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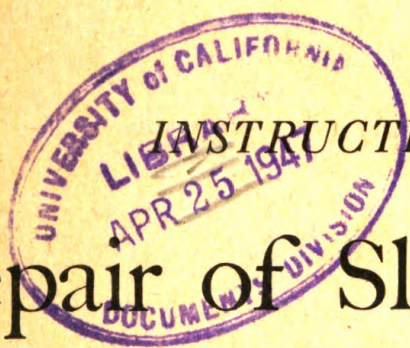


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# TM 9-2865

WAR DEPARTMENT TECHNICAL MANUAL

U.S. Dept. of Army



INSTRUCTION GUIDE:

## Repair of Slide Fasteners

WAR DEPARTMENT

6 JANUARY 1944



*INSTRUCTION GUIDE:*

# Repair of Slide Fasteners



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WAR DEPARTMENT

6 JANUARY 1944

**WAR DEPARTMENT**  
Washington 25, D. C., 6 January 1944

**TM 9-2865—Instruction Guide: Repair of Slide Fasteners, is published for the information and guidance of all concerned.**

[ **A.G. 300.7 (6 Aug 43)**  
**O.O. 461/45389 O.O. (6 Jan 44)** ]

**BY ORDER OF THE SECRETARY OF WAR:**

**G. C. MARSHALL,**  
*Chief of Staff.*

**OFFICIAL:**

**J. A. ULIO,**  
*Major General,*  
*The Adjutant General.*

**DISTRIBUTION: C and H 9 (3).**

**(For explanation of symbols, see FM 21-6.)**

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**INSTRUCTION GUIDE:**

**REPAIR OF SLIDE FASTENERS**

CHANGES }  
No. 1 }

WAR DEPARTMENT,  
WASHINGTON 25, D. C., 15 April 1944.

TM 9-2865, 6 January 1944, is changed as follows:

**4. TAPE BEAD TORN.**

a. \* \* \*

(1) NON-SEPARABLE TYPE SLIDE FASTENERS.

(a) \* \* \*

1. Close the slide fastener chain from the bottom stop up to the point of damage.

\* \* \* \* \*

(b) \* \* \*

1. Close the slide fastener chain from the bottom stop up to the point of damage.

\* \* \* \* \*

Figure 7, Remeshing Scoops with Closing Pliers (page 8), is rescinded.

**5. SLIDER MISSING.**

a. \* \* \*

(1) NON-SEPARABLE TYPE SLIDE FASTENERS.

\* \* \* \* \*

(b) \* \* \*

1. Close the slide fastener chain from the bottom stop up to the point of damage.

\* \* \* \* \*

(c) \* \* \*

1. Close the slide fastener chain from the bottom stop up to the point of damage.

\* \* \* \* \*

(e) \* \* \*

\* \* \* \* \*

2. Close slide fastener from bottom stop up to top.

\* \* \* \* \*

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6. SLIDER JAMMED ON CHAIN.

a. \* \* \*

(1) NON-SEPARABLE SLIDE FASTENERS.

\* \* \* \* \*

(c) \* \* \*

\* \* \* \* \*

2. Close slide fastener from bottom stop up to top.

\* \* \* \* \*

Figure 20, Slide Fastener Repair Kit (page 19), is rescinded.

10. REPLACEMENT OF SLIDE FASTENERS.

\* \* \* \* \*

c. Select slide fastener of correct length and type (separable or regular). If correct length is not available, proceed as follows:

\* \* \* \* \*

[A. G. 800.7 (28 Mar 44).]

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G. C. MARSHALL,  
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*Major General,*  
*The Adjutant General.*

DISTRIBUTION:

As prescribed in paragraph 9a, FM 21-6; C & H 9 (3).  
For explanation of symbols see FM 21-6.



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## Section I INTRODUCTION

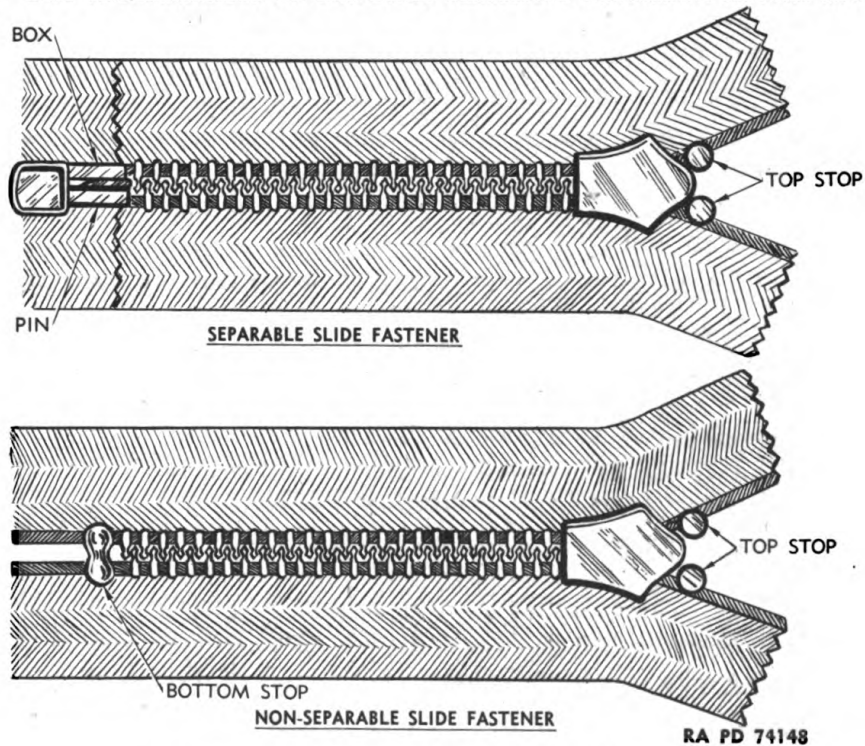
	Paragraph
Scope .....	1
Description .....	2

### 1. SCOPE.

a. This manual is published for the information and guidance of personnel charged with maintenance of slide fasteners. In addition to description, it contains information required for the identification, use, and care of slide fasteners.

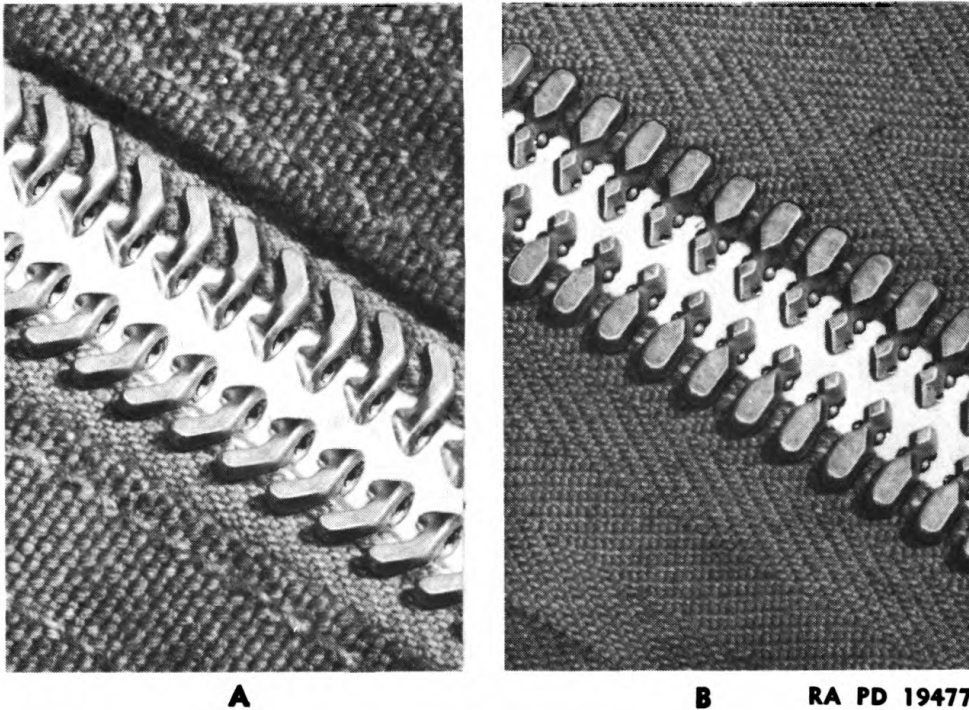
### 2. DESCRIPTION.

