

BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

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AT&T Co Standard

B CABLE WRAPPER

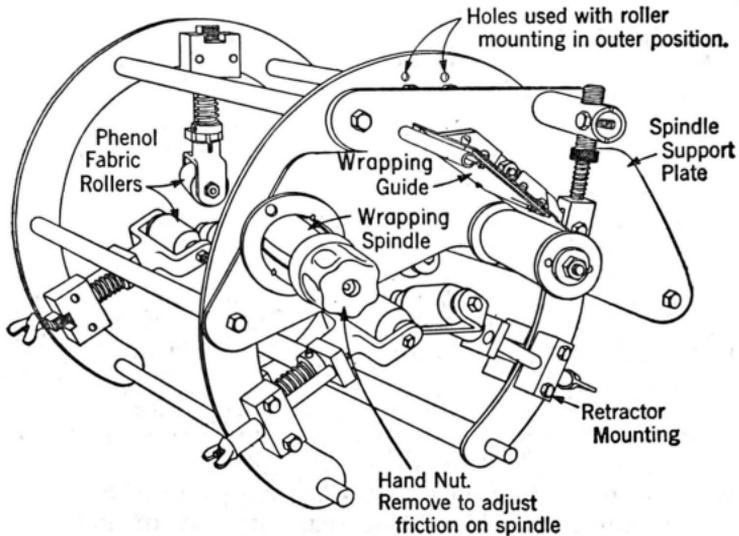
Contents	Page
1. General	1
2. Adjustment of Wrapping Guide	2
3. Placing Roll on Spindle	3
4. Adjusting Tension on Wrapping	3
5. Adjusting Rollers to Size of Cable	4
6. Care of Wrapper	6

1. GENERAL

1.01 This issue replaces Issue 1. It describes the adjustment and care of the B Cable Wrapper used for applying a spiral protective wrapping on lead covered cable in preparation for burial. It is reissued to include the use of B Cable Wrapping as well as C Cable Wrapping.

1.02 The wrapper is supported on the cable by the six rollers shown in the illustration following. These rollers are fixed at an angle of 18 degrees with the center line of the cable. Because of this angularity, rotation of the wrapper around the cable causes it to advance along the cable. The wrapper is fitted with a carrier and guide, both mounted at a like angle with respect to the longitudinal axis of the wrapper. This arrangement matches the lay of the wrapping material with the rate of advance of the wrapper.

B CABLE WRAPPER

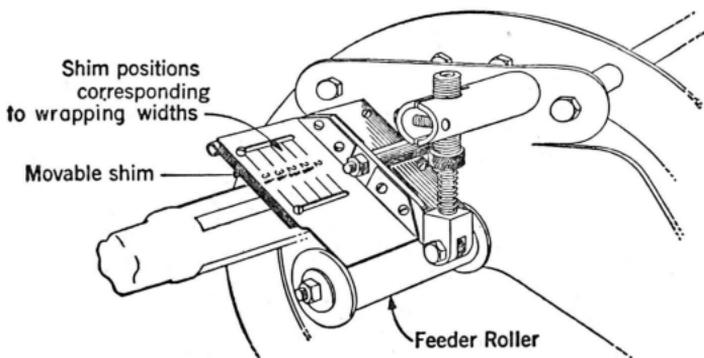


1.03 The amount of longitudinal travel in one revolution of the wrapper varies with the size of the cable and is approximately equal to the diameter. Accordingly, it is necessary to have several widths of wrapping material to cover the range of cable sizes and still maintain a relatively constant overlap. The guide is adjustable for the various widths of material and provision is made for varying the tension on the material.

1.04 In order to maintain the pressure of the rollers necessary to hold the wrapper on the cable, the roller mountings are adjustable for various sizes of cable.

2. ADJUSTMENT OF WRAPPING GUIDE

2.01 The guide receives the wrapping as it leaves the roll and carries it to a feeder roller. The guide consists of three sections of sheet steel, two forming an upper plate and the third a lower plate, between which the wrapping passes. The plates are separated by two shims, one of which is movable to adjust for various widths of material.



2.02 One section of the top plate of the guide is stamped with numerals corresponding to the B and C Cable Wrapping widths listed in G56.137.2. In setting the guide for a given width of wrapping the two screws which fix the position of the movable shim are loosened and the shim shifted to the proper setting. The screws are then tightened. This position of the shim should afford a normal 1/8-inch clearance over the corresponding width of wrapping material. It should be checked with a sample and, if not obtained, the shim should be adjusted to provide 1/8-inch clearance. Do not make the clearance greater than necessary, as this may result in the wrapping binding in the guide.

3. PLACING ROLL ON SPINDLE

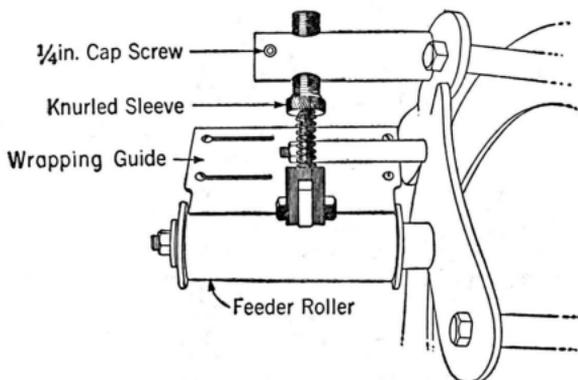
3.01 The spindle which carries the roll of wrapping is equipped with four spring steel strips positioned lengthwise around its circumference. Compressing these strips lengthwise by turning the bronze hand nut on the outer end of the spindle causes them to bulge midway of their length. This adjustment compensates for variations in the diameter of the core of the roll.

