BELL SYSTEM PRACTICES
Outside Plant Construction and Maintenance

SECTION G73.430.1
Issue 1, May, 1953
AT&T Co Standard

PRESSURE TESTING
B LEAK LOCATOR—GENERAL

Contents **Page**

1. General 1
2. Application 1
3. Precautions 2
4. Arrangement and Handling 2

1. GENERAL

1.01 This section outlines the uses of the B Leak Locator method of leak location in aerial cables and covers the preparations for testing.

1.02 Instructions covering the adjustment, operation, testing and maintenance of the assembled B Leak Locator and the separate units are contained in the sections covering pressure testing tools.

2. APPLICATION

2.01 Freon must be present throughout the length of the section under test, at sufficient pressure to escape into the air. It is therefore necessary to locate and clear zero-pressure leaks by other means before using the locator.

2.02 This method is not well adapted to finding leaks in exchange distribution cables or other cables having unplugged terminals, branches, etc.

2.03 **Over-all Surveys:** This method can be used to best advantage for the following purposes:

(a) Making surveys of cables under continuous pressure, to clear scattered small leaks that cannot be readily located by means of pressure gradients.

(b) Preparatory to putting older cables under continuous pressure, as a means of clearing the small leaks. In such cable, the survey is made after the terminals, branches,

etc. have been plugged and the defects that cause zero pressure leaks have been located by other methods and cleared.

(c) Recondition high trouble rate gas sections of cable under pressure.

(d) Reconditioning following storm restoration, line moves, resagging, etc.

2.04 **Specific Leaks:** The apparatus can be used to facilitate location of multiple leaks or to locate individual leaks where temperature variation, size of leaks, branch arrangement or other conditions make exact location by gradient methods impractical.

3. PRECAUTIONS

3.01 **Uses:** The B Leak Locator is designed for use on aerial cable plant only; it must not be used in manholes or cable vaults.

3.02 **The Freon Gas** which is introduced into the cable in this method of leak detection and the precautions to be taken in connection with its use are covered in the section covering Freon 12 gas.

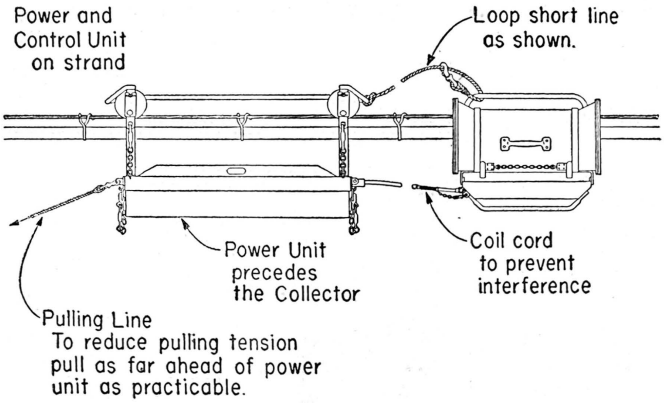
3.03 **Raising and Lowering:** The control and power units mounted on the carrier weigh about 75 pounds. To ensure safe handling, it is important to raise and lower the assembly with the splicer's hand-line as covered in later paragraphs.

3.04 The power unit **must not** be replaced while the carrier is on the strand; always lower the carrier assembly to the ground with the hand-line before changing power units. Safety snaps are provided to secure the battery box catches. These snaps **must be** in place to avoid the possibility of the battery box becoming detached while the carrier is rolling over rings or other obstructions on the strand.

3.05 The carrier is equipped with safety chains which should always be fastened before the unit is rolled along the strand.

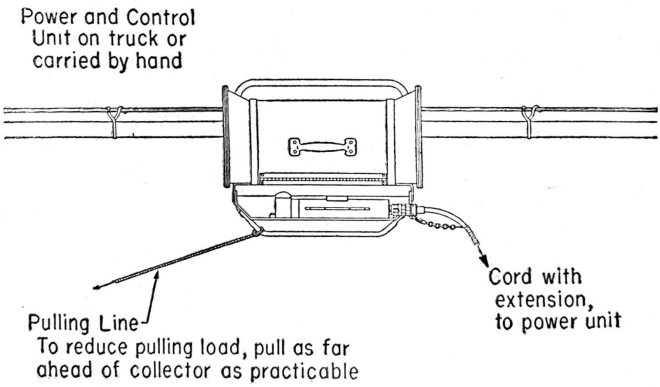
4. ARRANGEMENT AND HANDLING

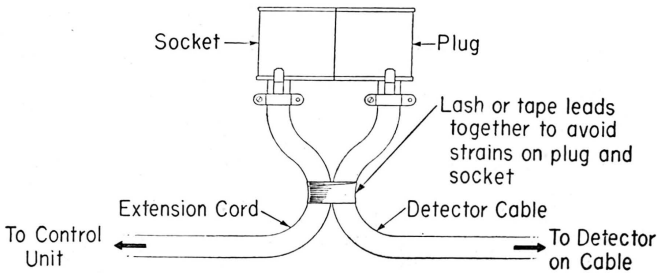
4.01 In testing cable on private right-of-way, or roadside cable which is not readily accessible, also where tree interference is severe, the power and control equipment carrier can be mounted on the strand. When operating in this manner the collector and carrier are placed on the strand and arranged for pulling as illustrated below.



