

Ground Ladders on the Fireground

VOLUME XII • ISSUE 10



Session Overview

Ground ladders on the fireground are one of those tools that firefighters either love or hate. Let's face it, placing ground ladders on the fireground is something that requires manpower. With today's short-staffed firegrounds, where firefighters are forced to do more with less, these essential tools tend to be left on the rigs more than they're put into service.

A quick review of the uses, benefits, and limitations of ground ladders will usually result in an increased presence on the fireground. If you can get to this point, and guys begin to realize the value of having them thrown, their use begins to become something that just happens. Basically, use them more and guys will realize the importance of having them in place, and take the time to start placing them.

Ground ladders aren't that complicated, they're relatively easy to carry, throw, clean, and maintain — the biggest obstacle to their use is that guys simply don't take the time to actually take them off the rigs and place them (unless there's an obvious need).

This session will review the basics of ground ladders: knowing what you have, knowing what it takes to get them off the rig and to the fireground, know what it takes to get them into position, knowing their uses and limitations, and finally knowing what it takes to clean and maintain them. Seems like a lot but it's really pretty simple stuff. After a brief review the hands-on stations will deal with using, cleaning, and maintaining these essential fireground tools.



Goals & Objectives

1. Review the basic types of ground ladders.
2. Review the basic compliment of ground ladders found on different apparatus.
3. Review basic ladder carries and drags.
4. Review the basics throwing ground ladders.
5. Review the basic uses of ground ladders during fireground operations.
6. Review the basics of cleaning and maintaining ground ladders.
7. Provide hands-on training that will allow the students to become proficient using ground ladders on the fireground.

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Training Resources

■ Training room/Apparatus floor

- Review the training plan with department members
- Review any department SOPs involving ground ladders: maintenance, cleaning, fireground use—rescue, placement, ventilation...

■ Department tools & equipment

- Apparatus and equipment

■ Training site(s)

You won't need a whole lot to conduct this drill. If you've got a training site it would be a good place to get the ladders out to practice estimating distances, throwing to windows, peaked roofs, flat roofs, and to the sides of structures for overhaul operations. Basically, throw the ladders in context (like they would be used on the fireground). If there are obstructions around the area that the ladders will be thrown that would help reinforce the safety aspects of using them on the fireground then incorporate them. Consider using rope tied from point-to-point to simulate overhead wires. Place vehicles in and around the structure so that throwing around the obstacles must be practiced.

■ Training Props & Additional Considerations

You won't need a lot of additional props for this session. You will need an area to lay the ladders out so they can be cleaned after the training session.

Test Answers

1. B, 2. B, 3. C, 4. C, 5. A, 6. D, 7. C, 8. A

References

1. *Essentials of Firefighting*, IFSTA
2. *Street Smart Firefighting*, Bingham
3. Department Standard Operating Procedures

Trainer Challenge

Let's face it...any drill on ground ladders is what you make it. Forget about the textbook stuff here, treat the guys to a fireground-based review that shows them the real aspects of carrying, throwing, and using ground ladders when it counts. Once you've given all the guys a chance to throw the ladders, individually and as a team, go over the importance of keeping them clean and maintained so they'll work when needed.

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I. Types of Ground Ladders

While we all know what ground ladders are it's worth taking a look at the different categories that they fall into...

- A. Straight/Roof Ladders
 - 1. Usually up to 20-foot
 - 2. While called 'straight' ladders most are actually roof ladders with hooks
 - 3. Hooks are the only moving parts, must be kept lubricated
- B. Extension Ladders
 - 1. Common lengths are 24-, 28-, and 35-foot
 - 2. 40-, and 50-foot lengths still manufactured and used (require proficiency with the use of stay poles)
 - 3. More moving parts to maintain — dogs, pulleys...
 - 4. Halyard must be maintained
- C. Folding Ladders
 - 1. Most common type of folding ladder found is the attic (closet) ladder
 - 2. Additional folding ladders include:
 - a. combination ladders/A-frames
 - b. step ladders

II. Know What You Carry — And Where

We all know that the ground ladders are there...we just need to take the time to know exactly what is carried on each piece. Once we know this we'll know what will work, and where to get it, when we need it NOW.