a. The maintenance of the slide fasteners described herein are for



**Figure 1 - Types of Slide Fasteners**

**INSTRUCTION GUIDE — REPAIR OF SLIDE FASTENERS**



**Figure 2 — Types of Slide Fastener Scoops**

heavy duty slide fasteners which are designed to withstand the abuse and hard wear to which they are subjected; however, methods described herein are applicable to all sizes and types.

b. Slide fasteners are commercially known as “zippers.”

c. There are two types of slide fasteners, the separable type and non-separable type.

(1) The separable type has a pin and box at one end, and a top stop at the other end (fig. 1).

(2) The non-separable (regular) type has a bottom stop and top stop (fig. 1).

(3) The closing of the slide fastener is accomplished by meshing of the “scoops” as illustrated in figure 2.

---

**Section II**

**PREVENTIVE MAINTENANCE**

Preventive maintenance.....	Paragraph 3
-----------------------------	----------------

**3. PREVENTIVE MAINTENANCE.**

a. When cover is placed on the equipment, the edges of slide fastener openings should be brought together before closing slide fastener.

**PREVENTIVE MAINTENANCE**



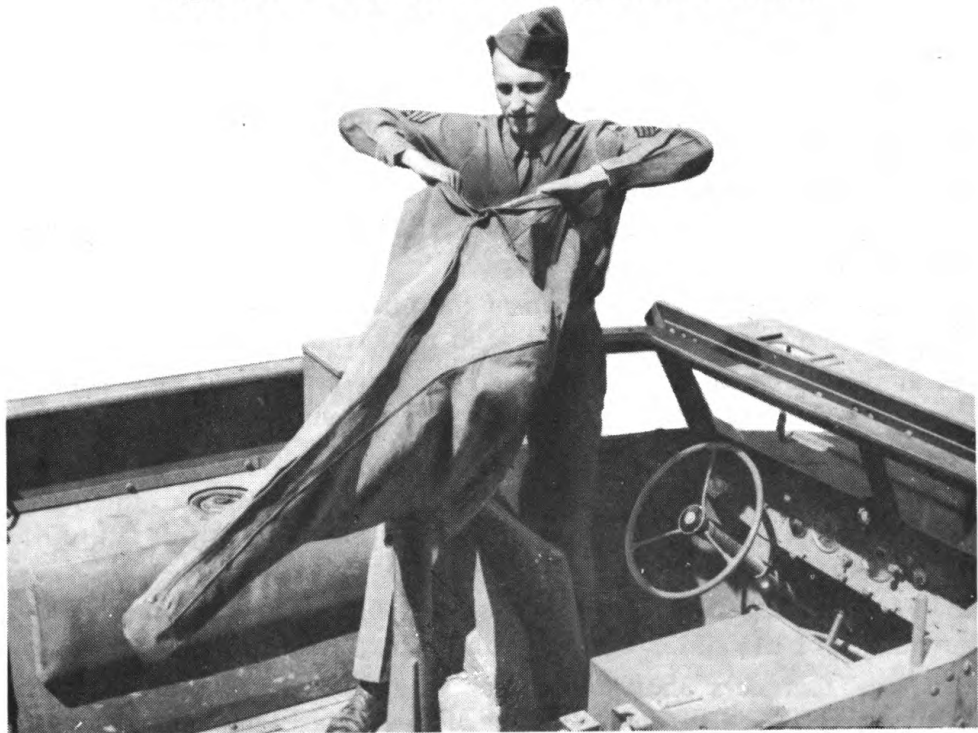
**CORRECT**



**INCORRECT**

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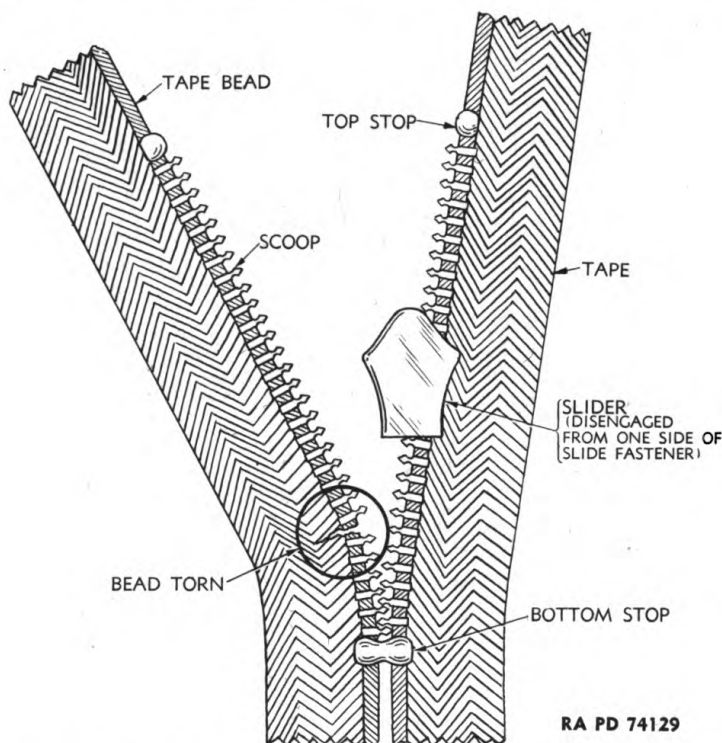
**Figure 3 — Method of Closing Slide Fastener**



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**Figure 4 — Quick Method of Opening Slide Fastener**

## INSTRUCTION GUIDE — REPAIR OF SLIDE FASTENERS



**Figure 5 — Tape Bead Torn Near Bottom Stop**

b. Correct way for operator to close cover is to grip it behind the fastener slider. *Correct* and *Incorrect* ways are illustrated in figure 3 (note left hand).

c. The slide fastener should never be closed with a quick jerking motion. A slow steady pulling action should be used to prevent damage to the slide fastener and the tape.

d. Any obstruction in the path of the fastener slider should be removed, or the cover properly adjusted to correct this condition.

e. If slide fastener is of separable type, the pin should be securely seated into the box before attempting to close slide fastener (fig. 1).

f. If slide fastener sticks or jams, *it should not be forced*. The cause of stoppage should be investigated and corrected.

g. For quick opening of canvas cover, grip it as shown in figure 4, and pull apart.

h. If slider edges become sharp, sliders should be replaced. The sharp edges of the slider will act as a cutting edge and cut the tape.

i. Slide fasteners should be kept free from sand which is an abrasive and will sharpen the edges of the slider which in turn will cut the tape. Slide fasteners should also be kept as free from oil and grease as possible to prevent the deterioration of the tape.

