

PRESSURE TESTING

ARRANGEMENT OF GAS BY-PASSES

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1. GENERAL

1.01 This section covers the arrangements of lead pipe gas by-passes in pressure testing systems. By-Passes are provided to establish a continuous gas section by bridging a gas pressure plug in a cable or by interconnecting two cables.

1.02 This section is reissued to show application of the B← Pressure Ell and the Dual Stem By-Pass Valve to these by-pass arrangements.

1.03 By-pass valves are often installed in lead pipe by-passes so that portions of the gas pressure system may be isolated for leak locating purposes. However, when a gas by-pass is installed around a gas flow restriction, such as an abandoned plug or a paraffin filled sleeve, the by-pass valve is usually omitted.

1.04 The arrangement of by-passes on alpeth or stalpeth cable is the same as that illustrated for lead cable in this section.

2. CONNECTION TO CABLE

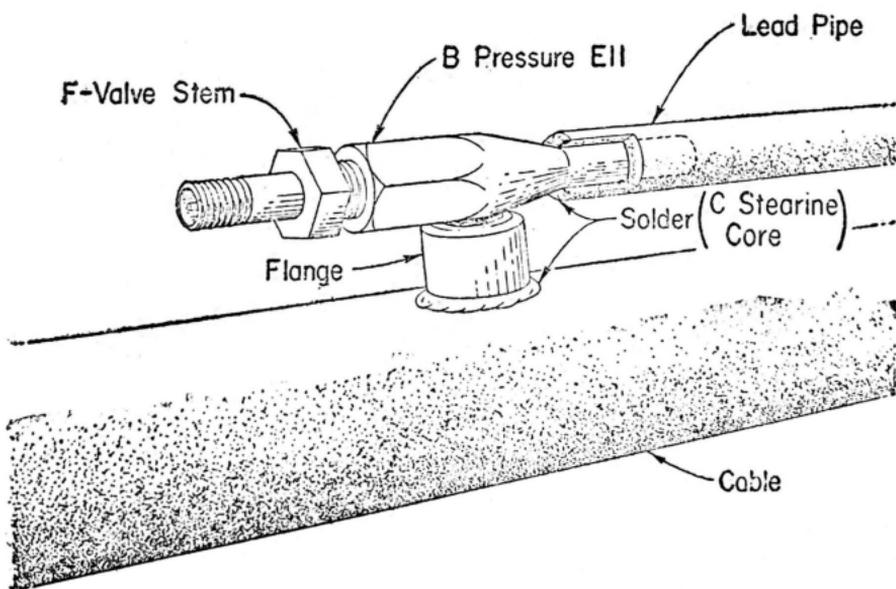
2.01 Lead pipe is connected to cable sheath or sleeves by↗ means of a B Pressure Ell and a Pressure Testing Flange or by means of a Pressure Testing Ell. The use of↘

the B Pressure Ell is generally recommended in preference to the Pressure Testing Ell for the following reasons:

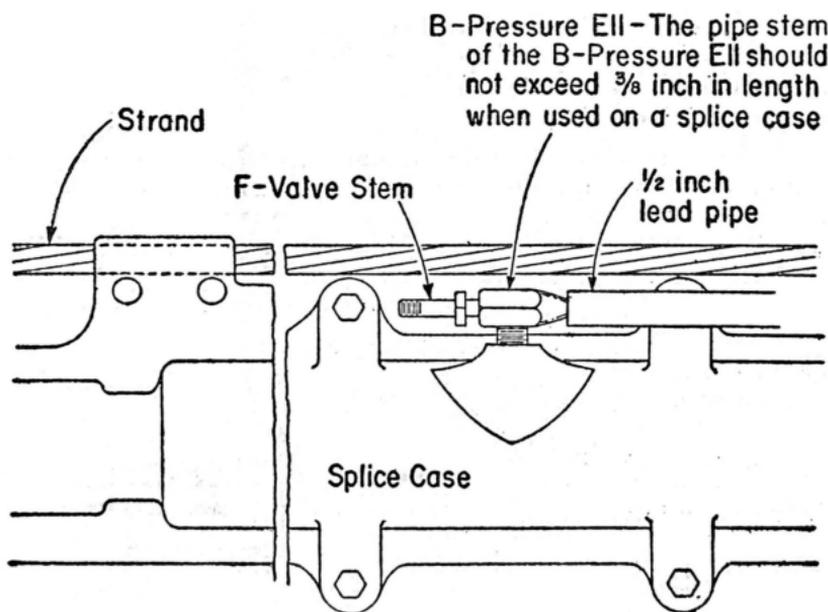
- (1) No soldering mold is required.
- (2) There is no possibility of a solder block in the pipe stem of the B Pressure Ell. This trouble has sometimes occurred with the Pressure Testing Ell.
- (3) A facility is provided for mounting an F Valve Stem without making another sheath opening.
- (4) The venting provided by the threaded opening on the B Pressure Ell permits soldering without additional venting of a pressurized cable.

