

Firefighter Review

Instructor Guide

Session Reference: 1

Topic: Supply Line Operations

Level of Instruction:

Time Required: Three Hours

Materials:

- Two Fully Equipped Pumpers
- Static And Pressurized Water Sources

References:

- Engine Company Fireground Operations, Second Edition, NFPA, Pages 15-28 and Chapter 5
- Essentials of Fire Fighting, Fourth Edition, IFSTA, Chapters 11 and 12

PREPARATION:

Motivation:

Objective (SPO):

The firefighter will demonstrate a working knowledge of supplying water to the fireground, the various sizes of hose and appliances utilized to carry out this responsibility, and, by participation and observation, the various appliances, hose layouts, and procedures involved in supplying water at a structural fire.

Overview:

Supply Line Operations

- Supply line appliances
- Supply line evolutions
- Supplying water from various sources
- Supply lines and appliances

Session 1

Supply Line Operations

- SPO The firefighter will demonstrate a working knowledge of supplying water to the fireground, the various sizes of hose and appliances utilized to carry out this responsibility, and, by participation and observation, the various appliances, hose layouts, and procedures involved in supplying water at a structural fire.
- EO 1-1 Describe the various appliances used with hose to supply water to the fireground.
- EO 1-2 Describe the various hose evolutions used to supply water to the fireground.
- EO 1-3 Demonstrate supplying water for fireground operations from various sources (NFPA 1001 (1997) 3-3.14).
- EO 1-4 Demonstrate using various sizes of hose and appliances to supply water to the fireground (NFPA 1001 (1997) 3-3.14).

I. Appliances For Water Supply (1-1)

- A. Effective use of supply lines requires use of adapters to receive and discharge water
- B. Hose adapters divided into those used at water source and those used at supply line discharge point
- C. Water source appliances
 - 1. Hydrant devices
 - a. Humat valve
 - b. Hydrant gate
 - c. Ball valve
 - d. Butterfly valve
 - 2. Static source devices
 - a. Siamese (clappered)
 - b. Gated siamese
- D. Water supply devices
 - 1. Gated wye
 - 2. Gated manifold
 - 3. Water thief
 - 4. Master stream device (deluge or deck gun)

II. Water Supply Evolutions (1-2)

- A. In basic fire training, the discussion centered around
 - 1. Straight lay
 - 2. Reverse lay
 - 3. Split hose lays
 - 4. Review material from basic fire training
 - a. Laying single and dual lines in each type of lay with necessary appliances based on hose bed configuration
 - b. Direct connection to hydrants and use of various hydrant appliances

- c. Setting up for draft from dry hydrant and static source
 - d. Setting up portable tank
- B. Hose lays can be accomplished with either single or multiple lines, dependent upon
 - 1. Flow requirements
 - 2. Length of lay
 - 3. Size of hose
- C. Evolutions work well with pressurized water systems
- D. Variations of hose lays
 - 1. Rural operation with nurse tanker or portable tank
 - a. Lay LDH, either 4-inch or 5-inch, from end of lane back to fire scene
 - b. Manifold or wye used to distribute water at scene
 - c. LDH supplied from portable tanks or nurse tanker
 - d. Reduces need for extra apparatus at scene when not needed
 - e. Provides mobility for moving water during shuttling operations
 - 2. Static water source
 - a. Lay LDH from source such as pond or swimming pool to fill station or fire scene
 - b. Multiple pumpers could pump into LDH using siamese to minimize strain on any one engine and maximize capability of hose
 - c. If pumpers cannot gain access, several portable pumps could be used
- E. Maximizing Hydrant Operations
 - 1. Tandem pumping involves one pumper directly attached to hydrant with second pumper taking the excess pressure and flow from that hydrant

- a. First pumper connects to steamer connection and takes water
 - b. Second pumper connects to steamer connection of first pumper and takes excess water from hydrant
2. Dual pumping involves two pumpers directly attached to same hydrant taking pressure and flow from separate lines
 - a. First pumper connects to steamer connection and takes water
 - b. Second pumper connects to the 2-1/2-inch connections and takes water

III. Supplying Water From Various Sources (1-3)

- A. The student will perform the following evolutions:
 1. Using the split lay, set up water supply from a pressurized source using a single line to supply a second engine at the scene.
 2. Using the split lay, set up water supply from a pressurized source using dual lines to supply a second engine at the scene.
 3. Using the reverse lay, set up water supply from a static source using LDH, to supply a second engine at the scene.
 4. Set up water supply from a hydrant using multiple engines. The evolution should include the use of a hydrant valve.
 5. Set up water supply from a portable tank using multiple engines. The evolution should include one engine operating as the attack unit and another engine operating as the supply unit at the portable tank. One of the units will be required to set up the portable tank which can be filled from a hydrant or tanker.
 6. Using a straight lay, set up water supply from a pressurized source using LDH while initiating supply from a booster tank.
 7. Using a reverse lay, set up water supply from a static source to a master stream device using a single supply line while initiating supply from a booster tank.

- B. The evolutions will first be reviewed by the instructor before being run with moving apparatus.
- C. All water will be discharged into a master stream device which is already set up or connected directly to the pump.
- D. These evolutions are designed to expose the student to various methods of supplying water at the fire scene. The student should already be familiar with the techniques involved in each evolution. What is being emphasized here is teamwork and operating efficiency.

IV. Various Supply Lines And Appliances (1-4)

- A. During the above evolutions, the students will utilize as many of the following devices which are available as possible.
 - 1. Water source devices
 - a. Hydrant devices
 - 1) Humat valve
 - 2) Hydrant gate
 - 3) Ball valve
 - 4) Butterfly valve
 - b. Static source devices
 - 1) Siamese (clappered)
 - 2) Gated siamese
 - 2. Water supply devices
 - a. Gates wye
 - b. Gated manifold
 - c. Water thief
 - d. Master stream devices (deluge or deck gun)
- B. The appliances will first be reviewed by the instructor before being used as part of the evolutions with moving apparatus.
- C. The student should already be familiar with the appliances required.

SUMMARY**Review:**

Supply Line Operations

- Supply line appliances
- Supply line evolutions
- Supplying water from various sources
- Supply lines and appliances

Remotivation:**Assignment:**
=====**Evaluation:**