4.02 If the cable under test can be reached conveniently with the 20-foot extension cord, the power and control unit assembly can be carried along the ground in a truck, provided there are relatively few trees or other obstructions.

4.03 When operating in this manner, the collector is placed on the strand and is arranged for pulling as illustrated below. This arrangement is also used if the power and control unit assembly has to be carried along the ground by hand.

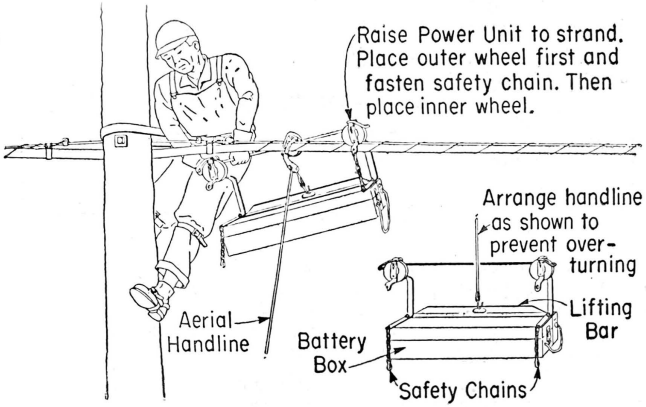




4.04 **Raising and Placing Carrier:** The carrier is so constructed that the assembly can be raised and lowered safely and conveniently using the standard splicer's aerial hand-line.

4.05 When the carrier is to be used on the strand, it should be placed first.

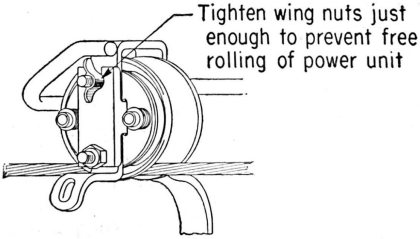
4.06 In attaching the hand-line the rope **must** always be placed on the wheel side of the steel bar connecting the two wheels, to prevent overturning due to the unbalanced battery load on the carrier. The method of attaching the hand-line and raising the carrier is illustrated below.



4.07 To facilitate transfer of the carrier at poles, the carrier should be so placed that the meters on the control unit face away from the pole.

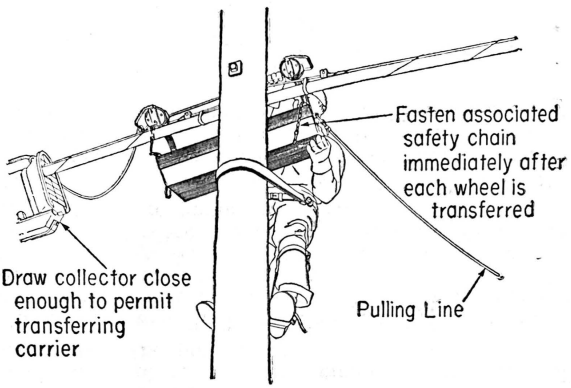
4.08 **Raising Collector:** It is generally advisable to place the detector in the detector chamber of the collector on the ground. Make sure that the detector is held securely by the retaining spring. After raising to the strand, unlatch the lower section and place the collector over the cable and strand in the appropriate pulling position.

4.09 **Wheel Brakes:** In order to prevent free rolling of the carrier, it is equipped with wing nut operated wheel brakes as illustrated below. Only one of the brakes need be used—whichever can be reached conveniently from the pole.



4.10 **Transferring Carrier at Poles:** The carrier is so constructed that it can be transferred around the pole one wheel at a time, as illustrated.

4.11 The safety chain on the forward wheel should be fastened immediately after this wheel is transferred. Then transfer the second wheel and immediately fasten the safety chain.



4.12 After transferring the carrier, check the brake and adjust, if necessary, to prevent free rolling while the collector is being transferred.

4.13 **Pulling Line:** In order to facilitate pulling the apparatus along the cable it is advisable to use a line of sufficient length to maintain an angle of 30 degrees to 45 degrees to the strand. A 50-foot length or 3/8-inch or 1/2-inch manilla rope arranged as illustrated will generally serve the purpose.