



Fire Protection Training

Procedures Handbook 4300

LADDERS

TOPIC: Ladder Terminology

TIME FRAME: 1 Hour

LEVEL OF INSTRUCTION:

BEHAVIORAL OBJECTIVE:

Condition: A written quiz

Behavior: The student will list and describe the components of fire service ground ladders and the various ladder commands.

Standard: With a minimum of 70% accuracy

MATERIALS NEEDED:

- Various ladders
- Appropriate visual aids
- Audio visual equipment

REFERENCES:

- IFSTA, Essentials of Fire Fighting, 2nd Edition, Chapter 5

PREPARATION: As with other fireground operations, ground ladder operations can be enhanced when all firefighters use common terminology. For this reason, standards have been developed to designate ladder components, groupings of components, and commands related to ground ladder evolutions.



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LADDER TERMINOLOGY

PRESENTATION	APPLICATION
<p>I. LADDER REFERENCE POINTS</p> <p>A. Tip</p> <ol style="list-style-type: none">1. The extreme top portion of the ladder <p>B. Balance Point</p> <ol style="list-style-type: none">1. Point approaching the middle of a ladder at which half the ladder's weight is distributed toward the tip of the ladder and half toward the butt2. Will be marked/taped on the ladder beam <p>C. Butt (Heel)</p> <ol style="list-style-type: none">1. The bottom or ground end portion of the ladder2. Used as supporting surface when ladder is being raised <p>II. LADDER TERMINOLOGY</p> <p>A. Components</p> <ol style="list-style-type: none">1. Beam - either side rail of a ladder2. Beam bolts - bolts which pass through both rails of a wood ladder, at a truss block, to tie the truss rails together3. Bed section - lowest section of an extension ladder also called the base section4. Butt spurs - metal plates attached to the beams where they contact the ground designed to stabilize the ladder, protect the beam, and dig into the ground	<p>Information sheet #1</p>



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PRESENTATION	APPLICATION
<ol style="list-style-type: none">5. Fly section - the upper sections of an extension ladder6. Guides - strips, slots or channels which guide the fly section of an extension ladder while it is being raised7. Halyard - a rope or cable used for hoisting fly sections of an extension ladder8. Hooks - curved devices which fold outward from each beam at the top of a roof ladder9. Pawls - devices attached to the inside of the beams on fly sections of an extension ladder to lock the fly section in place after it has been extended.10. Pulley-a small grooved wheel through which the halyard is drawn11. Rails - two lengthwise members of a trussed ladder beam separated by truss or separation blocks12. Rungs - cross members which provide a foot hold for climbing and extend from one beam to the other13. Safety shoes - rubber or neoprene spike plates attached to the butt spurs of a ground ladder14. Stops - wood or metal devices which prevent the fly section from being extended too far15. Tie rods - metal rods running from one beam to the other which secures them together16. Truss blocks - separation pieces between the rails of a trussed ladder. May also support rungs	
<p>B. Operational Terminology</p>	



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<ol style="list-style-type: none">1. Bedded<ol style="list-style-type: none">a. A fully retracted extension ladderb. Position in which the ladder is carried on the apparatus2. Heeling - a method of anchoring a ladder prior to climbing it by having a firefighter positioned between the ladder and the building to be laddered exert a slight inward pull on the ladder3. Lowering ladder - allowing tip of the ladder to move inward until it rests against the side of the building4. Nesting-storing ladders of differing sizes and/or types packed within one another5. Pivot - method of turning a ladder while in a vertical position by supporting all weight on one beam and swinging other beam around6. Taking out ladder - Removing ladder from building and bringing it to the full upright position7. Tying off<ol style="list-style-type: none">a. Method of securing upper sections of an extension ladder by tying the halyard to a rung after the fly has been extended and lockedb. Method of securing ladder prior to climbing by tying it to a solid object	
<p>III. LADDER COMMANDS</p> <p>A. Warnings and Advisories</p>	



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<ol style="list-style-type: none">1. "Clear" - a precautionary warning indicating that personnel are about to lower a ladder and other personnel must be alert to leave or remain outside the lowering area2. "Fingers and toes" - a precautionary warning given immediately prior to extending or retracting the fly section of an extension ladder3. "Ladder coming around" - a precautionary warning given when carrying a ladder prior to executing a turn or change of direction on the fireground4. "Ladder coming through" - a precautionary warning given when carrying a ladder and when passing through an area of the fireground where other firefighters are present5. "Locked in"<ol style="list-style-type: none">a. An advisory given to inform other firefighters that the fly sections of an extension ladder have been secured by the ladder pawlsb. An advisory that a person working from a ladder has been secured to the ladder with both hands free. Usually accompanied by an advisory as to which side of the ladder the firefighter is set to work from.6. "Working left or right" - An advisory that the person on the ladder is prepared to work off the designated side of the ladder	



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SUMMARY:

Fire service ground ladders are necessary for a variety of fireground operations. The specific job will dictate which ladder is best suited. In order to effectively use these tools, it is helpful to use common terminology. This will minimize miscommunication and misunderstanding.

EVALUATION:

A written quiz.

ASSIGNMENT:

To be determined by instructor(s).