



Portable Ladder Safety



Agenda

- Importance of Ladder Safety
- An Approved Ladder
- Controlling Hazards
 - Inspecting the Ladder
 - Set Up
 - Use



Importance of Ladder Safety

- Any fall can be serious, and a fall from the height of even a low ladder can mean a painful and incapacitating injury.
- The U.S. Consumer Product Safety Commission estimates that in one year, 65,000 individuals receive emergency room treatment because of ladder accidents. (CDC)

An Approved Ladder

- An approved ladder usually consists of two side rails joined by regularly spaced crosspieces called steps, rungs, or cleats, allowing for up and down movement.
- Most ladders will be labeled with their duty rating.





An Approved Ladder continued...

- Most ladders sold for household use are Type III light-duty ladders.
 - 3-6 feet long.
 - These are rated for a maximum load of 200 pounds (user plus materials).
- If the ladder needs to carry more weight than this, select a Type II medium-duty ladder.
 - 3-12 feet long.
 - 225 pounds
- Type I heavy-duty ladder
 - 3-20 feet long.
 - 250 pounds.



An Approved Ladder continued...

Requirements:

- Uniform step spacing should be no more than 12 inches and parallel.
- The minimum space between side rails should be no less than 11 ½ inches.
- The minimum width of the side rails should be no less than 1 inch.

Types of Ladders

Stepladders

- Erect a stepladder only on a flat level surface.
- Before climbing a stepladder, make sure that its legs are fully extended and the spreader locked. The locking device on some ladders may present a pinching hazard, so keep fingers clear when setting up the ladder.



Types of Ladders

Stepladders continued...

- Never use a step ladder as a straight ladder.
- Stepladders do not exceed 20 feet.



Types of Ladders

Stepladders continued...

- Do not step on the bucket shelf or attempt to climb or stand on the rear section supports. They are not designed to support the weight of a person.
- Only a two way ladder is designed for two people.



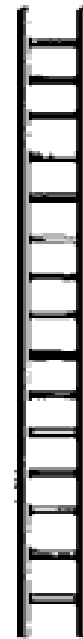
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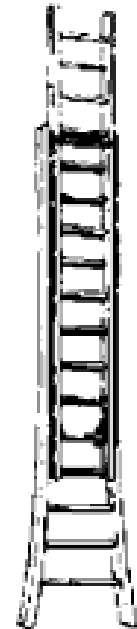
Types of Ladders

Extension Ladders

- To raise a ladder, brace the lower end against a wall and then grasp the top rung with both hands.
- Raise the top end and walk underneath the ladder, moving down the rungs until the ladder is vertical.



Straight Ladder



Extension Ladder

Figure 1. Straight and extension ladders

Types of Ladders

Extension Ladders continued...

- When using an extension ladder, raise it to the desired height, being sure the locks engage properly on both sides of the ladder.
- Extension ladders do not exceed 44 feet when extended.
- Extension ladders are not used fully extended. There is an overlap between sections, not less than 10% of the working length of the ladder.



Storage and Maintenance

- Ladders should be stored in a sheltered area.
- Never leave a raised ladder unattended. It could fall unexpectedly and injure someone.





Storage and Maintenance continued...

- Straight and extension ladders should be stored horizontally on racks or hooks with support points at the top, middle, and bottom of the ladder to prevent sagging and warping.



Storage and Maintenance continued...

- Wooden ladders affected by exposure to heat, combined with dampness, need a dry, well-ventilated storage area.
- A wooden ladder used outdoors should be shellacked, varnished or given two coats of linseed oil as a protective coating, unless it already has protective coatings.
- Never paint a wooden ladder; the paint can hide defects.

Storage and Maintenance continued...

- Never use a damaged ladder.
- Have repair work done only by a competent repair shop.
- If there is major damage, discard the ladder.



Storage and Maintenance continued...

- Do not attempt to straighten a bent metal ladder.





Controlling Hazards

Inspecting the Ladder

- Ladders shall be inspected by a competent person for visible defects on a yearly basis and after any occurrence that could affect their safe use.
 - All ladders should also be inspected prior to use and be maintained in good working condition.
 - Ladders found to have defects, will immediately be marked "*Do Not Use*", taken out of service and replaced.



Controlling Hazards

Inspecting the Ladder

You should inspect the following:

- Check that the ladders have no nails, screws, or splinters sticking out.
- Check side rails for dents or bends.
- Check rivets for shear.
- Check the hardware connections.
- Check for excessively dented rungs.
- Check that the rungs are firmly attached to side rails.
- Check that the rungs have no oil or grease on them.
- Check that the non-slip safety feet or bases on ladders are in good condition.
- Check that the non-slip safety material on ladder rungs is in good condition.
- Check that the ladder is not wobbly and that steps are not worn or broken.

Controlling Hazards

Set Up

- Do not place it on a table or any similar platform for added height.
- Ladders should be placed on dry firm ground.
- Ladders should not be placed in front of doors opening towards the ladders unless the door is locked or guarded.



Controlling Hazards

Set Up continued...

- Ladders shall be used only on stable and level surfaces unless secured to prevent accidental displacement.
- Ladders shall not be used on slippery surfaces unless secured or provided with slip-resistant feet to prevent accidental displacement.



Controlling Hazards

Set Up continued...

- Ladders shall not be tied or fastened together to provide longer sections unless they are specifically designed for such use.
- A metal spreader or locking device shall be provided on each stepladder to hold the front and back sections in an open position when the ladder is being used.