- A. Engine
 - 1. All engines must carry a minimum set of ground ladders
 - 2. 24-foot extension ladder
 - 3. 14-foot roof ladder
 - 4. 10-foot attic/closet ladder
- B. Ladder/Aerial
 - 1. Standard requires 115-feet of ground ladders on an aerial device
 - 2. Does not state what individual ladders must be carried only that there be 1 folding, 2 straight (with hooks) and 2 extension ladders
 - 3. Minimum carried should be what is needed to perform the jobs on your fireground (consider 2 28-foot, 2 16-foot, 1 35-foot, 1 18-foot, 1 20-foot, 2 attic)
 - 4. Consider 40- or 50-foot if buildings dictate use
 - 5. A combination/A-frame type ladder would also be a good addition
- C. Other (rescue units, support units, special units)

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1. Ground ladders are found on other fire department apparatus
 2. Size of ladder(s) usually determined by the size of the apparatus
 3. Most are carried as special purposes
- D. Weight, reach, and number of firefighters needed to carry/throw
1. Know the weight of each ladder (approximate)
 2. Can 1 firefighter carry and deploy the ladder
 3. Will the ladder require more than 1 firefighter to carry and/or throw
 4. Will the ladder reach the intended target — SAFELY

III. Ladder Carries and Drags

Moving ground ladders on the fireground is a matter of ‘whatever it takes’ to get them where they need to be used. On an ideal fireground there will be enough firefighters to accomplish all of the things that need to get done — in reality there are never enough to get all the things done that are needed. When faced with moving the ladders and equipment you need from the apparatus to the fire building, use any combination of carry and drag that allows you (and your crew) to get the most equipment moved with the least amount of effort — you still have to actually use the stuff!

- A. Straight/Roof Ladders
1. Usually carried by 1 person to target along with individual tools
 2. Can be combined with an extension ladder and carried with partner together with tools
- B. Extension Ladders
1. May be carried by 1 (depending on weight) or more firefighters
 2. Consider dragging to target if only 1 firefighter is available and other tools must also be carried
 3. Throwing may require 1 or more firefighters — *know what it takes to throw the ladders carried on your apparatus*
- C. Folding Ladders
1. Usually used inside for access to attic areas
 2. Can be carried and deployed by 1 firefighter

IV. Throwing Ladders on the Fireground

When it comes to throwing ladders on the fireground SAFETY is #1! Many of the ground ladders we use can be thrown by 1 firefighter. If it can be thrown by 1 then the others can be doing other tasks. When a ladder requires 2 or more firefighters to put into operation then make sure it is practiced so that everyone knows what to do when the time comes. A big part of throwing ladders on the fireground is COMMUNICATION.

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- A. Know what ladders can be thrown by 1 firefighter and what ladders require 2 firefighters to throw
 - 1. Straight ladders 16-foot and under should be thrown by 1 firefighter (18- and 20-foot straight ladders will probably require 2 firefighters due to their height and tendency to be top-heavy)
 - 2. Lightweight 24- and 28-foot extension ladders can be carried and thrown by 1 firefighter — heavier (truss-type) styles require 2 firefighters
 - 3. 35-foot extension ladders and above will require 2 or more people to safely throw and place
 - B. Practice all aspects of throwing extension ladders
 - 1. Beam raise/lower
 - 2. Flat raise/lower
 - 3. Extending and lowering to target
 - 4. Ladder angle
 - 5. COMMUNICATION is critical
- V. Fireground Uses of Ground Ladders**
- A. #1 USE IS FIREFIGHTER SAFETY
 - B. Access
 - 1. Access to upper floors for work or rescue (should be thrown at an exaggerated angle)
 - 2. Access to roof for ventilation
 - 3. Access to structure for overhaul
 - B. Rescue
 - 1. Used for rescue of civilians/firefighters (exaggerated angle)
 - 2. Used for emergency egress for firefighters (exaggerated angle)
 - C. Stable platform
 - 1. Provide a stable work platform while performing vertical ventilation
 - 2. Can be used to distribute weight while operating—ventilation, overhaul
- VI. Cleaning and Maintaining Ground Ladders**
- A. Clean after every use — remove dirt with soap and water
 - B. Maintain all moving parts — paraffin or old candle wax is suggested method of lubrication
 - C. Ensure pulleys and halyards on extension ladders are in good working order and fully operational
- VII. Training**
- A. Should include cleaning and maintaining
 - B. Should be done so that all members remain proficient at selecting and using