## Section III

**MALFUNCTIONS AND CORRECTIONS**

	Paragraph
Tape bead torn . . . . .	4
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Slider jammed on chain . . . . .	6
Scoops missing . . . . .	7
Tape torn along bead . . . . .	8
Damage at separating unit . . . . .	9

**4. TAPE BEAD TORN.**

a. If the bead of the slide fastener tape is torn between scoops, and the slider becomes disengaged from the damaged side of the slide fastener chain, the following steps should be taken to effect emergency repair (fig. 5):

**(1) NON-SEPARABLE TYPE SLIDE FASTENERS.**

(a) If the damage has occurred at a point *near the bottom stop*, repair as follows:

1. Close the slide fastener chain from the bottom stop up to the point of damage, either by hand as illustrated in **A**, figure 6, or by using closing pliers as illustrated in figure 7.

2. Work the slider back onto the joined chain (**B**, fig. 6).

3. Pull slider up over the damaged portion with care, bringing the two sides of the slide fastener chain together ahead of the slider.

4. Sew or lace the joined scoops with soft wire or heavy thread to provide a bottom stop at a point immediately above the damaged slide fastener bead (**C**, fig. 6 and fig. 8).

(b) If the damage has occurred at a point *near the top stop*, repair as follows:

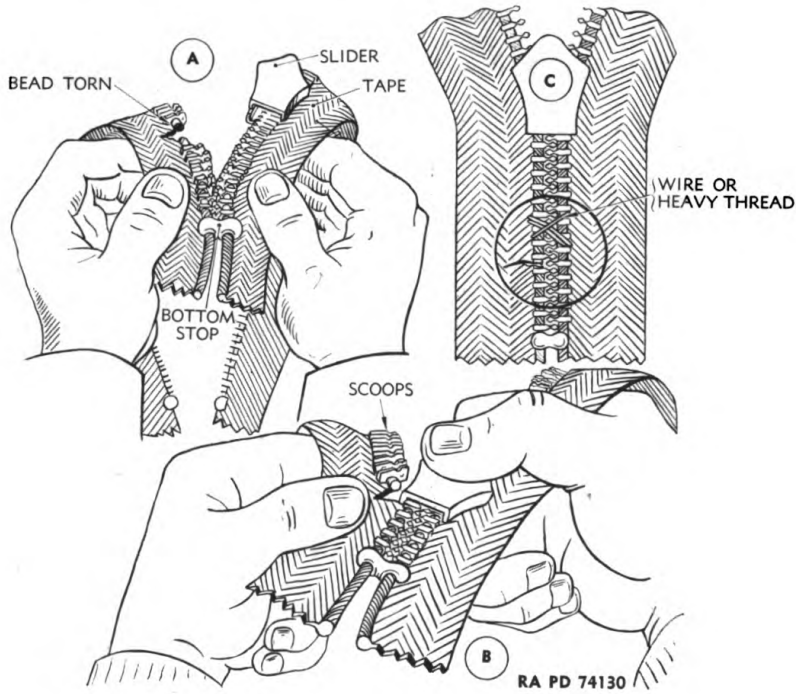
1. Close the slide fastener chain from the bottom stop up to the point of damage, either by hand as illustrated in **A**, figure 6, or by using closing pliers as illustrated in figure 7.

2. Work the slider back on to the joined chain (**B**, fig. 6).

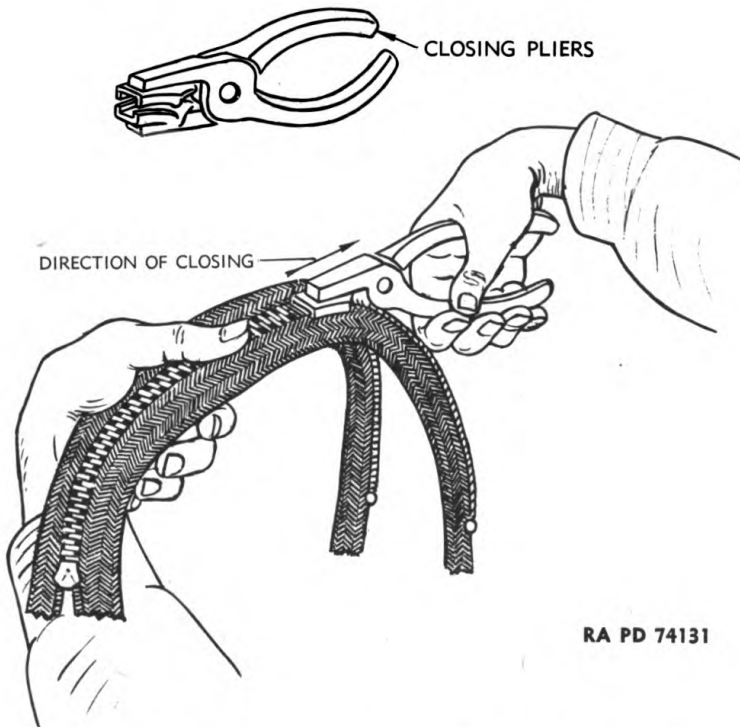
3. Sew or lace with soft wire or heavy thread immediately below the point of damage to provide a top stop as illustrated in figure 9.

(c) If the damage has occurred at a point *near the middle of the slide fastener*, it may not be practical to follow the procedure outlined under either steps (a) or (b), above, since the use of temporary top stops or bottom stops near the middle of the slide fastener will have the effect of reducing by approximately one-half the effective length of the slide fastener. The recommended procedure under these circumstances, in order to make temporary use of the cover possible, is to operate the slide fastener with care past the point of damage.

