AERIAL CABLE

1530-TYPE INDUCTORS

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1. GENERAL

1.01 This section covers the description of the 1530-type inductors which are used at junctions of open wire or drop wire and cables containing carrier pairs. The purpose of the 1530-type inductors is the suppression of radio transmitter interference and static entering the cable.

1.02 This section is issued to include information on the placing and wiring of 1530-type inductors and replaces Sections 638-500-150, 638-500-200, and 638-500-201 which are cancelled.

1.03 The 1530-type inductors are available in two sizes, the 1530A Inductor for single pairs and the 1530B Inductor for quadded conductors.

1.04 The 110B Apparatus Box, which supersedes the pole mounted 110A Apparatus Box, is designed to house the 1530A or 1530B Inductors and is suitable for ***both pole and crossarm mounting.***

1.05 Inductors shall be installed only when specified in construction plans or other plant instructions.

2. DESCRIPTION OF 1530A INDUCTOR

2.01 This inductor is a single-pair type consisting of a two-winding retardation coil, two 2A1B Protector Units, with input and output binding posts all assembled in a cast resin block. The 1530A Inductor is designed primarily for use on a nonquadded cable pair. The base of the block is equipped with a mounting plate which is used for mounting the inductor in a 110-type apparatus box. (Fig. 1 and 2)

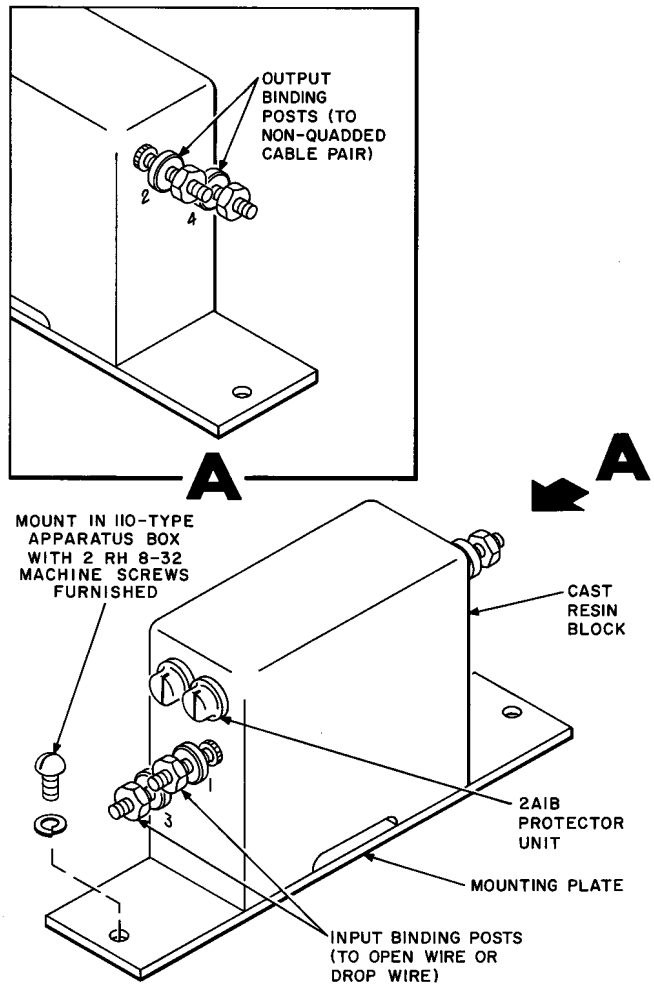

Fig. 1—1530A Inductor (Single Pair Type)