2.02 The methods of installing the Pressure Testing Ell, Pressure Testing Valve and Pressure Testing Flanges are covered in other sections.

2.03 Where the B Pressure Ell is to be used, install a Pressure Testing Flange in the sheath or sleeve at the desired location. Clean the pipe stem of the ell and coat it with stearine. Coat the threads of the ell with an approved pipe joint compound and screw the ell into the flange. Make certain that the lead pipe is clean and dry. Push the end of the lead pipe onto the pipe stem of the ell and solder in place with a soldering copper on underground cable, or a torch on aerial cable.



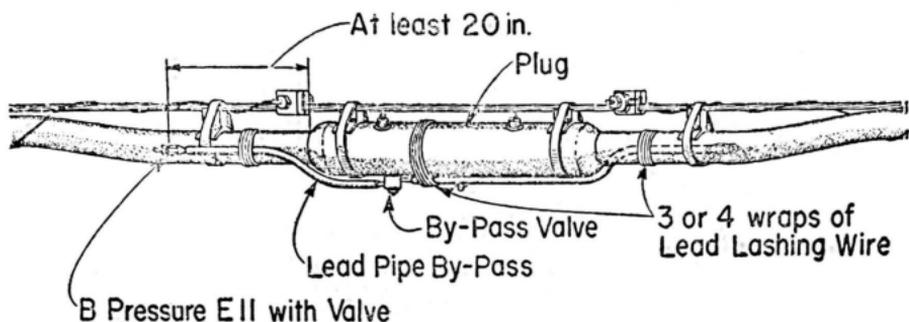
2.04 The B Pressure Ell may also be used on a splice case or "T" type cable terminal. When used on a splice case or "T" type terminal approximately 3/8 inch of the pipe stem on the B Pressure Ell should be cut off. This is necessary to allow the end of the pipe stem to clear the projections on the splice case when it is being screwed into the flange on the case. A hack saw may be used for cutting off the pipe stem, but care should be taken to remove all metal deposits after sawing is completed. To install the B Pressure Ell in a splice case, clean the pipe stem of the ell and coat it with stearine. Coat the threads of the ell with an approved pipe joint compound and screw the ell into the pressure testing flange on the splice case. Make certain the lead pipe is clean and dry. Push the end of the lead pipe onto the pipe stem of the B Pressure Ell and solder in place, using C Stearine Core Solder. Insert the F Valve Stem after soldering of the lead pipe and pipe stem. (See illustration below.)



