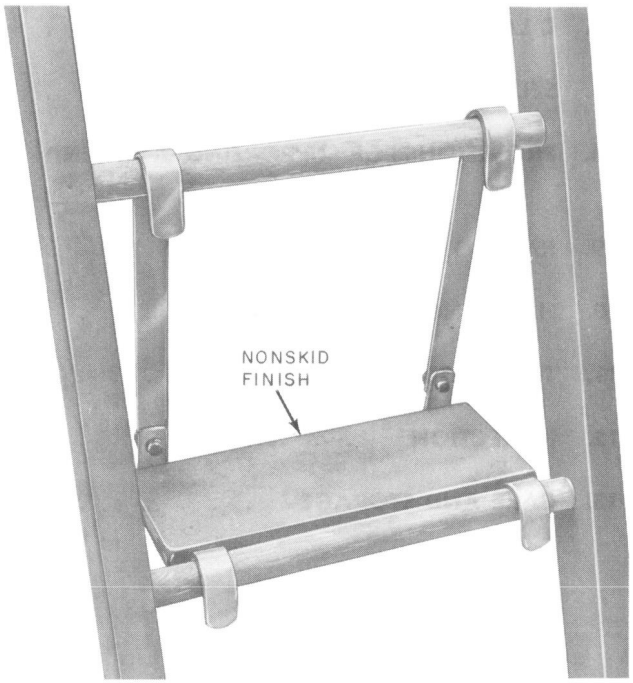


Fig. 3—B Ladder Tread in Working Position

5.02 The ladder tread consists of a wooden step with a nonskid surface secured to two metal brackets. For convenience in handling and storage the long arms of the brackets are provided with friction joints to permit folding.

6. C LADDER PLATFORM

6.01 The C ladder platform (Fig. 4) may also be used to reduce fatigue while the craftsman

is working at constant heights for extended periods of time.

Fig. 4—C Ladder Platform in Working Position

6.02 The C ladder platform consists of a wood seat hinged to a metal frame. The rear edge of the seat and the bottom crossmember of the frame are equipped with spring-actuated latches to secure the platform to the ladder rungs.

6.03 After the ladder is placed in position snap the two hook assemblies attached to the seat frame over the desired rung. As the hooks are placed over the rung, the spring-actuated latch on the seat automatically encloses the rung and locks the platform to the ladder. Secure the lower platform support in a similar manner.

> ***Note:*** If the platform support hooks or lower supports and their associated latches do not slip readily over the rungs of the fiberglass ladder they may be adjusted by spreading with a standard 1-inch iron pipe (1 5/6-inch od). The platform shall fit freely at all bearing points and the latches should readily engage.

6.04 To remove the platform, release the spring-actuated latches and hold latches open until the platform is removed from ladder.

7. SELECTING FOOTING

7.01 Footing shall be selected in accordance with Section 081-740-105.

> ***Caution: The B ladder foot cannot be used with the E fiberglass extension ladder.***

8. PROVISIONS FOR SUPPORTING UPPER END

8.01 General information for supporting the upper end of ladders is described in Section 081-704-105. Additional information in the following paragraphs shall be observed regarding the E fiberglass extension ladder.

8.02 The ***ladder pad cannot*** be used on the E fiberglass extension ladder. Exercise extreme care when using a ladder on private property.

8.03 The ***B and D ladder supports cannot*** be used on the E fiberglass extension ladder. The C ladder support is rated MD and is replaced by the E ladder support. The only difference between the two is that the E ladder support strand clamps are designed to accommodate the new 6.6M strand size.

8.04 The E ladder support may be used to support the upper end of the ladder permitting the craftsman to sit or stand between the ladder and the cable.

8.05 The E ladder support (Fig. 5) consists of two screw clamp assemblies grooved to fit the strand and permanently attached to a U-shaped member made of aluminum alloy pipe. The clamps are equipped with chains for encircling the cable and strand as an added safety measure. The U-shaped member is for rigidly supporting the ladder away from the strand. A rope, attached to the center of the member, is tied to a rung of the ladder as a safety measure while placing the ladder in the support. The U-shaped member is also equipped with a fitting to receive one side

rail of the ladder for locating the ladder centrally in the support. The grooves in the clamps permit attaching the support to either lashed, ring-supported, or self-supporting cable without disturbing the cable.

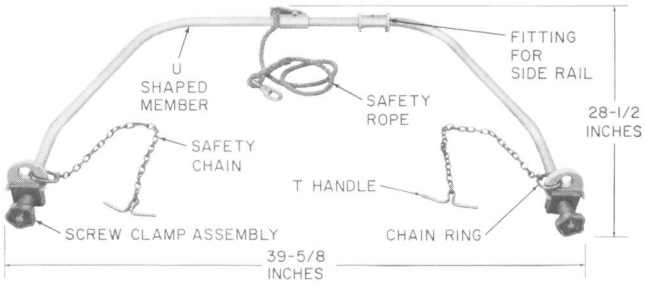


Fig. 5—E Ladder Support

8.06 To use the E ladder support, place the ladder against the strand and attach the support to the strand on the opposite side from the ladder. Place the safety chains around the strand or cable and strand. After the clamps are tightened the support will be in the position shown in Fig. 6. Attach the safety rope to the fifth rung from the top of the ladder. This will prevent the support from passing over the top of the ladder when the ladder is moved as described in 8.07.

