BELL SYSTEM PRACTICES
Outside Plant Construction and Maintenance

SECTION G86.240.2
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AT&T Co Standard

LEATHER SAFETY STRAPS

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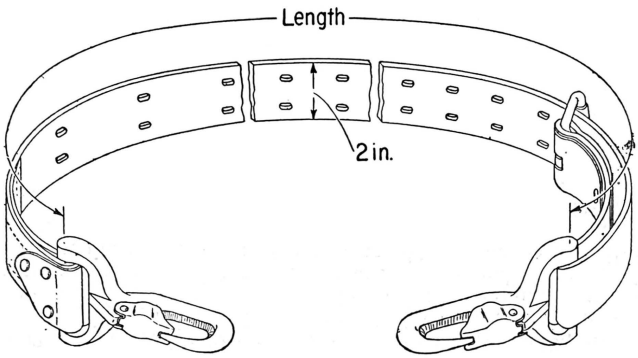
1. GENERAL

1.01 This section covers the care and maintenance of leather safety straps. It has been reissued to **prohibit** the use of two or more safety straps attached together for providing added length, to include additional cleaning instructions, and to specify a new method of attaching the safety strap to the body belt when the other end of the strap is fastened to the suspension strand.

1.02 Leather safety straps are made of best quality harness leather in two sizes, S and L. The length of the strap is measured as shown in the illustration. The minimum and maximum lengths of the S strap are 30-3/4 inches and 53-1/4 inches, while those of the L strap are 40-3/4 inches and 61-3/4 inches.



2. SAFETY PRECAUTIONS

2.01 Before climbing a pole, adjust the length of the safety strap and see that the **buckle tongues are** properly seated in the desired holes in the strap.

2.02 When placing a strap around a pole place it so that it rests flat against the pole surface. Straps should not have turns or twists.

2.03 A workman may improve his security by placing the strap around the pole at a point directly above a crossarm, strand, a pole step or other secure attachment which is to remain in place while he is on the pole. Do not place a strap around a pole within one foot of the top of the pole unless there is a crossarm or cable attachment on the pole above the strap. Do not place a strap around an insulator pin, a bolt, crossarm brace, or other insecure attachment.

2.04 **Two or more safety straps shall not be attached together for additional length.** When one safety strap can not be lengthened sufficiently to reach around a large tree or other object, time should be taken to procure a rope sling or the method of doing the work changed.

2.05 A workman working on an aerial platform or an extension ladder that is securely supported by a suspension strand or other support may use one of the following methods to secure himself with his body belt and safety strap. Attach one snap hook to a Dee ring, and either

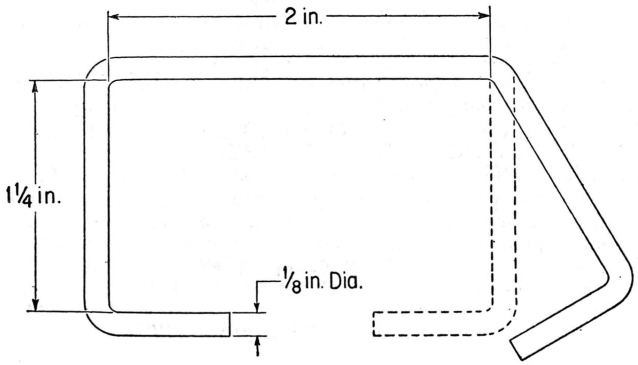
(a) pass the free end of the safety strap between two rungs and around one side rail, and engage the snap hook in **the other** Dee ring, or

(b) pass the free end of the safety strap around a securely fastened rung and engage the snap hook in **the other** Dee ring, or

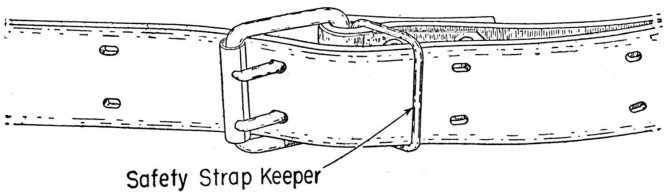
(c) pass the free end of the safety strap over the suspension strand so as to loop the strand and engage the snap hook in **the other** Dee ring, or

(d) pass the free end **through the other Dee ring** and engage the snap hook on the suspension strand. (Use this method when working on an aerial platform.)