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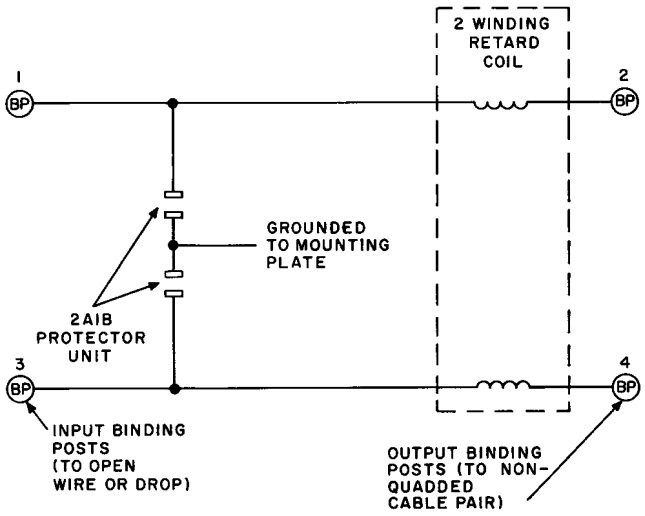

Fig. 2—1530A Inductor Circuit Diagram

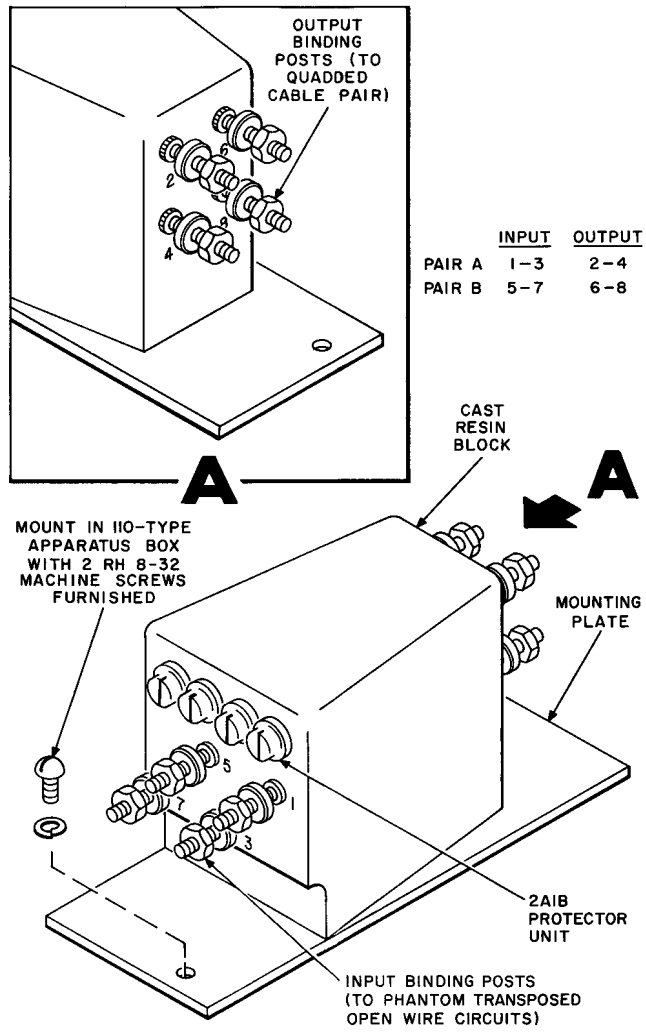

Fig. 3—1530B Inductor (Quadded Pair Type)

