Continuing Education for the Fire Fighter

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Ground Ladders

Module 2

Chapter 12

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LEARNING OBJECTIVES

Explain considerations taken when selecting, lifting, and lowering a ladder.

Describe various methods for ladder carries.

Identify basic considerations and requirements for ground ladder placement.

Describe various methods for ladder raises.

LEARNING OBJECTIVES

Carry a ladder – One-firefighter low-shoulder method.

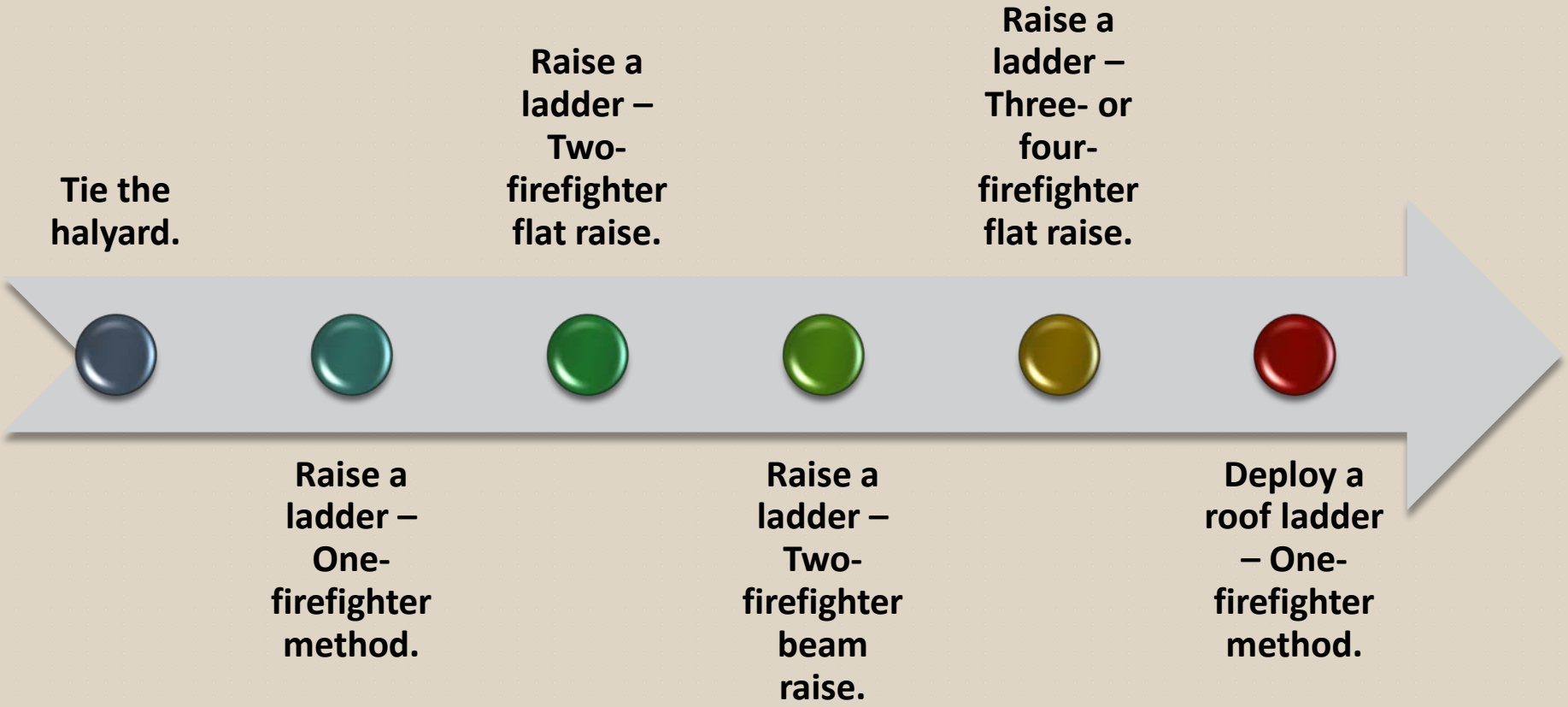
Carry a ladder – Two-firefighter low-shoulder method.