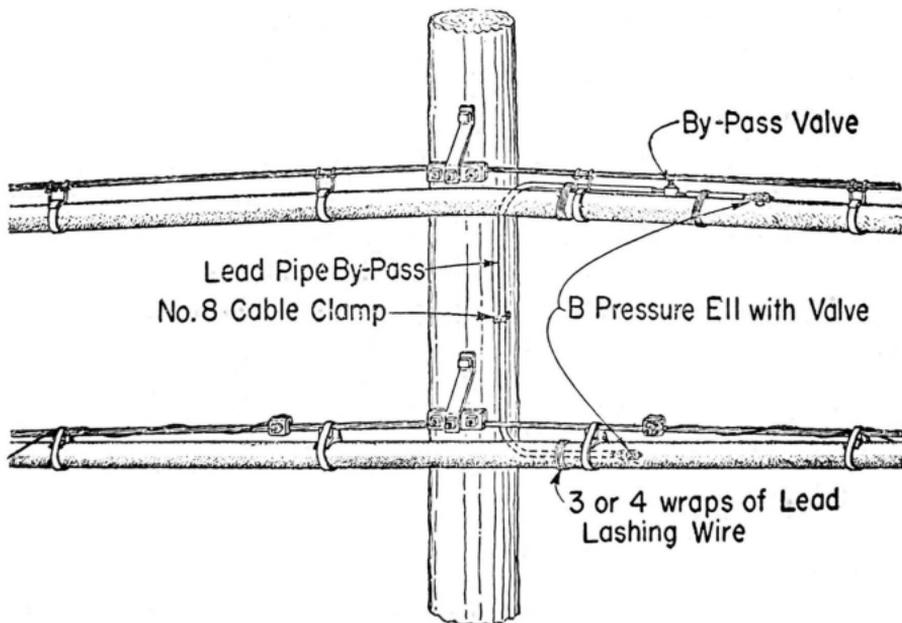
2.05 Where required, install an F Valve Stem into the female threaded hole of the B Pressure Ell. Otherwise, close the ell with a C Pressure Flange Plug. In either event coat the threads with pipe joint compound before assembly.

3. AERIAL CABLE

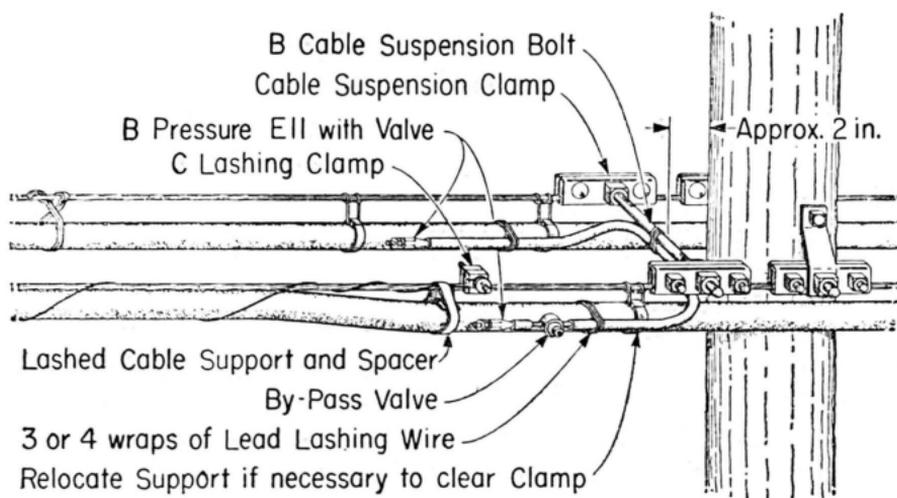
3.01 The arrangement of a gas by-pass around a gas plug on aerial cable is shown in the following illustration. This arrangement would also be used at junctions between aerial and underground (or buried) cable where a plug has been placed to separate the gas sections.



3.02 The arrangement of the by-pass between two aerial cables comprising the same circular gas section, but installed on different suspension bolts, is shown below.



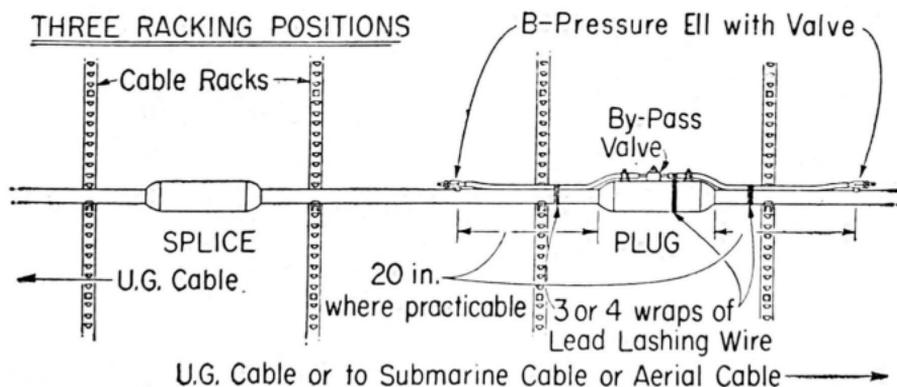
3.03 Where the two cables of a circular gas section are on the same suspension bolt, the by-pass is arranged as illustrated below.