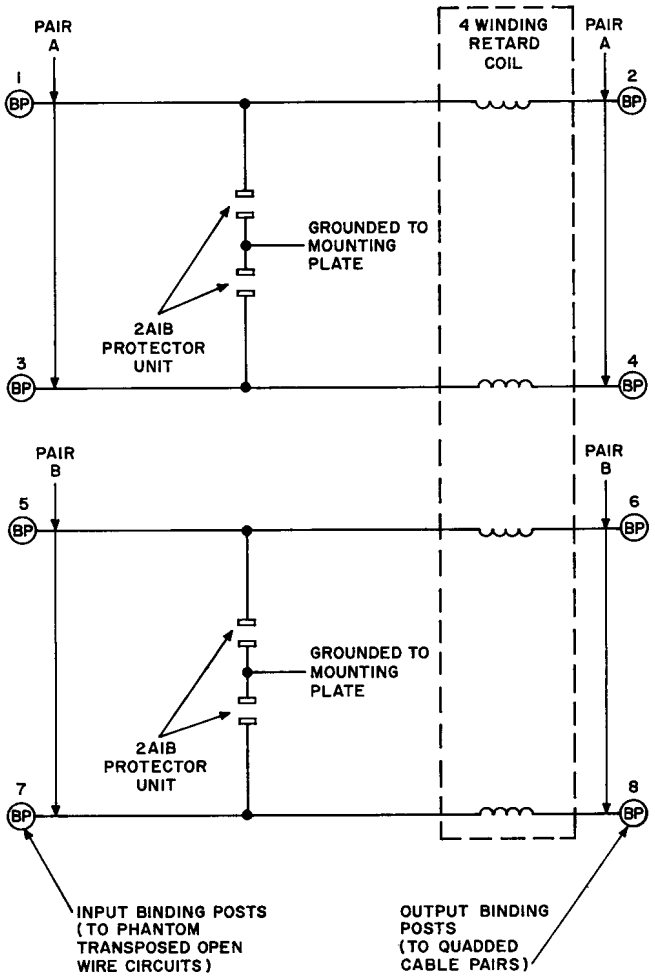

Fig. 4—1530B Inductor Circuit Diagram

3. DESCRIPTION OF 1530B INDUCTOR

3.01 This inductor is a quadded-pair type consisting of a four-winding retardation coil, four 2A1B Protector Units with input and output binding posts, all assembled in a cast resin block. It is also provided with a mounting plate designed to fit in the 110-type apparatus box. It is designed primarily for use on quadded cable conductors. (Fig. 3 and 4)

4. DESCRIPTION OF 110B APPARATUS BOX

4.01 The housing consists of a sheet metal box with a drop type cover. It is equipped with two internal brackets for mounting from one to six 1530A Inductors or from one to three 1530B Inductors. A grounding lug, required for grounding the 2A1B

Protector Units in the inductors, is located inside the box and a ground wire entrance hole is provided at the bottom of the box. The external L-shaped mounting bracket is designed for both pole and crossarm mounting. (Fig. 5.)

4.02 The housing cover is opened by grasping the sides near the bottom and pulling the cover out. This releases the cover and permits it to be swung down thereby exposing the interior of the housing. To close the housing, swing the cover up, insert the top edge under the top hood of the housing and then force the lower end toward the back of the housing until it snaps in place.

4.03 Two sets of six grommeted entrance holes are provided on the bottom of the box for admitting the drop or twisted paired wire to be terminated. Place only one pair in each entrance hole.

5. INSTALLING 110B APPARATUS BOX

5.01 ***Open Wire and Cable Junctions:*** Mount a 110B Apparatus Box on each crossarm whose open wire circuits require suppression. Place B Ground Wire and wiring rings at the time of mounting the apparatus box. Mounting details are shown in Fig. 6.

5.02 ***Drop Wire and Cable Junctions:*** Where drop wires require suppression locate the apparatus box close to the cable terminal.

(a) Strand Mounted Terminal Location—Mount the 110-type apparatus box and associated ground wire and wiring rings as shown in Fig. 7.

(b) Pole Mounted Terminal Locations—Mount the 110-type apparatus box and associated ground wire and wiring rings on the pole as shown in Fig. 8.

