



FIRE PROTECTION TRAINING

Procedures Handbook 4300

STRUCTURE FIRES

TOPIC: Structure Fire Extinguishment

TIME FRAME: :20

LEVEL OF INSTRUCTION: Level II

BEHAVIORAL OBJECTIVE:

Condition: A written quiz

Behavior: Student will list and describe methods and considerations for extinguishing structure fires.

Standard: With a minimum of 80% accuracy

MATERIALS NEEDED:

- Appropriate visual aids
- Audio visual equipment

REFERENCES:

- IFSTA, Essentials of Fire Fighting, 5th Edition, Chapter 15
- NFPA, Fire Fighting Tactics, Lloyd Layman 1983
- NFPA, Fire Command, Brunacini, 1985
- CDF, Health and Safety Handbook 1700, 1999

PREPARATION: The basic tactics of structural firefighting are to locate, confine, and extinguish the fire. Improper extinguishment methods can result in a simple room and contents fire becoming a fully involved structure fire or may result in serious injury.



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STRUCTURE FIRE EXTINGUISHMENT

PRESENTATION	APPLICATION
<p>I. EXTINGUISHMENT</p> <p>A. Objective</p> <ol style="list-style-type: none">1. To achieve balance whereby the water being applied absorbs the heat being generated by the fire and further primary (fire caused) damage ceases <p>B. Extinguishment guidelines</p> <ol style="list-style-type: none">1. Fully utilize committed apparatus (lines, equipment, and tools) prior to tying up additional resources<ol style="list-style-type: none">a) Resource mobility especially important during initial attack operationsb) For life safety purposes may want second engine to pull line for interior attack, also in case pump on first engine malfunctionsc) Need to conform to 2 in/2 out criteria<ol style="list-style-type: none">1) Assure that in an “Immediately Dangerous to Life and Health“ (IDLH) atmosphere that adequate personnel are available with appropriate personal protective equipment as well as a backup hose line unless there is an immediate life threat2. Interior attack is generally the preferred attack strategy<ol style="list-style-type: none">a) Advantages of interior attack<ol style="list-style-type: none">1) Firefighter can usually see the point of water application2) Firefighter can vary nozzle pattern to meet changing conditions	

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STRUCTURE FIRE EXTINGUISHMENT

PRESENTATION	APPLICATION
<ul style="list-style-type: none">3) The seat of the fire can be attacked directly4) Firefighter can usually see the path of fire extension5) Usually causes less water damage6) Victim survival rate greaterb) Check attack line/back-up lines<ul style="list-style-type: none">1) Ensure that all air is bled from line2) Ensure that nozzle pattern is properly set (straight stream or fog)3) Ensure adequate volume/pressure for the attack4) Ensure adequate hose is stretched to reach the seat of the fire5) Remaining hose to be flaked out for ease of advancementc) Make entry at point which limits fire extension or intensificationd) Ensure safe entry point<ul style="list-style-type: none">1) Confirm door is not impinged by fire<ul style="list-style-type: none">◆ Feel door with hand to make sure heat is located at top of doore) Open door slowly with one hand on nozzle bale<ul style="list-style-type: none">◆ Always enter and leave building nozzle first	



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<p>f) Enter building as close to floor as possible and remain there throughout the attack</p> <p>g) Locate seat of fire</p> <p>1) Look into every room on way to fire room checking for</p> <ul style="list-style-type: none">• Victims• Undetected fires which may block escape route if not dealt with <p>2) Probe with hands for</p> <ul style="list-style-type: none">• Shafts• Holes in floor• Structural weakness of stairs <p>h) From protected position apply short burst of water to seat of fire to check for reactivity of fuel</p> <p>1) Use straight or solid stream</p> <p>2) Do not splash/scatter fuels</p> <p>3) Make sure fuel does not violently react with fire stream</p> <p>i) If not reactive extinguish fire</p> <p>j) Report to IC when fire extinguished and continue with assignment or ask for new assignment</p> <p>k) In the event of multiple fires within the structure DO NOT LEAVE burning</p>	



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<p>material between you and your escape route</p> <ol style="list-style-type: none">1) Check back often <p>l) When exiting fire building</p> <ol style="list-style-type: none">1) Take team member/buddy with you2) Remain close to floor<ul style="list-style-type: none">• Several firefighter fatalities have been attributed to complacency• Firefighters "thought" fire was out, stood to exit, experienced flashover3) Take attack line out with you4) Nozzle should be first item to enter the fire building and the last to exit5) Personnel should be assigned to assist attack team by taking up hose line slack during withdrawal <p>3. Exterior attack</p> <ol style="list-style-type: none">a) Though interior attack is usually the best method, there are times when exterior attack is the only choice<ol style="list-style-type: none">1) Exterior exposure protection2) Totally involved building3) When heat or other conditions prevent interior attack4) Hazardous building contents	



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<ul style="list-style-type: none">5) Poor structural integrity6) Inadequate staffing to meet 2 in 2 out criteria and no potential rescue situationb) Disadvantages of exterior attack<ul style="list-style-type: none">1) Water may not be applied to seat of fire2) Interior partitions may deflect stream3) Excessive water damage<ul style="list-style-type: none">• May add enough weight to cause structural collapse4) May cause fire to extend to rest of building5) May steam victim to death with disruption of thermal balancec) Techniques<ul style="list-style-type: none">1) Seek penetration to fire area2) Widen fog pattern to increase water droplet surface area for higher volume steam conversion3) Apply sufficient volume of water to quickly darken down fire	



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SUMMARY:

Fire extinguishment is the logical extension of the fire confinement stage. Generally the line placement and method of attack do not change as a transition is made from confinement to extinguishment.

EVALUATION:

A written quiz.

ASSIGNMENT:

To be determined by instructor(s).