

BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

SECTION G73.180.2
Issue 1, January, 1953
AT&T Co Standard

PRESSURE TESTING

AUXILIARY RESERVOIRS

INSTALLATION

Contents	Page
1. General	1
2. Cable at J Carrier Auxiliary Repeater Station.....	2
3. Cable Terminating at a Central Office.....	3
4. Intermediate Cable	4

1. GENERAL

1.01 This section covers the installation of auxiliary reservoirs and associated equipment on cables that are to be maintained under pressure. This section replaces Section G55.723.2, Issue 1, which is cancelled.

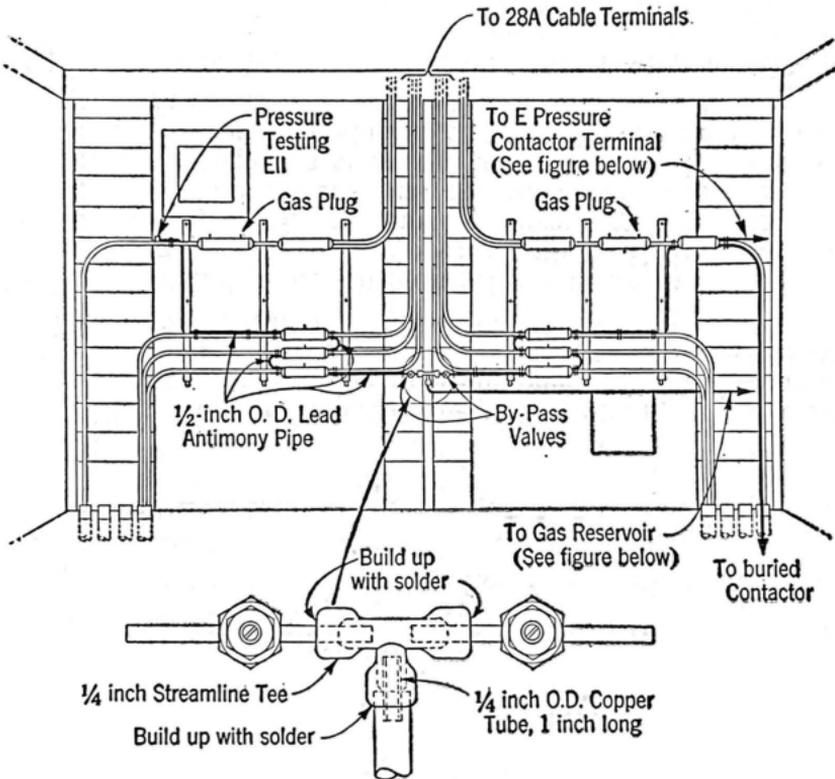
1.02 The detail plans will generally indicate the location of the gas reservoir, gas pressure plugs, E Pressure Contactor-Terminal, C, G, or equivalent Pressure Contactor, etc., as well as the connections that are to be made to the alarm circuit. The illustrations show typical layouts of the apparatus at an auxiliary repeater station and on an intermediate cable in an open wire line.

