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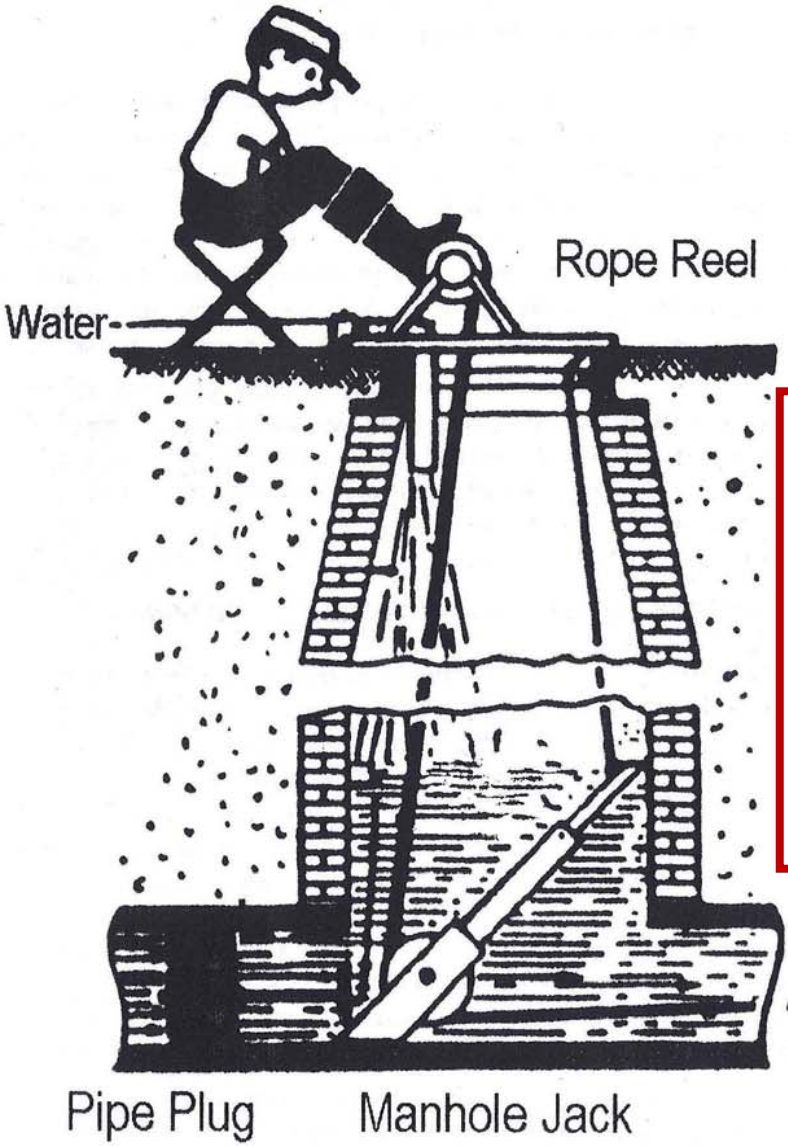
Directions

for use of the

SEWER CLEANING BALL



The Sewer Cleaning Ball, which you have purchased as a tool, when properly used will give excellent service at low cost.

There are certain basic rules that should be followed, however, to insure proper cleaning action. They are enumerated below:

(1) The inflation of the ball should be so that it fits loosely into the pipe to be cleaned.

(2) Fasten a tag line or rope (preferable ½" or larger) to the swivel provided. Be sure shackle or rope is fastened to the end of the ball with the hard or reinforced lug.

(3) Pass the rope through the manhole jack or rope guide, then to the surface of the ground. This provides control of the ball with minimum of wear tot the rope.

(4) A reel should be provided for the rope so that it may be played out without fouling or tangling.

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BASIC PRICIPLE OF THE SEWER CLEANING BALL

The basic principal behind the use of the Sewer Cleaning Ball is that as the ball restricts the flow in the sewer line, a head of water builds up in the upstream manhole behind the ball. When the head of water is great enough, it will cause the ball to pull on the rope and unless it is purposely held back by the person handling the rope, the ball will start is forward progress.

Moving pictures of the ball in a glass pipe have shown that by restricting the flow, a swirling action is created around the ball and the resulting heavy stream of water moves all of the debris ahead. The ball does not push the debris as a commonly thought; it is the water which escapes under the ball at high velocity which keeps jetting the debris ahead. The periphery of the ball also scrapes the inside of the pipe with a squeegee effect, thereby removing sulphide forming slimes, grease and other adherents.

Some Common Difficulties Encountered Which May Be Easily Overcome

If the ball refuses to move ahead after it has once started, pull the ball back four to eight feet with the rope as rapidly as possible. This backward movement creates a partial vacuum, which breaks up or flattens the stoppage or dam that has built up ahead of the ball (generally caused by running the ball too fast in heavy fouled sewers). In case the sewer is heavily fouled, the ball then should be allowed to move ahead slowly. A strain should be held on the rope at all times when heavily fouled sewers are being cleaned as this prevents dams from being formed and also gives better jetting action under the ball.

In case the sewer being cleaned is not heavily fouled, and the ball stops, chances are it is joint fins, roots or a protruding house connection. In this instance it is advisable to pull the ball back 5 to 10 feet and then release it quickly. The momentum of impact upon release forces the ball down the line, carrying with it the obstruction. It may be necessary to repeat this hammering action several times. All but the largest and most stubborn root growths can be removed with the ball. The others will have to be removed with a root cutting augur and rods. After the roots are removed with the auger, the line should be balled to remove the debris and limes.

Stubborn join fins and protruding house connections may make it necessary to remove the ball and deflate by pressing on one side.

If a stoppage occurs after the cleaning process has started downstream from where the ball is cleaning, the chances are that the flow downstream and upstream will equalize and the ball will become static. If this occurs, withdraw the ball and break the stoppage with sewer rods so that a clear flow can be obtained downstream from the point of cleaning. Normally it is not necessary to have a high head of water behind the ball. Most sewers can be cleaned with as little as 10” to 16” head of water in the upstream manhole.

To conserve water, plug the incoming lines into the manhole from which the men are starting cleaning operations so that a 2-1/2” fire hose can be introduced and a heal built up in the manhole only, without having to fill the upstream lines.

The debris to be removed will not appear until the ball is within 20 to 25 feet of the downstream manhole. When the debris does begin to appear a man should be in the downstream manhole with a short handled shovel, shaped to fit the invert, so that he can remove the debris as it appears. The accumulation of the debris may be slowed down by holding the tagline and stopping the forward progress of the ball. By releasing the ball a little at a time, the man in the downstream manhole is able to remove all of the debris as it appears. **Do not use a sand trap or otherwise retard the flow in the lower manhole.**

In case of a bad break in the sewer which completely stops the forward progress of the ball or where the flow is stopped, the length of tag line may be measured between the upstream manhole and the point where the ball’s forward progress has been stopped and thus can be determined the exact location of the break or obstruction.

Under no consideration use the ball on hills or where there are basements or connections which are considerably lower than street surface until your crew has had enough experience to knowhow to control both, the ball and the head of water.

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