8.07 Descend and pull the foot of the ladder backward until the top of the ladder falls below the strand and cable. This may also be accomplished by lowering the ladder with the ladder rope. Push the foot of the ladder forward and adjust its length or raise the ladder with the ladder rope until the ladder assumes the position shown in Fig. 7 with the right side rail placed in the fitting on the support.

8.08 Climb the ladder, detach the rope from the fifth rung, and use it to tie the ladder support member to the second rung from the top, as shown in Fig. 7.

8.09 Remove the support by reversing the procedures outlined in 8.06, 8.07, and 8.08.

9. RAISING AND LOWERING

9..01 Raise and lower the E fiberglass extension ladder in accordance with procedures outlined in Section 081-740-105.

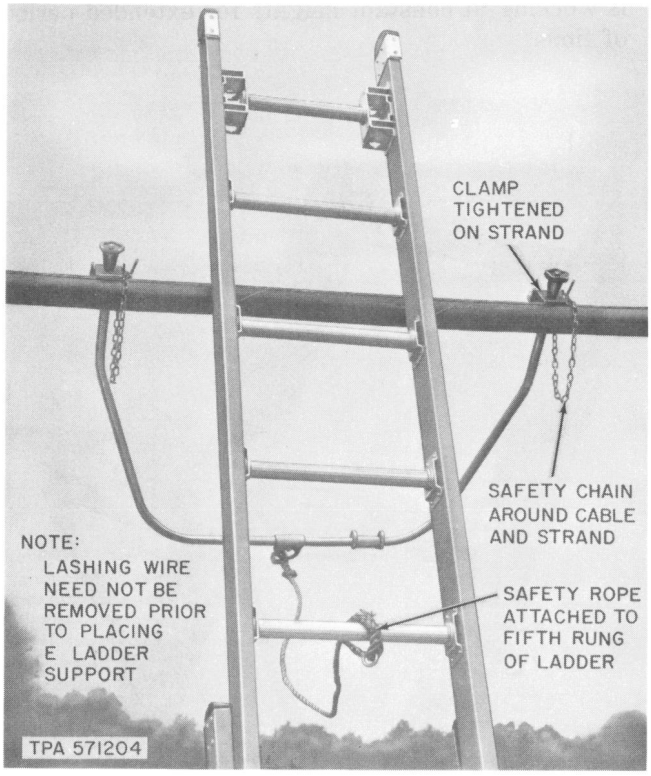


Fig. 6—E Ladder Support in Position on Strand

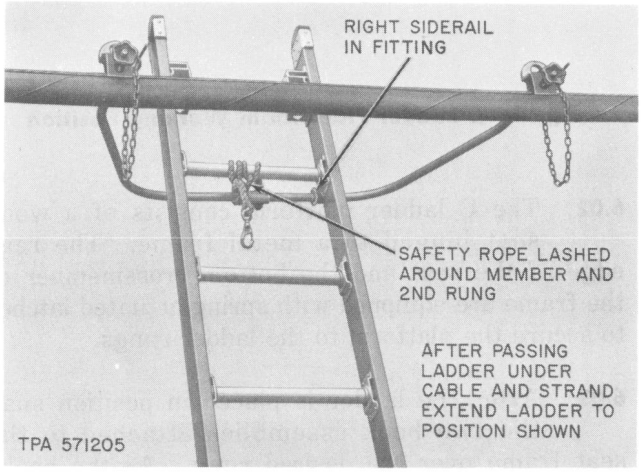


Fig. 7—E Ladder Support in Use

10. HANDLING FLY

10.01 The fly of the E fiberglass extension ladder shall be handled in accordance with procedures outlined in Section 081-740-105.

11. TRANSPORTING

11.01 General information on transporting ladders is outlined in Section 081-740-105. Specific information regarding the E fiberglass extension ladder is as follows:

Caution: The E fiberglass extension ladder shall be transported only on vehicles equipped with brackets designed for the fiberglass ladder or on vehicles whose brackets have been modified to accept the fiberglass ladder. Failure to use proper brackets may damage ladder.

Note: Ladder brackets designed for both fiberglass and wood ladders shall be adjusted to fit the type of ladder being transported.

12. INSPECTION

12.01 Before beginning any work with the E fiberglass extension ladder it shall be determined that it is in satisfactory condition and that its appearance indicates neither deterioration nor damage sufficient to affect its safe use.

12.02 Inspect the rails inside and outside by extending the ladder on supports or on a flat surface. ***Special attention shall be given to the inside and outside corners of the channels.*** Inspect for damage such as chips, cracks, dents, fractures (ruptures), gouges, or splits in the fiberglass material. These conditions, classified as ***external*** or ***apparent*** in 12.04 through 12.10, may occur at various places along the rail but are more prevalent around rung attachments, rivet locations, and at or near points of concentrated stress such as where guides bear against the rails or where improperly adjusted automotive rack clamps bear on the rails.