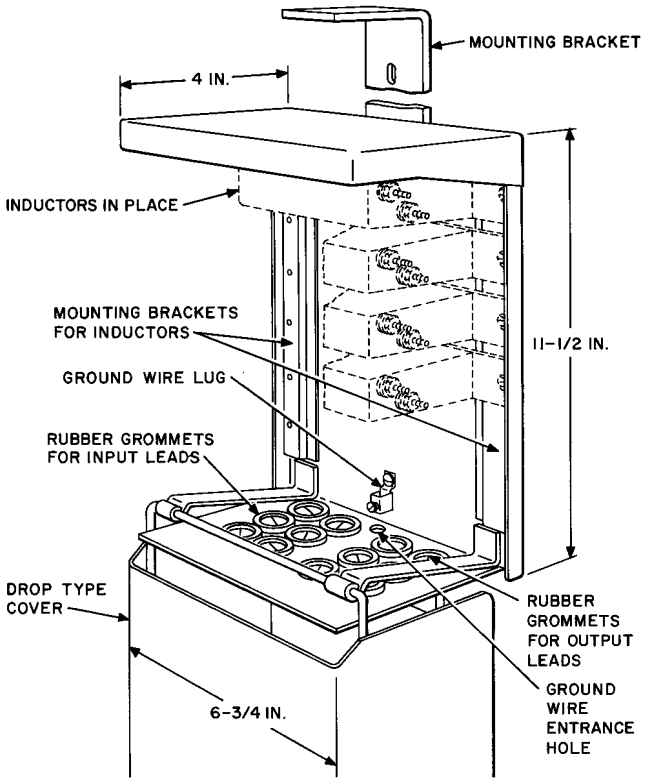

Fig. 5—110B Apparatus Box

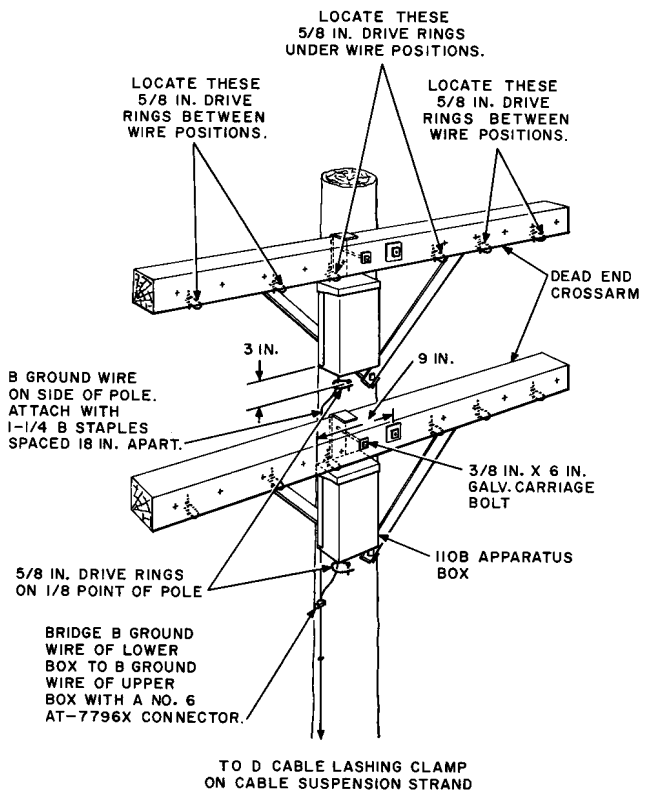

Fig. 6—Installing 110B Apparatus Box at Open Wire and Cable Junction

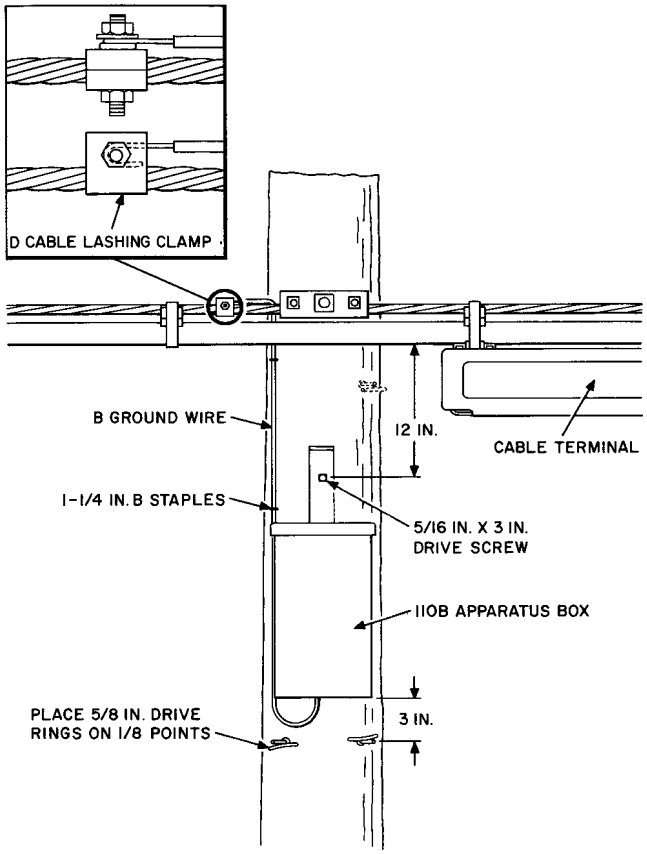

Fig. 7—Installing 110B Apparatus Box at Strand Mounted Terminal Location

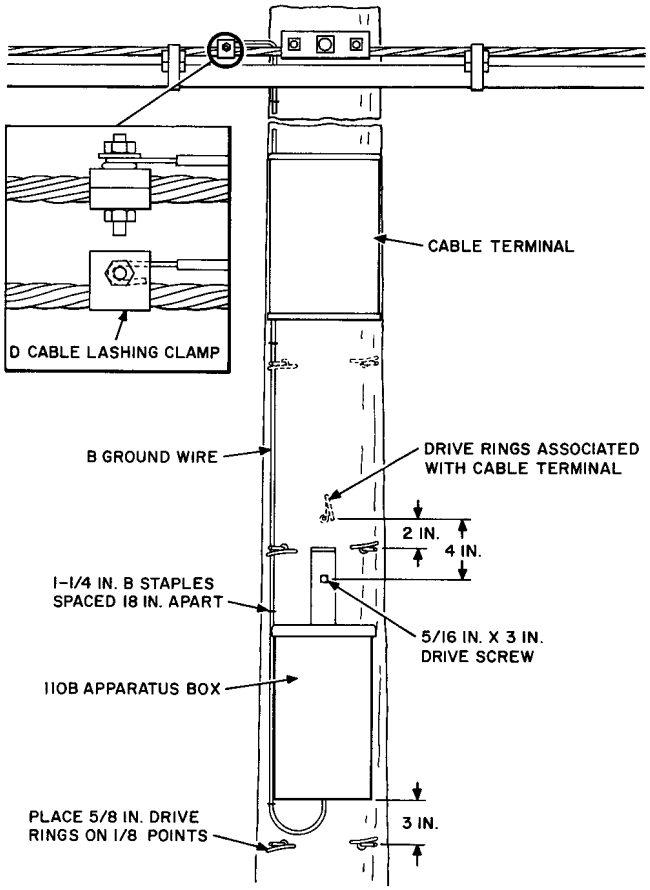

Fig. 8—Installing 110B Apparatus Box at Pole Mounted Terminal Location

(c) Where the 110B Apparatus Box is used to house inductors on poles, detach the mounting bracket from the box and attach it to the pole as shown in Fig. 9.

6. MOUNTING 1530 INDUCTORS IN APPARATUS BOX

6.01 The capacity of the 110B Apparatus Box is six 1530A Inductors or three 1530B Inductors. When placing inductors in numbers less than the capacity of the apparatus box, locate the first one at the bottom of the box and progress upward. Position the inductors with the protectors to the left side of the box.

6.02 Fasten the mounting plate of the inductor to the internal brackets of the apparatus box by means of the two 8-32 round head machine screws furnished with each inductor.

6.03 An apparatus box equipped with inductors is shown in Fig. 10.

7. WIRING INDUCTORS AT JUNCTIONS

7.01 Use paired block or bridle wire for bridling between open wire circuits and 1530-type inductors housed in a 110B Apparatus Box and between inductors and cable terminals (Fig. 11). Terminate the bridling as outlined.

(1) The bridling from the open wire enters the left-hand entrance holes on the bottom of the 110B Apparatus Box while the bridling from the cable terminal enters the right-hand entrance holes.