Carry a ladder – Three-firefighter flat-shoulder method.

Carry a ladder – Three-firefighter flat-arm's length method.

Carry a ladder – Two-firefighter arm's length on-edge method.

LEARNING OBJECTIVES



LADDER CARRY REQUIREMENTS VARY DEPENDING ON THE TYPE.

Pumper

- One or two firefighters

Aerial

- Three or four firefighters

METHODS TO REMOVE LADDERS FROM APPARATUS DEPEND ON LADDER LOCATION.

Pumpers

- Vertically in racks on right side
- Vertically in compartment between hose bed, right side
- Horizontally in compartment under right side of hose bed
- In mechanically operated rack under right side of hose bed

Aerial, quints

- Vertically on left or right side of bed
- Horizontally in racks within bed

Specialized

- Generally vertically on outside of body

FIREFIGHTERS MUST KNOW CERTAIN INFORMATION WHEN USING GROUND LADDERS ON APPARATUS.

Types, length, location on apparatus

How ladders are stored

Nested ladders
- How to remove
- Order racked

Ladder fly is located on inside or outside

Method used to secure

Location of mounting brackets for vertically mounted

PROCEDURES FOR REMOVING SIDE AND TOP MOUNTED LADDERS DIFFER FROM FLAT MOUNTED LADDERS.

Vertically mounted	• Unlatch • Lift off to correct carrying position
Stored internally	• Open access panel • Slide out to proper carrying point • Multiple firefighters – Take assigned location as ladder is pulled out

THE ONE-FIREFIGHTER LOW-SHOULDER CARRY IS FOR SOME SINGLE AND ROOF LADDERS.

CAUTION

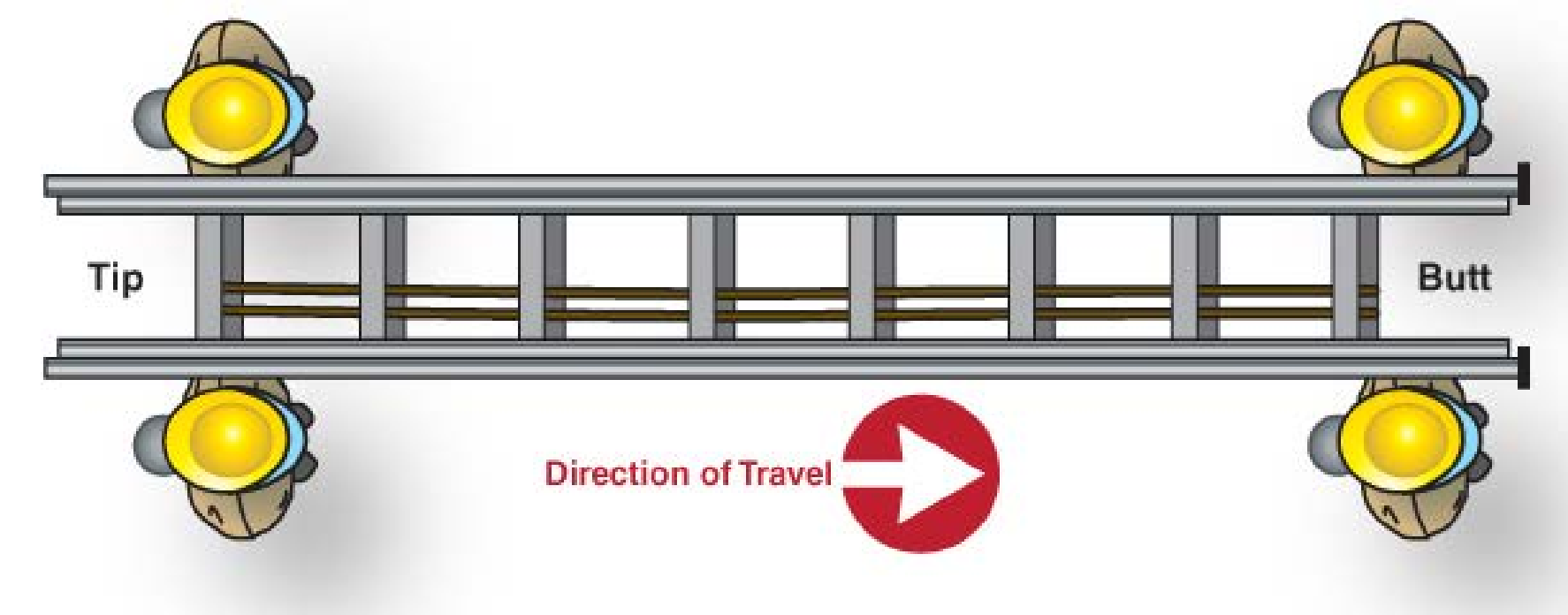
Carrying the forward end of a ladder at eye level impedes the carrier's balance and visibility and increases the risk of the butt spurs striking someone else in the head.

