

# **LESSON ONE**

# **FIREFIGHTER I**

## **Loss Control - Overhaul**

**DOMAIN:** COGNITIVE / PSYCHOMOTOR

**LEVEL OF LEARNING:** COMPREHENSION /  
APPLICATION

### **MATERIALS**

IFSTA Essentials 5th edition or Jones and Bartlett Fundamentals of Fire Fighter Skills 2<sup>nd</sup> Edition or Delmar Firefighter's Handbook 3<sup>rd</sup> Edition; pike pole, pry bars and halogen bar; overhead projector or laptop computer and multimedia projector; projection screen; an old house or burn building; Class A Pumper.

### **NFPA 1001 JPR, 2008 edition**

5.3.8 Extinguish exterior class A material fires  
5.3.13 Overhaul a fire scene

### **Junior Member Statement:**

Junior Member training activities should be supervised by qualified instructors to assure that the cognitive and psychomotor skills are completed in a safe and non-evasive manner. While it is critical that instructors be constantly aware of the capabilities of all students both mentally and physically to complete certain tasks safely and successfully, the instructor should take every opportunity to discuss with departmental leaders and students the maturity and job awareness each participant has for the hazards associated with fire and rescue training.

## **TERMINAL OBJECTIVE**

The firefighter shall correctly identify in writing the reasons for overhaul and explain the procedures for conducting a safe overhaul operation.

## **ENABLING OBJECTIVES**

1. The firefighter I candidate shall correctly describe in writing ways of establishing safe conditions for performing overhaul work.
2. The Firefighter I candidate shall correctly describe in writing indicators of a hidden fire.
3. The firefighter I candidate shall expose hidden fire by correctly opening ceilings, walls, floors and by separating, and removing burned materials.
4. The Firefighter I candidate shall correctly identify in writing the procedures for safely extinguishing small burning objects and large furnishings and shall correctly describe in writing the appropriate procedures and associated hazards for the control and suppression of Class A fires.

# **LESSON ONE**

## **FIREFIGHTER I**

### **Loss Control - Overhaul**

#### **MOTIVATION**

The primary objective of overhaul is to prevent a rekindle of the fire. Accomplishing the objective may often prove to be difficult and challenging. An overhaul mission can be compared to a “Who done it? Where did they go?” mystery novel. The firefighter must gather facts, seek out clues, and follow the telltale signs that eventually lead the firefighter to the culprit’s hideout. Knowing the rules of how to solve a mystery will better prepare the firefighter to conduct a safe and effective overhaul operation. Remember! A good overhaul operation the first time around greatly reduces the need to come back again.

#### **PRESENTATION**

##### **ENABLING OBJECTIVE #1**

The Firefighter I candidate shall correctly describe in writing ways of establishing safe conditions for performing overhaul work.

1. Define overhaul.
2. Identify and define the use of tools needed for overhaul operations.
3. Explain the importance for firefighters to wear appropriate personal protective equipment (PPE) while conducting overhaul operations.
4. List and define the various hand and power tools that are useful for overhaul operations.
5. Discuss guidelines for using hose lines during overhaul operations.

Reference:

Delmar Handbook 3<sup>rd</sup> edition, pages 743-745  
J&B Fundamentals 2<sup>nd</sup> edition, pages 570-577  
IFSTA Essentials 5th edition, pages 869, 881-883

## **PRESENTATION**

### **ENABLING OBJECTIVE # 2**

The firefighter I candidate shall correctly describe in writing indicators of hidden fires.

1. Discuss the two primary factors that will determine the conditions of a structure that has burned.
  - a) Intensity of the fire.
  - b) Amount of water used to extinguish the fire.
2. List additional conditions that may contribute to an unsafe work area.
  - a) Weakened floors.
  - b) Spalled concrete.
  - c) Weakened steel roof members.
  - d) Offset walls.
  - e) Weakened roof trusses.
  - f) Dissolved mortar in joints.
  - g) Melted wall ties.
3. Discuss how the use of sight helps firefighters locate hidden fires.
  - a) Discoloration of materials.
  - b) Peeling paint.
  - c) Smoke emission from cracks.
  - d) Cracked plaster.
  - e) Rippled wallpaper.
  - f) Burned areas.
4. Discuss how the use of touch helps firefighters locate hidden fires.
  - a) Using the back of an ungloved hand to feel walls and floors for presence heat.
5. Discuss how the use of sound helps firefighters locate hidden fires.
  - a) Popping or cracking of the fire burning.
  - b) Hissing of steam.