**INSTRUCTION GUIDE – REPAIR OF SLIDE FASTENERS**

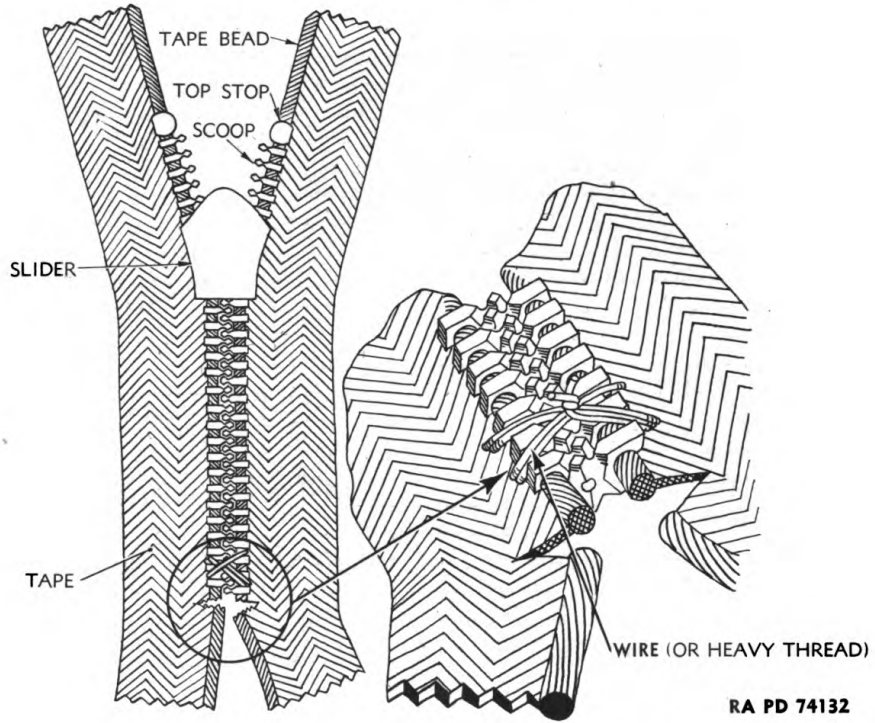


**Figure 6 – Remeshing Scoops by Hand**

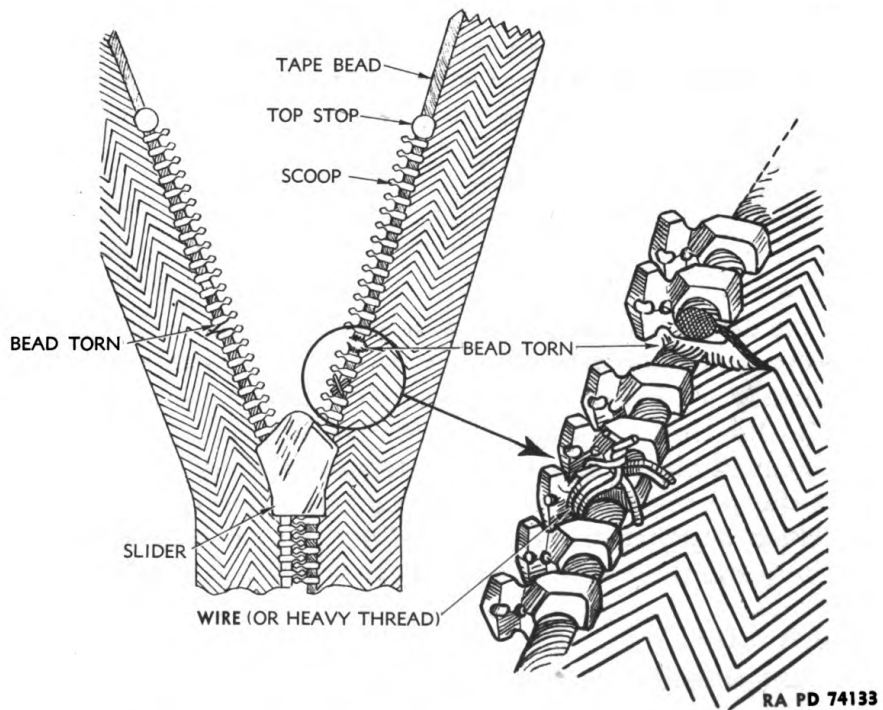


**Figure 7 – Remeshing Scoops with Closing Pliers**

**MALFUNCTIONS AND CORRECTIONS**



**Figure 8 – Wire Bottom Stop Application**



**Figure 9 – Wire Top Stop Application**

INSTRUCTION GUIDE — REPAIR OF SLIDE FASTENERS

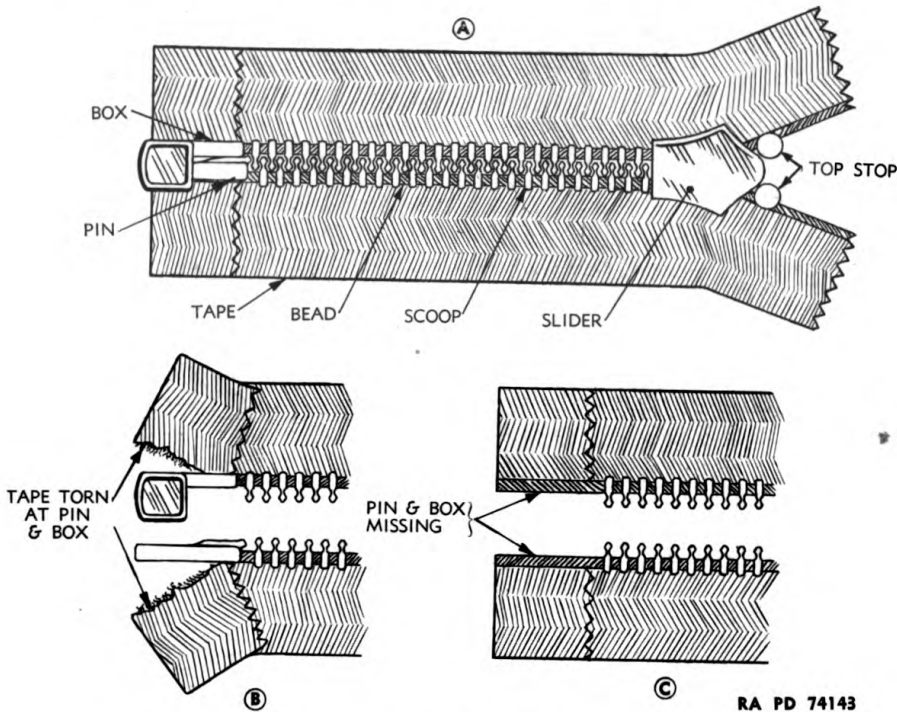


Figure 10 — Separable Slide Fastener Assembly

When running the slider past the point of damage, bring the two sides of the slide fastener chain together ahead of the slider, thus reducing the crosswise strain as the slide fastener is closed. Replace with new slide fastener as soon as possible (sec. IV).

(2) SEPARABLE TYPE SLIDE FASTENERS.

(a) If the damage has occurred at a point *near the top stop*, repair in the same manner as for the non-separable type slide fasteners (subpar. a (1) (b), above).

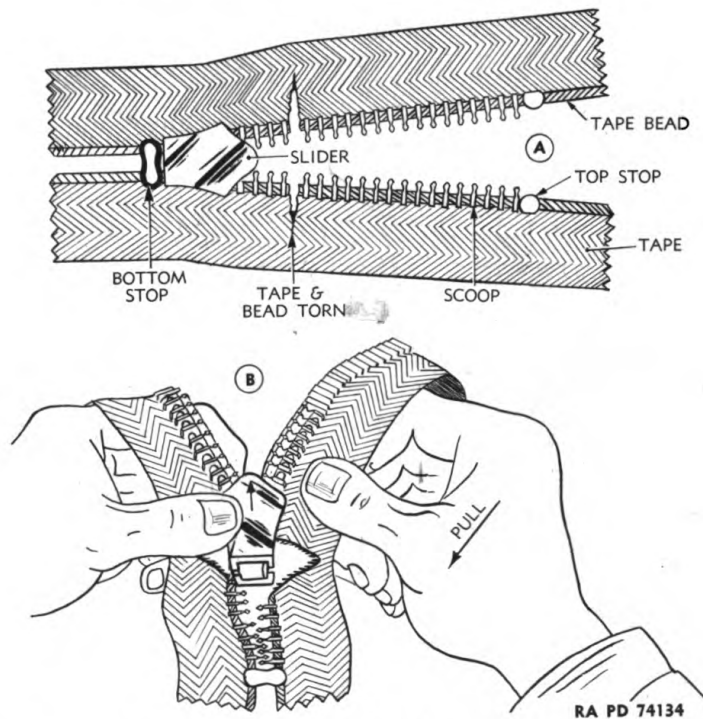
(b) If the damage has occurred at *any other point on slide fastener chain*, replace with new slide fastener as soon as possible. If tape is torn on pin side or box side, it is necessary to replace only the damaged side of the slide fastener (fig. 10). Before replacement, temporary use of the cover can be effected by operating the slide fastener with care past the point of damage, bringing the two sides of the slide fastener chain together ahead of the slider, thus reducing the crosswise strain as the slide fastener is closed.

