

Firehouse^{.com} WEEKLY DRILL

DRILL # 34: DRY BARREL FIRE HYDRANT

Introduction

One piece of equipment that firefighters more often than not take for granted is the fire hydrant. It is as vital to the operations as any other piece of equipment! However, the fire hydrant is often overlooked because it's not carried on the apparatus as are all the other tools that we use.

The two principle types of hydrants used today are the dry barrel fire hydrant and the wet barrel fire hydrant. The wet barrel hydrant is used exclusively in milder climates, where there is no chance of it freezing. The dry barrel hydrant is used in virtually all other locations. Both hydrants have been given a prepared set of standards by the American Water Works Association.

Dry Barrel Components

The dry barrel fire hydrant consists of several components. These components are essentially a foot-piece, a barrel, a bonnet, an operating stem, the main valve and the drain holes.

The foot-piece, which also is sometimes called the elbow or shoe, provides the inlet for the water from the branch connection, which extends to the street's water main. The barrel (or raiser as it is sometimes referred to) extends vertically from the foot-piece. The bonnet (or top) is fastened to the upper end of the barrel to form a protective cover. The shape of all these components is more recognizable as a fire hydrant.

The operational stem of the dry barrel fire hydrant is located within the barrel and extends the full length of the barrel. At the top end the stem, which extends through the top of the bonnet, is the nut to which the firefighter attaches the hydrant wrench. At the bottom, the stem attaches to the main valve.

The main valve is opened and closed using the operational stem. When the firefighter turns the hydrant wrench on the nut counterclockwise, it allows the stem to open the valve at the bottom and permits the water to flow from the water main to the barrel and up to the surface and eventually to the apparatus. By turning the wrench clockwise, the valve closes.



Finally, there are the drain holes. Drain holes are located in the foot-piece and open when the hydrant is shutdown allowing the water to escape from the barrel and prevent freezing during winter. On the other hand, these drain holes are sealed off when water is flowing, preventing erosion around the shoe.

The area around the shoe, where the drain holes are located, is designed to drain water by having stones packed around it. In doing so, the holes are protected from becoming plugged with dirt. Should they get plugged with dirt, water would not be able to drain and, therefore, the water would freeze during the winter weather, rendering the hydrant inoperable.

Identify Problems

Fire departments should conduct some type of inspection program to identify any problems with the operations of the hydrant. Some questions that need to be answered are:

- Are the threads in good condition?
- Is the stem easy to operate?
- Are there any leaks detected?
- Does the hydrant drain properly?

Any problem noted should be brought to the attention of the Water Bureau for repairs.

—Prepared by Russell Merrick