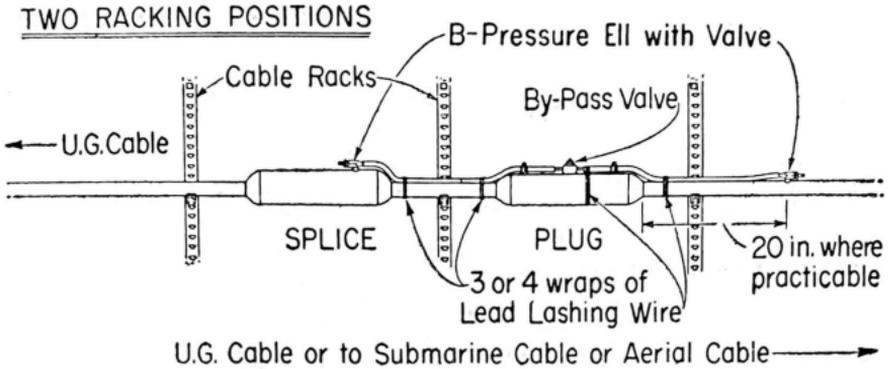
4. UNDERGROUND CABLE IN CONDUIT

4.01 The arrangement of a by-pass around a plug installed on underground cable is shown in the following illustrations.

(a) Where the pressure plug and a splice are separated by a racking position.

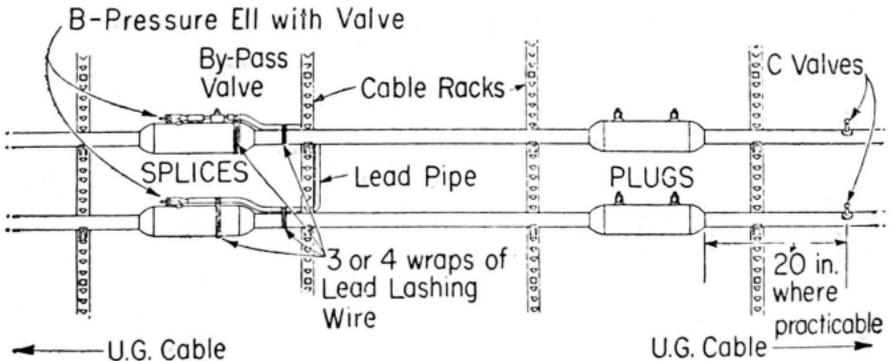


(b) Where space in the manhole requires that the pressure plug and a splice be located in adjacent racking positions.