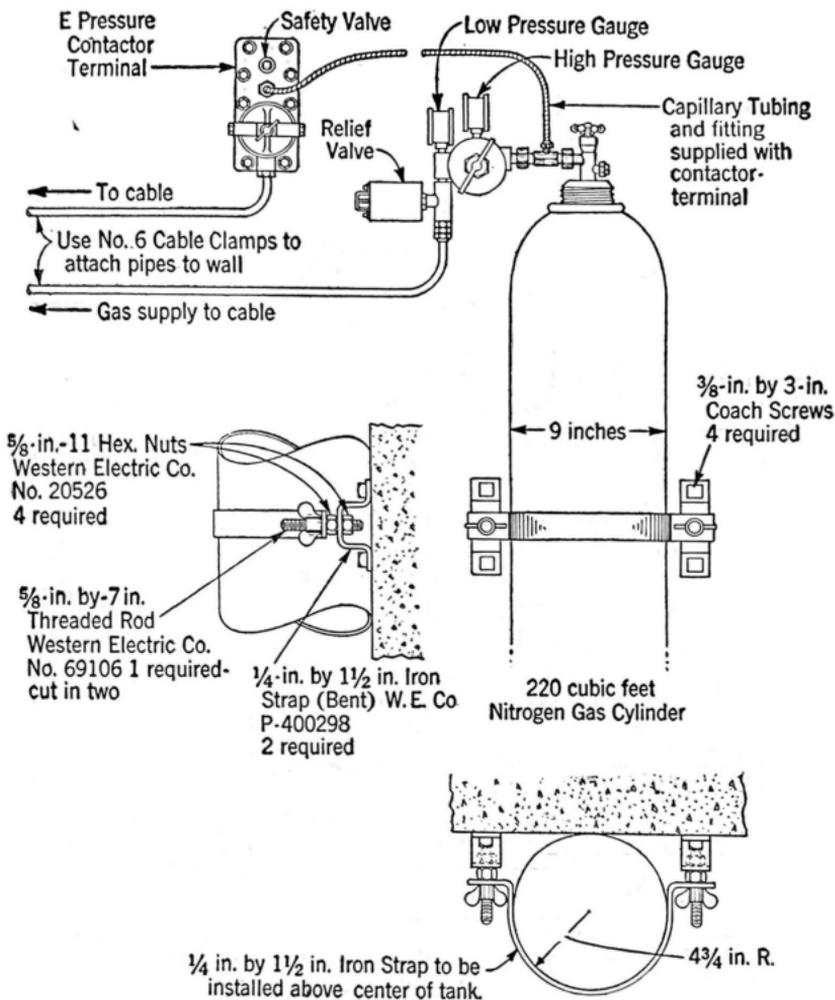
1.03 Where no alarm circuit to a control point is available, the auxiliary reservoir equipment consists of a nitrogen gas cylinder equipped with a two-stage regulator and a relief valve.

1.04 Where a gas pressure alarm circuit to a control point is available, the auxiliary reservoir equipment consists of (a) a C, G, or equivalent Pressure Contactor or a T Pressure Contactor-Terminal, (b) a nitrogen cylinder equipped with a two-stage regulator and C Relief Valve, and (c) an E Pressure Contactor-Terminal.

2. CABLE AT J CARRIER AUXILIARY REPEATER STATION

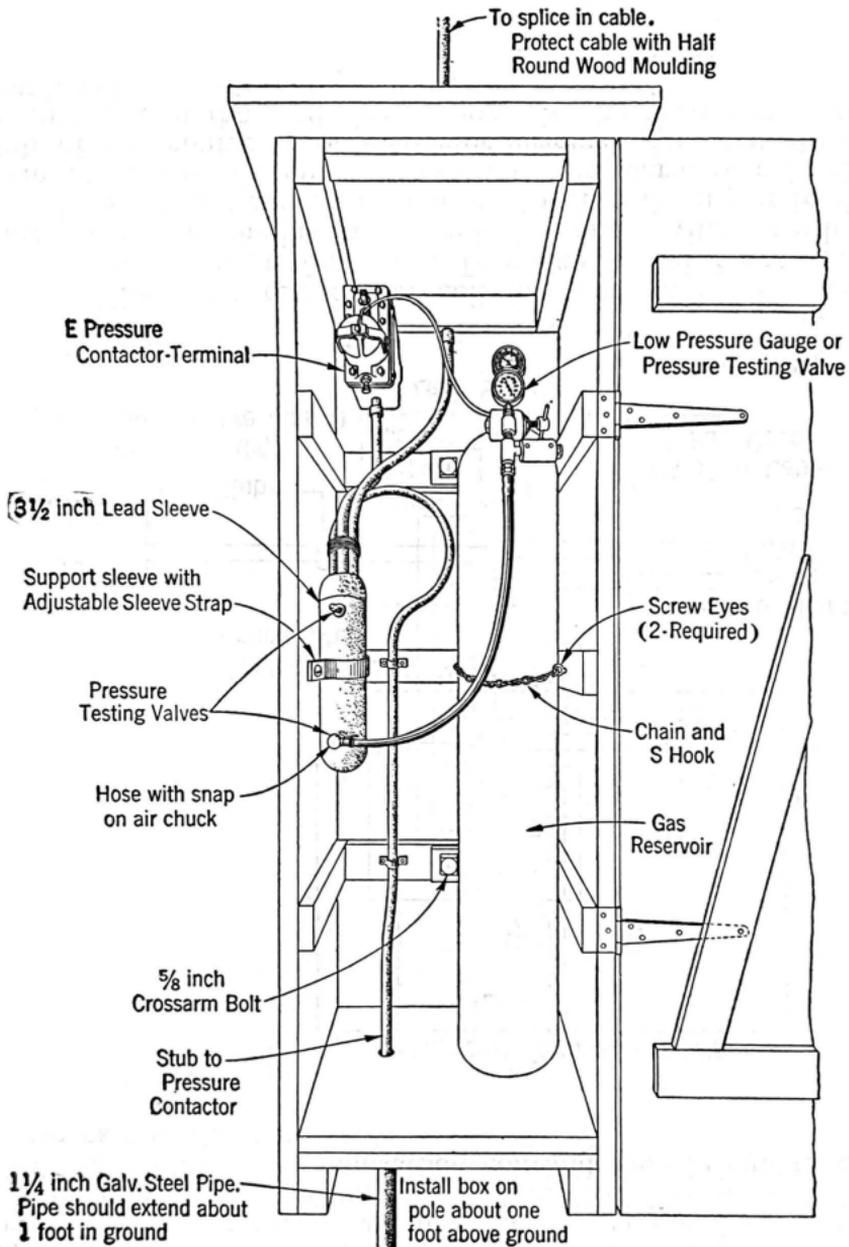
2.01 The arrangement of the contactor, reservoir, gas plugs, etc., in a J carrier auxiliary repeater station is shown in the following sketches. The cables entering the building are connected together in order to form a single gas reservoir and by-pass valves are installed to permit isolating portions of the layout in locating leaks.





