



Fire Protection Training

Procedures Handbook 4300

FORCIBLE ENTRY

TOPIC: Opening Floors

TIME FRAME: 30 Minutes

LEVEL OF INSTRUCTION:

BEHAVIORAL OBJECTIVE:

Condition: A written quiz

Behavior: The student will list and describe proper steps and procedures for opening floors.

Standard: With a minimum of 70% accuracy

MATERIALS NEEDED:

- Jack hammer
- Axe
- Power saw
- Penetrating nozzle
- Appropriate visual aids
- Structural protective clothing
- Audio visual equipment

REFERENCES:

- IFSTA, Essentials of Fire Fighting, 2nd Edition, Chapter 6

PREPARATION:

There are two basic types of floors -- wood and concrete. Either of the two may be finished with a variety of floor covering materials.

The type of floor construction can be determined by pre-fire inspection surveys of business and industrial structures. Similar information for residential structures is not easily obtained. Some accepted techniques for opening wood and concrete floors are offered. The various techniques will be discussed separately because each type of floor presents a different set of challenges.



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OPENING FLOORS

PRESENTATION

APPLICATION

I. OPENING WOOD FLOORS

A. Floor Components

1. Finished floor
 - a. Carpet
 - b. Tile
 - c. Linoleum
 - d. Hardwood
2. Sub floor
 - a. Material
 - (1) 1" boards
 - (2) 4' x 8' plywood or composition
 - b. Attached diagonally or perpendicular to floor joists
3. Floor joists
 - a. Generally 2" thick wood of varying widths
 - b. On 12 or 16 inch centers

B. Opening Procedure

1. Sound floor
 - a. Reasons
 - (1) Assess structural integrity of floor
 - (a) If weak - stay off
 - (2) Determine location of floor support system components

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PRESENTATION	APPLICATION
<ul style="list-style-type: none">(a) A dull thud is generally a sign that an underlying support is present(b) A ringing or reverberant sound will indicate that the blow is centered between floor support members <p>b. Use appropriate tool</p> <ul style="list-style-type: none">(1) Rubbish hook(2) Fireman's axe <p>2. Determine size and location of hole</p> <ul style="list-style-type: none">a. Large enough to facilitate operationsb. Above underlying compartment or roomc. To minimize further weakening of floor/structured. Delineate boundaries of hole <p>3. Remove finish flooring</p> <ul style="list-style-type: none">a. Types<ul style="list-style-type: none">(1) Carpet(2) Linoleum(3) Hardwoodb. Tools<ul style="list-style-type: none">(1) Knife(2) Axe(3) Power saw	



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PRESENTATION	APPLICATION
<p>4. Remove sub-flooring</p> <ul style="list-style-type: none">a. Use power saw or axeb. Cut parallel and adjacent to joists<ul style="list-style-type: none">(1) Minimizes vibration, binding and axe bounce(2) Maximizes size of openingc. DO NOT cut floor joists<ul style="list-style-type: none">(1) Will weaken entire structured. Work from weakest part of floor back to stronger parts of floore. Pull cut section of floor<ul style="list-style-type: none">(1) In pieces(2) In one piece <p>II. OPENING CONCRETE FLOORS</p> <p>A. Depending on the Tools Available Breaching a Concrete Floor May Not be Practical</p> <ul style="list-style-type: none">1. Labor intensive2. Time consuming3. Unpredictable affect on structural integrity <p>B. Opening Procedure</p> <ul style="list-style-type: none">1. Determine size and location of hole<ul style="list-style-type: none">a. Large enough to facilitate operationsb. Above underlying compartment or room	



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<ul style="list-style-type: none">c. To minimize further weakening of floor/structure2. Delineate boundaries of hole3. Remove finish flooring<ul style="list-style-type: none">a. Types<ul style="list-style-type: none">(1) Carpet(2) Linoleum(3) Hardwoodb. Tools<ul style="list-style-type: none">(1) Jackhammer<ul style="list-style-type: none">(a) Arguably quickest method(b) Probably least safe method in terms of predicting affect on structural integrity(2) Power saws with masonry blades<ul style="list-style-type: none">(a) Slower than jackhammer(b) Neater hole with predictable effect on structural integrity(3) Hand tools<ul style="list-style-type: none">(a) Chisels and hammers(b) Sledge hammer(4) Penetrating nozzles<ul style="list-style-type: none">(a) Driven through wall with sledge hammer	



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<p>(b) Provides fire stream supplied by 1 1/2" hoseline</p> <p>(c) Shatter the floor at the entry point with a sledge hammer to center the nozzle point prior to driving the nozzle through</p>	



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SUMMARY:

The principles involved in opening floors are not that much different than opening roofs for ventilation operations. This is especially true for wooden floors.

Opening concrete floors is time consuming arduous labor and should be considered only as a last resort unless specialized tools are available.

EVALUATION:

A written quiz.

ASSIGNMENT:

To be determined by instructor(s).