5. SLIDER MISSING.

a. If the slide fastener slider is missing from the slide fastener chain or the condition is the result of torn tape, emergency repair is effected as stated below:



## MALFUNCTIONS AND CORRECTIONS



**Figure 11 – Applying New Slider to Damaged Slide Fastener**

**(1) NON-SEPARABLE TYPE SLIDE FASTENERS.**

(a) If slide fastener tape and bead are torn at or near bottom of slide fastener (fig. 11) and slider is missing, repair as follows:

1. Work a new slider back on to the separated slide fastener chain at the point of damage (B, fig. 11).

2. Sew or lace the joined scoops with soft wire or heavy thread to provide a bottom stop at a point immediately above the point of damage (fig. 8).

(b) If slide fastener tape and bead are torn at or near top of slide fastener (fig. 9) and slider is missing, repair as follows:

1. Close the slide fastener chain from the bottom stop up to the point of damage, either by hand as illustrated in A, figure 6, or by using closing pliers as illustrated in figure 7.

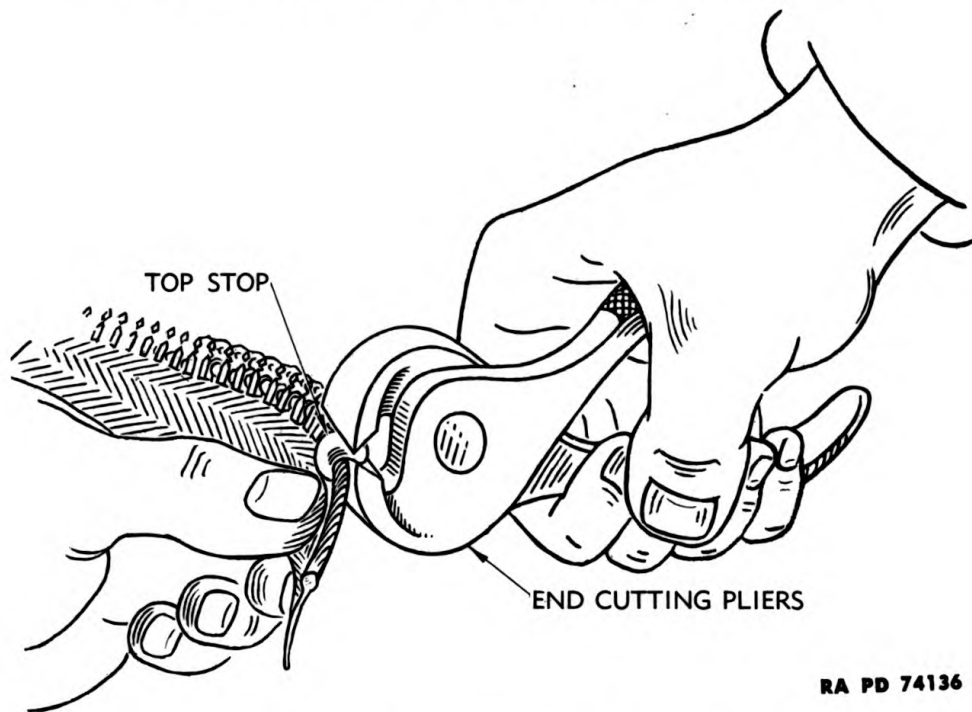
2. Work new slider back on to the joined chain (B, fig. 11).

3. Sew or lace with soft wire or heavy thread immediately below point of damage to provide a top stop as illustrated in figure 9.

(c) If slide fastener tape and bead are torn near the middle of the slide fastener and slider is missing, temporary use of the cover is possible as follows:

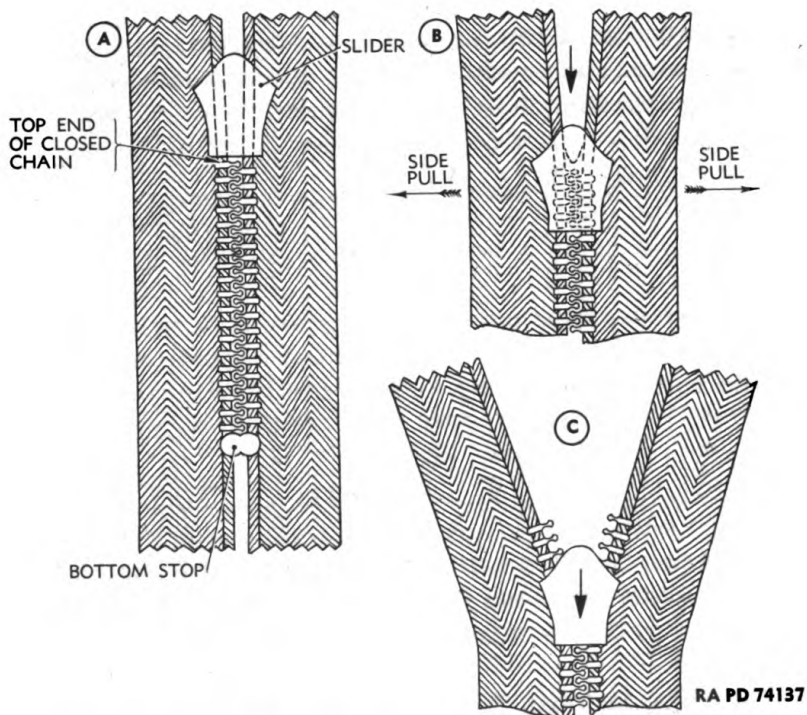
1. Close the slide fastener chain from the bottom stop up to the point of damage by hand as illustrated in A, figure 6, or by using closing pliers as illustrated in figure 7.