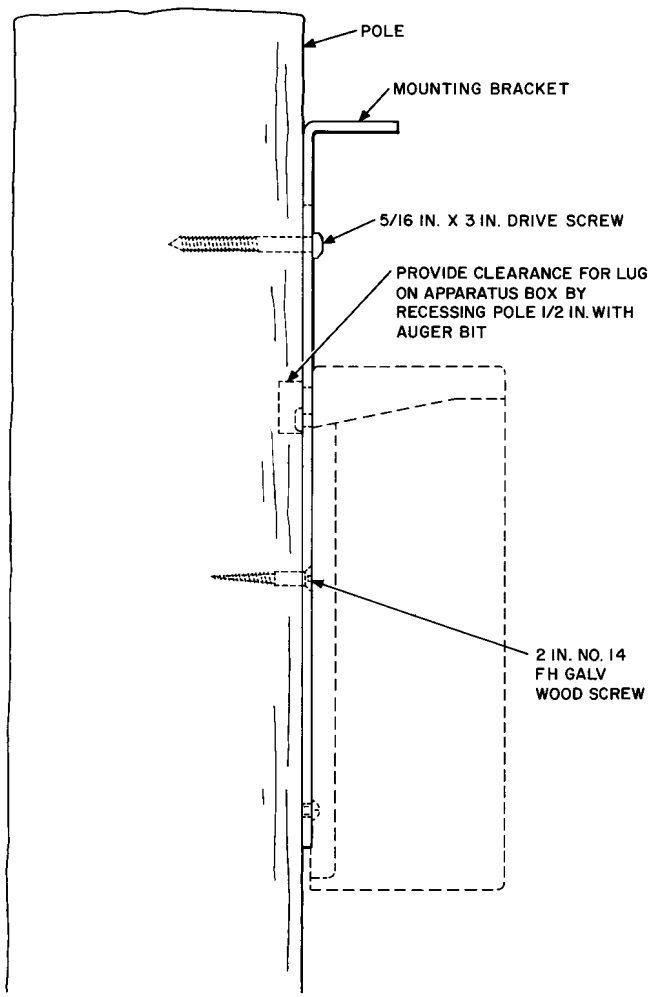

Fig. 9—Mounting External Bracket

(2) Place only one pair in each grommeted entrance hole.

(3) Cut wire to the proper length for terminating. Skin and clean the wire ends and place between washers on the binding posts of the inductor.

7.02 Terminate the drop wire directly on the 1530A Inductor and run block wire between the inductor and cable terminal. Proceed as follows:

(1) Place the drop wires from the stations in the left-hand entrance holes of the apparatus box and the block wire from the cable terminal in the right-hand entrance holes.