2.06 The safety strap keeper (see illustration) has been developed as a means of preventing disengagement of the buckle on the lineman's safety strap, particularly when the strap is slacked off as a lineman shifts his position on a pole. Buckle disengagement is aggravated when the buckle holes have become slightly enlarged from use. To determine whether buckle holes have become sufficiently enlarged to make the safety strap unsafe, use a 134 steel tie wire as a gauge to check the size of the holes in the following manner. With the prongs of the buckle in the holes, attempt to place the tie wire in the hole together with the prong. If this can be done without forcing, the holes are too large and the strap should be equipped with a safety strap keeper (see following paragraph), assuming that the strap is serviceable in other respects.

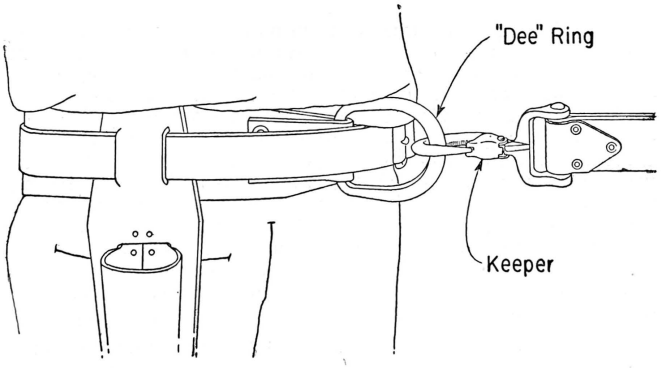


2.07 The keeper is attached to the loop holding the buckle so that the keeper encloses the adjustable portion of the safety strap as illustrated.



2.08 The keeper is furnished partly open to facilitate attachment to the buckle loop. The keeper is attached by inserting the closed end in one side of the buckle loop and striking the open end lightly with a hammer so that the open end is fitted into the other side of the buckle loop.

2.09 SEE THAT THE SNAP HOOK AND DEE RING ARE PROPERLY ENGAGED. DO NOT RELY ON FEEL OR ON THE CLICK OF THE KEEPER in the snap hook when attaching a safety strap to a Dee ring, as an indication that the fastening is secure; workmen shall **LOOK and KNOW** that the snap hook is properly engaged before placing their weight on the strap. Always have the keeper of the snap hook on the safety strap **away** from the body when engaged in the Dee ring as shown in the following illustration.



2.10 The following are additional precautions:

(a) Exercise care when working aloft so that the keeper of the snap hook is not depressed accidentally by contact with wires, strand, crossarm braces, guys and other attachments, or by crossarms, guard arms, cable, cars, etc., that may be supported on the safety strap in the course of performing certain work operations.

(b) Safety straps should never be used as the means of riding suspension strand.

(c) Never use an improvised substitute of rope, wire, etc., for a safety strap.

(d) Do not punch extra holes in a safety strap.

(e) While wearing a safety strap which is not being used, both ends of the strap should be snapped into the same Dee ring on the body belt. Take care to prevent the safety strap from catching on pole steps or other attachments when climbing poles.

(f) When climbing past another workman who has his safety strap in place around the pole, exercise care to avoid dragging the climber gaffs over his strap and cutting it.

(g) Avoid swinging rapidly around a pole in a safety strap.

(h) Do not throw or drop a safety strap.

(i) Exercise care to prevent damage to a safety strap from heat by contact with or placing it near a splicer's furnace, pot of hot solder, torch, or hot soldering copper.

(j) Do not stand near a fire with a safety strap suspended from the body belt.

3. INSPECTION ROUTINE

3.01 Each employee, when receiving a safety strap, and at least once a week thereafter, should inspect the strap in accordance with Part 4 so that he may detect any fault that may have developed.

3.02 Each employee should at all times assume the responsibility for determining that his safety strap is in good condition.