THE TWO-FIREFIGHTER LOW-SHOULDER CARRY IS ALSO FOR SOME SINGLE AND ROOF LADDERS.

THE THREE-FIREFIGHTER FLAT-SHOULDER CARRY IS TYPICALLY USED ON EXTENSION LADDERS.

THE THREE-FIREFIGHTER FLAT ARM'S LENGTH CARRY BEGINS WITH THE FLY SECTION UP.

THE FOUR-FIREFIGHTER FLAT-SHOULDER CARRY IS SIMILAR TO THE THREE PERSON METHOD.



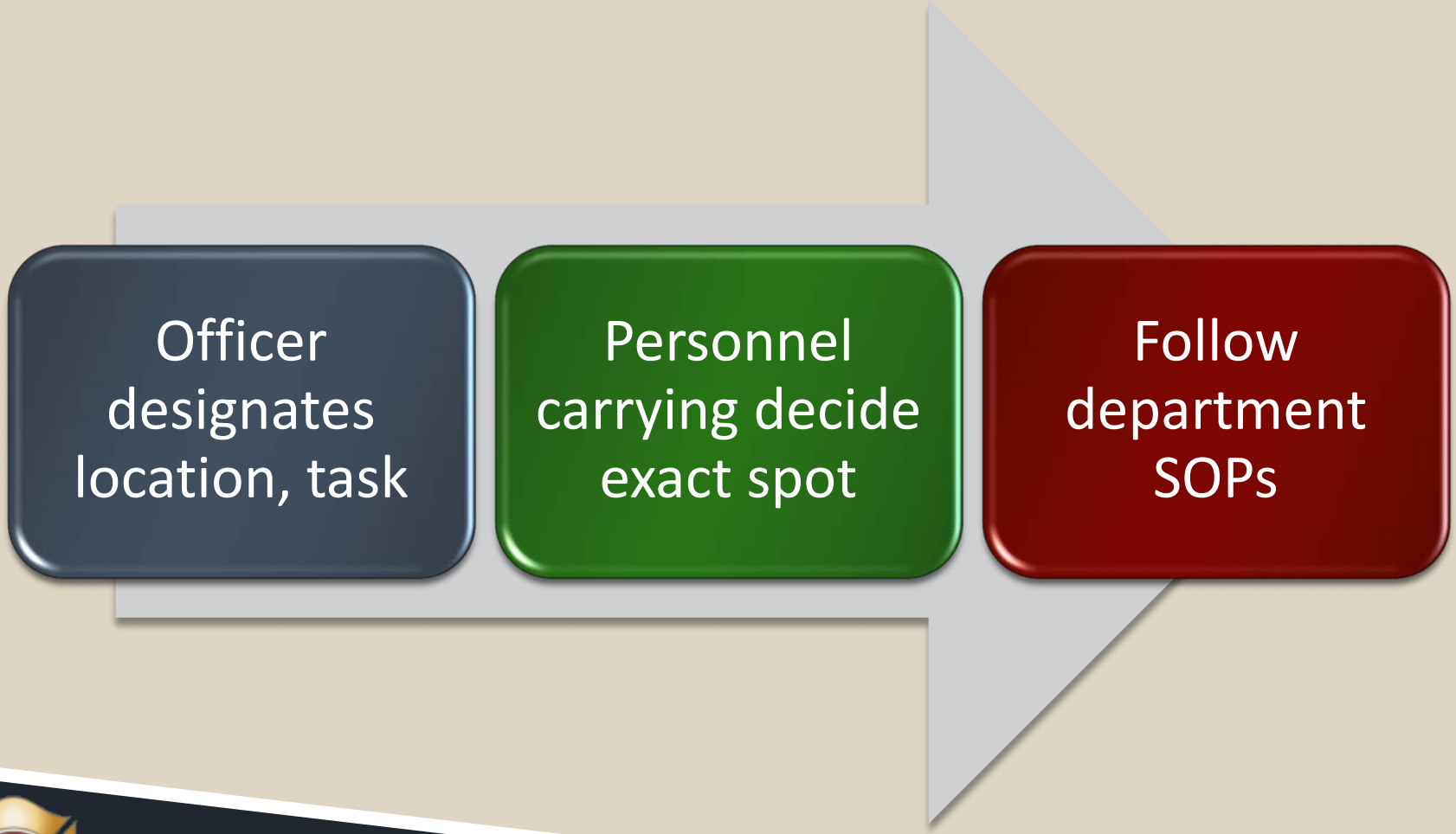
THE TWO-FIREFIGHTER ARM'S LENGTH ON-EDGE CARRY IS BEST WITH LIGHTWEIGHT LADDERS.