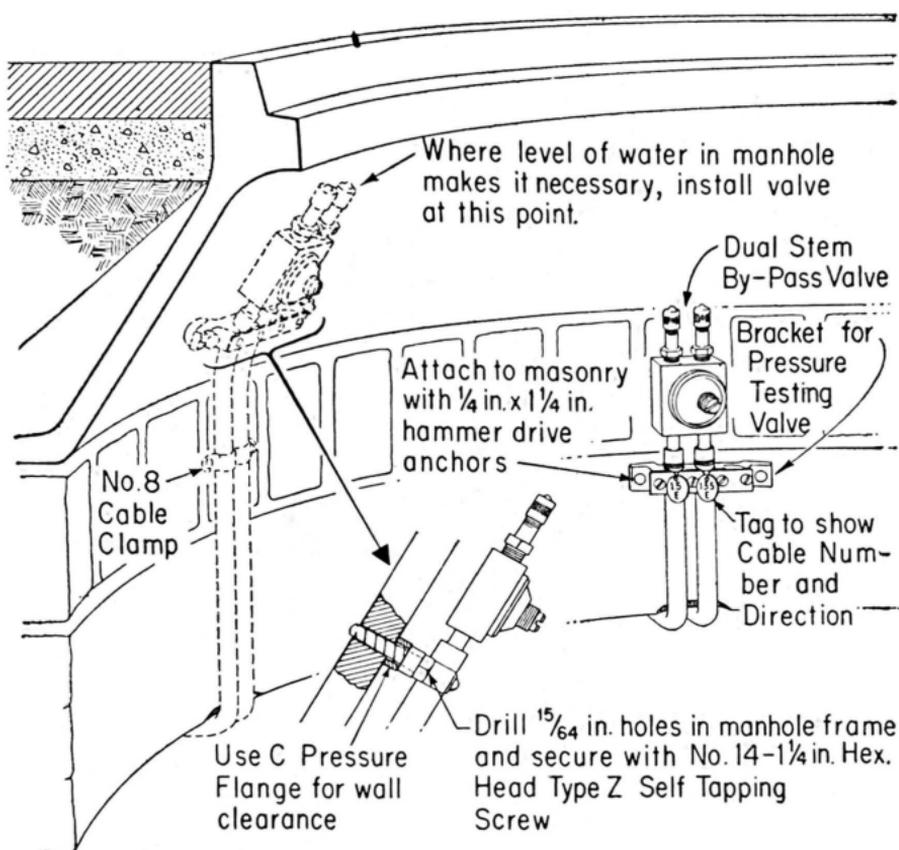


4.02 The illustrations in Paragraph 4.01 (a) and (b) also show the arrangement for an underground cable that connects to a submarine cable, or for an underground cable that connects to an aerial cable when conditions make it desirable to locate the pressure plug underground instead of aerially.

4.03 The arrangement of the by-pass between two underground cables comprising the same circular gas section is shown below.

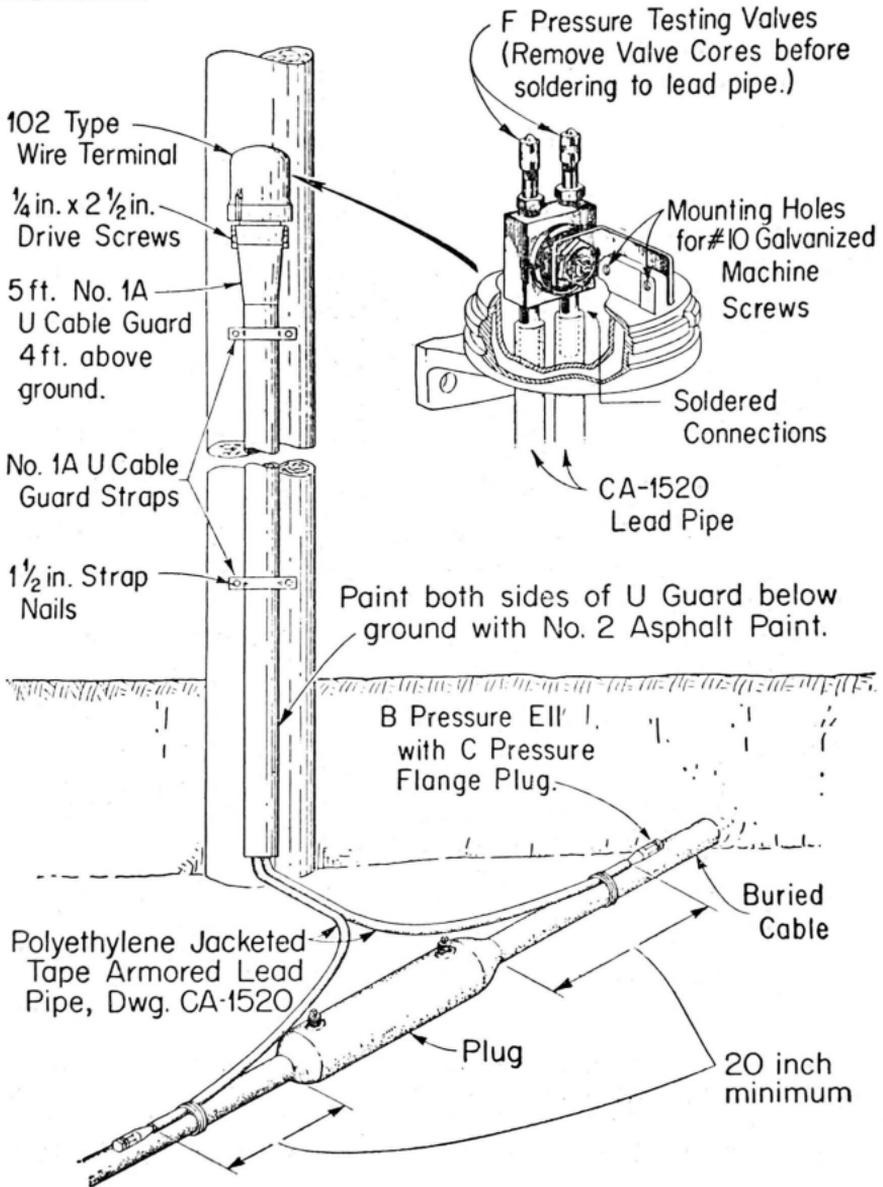


4.04 In locations where a manhole is likely to be filled with water or where frequent gas measurements may be necessary, the Dual Stem By-Pass Valve may be mounted on or near the manhole frame as shown below.