Controlling Hazards

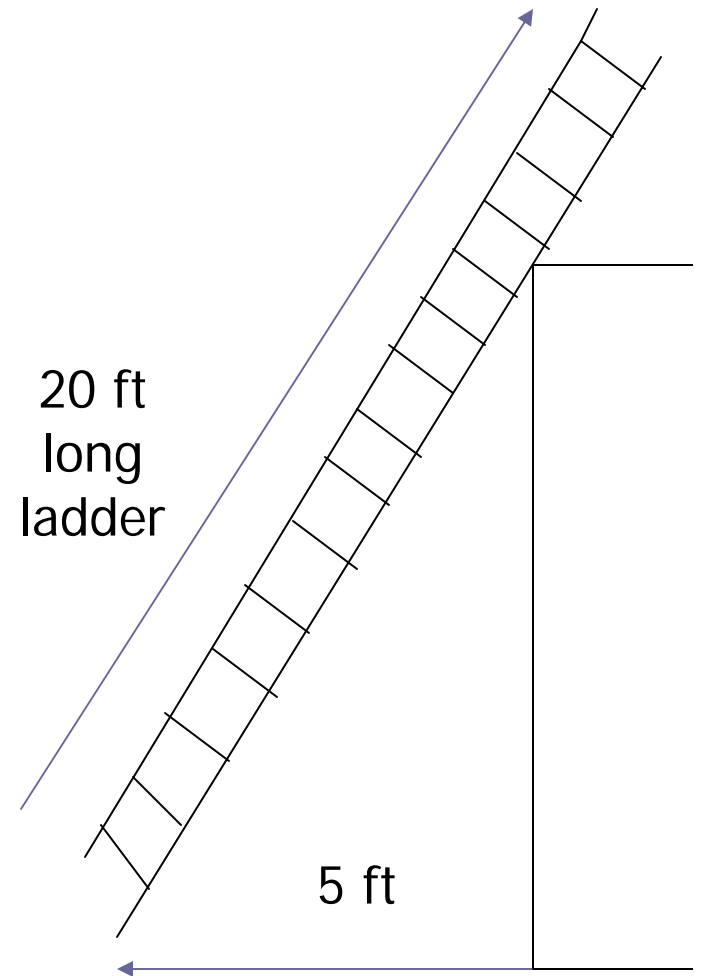
Set Up continued...

- Ladder components shall be surfaced to prevent injury to an employee from punctures or lacerations, and to prevent snagging of clothing.
- Wood ladders shall not be coated with any opaque covering, except for identification or warning labels, which may be placed on one face only of a side rail.
- Ladders shall be maintained free of oil, grease and other slipping hazards.
- Ladders shall be used only for the purpose for which they were designed.

Controlling Hazards

Set Up continued...

- Portable extension ladders shall be used at an angle where the horizontal distance from the top support to the foot of the ladder is approximately one-fourth of the working length of the ladder.
 - (Example: If the ladder is 20 feet long, the base of the ladder should be 5 feet from the structure.)





Controlling Hazards

Set Up continued...

- Never use a ladder in a strong wind.
- The point where the ladder rests against the wall should be flat and firm.
- A ladder should not be placed in front of a door that is not locked, blocked or guarded.
- Before positioning the ladder, check for insect or bird nests under leaves. The top of a ladder is no place to discover a wasp nest.

Controlling Hazards

Set Up continued...

- The area around the top and bottom of ladders shall be kept clear.
- The top of a portable extension ladder shall be placed with the two rails supported equally.
- Ladders shall not be moved, shifted or extended while occupied.



Controlling Hazards

Set Up continued...

- When portable ladders are used for access to an upper landing surface, the ladder side rails shall extend at least 3 feet above the upper landing surface;
- When such an extension is not possible, because of the ladder's length, the ladder shall be secured at its top.



Controlling Hazards

Set Up continued...

- Keep metal ladders away from electrical wires.
- Ladders should have nonconductive side rails if they are used where the employee or the ladder could contact exposed energized electrical equipment.
- When using a ladder near power lines, use a wooden or fiberglass ladder since metal ladders conduct electricity.





Controlling Hazards

Use

- Face the ladder when climbing or descending and use both hands.
- Mount the ladder from the center, not from the side.
- Tools should be carried in the pockets, in a bag attached to a belt, or raised and lowered by rope.
- Be sure that the soles of your shoes are clean and dry. Work facing the ladder, holding on with one hand.
- If it is ever necessary to work with both hands, hook one leg over the rung.

Controlling Hazards

Use continued...

- Single-rail ladders shall not be used.
- Short ladders should not be spliced together to provide long sections.



Controlling Hazards

Use continued...

- A good general guide is to keep your body centered between the rails of the ladder.
- Instead of leaning to the side, get down and move the ladder.
- Ladders should not be used by more than one person at a time unless the ladder was designed for multiple people.





Controlling Hazards

Use continued...

- In case of sudden dizziness or a panicky feeling, bow your head, drape both arms over the rung in front of you, close your eyes, and wait until the feeling passes.
- If possible, secure the ladder. One way to do this is to have someone hold the bottom of the ladder.

Controlling Hazards

Use continued...

- Do not drape cords, store things or hang objects on ladder. This is a potential trip hazard and a possible electrical hazard.



Controlling Hazards

Use continued...

Ladders shall not be used in a horizontal position as platforms, runways or scaffolds.



Controlling Hazards

Use continued...

- The top or top step shall not be used as a step.
- Never overextend the body.



Controlling Hazards

Use continued...

- Always maintain at least three points of contact with the ladder (2 feet and 1 hand, or 2 hands and 1 foot) should be in contact with the ladder at all times.
- The user shall use at least one hand to grasp the ladder when progressing up or down the ladder, and shall not carry any object or load that could cause the user to lose balance and fall.



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