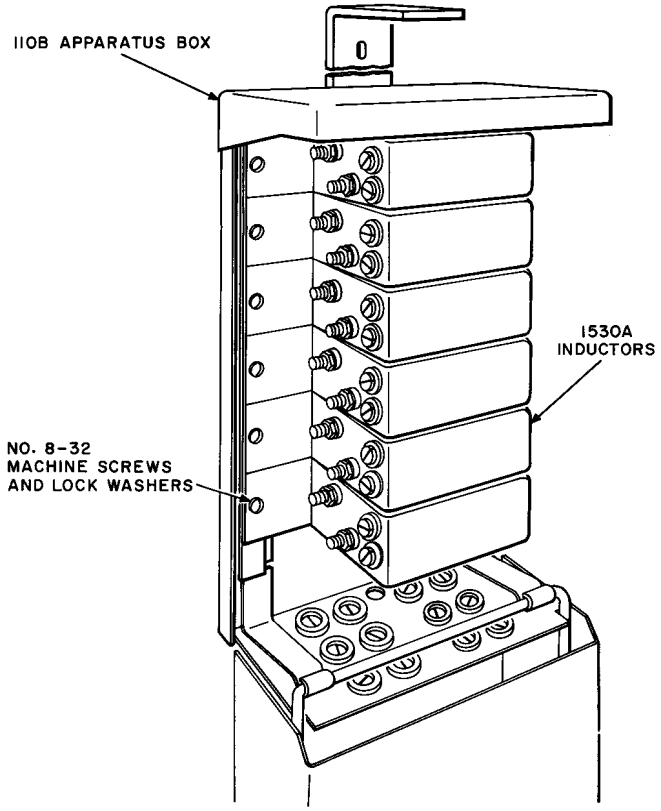

Fig. 10—110B Apparatus Box Equipped with Inductors

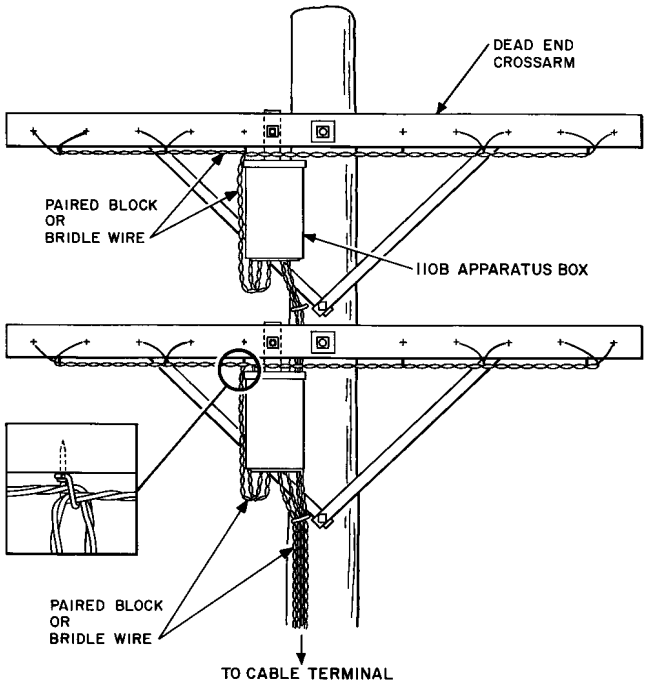

Fig. 11—Wiring Inductors at Open Wire and Cable Junction

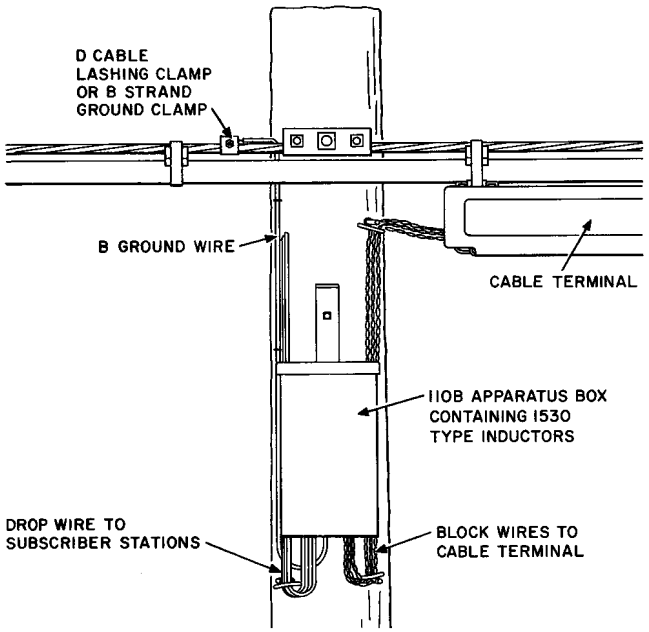

Fig. 12—Wiring Inductors at Strand Mounted Terminal

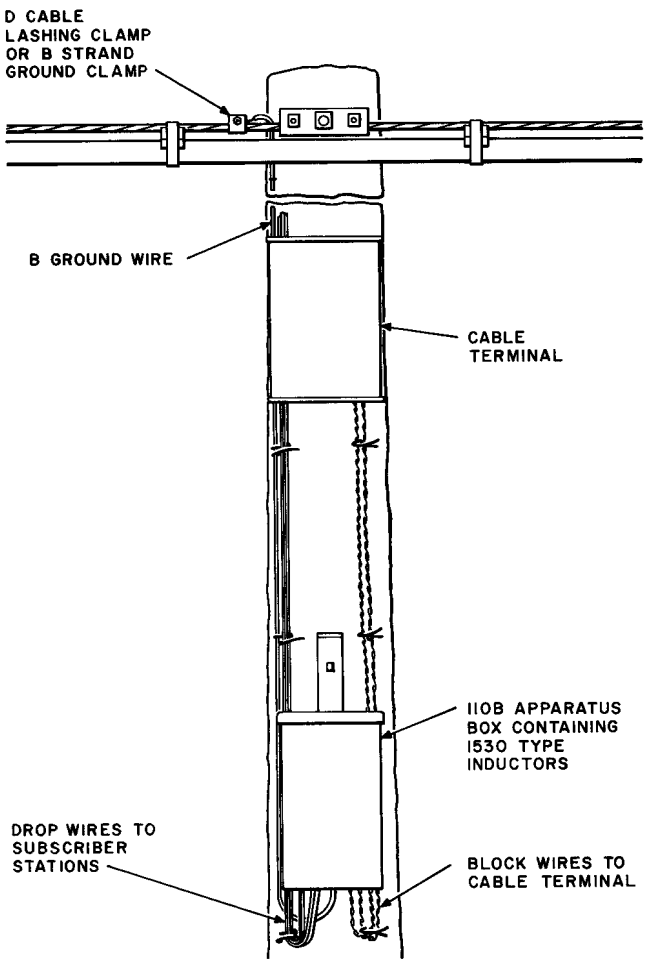

Fig. 13—Wiring Inductors at Pole Mounted Terminals

(2) Place only one drop or block wire in each grommeted entrance hole.

(3) Cut the drop and block wires to proper length for terminating. Skin and clean the ends and place between washers on the binding posts of the inductor.