3.03 The supervisor should inspect safety straps periodically.

4. INSPECTION OF SAFETY STRAP

4.01 The safety strap should be examined to determine its condition as suggested below. If any of the following conditions are found to exist or if the condition of the strap is such that there is any doubt as to its safety, it should be exchanged at once for one in good condition, in accordance with the Company's established routine. Leather safety straps should never be subjected to proof load tests.

4.02 **Visual Inspection of Safety Straps:** The important conditions to look for are:

(a) Cracks, cuts, nicks, etc., (particularly cuts or tears on the edges of the strap), that would tend to cause the leather to tear or be likely to affect the strength of the strap.

(b) Broken or rotted threads in the stitching.

(c) Loose or broken rivets.

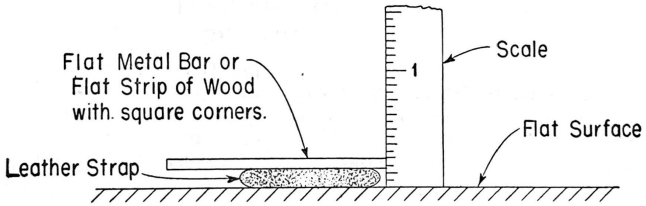
(d) Broken or badly worn steel guard on ends of safety strap.

(e) Leather hard and dry. (If the strap requires only oil, the leather should be treated as outlined in Part 6.)

(f) Poor action of keeper on snap hook. (The keeper should work freely without excessive side play and should close securely under the spring tension.)

(g) Broken or defective buckle.

(h) Leather worn thin. If none of the above conditions exists in the strap, it may be used until it has worn to a thickness of not less than 1/8 inch in any portion of the strap other than between the buckle and the first set of buckle holes at the buckle end. In this section, which is always doubled, the leather may be permitted to wear to a thickness of slightly less than 1/8 inch as the strength of the double portion is approximately twice that of the single portion. The following illustration indicates a method of measuring the thickness of leather.



METHOD OF MEASURING THICKNESS OF LEATHER

(i) Burnt leather (see Paragraph 4.03).

4.03 Leather with hard spots, a curved set, or leather having a burnt streak across the face may have been burned or cooked by being subjected to excessive heat. This may have happened in any of the following ways:

(a) Standing near a fire with the safety strap suspended from the body belt.

(b) Placing the strap against or near hot steam pipes, radiators, or heaters.

(c) Placing strap near splicer's furnace, pot of hot solder, torch, or hot soldering copper.

4.04 Leather which has been subjected to excessive heat becomes hard and brittle. If partially cooked, a crystalline substance forms inside the leather and may produce spots which have frequently been assumed to be defects that were present in the leather before it was fabricated into straps.

4.05 **Bending Test for Leather:** This test should be made on safety straps only when the leather is clean and well oiled. The test **should** be made at several locations along the strap. The leather should show no cracks other than slight surface cracks when the test is applied. If well-defined cracks appear, the strap must not be used but should be taken out of service and handled in accordance with the Company's established routine. The tests should not be made if the temperature of the leather is below 32° F., since at low temperatures the leather may be damaged by bending it around the test mandrel.

(a) Leather shall be bent, with the grain (smooth) side out, over a mandrel that is not less than 3/4 inch in diameter (a 3/4-inch guy rod may be used). In making this test, pull the leather taut, and wrap it halfway around the mandrel keeping the leather under tension while this is being done. This operation assures that the leather will conform closely to the curvature of the mandrel and thus avoids making sharp bends in the leather during the test. **Do not** loop the leather first and then pull it over the mandrel. **Do not** make the bend test at a buckle hole.

4.06 If leather of the thickness used in Bell System standard safety straps is subjected to an excessively severe test, such as bending it too sharply (without a mandrel or over a mandrel that is too small), good leather may crack because of the excessive strain placed on the grain layer.