Reference: :

Delmar Handbook 3<sup>rd</sup> edition, pages 743-745  
J&B Fundamentals 2<sup>nd</sup> edition, pages 571-576  
IFSTA Essentials 5th edition, pages 883-884

**NOTE: The sense of smell is no longer listed as a reliable means to detect the presence of hidden fire because SCBA should be worn during most overhaul activity.**

## **PRESENTATION**

### **ENABLING OBJECTIVE #3**

The Firefighter I candidate shall expose hidden fire by correctly opening ceilings, walls, floors and by separating and removing burned materials.

1. Discuss procedures for beginning an overhaul operation.
  - a) Overhaul should begin in the area of fire involvement.
  - b) Look for extension of fire as soon as the primary fire is under control.
  - c) Determine what way the fire has traveled to spread through walls and floors.
  - d) Check for burning of the end of floor joists at the floor and wall intersection.
  - e) Check insulation material for fire spread and remove insulation material if needed. Insulation may harbor a hidden fire for a prolonged period of time.
2. Discuss and demonstrate the procedures for exposing hidden fires in windows and doors.
  - a) Pull off window frames.
  - b) Pull off door casings.
3. Discuss and demonstrate procedures for exposing hidden fires in concealed spaces such as below floors, above ceilings, or within walls or partitions.
  - a) Move furnishing to a safe area.
  - b) Create an opening just large enough to allow product penetration (water, foam) to insure extinguishing the fire.
  - c) Weight bearing walls should not be disturbed.

- d) Keep in mind the restoration phase. Keep cuts small and neat when possible.
4. Discuss and demonstrate the procedures for opening a plaster ceiling using a pike pole.
    - a) Stress the use of full protective clothing and SCBA.
    - b) Break the ceiling plaster.
    - c) Pull off the lath material by pulling down and away from the firefighter.
  5. Discuss and demonstrate the procedures for opening a metal or composition ceiling using a pike pole.
    - a) Penetrate the ceiling near a joist then pull down and away from the firefighter.
    - b) Do not stand under the area to be breached.
    - c) The firefighter should be positioned between the area being pulled down and the doorway to prevent falling debris from blocking the exit route.

Reference:

Delmar Handbook 3<sup>rd</sup> edition, pages 743-745  
J&B Fundamentals 2<sup>nd</sup> edition, pages 577-579  
IFSTA Essentials 5th edition, pages 884-886

## **PRESENTATION**

### **ENABLING OBJECTIVE #4**

The Firefighter I candidate shall correctly identify in writing the procedures for safely extinguishing small burning objects and large furnishings and shall correctly describe in writing the appropriate procedures and associated hazards for the control and suppression of Class A fires.

1. Discuss the procedures for extinguishing small burning objects.
  - a) Submerge the object in a vessel of water large enough to accommodate the object such as a bathtub, toilet, or sink.
  - b) After submersion run a steady stream of water over the object to insure extinguishing the fire.
2. Point out that large furnishing should be removed from the structure where they can be thoroughly extinguished by water or a wetting agent.

- a) Wetting agents provide thorough extinguishing capabilities on products such as upholstery, cotton and baled goods.
  - b) Baled goods such as cotton, hay, rags and alfalfa should be broken apart to insure they are thoroughly extinguished.
3. Discuss the basics of determining the origin and cause of a Class A fire.
  4. Briefly discuss the techniques used to preserve suspected fire cause evidence.

Reference:

Delmar Handbook 3<sup>rd</sup> edition, pages 215, 693-698, 743-744

J&B Fundamentals 2<sup>nd</sup> edition, pages 134, 182

IFSTA Essentials 5th edition, pages 110-111, 762-769, 885-886

**NOTE: While conducting overhaul procedures, the firefighter must try to protect potential evidence when arson may be suspected.**

## **APPLICATION**

Lead the class in a discussion about how firefighters can make work areas safe for overhaul operations. Show examples of tools that are available for overhaul work. Divide the class into equal groups. Set up skill stations to include the following:

- a) Pulling a ceiling.
- b) Extinguishing small objects.
- c) Extinguishing large furniture like an old mattress or old chair.
- d) Extinguishing baled products.

Allow each group to rotate through each skill station and practice the skill.

## **SUMMARY**

Review the indicators of hidden fires and the methods of exposing hidden fires.

Review the safe ways of performing overhaul operations.

Review procedures for insuring extinguishing small and large items.