3.02 To place a roll on the spindle, press in the spring bolt located in the rear of the spindle support plate while turning the spindle. This will engage the hole in the rear of the spindle flange and prevent further turning. Loosen the hand nut on the spindle to be certain the springs are not compressed. Then holding the roll so that it will pay off from the top in a clockwise direction, slide the roll over the spindle until it bears against the flange. Tighten the hand nut until the roll is held firmly on the spindle and release the spring bolt.

4. ADJUSTING TENSION ON WRAPPING

4.01 The upper plate of the guide is longer than the lower plate and the extension bears on and presses the wrap-

ping material against the feeder roller. This pressure is controlled by the compression spring indicated. This pressure in combination with a friction washer in the roll spindle is used to control the tension in the wrapping.



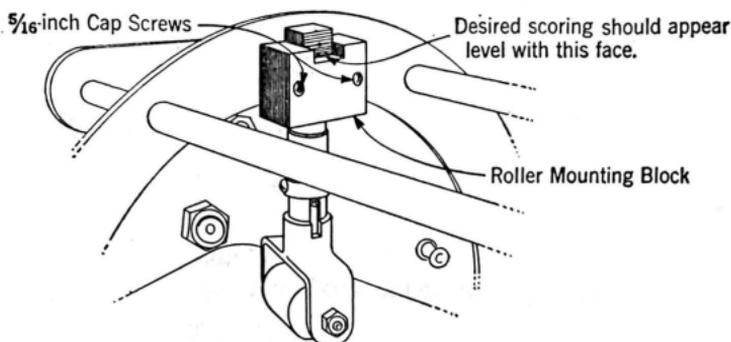
4.02 Adjustment of the pressure of the plate on the feeder roll is made by loosening the 1/4-inch cap screw through the slotted end of the guide support shown in the illustration. This will allow the knurled sleeve to be turned so as to either reduce or increase the spring pressure. When the correct tension is found for the width of material being used, tighten the cap screw.

4.03 To adjust the friction on the wrapping spindle, remove the hand nut to expose the end of the spindle shaft. Increase or decrease the amount of compression in the spring located between the brass washers by turning the 5/16-inch nut on the spindle shaft. In general the pressure should be just enough to prevent the wrapping from overrunning when the wrapper is stopped suddenly.

5. ADJUSTING ROLLERS TO SIZE OF CABLE

5.01 Two sets of 11/32-inch holes are provided in the circular end sections of the wrapper for attaching each of the roller mountings. The outer holes are designed for use with oversize cable and can also be used with standard full size cable. The inner holes are for use with full size and smaller cables. In connection with adjusting the rollers for cable size, the mounting should be moved to the proper position, as required.

5.02 The square outer ends of the roller yoke mountings are scored horizontally on 1/16-inch spacings. In addition the scorings are punch marked at the 1/4, 1/2, and 3/4-inch spacings. These scorings and punch marks are for use as guides in setting the mountings at the proper positions for the diameter of cable being wrapped.



5.03 Before attempting to adjust the mountings see that the wing nuts on the retractor shafts are free, that is, that the springs are not compressed. Then loosen the two 5/16-inch cap screws in the retractor mounting until the block holding the square shank of the roller yoke is free. Adjust all six roller mountings until the scoring corresponding to the cable size in the table appears at the level of the recess in the upper surface of the block.

Roller Mounting Settings for Various Cable Sizes		
Size of Cable – Inches		Settings on Roller Mountings
Outside Diameter	Circumference	
1.00 – 1.24	3.14 – 3.90	3/16
1.25 – 1.54	3.93 – 4.84	5/16
1.55 – 1.90	4.87 – 5.97	7/16
1.91 – 2.30	6.00 – 7.23	10/16
2.31 – 2.63	7.26 – 8.26	13/16
2.63 – 3.125	8.26 – 9.82	*9/16

* Roller Mounting Blocks in Outer Holes

5.04 Tighten the cap screws and turn down the wing nuts until the rollers are fully retracted. The proper setting of the roller mountings is obtained when the fully retracted

rollers will just clear the cable as the wrapper is placed in position.

6. CARE OF WRAPPER

6.01 For satisfactory operation of the wrapper it is important that it be kept clean. Faulty operation can frequently be traced to accumulations of cement or wrapping on parts of the wrapper. Use muslin or other cloth for cleaning; cotton waste is unsatisfactory as the threads become tangled in the working parts and cause binding.

6.02 The phenol fabric rollers which support the wrapper on the cable should spin freely on their shafts before the wrapper is placed on the cable. A binding roller will drag on and scuff the B or C Cable Wrapping and if the rollers do not work freely, the overlap will change and may result in frequent tears. If the rollers do not turn freely, remove them and clean them thoroughly with kerosene. On assembly and at least once a day apply light machine oil to each roller shaft. Rollers which become noticeably worn should be replaced. This will usually take place at the point of contact between cable and roller and produce a concave surface.

6.03 The wrapping guide and shims have a tendency to accumulate asphalt and fibers which harden in the guide and result in fraying or tearing of the wrapping. Minor accumulations can be removed by pushing through the guide a hacksaw blade covered with a kerosene saturated cloth. In severe cases the guide should be disassembled and the parts cleaned thoroughly with kerosene.

6.04 When not in use, the wrapper should be kept in its shipping case.