



Fire Protection Training

Procedures Handbook 4300

WATER SUPPLY SYSTEMS

TOPIC: Inspection and Maintenance of Fire Hydrants

TIME FRAME: 1 Hour

LEVEL OF INSTRUCTION:

BEHAVIORAL OBJECTIVE:

Condition: A written quiz

Behavior: The student will list and describe procedures for the inspection and maintenance of fire hydrants.

Standard: With a minimum of 70% accuracy

MATERIALS NEEDED:

- Appropriate visual aids and supplies

REFERENCES:

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

PREPARATION: The water distribution system is the life blood of fire suppression operations. A poorly designed, constructed, or maintained system could negate all other fire suppression activities.



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INSPECTION AND MAINTENANCE OF
FIRE HYDRANTS

PRESENTATION	APPLICATION
<p>I. INTRODUCTION</p> <p>A. Repairs and Maintenance of Fire Hydrants are the Responsibility of Water Departments.</p> <p>B. The Water Department Should be Notified when Hydrant Inspections are Made.</p> <p>II. INSPECTION</p> <p>A. Materials Needed</p> <ol style="list-style-type: none">1. Notebook2. Pitot gauge device3. Lubricating oil4. Graphite5. Wire brush6. Valve key7. Hydrant wrench8. Hydrant grid or map <p>B. Inspector's Observations</p> <ol style="list-style-type: none">1. Check for obstructions erected around the hydrant<ol style="list-style-type: none">a. Poles, fences, shrubbery2. Check outlets<ol style="list-style-type: none">a. Facing proper direction	<p>Who does most repairs?</p> <p>Ask for examples</p>



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<ul style="list-style-type: none"> b. Maintain 15" clearance from bottom of butt to the grade c. Foreign materials in outlets 3. Check for external damage <ul style="list-style-type: none"> a. Traffic barriers help eliminate damage - parking lots, etc. 4. Condition of paint <ul style="list-style-type: none"> a. Repaint as needed C. Flushing the Hydrant <ul style="list-style-type: none"> 1. Open valve fully and allow water to flow until clear 2. After flushing, close hydrant slowly to prevent water hammer <ul style="list-style-type: none"> a. The presence of water in a dry-barrel hydrant indicates that either the main valve does not hold tightly or the drain holes are plugged. b. The location of the gate valve in the hydrant branch should be known so it can be closed if complications arise after the hydrant is opened. 	<p>At what speed should a valve be opened/closed (SLOWLY)</p>
<p>III. PRESSURE TESTING THE HYDRANT</p> <ul style="list-style-type: none"> A. Requires a tapped hydrant cap with gauge <ul style="list-style-type: none"> 1. Attach gauge cap to one 2 1/2" outlet 	



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<ul style="list-style-type: none">2. Tighten the caps on the other outlets3. Open hydrant valve completely4. Bleed air from hydrant<ul style="list-style-type: none">a. Open petcock nozzle on gauge capb. Until steady stream of water appearsc. Close petcock nozzle5. Record static pressure on gauge6. Observe for leaks around valve stems and caps7. Close hydrant completely	
<p>IV. MAINTENANCE</p> <ul style="list-style-type: none">A. Stuffing Box<ul style="list-style-type: none">1. Packing in the stuffing box tends to dry over a period of time2. Check for leakage<ul style="list-style-type: none">a. Considerable leakage - repack main stem and oilb. Slight leakage -tighten stuffing nutB. Valve Stem<ul style="list-style-type: none">1. Should be oiled2. Makes it easier to open and closeC. Thread Gauge<ul style="list-style-type: none">1. The measuring device should be screwed on to each outlet to determine if proper fit can be made	



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<ul style="list-style-type: none">2. Rust and other deposits should be removed from outlet and cap threads with a wire brush3. Lightly swab cap threads and outlets with a mixture of lubricating oil and graphite4. Wipe threads clean with a rag <p>D. Hydrant Caps</p> <ul style="list-style-type: none">1. Replace cracked or worn gaskets, as needed2. Place caps on discharge outlet and close firmly3. Chains should be freed of excessive paint and straightened to ensure free spinning around the groove in the cap	



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SUMMARY:

In most cities, repair and maintenance of fire hydrants are the responsibility of the water department. However, during hydrant tests, inspections, and maintenance, the fire department should check to make sure fire hydrants are in good operating condition. Report all hydrants that need repair to the water department.

EVALUATION:

A written quiz.

ASSIGNMENT:

To be determined by instructor(s).