

## PRESSURE TESTING TOOLS

## CABLE DRILLS

## DESCRIPTION AND USE

## 1. GENERAL

1.01 This section covers the description and use of the B, C, and D Cable Drills.

1.02 This section is reissued to add information for the D Cable Drill and to revise the materials associated with the B and C Cable Drills.

1.03 Although the C Cable Drill supersedes the B Cable Drill, information is also included on the latter drill.

## 2. DESCRIPTION

## B and C Cable Drills

2.01 The B and C Cable Drills illustrated in Fig. 1 are used for making a 1/4-inch hole for a B or C Flange. Each of these drills serves as a cable drill and temporary valve. This provides a convenient method of making valve connections to a lead sleeve or lead cable sheath without loss of gas, and eliminates waiting for equalization of pressure when it is necessary to make accurate pressure measurements at points between existing valves.

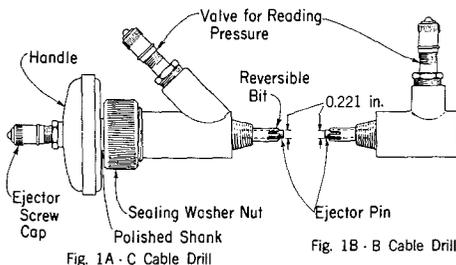


Fig. 1 - B and C Cable Drills

2.02 The reversible double-ended hollow bit is mounted at one end of a polished shank which is operated through a pressure-sealing gland.

2.03 The valve on the side of the tool is used as the pressure chuck connection.

2.04 The valve stem in the handle provides access to the screw-operated lead slug ejecting pin which is turned by means of the standard Valve Repair Tool. The valve cap at this point serves as a gas seal and should remain tightly closed when the tool is on the cable.

## D Cable Drill

2.05 The D Cable Drill illustrated in Fig. 2 is used for making a 1/2-inch hole for a D Pressure Flange when constructing a resin plug in a 1-inch or larger diameter paper or pulp-insulated cable.

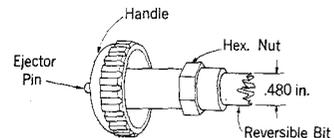


Fig. 2 - D Cable Drill

2.06 The reversible double-ended hollow bit is secured to the shank of the handle with a steel nut.

2.07 Unlike the B and C Cable Drills, the D Cable Drill has no side valve, or valve stem in the handle. The ejector pin in the handle is held inoperative by spring action. The lead slug from the sheath or sleeve is removed by pressing down on the ejector pin.

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**3. METHOD OF USE**

**B and C Cable Drills**

**3.01** At the point where a temporary pressure connection is to be made, clean the sleeve or sheath, and solder a C Flange in position in the usual manner.

**3.02** Connect the drill to the cable and operate as follows:

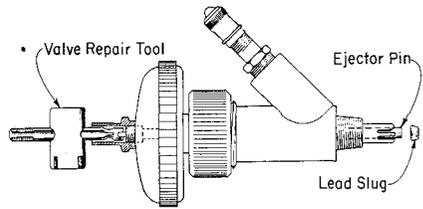
- (1) For sealing purposes, apply standard thread lubricant to the drill threads which turn into the flange. Make sure the lead slug from previous use of the drill has been removed from the bit and that the ejector pin is fully retracted.
- (2) Check the operation of the drill to see that it turns readily in the compression gland, but that the gland is tight. Lubricate and tighten, if necessary, as outlined in Part 4.
- (3) Retract the bit and firmly turn the drill threads into the flange by hand.
- (4) To ensure a good seal, flash test by applying pressure to the valve. Check for leaks with pressure-testing solution at the top valve cap, around the drill shank, and at the C Flange. Tighten if necessary.

(5) The drill is held the same as the Cable Drill without valve. Push the bit out and apply firm pressure to bore the hole in the usual manner. (With practice, it is possible to feel the easier turning as soon as the drill has cut through the lead. This can be checked with a pressure gauge.)

(6) After the bit has penetrated the sheath, retract it. Then connect the measuring instrument to the side valve. Check the side valve for leaks as soon as the instrument is disconnected.

(7) After the drill is removed, seal the flange with a screw plug in the usual manner.

**3.03** To remove lead slug from the drill, remove the cap and turn the internal screw clockwise with the Valve Repair Tool. (See Fig. 3.)



**Fig. 3 — Removing Lead Slug from B and C Cable Drills**

**D Cable Drill**

**3.04** In boring holes, the drill turns fairly hard while cutting through the sheath. Continue boring until free turning is noticeable, at which point no further pressure should be applied to the drill.

**3.05** Remove the lead slug by tapping the ejector-plunger that projects slightly above the top of the knurled handle.

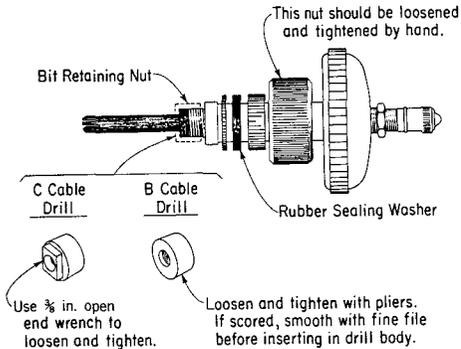
**4. MAINTENANCE**

**4.01** The following are replacement parts for the B, C, and D Cable Drills.

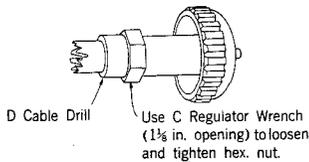
- Bit, for B Cable Drill
- Bit, for C Cable Drill
- Bit, for D Cable Drill

**4.02** Each bit is double-ended and may be reversed when worn, by disassembling the tool as illustrated in Fig. 4 and 5. The bits for these drills are not interchangeable.

**4.03** In replacing the bit in the B Cable Drill, make sure that the bit retaining nut is smooth before reassembling in the drill body. If deep score marks are not removed, the inside of the drill body may be scored which will cause binding and result in damage to the sealing washer.



**Fig. 4 — Replacing Bit for B and C Cable Drills**



**Fig. 5 — Replacing Bit for D Cable Drill**

**4.04 Cleaning and Lubrication — B and C Cable Drills**

(1) To ensure smooth operation of the drill, clean the pressure-testing solution off the polished shank and compression gland nut regularly. Otherwise, dirt accumulation at this point may damage the shank.

(2) If the shank appears dry, lubricate with a small quantity of KS-7471 Grease or a drop of oil.

(3) The threads and other parts of the tool should also be kept clean, using a cloth moistened with KS-16302 Cleaner.

**4.05 Valve Core and Caps:** The core in the side valve of the B and C Cable Drills should be replaced at about yearly intervals or sooner if necessary. The valve caps should be changed as necessary.