TOPIC: Fire Streams

TIME FRAME: 1 Hour

LEVEL OF INSTRUCTION:

BEHAVIORAL OBJECTIVE:

Condition: A written quiz

Behavior: The student will correctly select the proper nozzle for a simulated fire, list types of fire streams, identify nozzles, and the streams which they produce.

Standard: With a minimum of 70% accuracy

MATERIALS NEEDED:

- Chalkboard
- Smooth bore tip and combination nozzle
- Overhead transparencies or handouts of master stream nozzles
- Appropriate visual aids
- Audio visual equipment

REFERENCES:

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

PREPARATION: The purpose of a nozzle is to give a fire stream forward velocity and pattern. The stream begins to take shape at the point where the nozzle is attached and the shape of the stream is formed in the nozzle. Your life may depend upon your ability to recognize and use the proper nozzle and fire stream for the type of fire encountered.

PRESENTATION	APPLICATION
I. TYPES OF FIRE STREAMS	
A. Fog Stream	
B. Solid Stream	
C. Broken Stream	
II. FOG STREAM	
	When is undesirable to use a fog stream in a structure fire? (When thermal balance needs to be maintained, i.e., rescue, interior attack)
A. Hollow Core Water Stream	
B. Variable pattern	
1. Straight stream	
a. Hollow core, concentrated fire stream	
b. Shorter point of breakover than solid stream	
c. Better penetration than fog	
2. Fog pattern	
a. Hollow core, fan shaped fire stream	
b. Small droplets	
c. Advantages	
(1) Better steam conversion	
(2) Protection for	
(a) Crew	

PRESENTATION	APPLICATION
(b) Exposure	
d. Disadvantages	
(1) Shorter reach than straight stream	
(2) Can disrupt thermal balance	
(3) Requires higher nozzle pressure	
C. Variable GPM	
III. SOLID STREAM	
A. Solid Core Water Stream	
B. Smooth Bore Nozzle	
	Give an example of a fire that would require a solid stream. (Baled products, bulk grain, etc.)
1. Fixed tip size	
a. Definite GPM	
b. Definite range	
2. Stacked tip	
3. Removable tips generally have NH thread	
a. Can extend hose from shut off	
C. Point of Breakover	
1. Stream range greater than fog or straight stream	
D. Advantages	
1. Large volume	

PRESENTATION	APPLICATION

2. Long distance

3. Best penetration

E. Disadvantages

1. Little crew protection

2. High flow demand

IV. BROKEN STREAM

A. Results from Breaking a Solid Stream Apart by:

1. Attaching a special purpose nozzle

2. Directing two solid streams at one another and breaking both apart

B. Stream Characteristics:

1. Larger droplets than fog pattern

2. Greater penetration than fog pattern

SUMMARY:

This lesson has covered the aspects of several different fire streams. A thorough understanding of these principals will allow you to select the correct nozzle for the fire you are confronting.

EVALUATION:

A written quiz.

ASSIGNMENT:

To be determined by instructor(s).