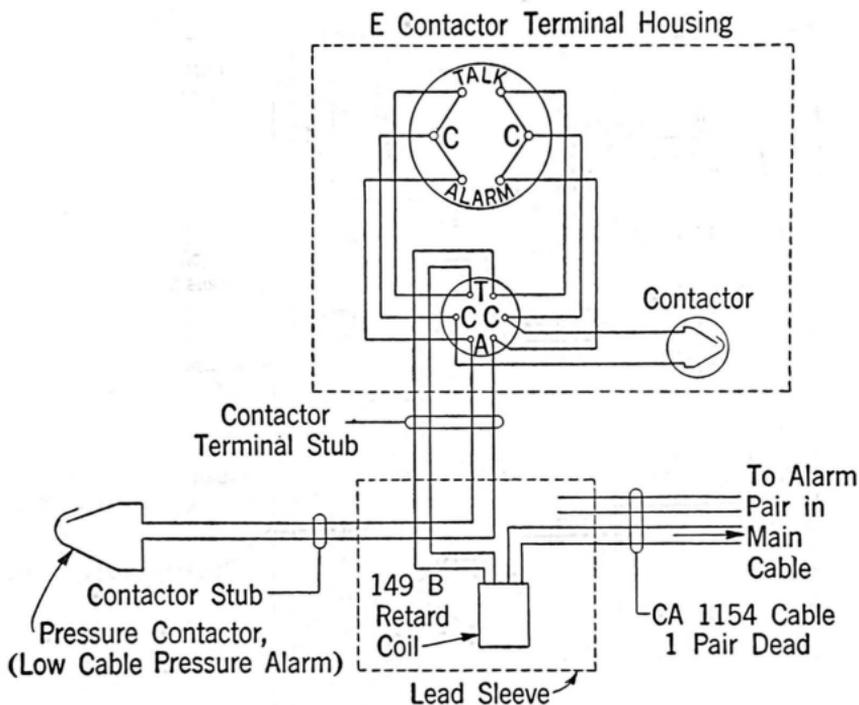
3. CABLE TERMINATING AT A CENTRAL OFFICE

3.01 The method of installing the gas reservoir and associated control equipment on an exchange or toll cable terminating in a central office is similar to that described for J carrier cables.



