

CABLE PRESSURE SYSTEMS

37-TYPE CABLE TERMINALS

DESCRIPTION, MOUNTING, AND WIRING DIAGRAMS

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1. GENERAL

1.01 This section covers the description, mounting, and wiring diagrams of the 37-type cable terminals.

1.02 This section is reissued to:

- Update information covered in this section.
- Include information formerly contained in Sections 637-200-101 and 637-218-200.

Since this is a general revision, arrows ordinarily used to indicate changes have been omitted.

1.03 The 37-type terminals are 4-pair airtight terminals used primarily with splice-type contactors to permit bleeding and checking contactor operation and to provide access to a talking circuit in buried and underground pressurized cables.

1.04 Arrangement of terminals at contactor points are covered in Section 637-218-201.

2. MATERIALS

2.01 The terminals and auxiliary cables available for extending the terminal stubs are as follows:

**Reprinted to comply with modified final judgment.

• **37A Cable Terminal (High Dielectric):**
For use with splice-type contactor on **buried lepeth sheath cables**. Equipped with lepeth sheath stub having polyethylene jacket and mechanical protection (20 feet long). Furnished with two brackets, capscrews, and spacer assemblies for mounting terminal on posts.

• **37B Cable Terminal (Low Dielectric):**
For use with splice-type contactor on **buried cable having other than lepeth sheath**. Equipped with lead sheath stub having polyethylene jacket and mechanical protection (20 feet long). Furnished with two brackets, capscrews, and spacer assemblies for mounting terminal on posts.

• **37C Cable Terminal (High Dielectric):**
For use with splice-type contactor on **underground lepeth sheath cables**. Equipped with lepeth sheath stub cable having polyethylene jacket and mechanical protection (15 feet long). Furnished with one strap and clamp for mounting terminal on manhole wall.

• **37D Cable Terminal (Low Dielectric):**
For use with splice-type contactor on **underground cables having other than lepeth sheath**. Equipped with lead sheath stub having polyethylene jacket and mechanical protection (15 feet long). Furnished with one strap and clamp for mounting terminal on manhole wall.

• **CA-1517E-MP Cable (Low Dielectric):** A 6-pair, 19-gauge, lead sheath cable having polyethylene jacket and mechanical protection for extending stubs of 37B and 37D terminals.

• **CA-1517F-MP Cable (High Dielectric):** A 6-pair, 19-gauge, lepeth sheath cable having polyethylene jacket and mechanical protection for extending stubs of 37A and 37C terminals.

3. DESCRIPTION

3.01 The 37-type terminal consists of a cast brass housing and hinged brass cover with a neoprene gasket to provide a watertight seal. The cover is secured by means of the recessed locking screw and a yoke and screw. Both screws can be tightened with the C socket wrench.

3.02 The stub cable conductors are connected to the binding posts mounted on the terminal faceplate through connectors fused into glass seals. The seals serve to make the terminal airtight.

3.03 Two pressure testing valves are mounted on the faceplate. The faceplate is marked READ for one valve and BLEED (in older terminals) or READ OR BLEED (in newer terminals) for the other valve.

3.04 The newer terminal stub cables include two lead pipes with the four pairs of 19-gauge conductors. Each pipe is terminated in a separate cavity of the housing which feeds a pressure valve, and cable pressure may be measured or bled at either valve.

3.05 The older terminal stub cables include only one pipe, connected through a housing cavity to the valve marked READ. The BLEED valve is mounted in the cavity which is fed by the stub cable core surrounding the pipe. The pressure

may be measured or bled at either valve. However, if pressure reduction proves difficult using the BLEED valve, bleed the pressure at the READ valve and use the BLEED valve for measurement. In this case, the READ and BLEED markings should be reversed to cover future bleeding operations.

3.06 A porcelain bushing is provided to maintain dielectric strength between the terminal and stub cable sheath.

(1) On the 37B and 37D low dielectric terminals, the base of the bushing assembly is designed to fit inside a 2-inch steel pipe. The shoulder of the bushing base is shaped to rest on a conduit bushing in the end of the pipe.

(2) On the 37A and 37C high dielectric terminals, the bushing has a uniform diameter and metal end caps. It is intended to be installed with a U cable guard.

3.07 The internal construction of the 37A and 37C terminals is shown in Fig. 1. The internal construction of the 37B and 37D terminals differs from that of the 37A and 37C only in the bushing arrangements, as shown in Fig. 2.

