



Fire Protection Training

Procedures Handbook 4300

WATER SUPPLY SYSTEMS

TOPIC: Wet and Dry Barrel Hydrants

TIME FRAME: 30 Minutes

LEVEL OF INSTRUCTION:

BEHAVIORAL OBJECTIVE:

Condition: A written quiz

Behavior: The student will list and describe the characteristics of wet and dry barrel hydrants.

Standard: Standard: With a minimum of 70% accuracy

MATERIALS NEEDED:

- Chalkboard and chalk
- Eraser
- Appropriate visual aids
- Audio visual equipment

REFERENCES:

- IFSTA, Water Supplies for Fire Protection, 4th Edition, Chapter 3
- IFSTA, Essentials of Fire Fighting, 2nd Edition, Chapter 8

PREPARATION:

There are two main categories of fire hydrants, wet and dry barrel. Knowledge of their advantages and limitations is crucial for effective fireground operations.



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WET AND DRY BARREL
HYDRANTS

PRESENTATION

APPLICATION

I. THERE ARE TWO MAIN TYPES OF FIRE HYDRANTS, DRY BARREL AND WET BARREL.

A. Dry Barrel

1. Is easily identified by a single stem nut on top of the bonnet which operates all outlets simultaneously.
2. Is predominately utilized in climates where freezing is expected.
3. Any water that may remain in the barrel of a closed dry barrel hydrant will drain through a small valve at the bottom.
 - a. The drain valve opens as the main valve closes
 - b. The drain valve must be kept clean
 - c. The water is drained to prevent freezing in the hydrant barrel which may damage the barrel
 - d. To avoid hydrant contamination (from the water table) it may be necessary to plug drain holes and pump out hydrants after use
4. The dry barrel main parts are:
 - a. Stem nut
 - b. Operating stem
 - c. Drain hole

Information Sheet #1

How is the remaining water removed from the barrel?

4308.2

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PRESENTATION	APPLICATION
<ul style="list-style-type: none">d. Valve (Located in ground below freeze line)e. Hose outletf. Outlet cap with chain <p>5. Larger capacity hydrants may have multiple outlets with a single stem nut</p> <p>6. Cap chains help prevent losses but chains should be loose for turning</p> <p>7. If the hydrant is knocked off the break away flange, the valve usually remains closed and no water is lost</p> <p>B. The Wet Barrel is Usually Constructed Having a Compression Valve at Each Outlet</p> <ul style="list-style-type: none">1. Is easily identified by a single stem nut which is directly opposite the hose outlet it operates2. There is a separate stem nut and valve for each hose outlet<ul style="list-style-type: none">a. Some wet barrel hydrants have a single valve on top of the bonnet to operate all outlets3. Is predominately utilized in climate where freezing is not expected4. Water always remains in the barrel of the hydrant ready for use5. The wet barrel main parts are:<ul style="list-style-type: none">a. Stem nutb. Operating stemc. Valve	



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PRESENTATION	APPLICATION
<ul style="list-style-type: none">d. Valve seate. Hose outletf. Outlet cap with chaing. Automatic check valve (optional) <p>6. Large capacity hydrants may have multiple outlets with a stem nut and valve to operate each hose outlet</p> <p>7. Chained caps help prevent losses but chains should be loose for turning</p> <p>8. If the wet barrel hydrant is knocked off the break away flange, the hydrant will lose water absent an automatic check valve</p> <p>C. Hydrant Construction Features</p> <ul style="list-style-type: none">1. Cast iron components<ul style="list-style-type: none">a. Bonnetsb. Barrelsc. Foot piecesd. Caps2. Bronze components<ul style="list-style-type: none">a. Working partsb. Hose outlet threads3. Facings are made of:<ul style="list-style-type: none">a. Rubberb. Leatherc. Composition material	



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PRESENTATION	APPLICATION
<p>D. Standard Fire Hydrant Outlets</p> <ol style="list-style-type: none">1. One 4" or 4 1/2" outlet2. Two 2 1/2" outlets <p>E. Hydrant Outlet Threads shall conform to the threads used by the local fire department</p> <ol style="list-style-type: none">1. Will need to carry adapters if responding outside your district/area of responsibility	<p>Which hydrant has only one valve at the base?</p> <p>(Dry barrel hydrant) Which hydrant has a stem nut for each hose outlet?</p> <p>(Wet barrel hydrant)</p>



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SUMMARY:

The dry barrel and wet barrel hydrants are the standard for fire flow systems in America. They are easily identified and every effort should be made to learn the operation of each.

EVALUATION:

A written quiz.

ASSIGNMENT:

To be determined by instructor(s).