THERE ARE SOME GENERAL PROCEDURES TO USE FOR CARRYING ROOF LADDERS.

Carry butt or tip first

- **If butt first, heel at base of extension ladder**
- **If carried tip first, carry to base of extension ladder**

LADDER PLACEMENT RESPONSIBILITIES ARE OFTEN SHARED BY DIFFERENT PERSONNEL.

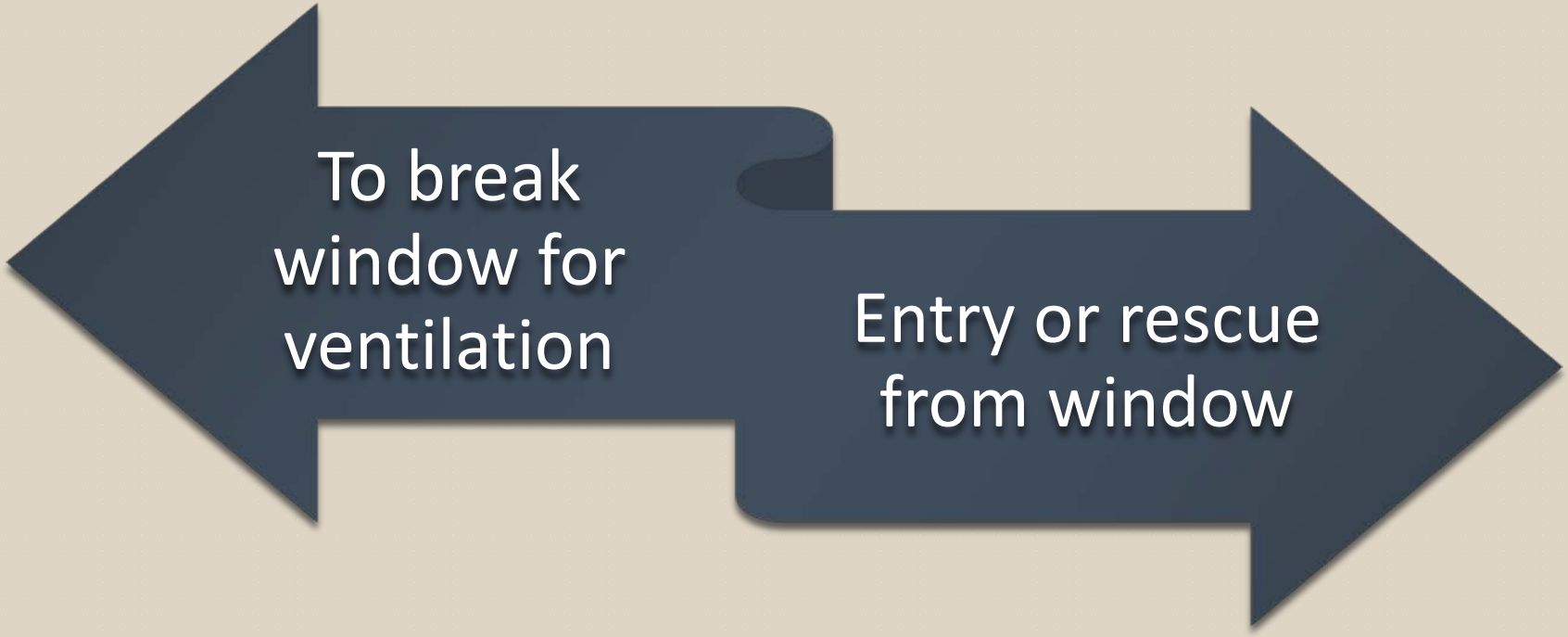


THERE ARE TWO OBJECTIVES WHEN PLACING GROUND LADDERS.

Properly for intended use

Proper distance from building for safe, easy climbing

POSITIONING WILL VARY BASED ON THE TASK BEING ACCOMPLISHED.