3.08 The 37B and 37D terminals, which are identical in external appearance, are shown in Fig. 3. The 37A and 37C terminals differ only in the porcelain bushing arrangement.

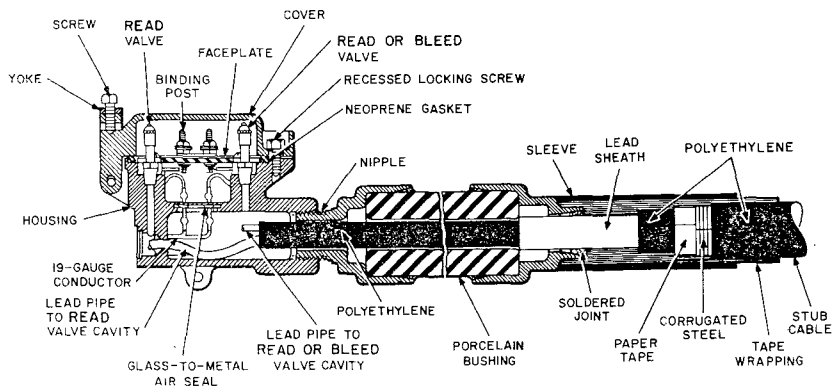


Fig. 1—Internal Construction of 37A and 37C Cable Terminals

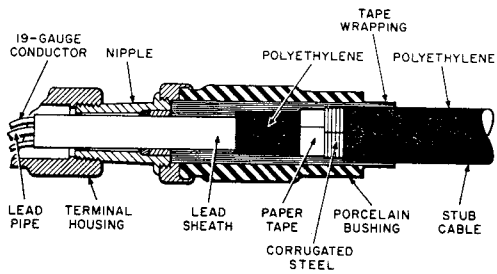


Fig. 2—Bushing Construction of 37B and 37D Terminals

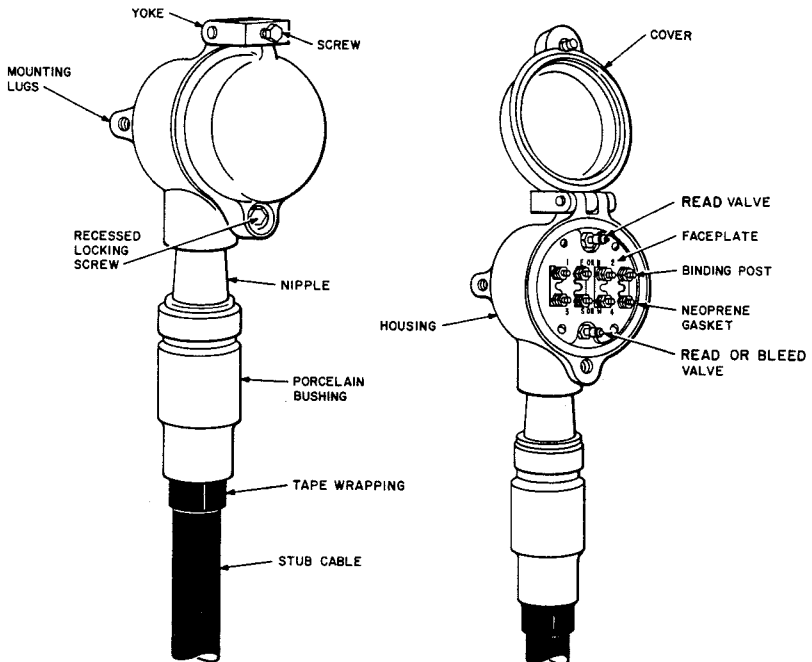


Fig. 3—37B and 37D Cable Terminals

3.09 Mounting hardware for the 37A and 37B terminals is shown in Fig. 4.

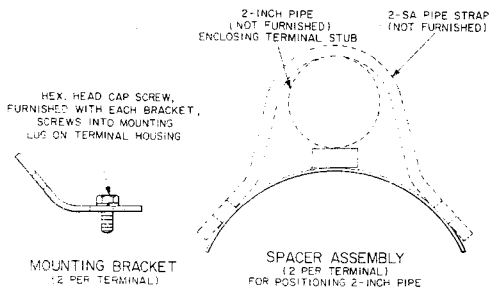


Fig. 4—Hardware for Mounting 37A and 37B Terminals

3.10 Mounting hardware for the 37C and 37D terminals is shown in Fig. 5.

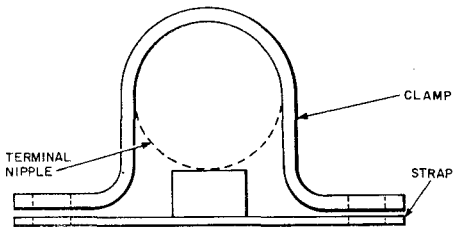