**INSTRUCTION GUIDE – REPAIR OF SLIDE FASTENERS**



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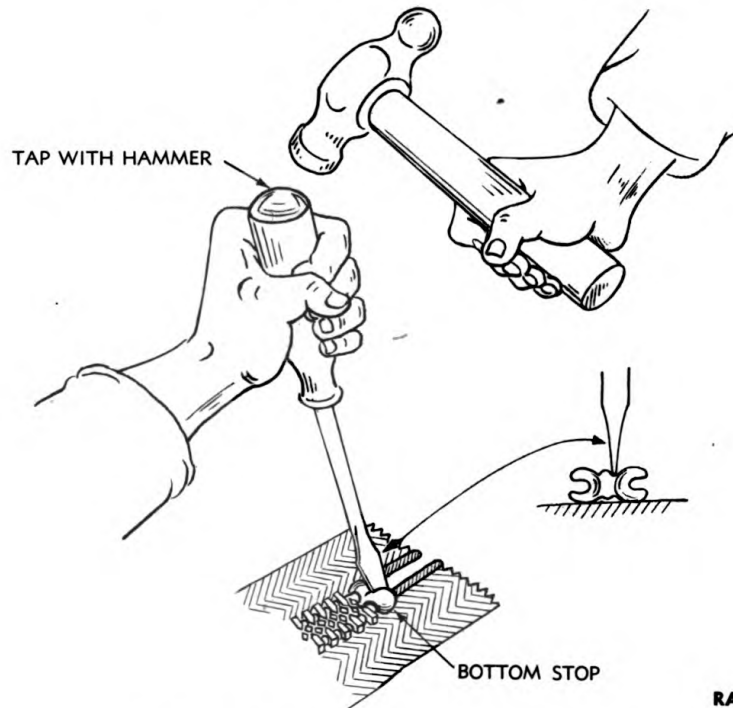
**Figure 12 – Removing Top Stop**



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**Figure 13 – Applying New Slider at Top of Slide Fastener**

## MALFUNCTIONS AND CORRECTIONS

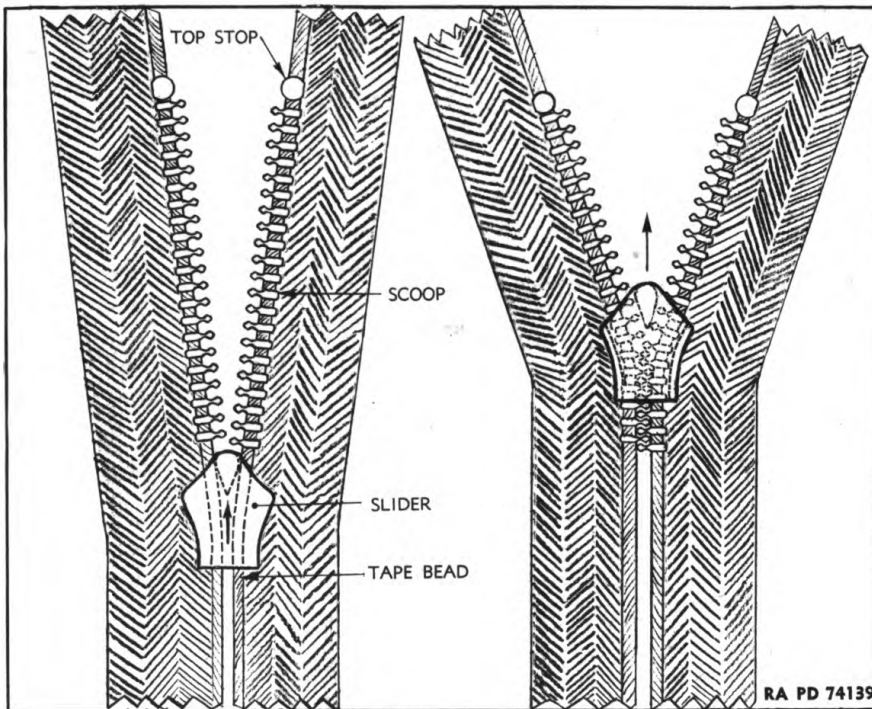


RA PD 74138

**Figure 14 – Removing Bottom Stop**

2. Work new slider back on to the joined chain (**B**, fig. 11).
3. Open or close cover with care past the point of damage. When running the slider past the point of damage, bring the two sides of the slide fastener chain together ahead of the slider, thus reducing the crosswise strain as the slide fastener is closed.
4. Replace with new slide fastener as soon as possible.
  - (d) If the slide fastener tape is *not damaged at any point but slider is missing*, a new slider may be applied either at top end of slide fastener or at bottom end of slide fastener.
  - (e) If applied at top proceed as follows:
    1. Remove one or both top stops of slide fastener, using end cutting pliers, (fig. 12). It may be necessary to remove only one stop. Many top stops are of such design that only one stop need be removed as the other will be of such size to permit its passing through the slider. To find out, the lower of the two stops should be removed first.
    2. Close slide fastener from bottom stop up to top by hand as illustrated in **A**, figure 6, or by using closing pliers as illustrated in figure 7.
    3. Apply new slider at top end of closed chain (fig. 13).
    4. Make top stop by sewing or lacing with soft wire or heavy thread at top two scoops (fig. 9).
  - (f) If applied at bottom, proceed as follows:

**INSTRUCTION GUIDE – REPAIR OF SLIDE FASTENERS**



**Figure 15 – Applying New Slider at Bottom of Slide Fastener**

1. Remove bottom stop by using screwdriver as a chisel and tapping with hammer (fig. 14).
2. Apply new slider at bottom (fig. 15).
3. Make a bottom stop by sewing or lacing with soft wire or heavy thread around bottom scoops of joined chain (fig. 8).

**(2) SEPARABLE TYPE SLIDE FASTENERS.**

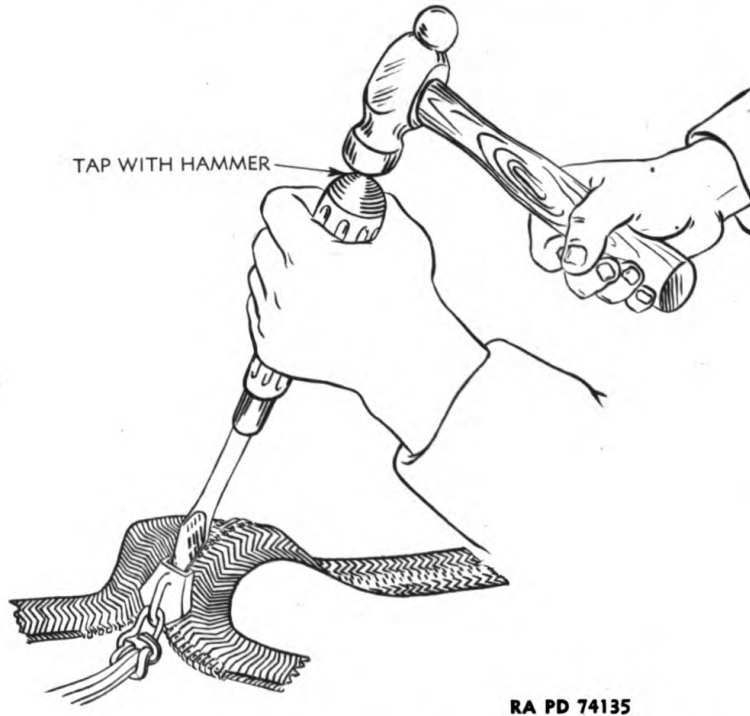
(a) If the damage has occurred at a point *near the top of the slide fastener*, repair as follows:

1. Work new slider back onto box side of slide fastener chain at point of damage.
2. Run slider below point of damage.
3. Sew or lace with soft wire or heavy thread immediately below point of damage to provide a top stop (fig. 9).