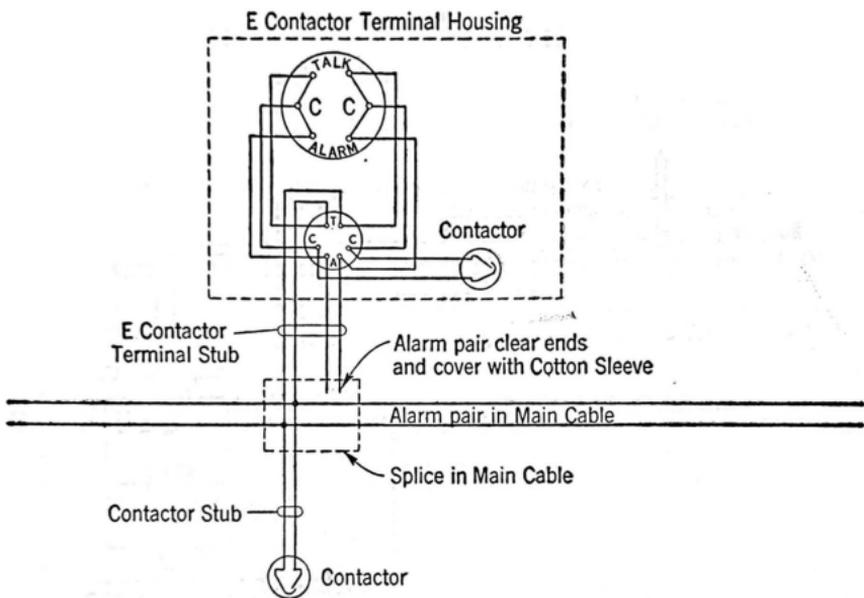
4.02 Where the contactor and E Contactor-Terminal are located at the same point, connect the conductors in the contactor stub to the "alarm" pair of the E Pressure Con-

tactor-Terminal stub at the splice. Cross-connect the "alarm," "contactor" and "talk" terminals in the E Contactor-Terminal as shown in the following sketch. Connect the "talk" pair of the E Contactor-Terminal stub to the designated alarm circuit in the cable, if one is available. If no alarm pair is available and non-J carrier circuits will be used to carry the alarm to the attended stations, connect the E Contactor-Terminal "talk" wires through a 149B retardation coil and then bridge to the alarm pair in the main cable.



4.03 The 149B retardation coil has two windings which terminate on four lugs. Terminals 1 and 2 are associated with one winding and Terminals 3 and 4 with the other. Terminals 1 and 4 should be connected to the alarm pair in the main cable and Terminals 2 and 3 to the alarm pair in the stub of the contactor or contactor-terminal. The coil should be installed in the lead sleeve shown in the sketch in Paragraph 4.01.

4.04 Where the E Contactor-Terminal and reservoir are not located at the same point as the pressure contactor (or T Pressure Contactor-Terminal), the main cable will have an alarm pair and the stub cable conductors should be connected as follows: (1) Connect the conductors in the stub of the contactor to the main cable alarm pair in the normal manner, (2) leave the stub cable "alarm" pair of the E Contactor-Terminal clear in the main cable splice, (3) connect the "talk" pair of the E Contactor-Terminal stub to the main cable alarm pair and (4) cross-connect the C pair to the "talk" pair at the face plate of the E Contactor-Terminal.



4.05 At J carrier auxiliary stations where no alarm or non-J wires are available in the spiral-four, disc-insulated cables, the J station alarm can be utilized as follows: Provide (1) a nitrogen cylinder equipped with a two-stage regulator and a relief valve, (2) an E Pressure Contactor-Terminal, (3) a 26A Terminal Punching, and (4) an HS-6 Cable Terminal Housing. Cross-connect the binding posts on the face plate of the E Contactor-Terminal, as shown in the figure in Paragraph 4.02. The 26A Terminal Punching, installed in the HS-6 Terminal Housing, should be mounted at some convenient loca-

tion in the repeater station close to the nitrogen cylinder and E Contactor-Terminal. Form the stub of the E Contactor-Terminal to the HS-6 Terminal Housing so that the pairs in the stub can be carried into the box, removing any excess in the stub. One pair in the E Contactor-Terminal should be connected to the solder lugs on the 26A Punching; the other pair should be cleared and sleeved and left dead in the HS-6 Terminal Housing. Equipment cross-connections should be run from the J station alarm to the pair in the HS-6 Terminal Housing. In this arrangement, no C, G, or equivalent Contactor is required and an alarm will be sent to the control point when the cylinder pressure drops to 800 pounds per square inch.