Fig. 5—Hardware for Mounting 37C and 37D Terminals

4. MOUNTING 37-TYPE CABLE TERMINALS

4.01 The 37A or B cable terminals are mounted on posts along buried cable routes, as illustrated in Fig. 6 and 7.

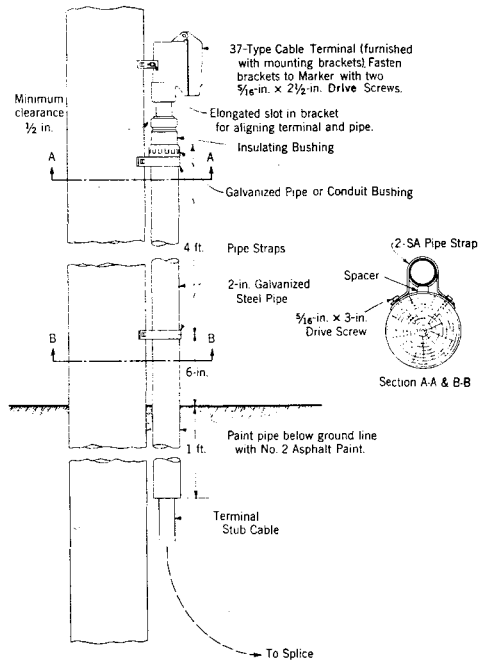


Fig. 6—Steel Pipe Used to Protect Stub Cable

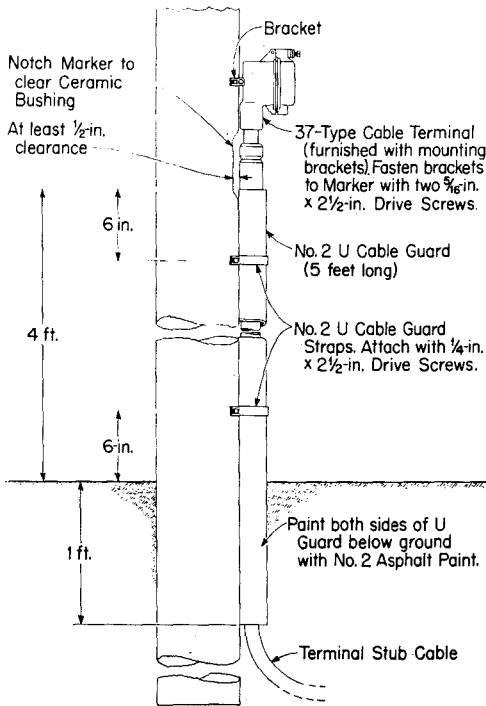


Fig. 7—U Cable Guard Used to Protect Stub Cable

4.02 The 37C or D cable terminals are mounted on a manhole wall, as illustrated in Fig. 8.

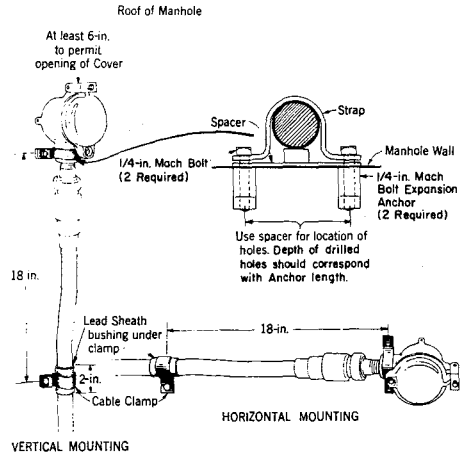


Fig. 8—Mounting Arrangement for Manhole Installation

5. WIRING DIAGRAMS

5.01 The faceplate of the 37-type terminal is illustrated in Fig. 9. The metal straps which loop the talking and balancing pairs through the terminal are shown in place.