(b) If the damage has occurred at *any other point of slide fastener chain*, temporary use of cover can be effected as follows:

1. Work new slider back onto box side of slide fastener chain at point of damage.
2. Operate slide fastener with care past point of damage bringing the two sides of the slide fastener chain together ahead of the slider, thus reducing the crosswise strain as the slide fastener is closed.
3. Replace with new slide fastener as soon as possible. Only the damaged side must be replaced.

## MALFUNCTIONS AND CORRECTIONS



**Figure 16 – Prying Open a Crushed Slider**

(c) If slide fastener tape is *not* damaged at any point but slider is missing, repair as follows:

1. Remove top stop on box side (fig. 10) of slide fastener using end cutting pliers (fig. 12).
2. Apply new slider at top end of tape on box side.
3. Sew or lace with soft wire or heavy thread at top two scoops of box side to provide top stop (fig. 9).

### 6. SLIDER JAMMED ON CHAIN.

a. If the slide fastener slider is crushed or jammed and will not move freely along slide fastener chain, repair as follows:

#### (1) NON-SEPARABLE SLIDE FASTENERS.

(a) Pry slider open by inserting screwdriver into mouth of slider between slider and scoops, tapping with hammer until slider can be removed from chain, using care to prevent injury to scoops (fig. 16).

(b) Apply new slider. Slider may be applied either at top end of slide fastener or bottom end of slide fastener.

(c) *If applied at top*, proceed as follows:

1. Remove one or both top stops of slide fastener, using end cutting pliers (fig. 12).

2. Close slide fastener from bottom stop up to top by hand as illustrated in A, figure 6, or by using closing pliers as illustrated in figure 7.

INSTRUCTION GUIDE — REPAIR OF SLIDE FASTENERS

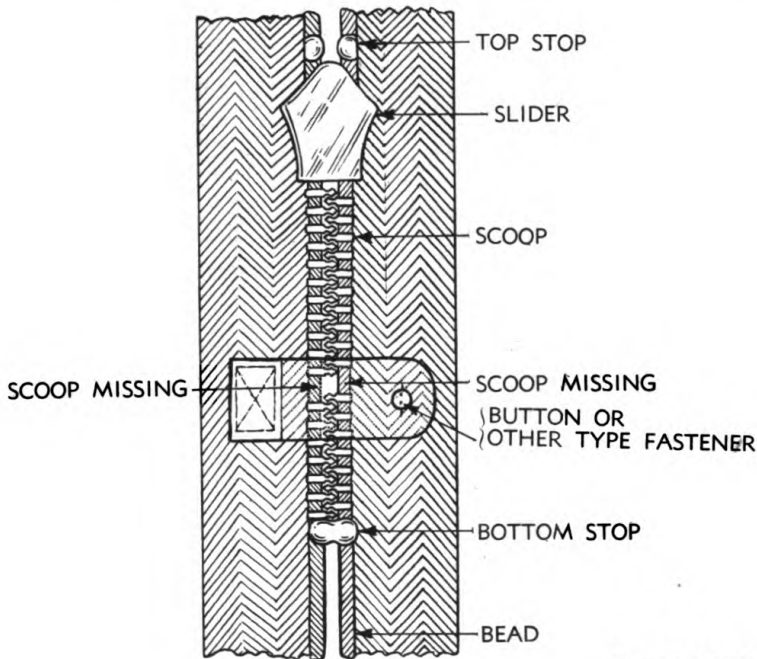


Figure 17 — Scoop Missing on Each Side

3. Apply new slider at top end of closed chain (fig. 13).
4. Make top stop by sewing or lacing with soft wire or heavy thread at top two scoops (fig. 9).

(d) If applied at bottom, proceed as follows:

1. Remove bottom stop by using screwdriver as a chisel and tapping with hammer (fig. 14).
2. Apply new slider at bottom (fig. 15).
3. Make bottom stop by sewing or lacing with soft wire or heavy thread around bottom scoops of joined chain (fig. 8).

(2) SEPARABLE SLIDE FASTENERS.

(a) Pry slider open by inserting screwdriver into mouth of slider between slider and scoops, tapping with hammer until slider can be removed from chain, using care to prevent injury to scoops (fig. 16).

(b) Remove top stop on box side (fig. 10) of slide fastener using end cutting pliers (fig. 12).

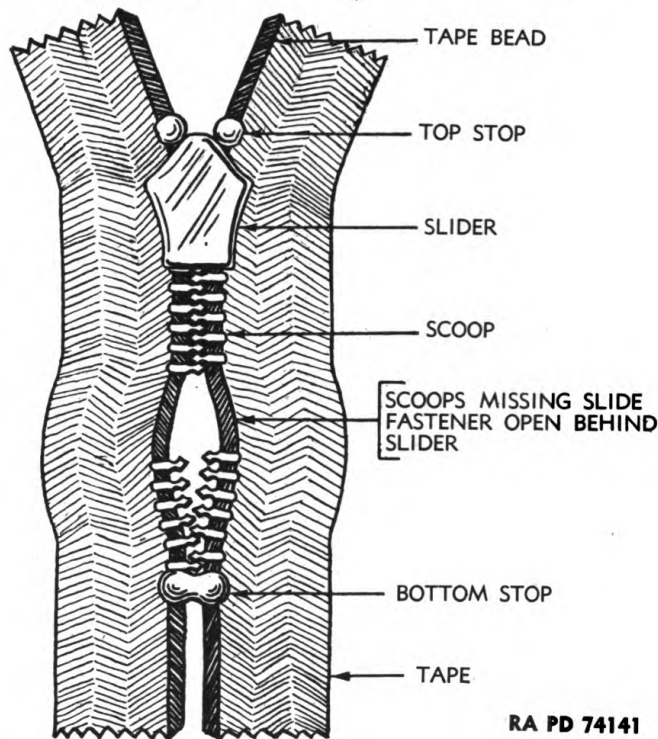
(c) Apply new slider at top end of tape on box side.

(d) Sew or lace with soft wire or heavy thread around top two scoops on box side to provide top stop.

7. SCOOPS MISSING.

a. If only one scoop or one scoop on each side of the slide fastener chain is missing (fig. 17), it is possible to use cover temporarily by operating the slide fastener with care past the point of damage. When

**MALFUNCTIONS AND CORRECTIONS**



**Figure 18 – Several Scoops Missing on Each Side**

running the slider past the point of damage, bring the two sides of the slide fastener chain together ahead of the slider, thus reducing the crosswise strain as the slide fastener is closed. Temporary repair may be made by sewing a short piece of cloth tape or strap to one side, and securing same to the other side by means of a buckle, button, hook, or snap, to take the strain off the fastener.

b. If several scoops are missing at one point, any great amount of crosswise strain on the cover will make slide fastener chain become unmeshed behind the slider (fig. 18). Replacement of slide fastener is required, however temporary repair may be made as described in subparagraph a, above. If only one side of a slide fastener is damaged, only that side need be replaced.