5. CLEANING AND DRESSING

5.01 Safety straps should be cleaned at intervals of not more than three months. These intervals should be shortened if the strap has been used frequently during rainy weather or has been in contact with wet paint. When the strap is used in connection with painting poles, any wet paint on the strap should be removed with a dry cloth, as the ingredients in the paint, if allowed to dry on the leather, may have an injurious effect on it. If any wet paint on the strap cannot be removed with a dry cloth, petroleum spirits or trichloroethylene may be used. Do not soak the strap but rub vigorously with the moistened cloth. This cleaning shall be done in a well ventilated location.

5.02 Tests indicate that creosote is not injurious to leather. However, since it may stain the workman's clothing or hands, it should be removed from the safety strap as soon as

practicable. If the strap becomes heavily caked with dried creosote or tar use a nonalkaline paste type varnish remover containing paint solvents and paraffin waxes, such as "Wonder Paste," to soften the deposit. Dab the paste heavily on the bad spots and allow to remain for 15 minutes to one hour as required. The strap should then be wiped with a cloth moistened with trichloroethylene or petroleum spirits. Repeat the operation if necessary. After this treatment the strap should be oiled as described in Part 6.

5.03 The following method has been found satisfactory for cleaning safety straps.

(1) Wipe off all surface dirt with a sponge that has been dampened (not wet) with water (never use gasoline as it tends to dry the leather).

(2) Rinse the sponge in clear water and squeeze practically dry. Then work up a thick, creamy lather using a neutral soap (free from alkali, such as castile or white toilet soap).

(3) Thoroughly wash the entire length of strap with the lathered sponge to remove imbedded dirt and wipe with a cloth to remove excessive moisture.

(4) Then proceed as in (2), using a good grade of saddle soap.

(5) Work the lather well into all parts of the strap and place it in the shade to dry.

(6) When the leather is almost dry, rub vigorously with a soft cloth.

5.04 In general, treating the leather with saddle soap periodically will keep the leather soft and pliable. However, from time to time and when the leather cannot be made sufficiently soft and pliable by the use of saddle soap, it should be oiled as described in Part 6.

6. OILING

6.01 Safety straps ordinarily require oiling about every six months.

6.02 The following method has been found satisfactory for oiling the leather in a safety strap so as to restore it to a pliable condition.

(1) Clean the leather with a neutral soap as described in Paragraph 5.03(1), (2) and (3). (Oil applied to dry or dirty leather has a harmful effect upon the fiber.)

(2) While the leather is still damp, use on each strap about 1/4 ounce (two teaspoonfuls) of neatsfoot oil and apply the oil gradually with the hands, using long, light strokes

to work it into the leather. A light, even distribution of the oil is desired. Oil should be applied to both sides of the leather.

Note: Do not use mineral oils or greases, such as machine oil or vaseline. Leather should never look or feel greasy as this is an indication that too much oil is being used. Leather with too much oil will stretch and is likely to pick up sand or grit which may injure the leather.

(3) After oiling, the strap should be placed in a dry shady place for about 24 hours to permit the leather to dry slowly, then rubbed vigorously with a soft cloth to remove excess oil.

7. STORING LEATHER SAFETY STRAPS

7.01 The following precautions should be observed when safety straps are not in use.

(a) When a safety strap is received with insufficient oil, it should be oiled in accordance with Part 6.

(b) Safety straps that are not being used should be oiled in accordance with Part 6 at least once every six months. The strap should be oiled three months after it is received for stock and at intervals of at least every six months thereafter as long as it remains in stock.

(c) Safety straps should never be stored with tools unless such tools are equipped with satisfactory guards. When body belts, safety straps and climbers are kept in the same container, the climbers should be fitted with gaff guards to avoid cutting or puncturing the leather with the climber gaffs.

(d) Never store nor place safety straps near radiators, stoves, steampipes, or in places where the leather may be subjected to excessive heat.

(e) Store straps in a location free from excessive humidity to prevent mildew. Straps that have become thoroughly wet should be treated as described in Part 6.

8. DISPOSITION OF STRAPS

8.01 Defective straps shall be withdrawn from service immediately and returned to the storeroom for handling in accordance with the Company's established routine. Such straps shall be tagged "Dangerous, Do Not Use" and, if practicable, these straps shall be marked to show the location of any defects that can not be seen readily.