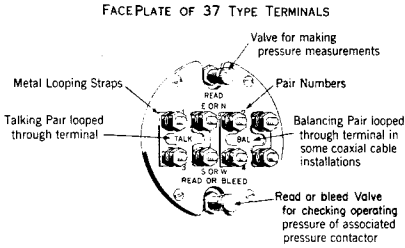


Fig. 9—Faceplate of 37-Type Terminal

5.02 The normal wiring arrangement, where no balancing pair for the talking pair is required, is illustrated in Fig. 10 and 11. The talking pair is looped through the 37-type terminal and the contactor is bridged across the alarm pair.

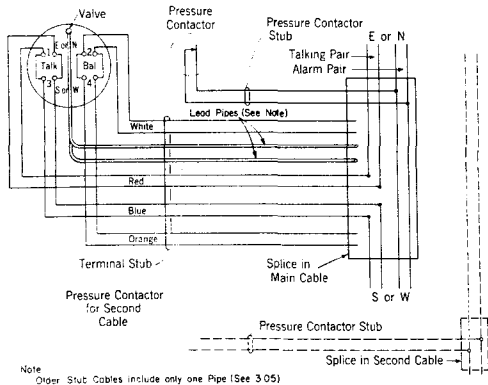


Fig. 10—No Balancing Pair Required (Contactor and Terminal Stubs Reach the Main Cable)

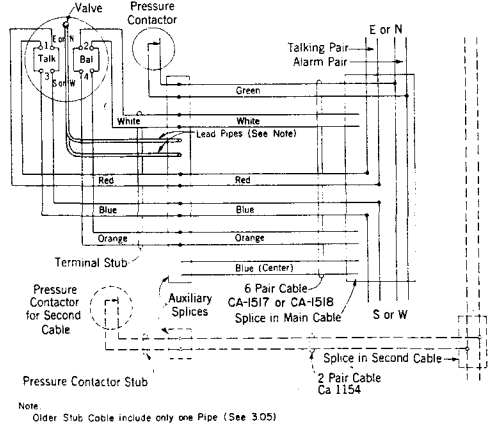


Fig. 11—No Balancing Pair Required (Contactor and Terminal Stubs Do Not Reach the Main Cable)

5.03 Where a balancing pair is provided in the main cable, as required in some coaxial installations, the balancing and talking pairs are looped through the terminals and the contactor is bridged across the alarm pair, as shown in Fig. 12 and 13.

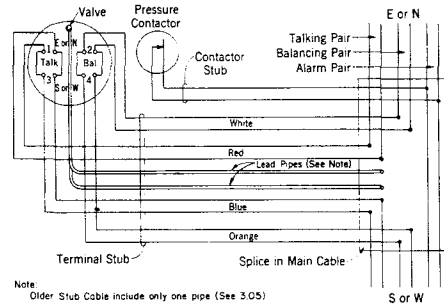


Fig. 12—Balancing Pair Required (Contactor and Terminal Stubs Reach the Main Cable)

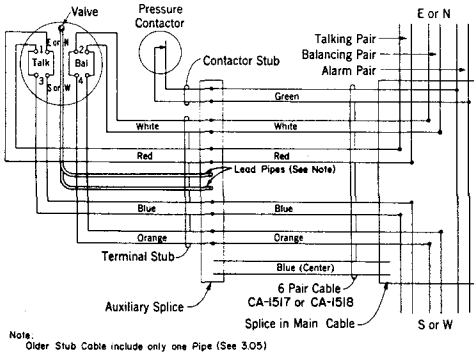


Fig. 13—Balancing Pair Required (Contactor and Terminal Stubs Do Not Reach Main Cable)

5.04 If no provision has been made to automatically send tone out on the talking pair for contactor

adjusting purposes, the wiring arrangement shown in Fig. 14 can be used to make the alarm pair accessible above ground.

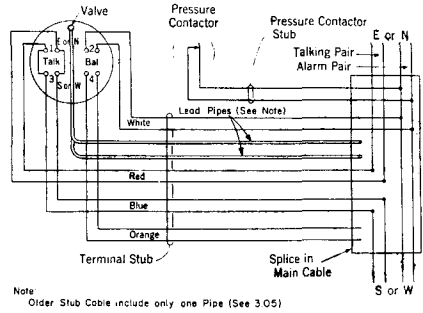


Fig. 14—Wiring Diagram for Making Alarm Pair Accessible Aboveground