



# Fire Protection Training

Procedures Handbook 4300

HOSE APPLIANCES & TOOLS

**TOPIC:** Fixed And Portable Master Stream Appliances

**TIME FRAME:** 30 Minutes

**LEVEL OF INSTRUCTION:**

**BEHAVIORAL OBJECTIVE:**

*Condition:* A written quiz

*Behavior:* The student will be able to identify the different fixed and portable master stream appliances.

*Standard:* With a minimum of 70% accuracy

**MATERIALS NEEDED:**

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

**REFERENCES:**

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

**PREPARATION:** Master stream appliances are by definition, "fire streams that are too large to be controlled without mechanical aid." When a fire has progressed to the point where handlines are ineffective, you may be called upon to place a fixed or master stream appliance into service.



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FIXED AND PORTABLE MASTER  
STREAM APPLIANCES

PRESENTATION	APPLICATION
<p><b>I. THE TERM FIXED OR MASTER STREAM IS APPLIED TO ANY FIRE STREAM THAT IS TOO LARGE TO BE CONTROLLED WITHOUT MECHANICAL AID</b></p> <p>A. Safety Precautions Should Always Be Employed</p> <p>B. The Master or Fixed Stream May Be Either Solid or Fog and Is Produced by Special Nozzles</p> <ol style="list-style-type: none"><li>1. Solid master streams are usually operated at 80 psi</li><li>2. Fog master streams are usually operated at 100 psi</li><li>3. Flows commonly range at 750-1000 GPM; some may flow in excess of 2000 GPM</li></ol> <p>C. They Are Used When Handline Streams Are Ineffective</p> <ol style="list-style-type: none"><li>1. Because of magnitude of fire, i.e., structure totally involved</li><li>2. Heat is so intense that firefighters cannot approach</li><li>3. Situation is too dangerous for firefighters to approach<ol style="list-style-type: none"><li>a. Pressurized vessel storage (LPG, etc.)</li><li>b. Hazardous materials</li><li>c. Structural collapse possible</li></ol></li><li>4. For greater reach</li><li>5. For greater fire flows</li></ol>	<p>When might master streams be used?</p>



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<ul style="list-style-type: none"><li>D. Most Have Means of Moving in a Vertical and Horizontal Direction</li><li>E. Friction Loss is either 10 or 25 PSI depending on type and manufacturer</li><li>F. The Effectiveness of a Fire Stream Depends Upon the Mobility of the Stream<ul style="list-style-type: none"><li>1. Efforts have been made to make master streams:<ul style="list-style-type: none"><li>a. More portable</li><li>b. Lighter</li><li>c. Capable of flowing more water</li><li>d. Remote controlled</li></ul></li></ul></li></ul> <p><b>II. FIXED OR MASTER STREAMS ARE DIVIDED INTO FOUR MAIN GROUPS</b></p> <ul style="list-style-type: none"><li>A. Turret pipe<ul style="list-style-type: none"><li>1. Mounted permanently on the deck of the apparatus</li><li>2. Connected directly to the pump</li><li>3. Sometimes called a deck gun or deck pipe</li></ul></li><li>B. Deluge set<ul style="list-style-type: none"><li>1. Composed of a short section of larger diameter hose</li><li>2. With a large nozzle</li><li>3. Supported at the discharge end by a tripod</li><li>4. There is a Siamese connection at the supply end</li></ul></li></ul>	



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<ul style="list-style-type: none"><li>5. The direction and angle of the stream cannot be changed while discharging water</li><li>6. Many portable monitors are improperly referred to as deluge sets<ul style="list-style-type: none"><li>a. The difference is that portable monitors use metal piping instead of hose</li></ul></li><li>C. The Monitor Is a Master Stream Device Whose Stream Direction Can Be Changed While Water Is Being Discharged. There Are Three Basic Types:<ul style="list-style-type: none"><li>1. Fixed monitor<ul style="list-style-type: none"><li>a. Permanently mounted</li></ul></li><li>2. Portable monitor<ul style="list-style-type: none"><li>a. Can be carried to where it is needed</li></ul></li><li>3. Combination monitor<ul style="list-style-type: none"><li>a. Mounted on the apparatus where it can be used as a turret</li><li>b. Can also be removed and used as a portable monitor</li></ul></li></ul></li><li>D. Ladder Pipe<ul style="list-style-type: none"><li>1. Master stream device is attached to an aerial ladder<ul style="list-style-type: none"><li>a. Permanently mounted</li><li>b. Or removable</li></ul></li><li>2. Supplied by<ul style="list-style-type: none"><li>a. Large diameter hose</li><li>b. Metal piping</li></ul></li></ul></li></ul>	<p>What is a monitor?</p>



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## ***SUMMARY:***

Fixed and portable master stream appliances can give a firefighter a great advantage on the fireground. In order to obtain maximum advantage, the firefighter must employ these devices properly. Once set up, repositioning these devices is time consuming.

## ***EVALUATION:***

A written quiz.

## ***ASSIGNMENT:***

To be determined by instructor(s).