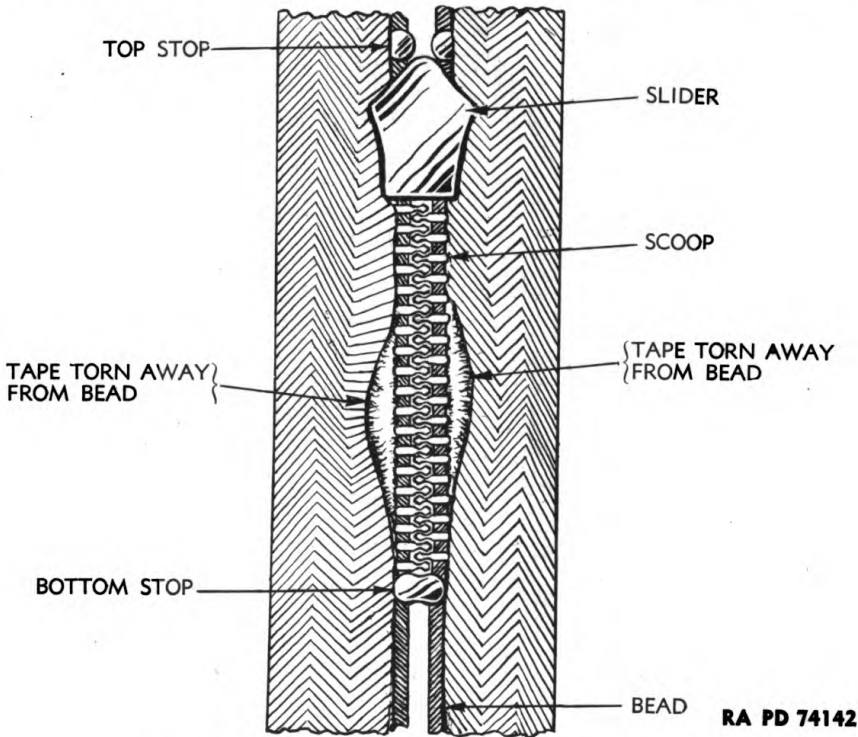
**8. TAPE TORN ALONG BEAD.**

a. Slide fastener in this condition (fig. 19) can be operated, but any great amount of crosswise strain on cover will aggravate damage. Temporary repair is accomplished by sewing and whipping the bead to the tape, however, replace with new slide fastener as soon as possible. If only one side of a slide fastener is damaged, only that side need be replaced.

**9. DAMAGE AT SEPARATING UNIT.**

a. If the separable assembly on a separating slide fastener is dam-

**INSTRUCTION GUIDE – REPAIR OF SLIDE FASTENERS**



**Figure 19 – Tape Torn Away from Bead**

aged or if either of these parts is missing (fig. 10), the slide fastener may be kept in service by cutting off either one or both damaged components, and improvising with soft wire or heavy thread a retainer on one side to prevent loss of the slider. The other side of the fastener needs no treatment, it can be started into the slider without its pin. However, a touch of shellac, varnish, or beeswax should be added to provide a more durable tip to the raw end of the chain. To take the lateral strain off the fastener, a piece of cloth tape should be sewed about 1 inch above the end of the chain, as previously described in paragraph 7.

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**Section IV**

**REPLACEMENT OF SLIDE FASTENERS**

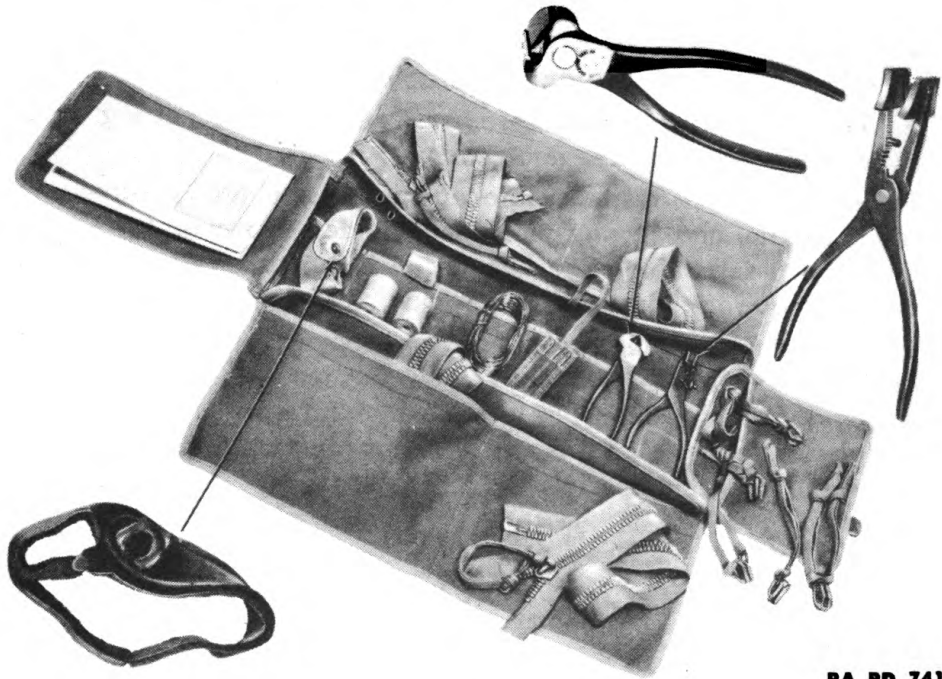
Replacement of slide fasteners . . . . .	Paragraph 10
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**10. REPLACEMENT OF SLIDE FASTENERS.**

- a. Determine length of slide fastener required for replacement, allowing 2 inches extra of joined chain in measuring opening in cover.
- b. Determine type of slide fastener required for replacement; that



## REPLACEMENT OF SLIDE FASTENERS



RA PD 74145

**Figure 20 — Slide Fastener Repair Kit**

is, either the *separable type*, which is open at top and separates at bottom, or the *non-separable type* (regular), which is open at top and closed at bottom. If only one side of a separable slide fastener is damaged, only that side need be replaced.

c. Select slide fastener of correct length and type (separable or regular) from slide fasteners provided in repair kit (fig. 20). If correct length is not available, proceed as follows:

(1) Cut determined length plus 2 inches extra of correct type from longer length complete slide fastener or from slide fastener chain, and remove scoops from each end to provide 1 inch of tape for sewing the ends.

(2) Apply slider to new slide fastener chain (fig. 13 or 15). This will not be necessary if longer length complete slide fastener with slider is being cut to length.

(3) Sew or lace with soft wire or heavy thread around bottom scoops of joined chain to provide bottom stops (fig. 8). This applies only to regular type slide fasteners, not to separable type, and only if standard bottom stop on new slide fastener has been cut off.

(4) Sew or lace with soft wire or heavy thread around top two scoops to provide top stops (fig. 9). This applies only if standard top stops on new slide fastener have been cut off.

d. Before removing damaged slide fastener, mark cover along edge

**INSTRUCTION GUIDE – REPAIR OF SLIDE FASTENERS**

of old slide fastener tape as guide in sewing new slide fastener into cover. Also locate position of bottom stop on regular type slide fastener, or separable assembly on separable slide fastener.

e. Remove damaged slide fastener from cover by cutting stitches between slide fastener tape and cover.

f. Sew new slide fastener into opening, using heavy thread, sailmaker's needle, and sewing palm as provided in repair kit. If only one side of a separable slide fastener is being replaced, seat the pin in the box before sewing on the new side.

g. On replacing slide fasteners having scoops as shown in A, figure 2, care should be taken so as not to sew the fastener upside down, or wrong end up, if the slider has been removed during sewing operation. The slider on fasteners of this type will not function if its mouth points in the same direction as the noses of the scoops.

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