



Fire Protection Training

Procedures Handbook 4300

PUMPING

TOPIC: Factors Causing Hoseline Pressure Losses

TIME FRAME: 15 Minutes

LEVEL OF INSTRUCTION:

BEHAVIORAL OBJECTIVE:

Condition: A written quiz

Behavior: The student will list and describe factors causing hose line pressure loss.

Standard: With a minimum of 70% accuracy

MATERIALS NEEDED:

- Appropriate visual aids
- Audio visual equipment

REFERENCES:

- IFSTA, Essentials of Fire Fighting, 2nd Edition, Chapter 9

PREPARATION: Safe, effective fire attack is dependent upon a reliable flow of water. In order to achieve this, we need to be familiar with the factors which may result in a loss of pressure and the steps necessary to correct this pressure loss.



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FACTORS CAUSING HOSELINE PRESSURE LOSSES

PRESENTATION	APPLICATION
<p>I. FACTORS CAUSING PRESSURE LOSS</p> <p>A. Poor Water Supply</p> <ol style="list-style-type: none"> 1. Broken hose line 2. Poorly designed water system 3. Power outage to electric pumps <p>B. Ineffective Pump Operation</p> <ol style="list-style-type: none"> 1. Operator error 2. Mechanical problems 3. Error in hydraulics calculation <p>C. Friction Loss</p> <ol style="list-style-type: none"> 1. Rough lining in old hose 2. Needless adapters 3. Improperly sized gaskets 4. Hoseline too long 5. Excess demand for size of hose 6. "Normal" friction loss <p>D. Obstructions</p> <ol style="list-style-type: none"> 1. In pump 2. In water mains 3. In hoseline 4. Crushed couplings 	<p>What types of things can affect friction loss?</p>



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FACTORS CAUSING HOSELINE
PRESSURE LOSSES

PRESENTATION	APPLICATION
<ul style="list-style-type: none">5. Sharp bends or kinks6. Valves out of adjustment or partially closedE. Large Increase in Nozzle Elevation	



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FACTORS CAUSING HOSELINE
PRESSURE LOSSES

SUMMARY:

Water flow to the nozzle may become inadequate due to a variety of reasons. Water supply systems may be poor, pump operations may be inefficient or hoselines may have become obstructed. Regardless of the reason for the reduced water flow, all fireground personnel must remain alert for such problems and take corrective action when appropriate.

EVALUATION:

A written quiz.

ASSIGNMENT:

To be determined by instructor(s).