12.03 Inspect all metal parts and attachments for loose or missing rivets, dents, bends, breaks, cracks, and splits including the split type lockwashers at the spur feet (for cracks). Examine ladder locks and cable hooks for freedom of operation and proper function. Inspect guides for proper fit and possibility of scraping on rails.

Acceptable Conditions—Rails

12.04 External conditions such as the following should not be cause for rejection.

- Scratches or scuffs approximately 1/32-inch deep or less by 1/8-inch wide of any length. (These can be refinished at the time a ladder is returned for major repair.)
- Dents or gouges on the long edges of the toe (Fig. 8) when limited to approximately 1-inch long by 1/16-inch deep.
- Dents or gouges when they appear on the web or acrossthe flanges or legs (Fig. 8) when limited to approximately 1-inch long by 1/32-inch deep.
- Chips in any surface if limited to approximately 1/2-inch by 1/2-inch by 1/32-inch deep.
- Hairline surface cracks or irregular patterns similar to spiderwebs with no visible rupture.
- Shallow surface pinholes or pits approximately 1/32-inch by 1/32-inch.

12.05 If loose strands of fiberglass are present they should be touched up lightly with fine emery paper, and waxed, or brushed with a clear acrylic such as Acryloid B-48N® which may be obtained from Rohm & Hass Co., Philadelphia, Pa.

Acceptable Conditions—Hardware

12.06 Chipped or worn spurs may be used safely after rotating to expose new teeth.

Unacceptable Conditions—Rails

12.07 Apparent material failures such as the following are cause for rejection. Such ladders should be returned to service centers for further evaluation and repair.

- Rails having through cracks or splits. These defects can be identified by stressing with the hands.
- Ruptures—visible separation of edges on one surface penetrating into the fiberglass thickness. This may also be identified by stressing with the hands.
- Rails having chips, dents, or gouges in excess of those described in 12.04.

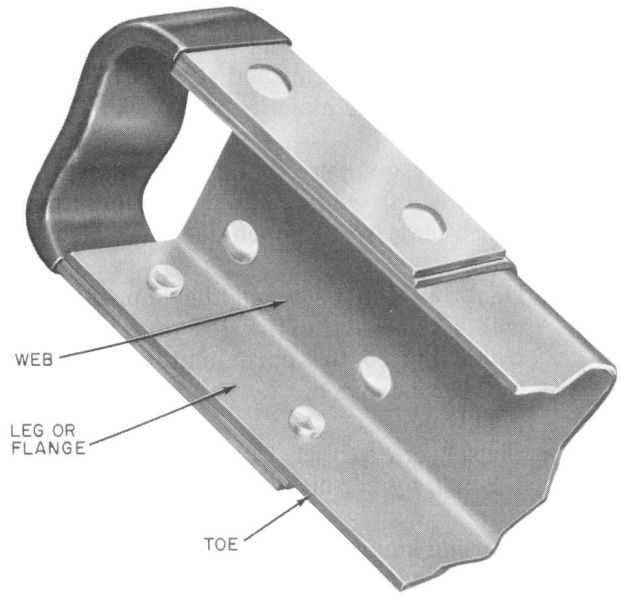


Fig. 8—Section of Ladder Rail

Unacceptable Conditions—Hardware

12.08 Excessively worn, frayed or rotted ladder rope shall be replaced. Replacement rope assembly kits are available and may be ordered in accordance with standard procedures.

12.09 Reject ladders having loose or missing rung plate rivets, and loose, bent, cracked, or severely dented rungs. Occasionally rungs may have longitudinal cracks along ribbing or they may have cracks around the crimping joining the rungs to the end plates.

12.10 Reject ladders with broken, cracked, or distorted locks, guides, braces, ladder hook assemblies. The standard split type lockwashers should be replaced if cracked or otherwise found defective.

13. CARE AND STORAGE

13.01 The E fiberglass extension ladder has been designed to have minimum weight and at the same time have ample strength. If properly cared for it should last a considerable length of time without repairs or replacement. Craftsmen using E fiberglass extension ladders shall maintain them in accordance with guidelines established in this section. Return defective ladders to Service Centers if repairs cannot be made locally.

13.02 Depending on the type of exposure, weathering can cause erosion of the surfaces of the rails sufficient to expose the ends of the fiberglass fibers. Normal weathering resulting in a "dusting" will be washed off by rains or rubbed off by normal use. The user should periodically clean rails by wiping with a clean cloth to remove any build-up of grease, grime, or other conductive materials.

When lowering fly, check its downward movement with extension rope to prevent it from striking ground or pavement sharply. Dropping even a short distance may damage side rails or cause failure under normal loads at a later date.

13.03 Never use a ladder as a skid.

13.04 E fiberglass extension ladders shall be stored in accordance with instructions in Section 081-740-105.

13.05 Ladder locks, pulleys, and wheel spurs shall be maintained as covered in Section 081-740-105.