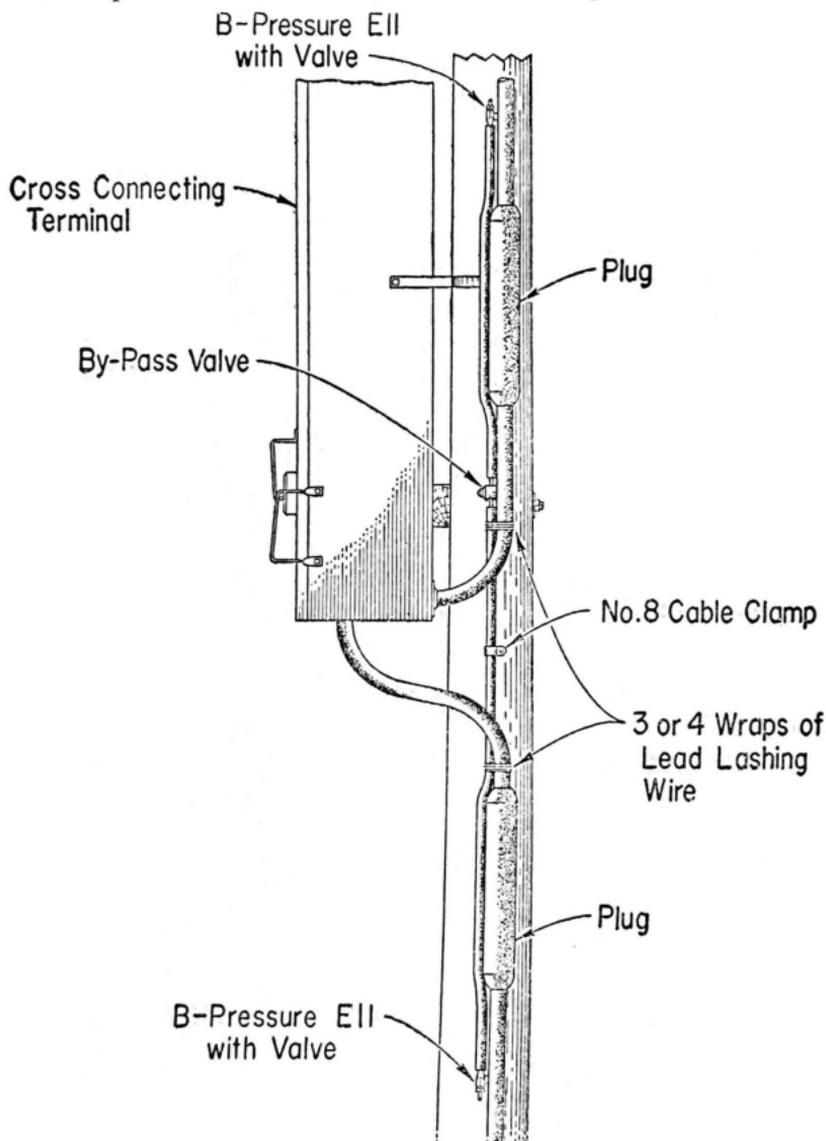
5. BURIED CABLE

5.01 On buried cable and at submarine crossings a by-pass valve around a pressure plug can be mounted on a marker in a by-pass housing. The by-pass housing consists of a 102-type wire terminal with connecting block replaced by a Dual Stem By-Pass Valve as shown in the following illustration.



6. CROSS-CONNECTING TERMINALS

6.01 At cross-connecting terminals where the aerial and underground cables enter in separate sheaths a by-pass should be placed as shown in the following illustration.



6.02 Place the lead pipe and by-pass valve so as to minimize the likelihood of damage from employees climbing or working on the pole.

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