Activity Worksheet

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1. Single-Firefighter Carry and Throw

Straight ladders are usually considered 1-firefighter ladders. While 18- and 20-foot straight ladders may provide some challenges they can usually be deployed by 1 firefighter if they are butted against the building or another ladder. When it comes to extension ladders a lot depends on the type of ladder (weight) and the individual firefighter. Most firefighters should be able to carry and throw a lightweight 24-foot extension ladder. Some firefighters can even throw a 28-foot extension ladder by themselves. This station is designed to see what you can effectively throw by yourself. *Remember, when bringing a ladder to the fireground you'll also need to bring the tools you need when you go to work.*

OBJECTIVES: Given multiple targets (for use with both straight and extension ladders) each firefighter will select, carry and deploy/throw the correct ladder — safely and successfully. Each firefighter should throw a 16-foot straight ladder and a 24-foot extension ladder (extended 2-3 rungs). *For those that want to, let them try and throw a 28-footer by themselves.*

2. Two-Firefighter Carry and Throw

Moving larger extension ladders and/or multiple ladders and equipment will require 2 or more firefighters. When operating as part of a 2-person team responsible for carrying and placing ground ladders — in order to perform additional functions — it's important to have practiced the skills ahead of time. Communicate what tools/equipment are needed, assemble the equipment and then move it to the target location. Once in position, throw the ladder(s) and go to work.

OBJECTIVES: Given multiple targets (requiring an extension ladder and both an extension and roof ladder) each 2-person firefighter crew will select, carry and deploy/throw the correct ladder(s) — safely and successfully. A 28-foot extension and 16-foot hook should be thrown for access to a peaked roof for vertical ventilation. A 35-foot extension should be thrown to a flat roof for access and observation.

3. Cleaning and Maintaining

One thing firefighters always seem to need a reminder on is cleaning and maintaining ground ladders. The best habit to get into is to clean the ladders after every use. Once you're done, and before they get put away, clean the heavy dirt and debris from the ladders. Once back at the firehouse clean them thoroughly with soap and water. Don't forget to maintain the moving parts from time to time so they are ready to go when needed. Check the manufacturers information for specific techniques.

OBJECTIVES: When the drill is finished, all firefighters should participate in cleaning all the ground ladders with soap and water. When finished, based on the manufacturers recommendations, lubricate the moving parts and check the condition of the halyards on all extension ladders.



Training Announcement

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Basically, use them more and guys will realize the importance of having them in place, and take the time to start placing them.

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Date: _____

Time: _____

Trainer: _____

Location: _____



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- A. Straight/Roof Ladders
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Student Handout – 2 of 2



- B. Extension Ladders
 - 1. May be carried by 1 (depending on weight) or more firefighters
 - 2. Consider dragging to target if only 1 firefighter is available and other tools must also be carried
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Ground Ladders on the Fireground – Test



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STUDENT NAME: _____ INSTRUCTOR NAME: _____ DATE: _____

1. **Straight ladders are usually manufactured up to _____ feet long.**
 - A. 14
 - B. 20
 - C. 18
 - D. 16

2. **Common extension ladder lengths include _____ but they are manufactured up to 50-foot lengths.**
 - A. 20-, 30-, 40-foot
 - B. 24-, 28-, 35-foot
 - C. 30-, 40-, 50-foot
 - D. None of the above

3. **Engines are required to carry the following ladders:**
 - A. 16-foot hook, 12-foot folding, 28-foot extension
 - B. No actual requirement is set forth
 - C. 10-foot attic, 14-foot roof ladder, 24-foot extension ladder
 - D. None of the above

4. **The NFPA standard on aerial apparatus requires _____ feet of ground ladders.**
 - A. 135
 - B. 125
 - C. 115
 - D. 105

5. **Aerial apparatus should carry the compliment of ground ladders that are needed to successfully ladder the firegrounds they respond to.**
 - A. True
 - B. False

6. **Training involving throwing ground ladders should include:**
 - A. Communication
 - B. Ladder angle
 - C. Flat and Beam raising and lowering
 - D. All of the above

7. **Most manufacturers recommend _____ to be used for lubricating moving parts on extension ladders.**
 - A. Oil
 - B. Grease
 - C. Parrafin wax
 - D. None of the above

8. **Pulleys and halyards should be inspected to ensure they are in good condition and operating properly.**
 - A. True
 - B. False