(4) The wiring of inductors and distribution terminals is indicated in Fig. 12 and 13. It is important that the drop and block wires are separated as shown in Fig. 14 due to transmission requirements.

7.03 When 1530-type inductors are used for purposes of suppressing static and radio transmitter interference entering cables containing N carrier pairs at junctions of open wire or drop wire, proceed as follows: Replace the 2A1B Protector Unit with a dummy 2A1D Protector Unit in the distribution terminal to make the 2A1B Protector Unit in the 1530 Inductors function properly.

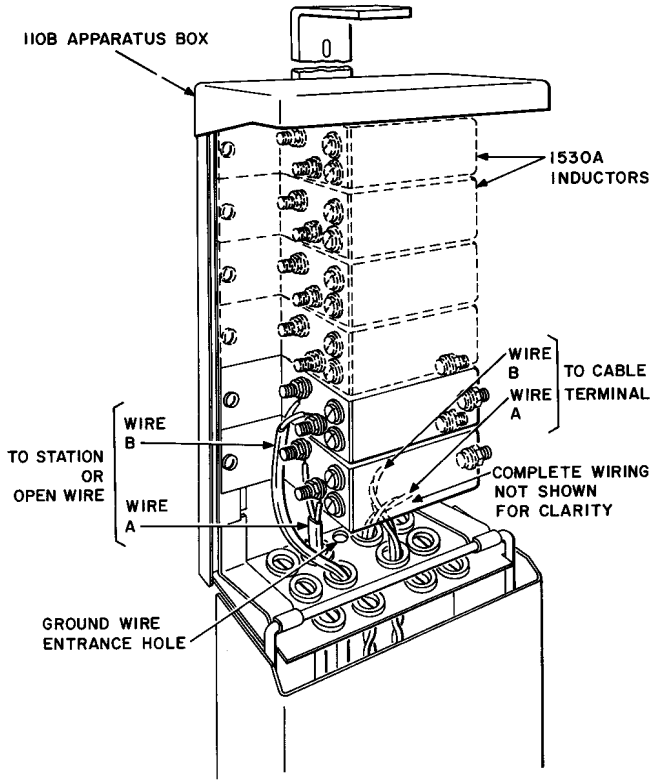

Fig. 14—Inductor Wiring Detail with Drop or Bridle Wire