OTHER LADDER PLACEMENT GUIDELINES ARE ALSO IMPORTANT TO KNOW.

- **Place at two points, different sides of building**
- **Avoid exposure to heat, direct flame contact**
- **Take advantage of construction strong points**
- **Raise directly in front of window when support for smoke ejector**
- **Avoid contact with overhead obstructions**
- Avoid uneven terrain, soft spots

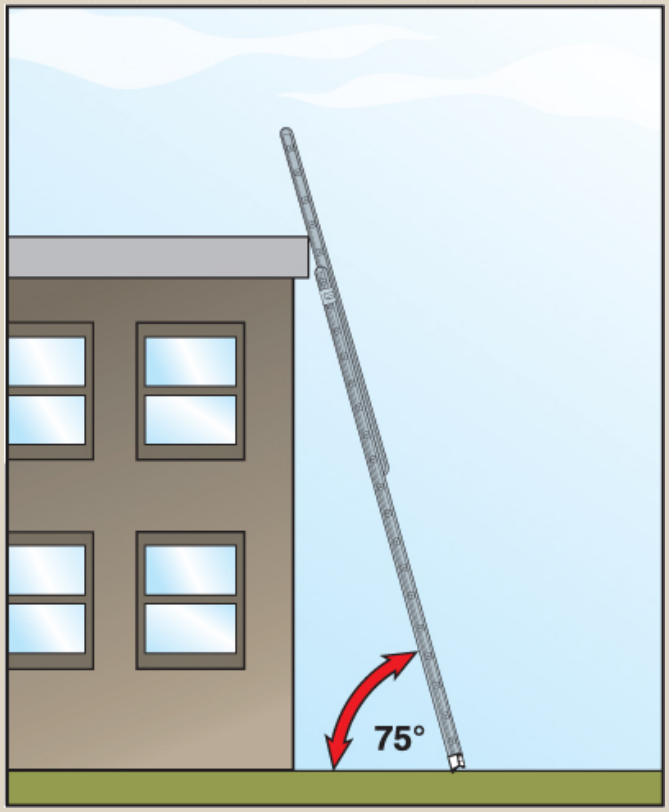
OTHER LADDER PLACEMENT GUIDELINES ARE ALSO IMPORTANT TO KNOW.

Avoid in front of doors, other paths of travel

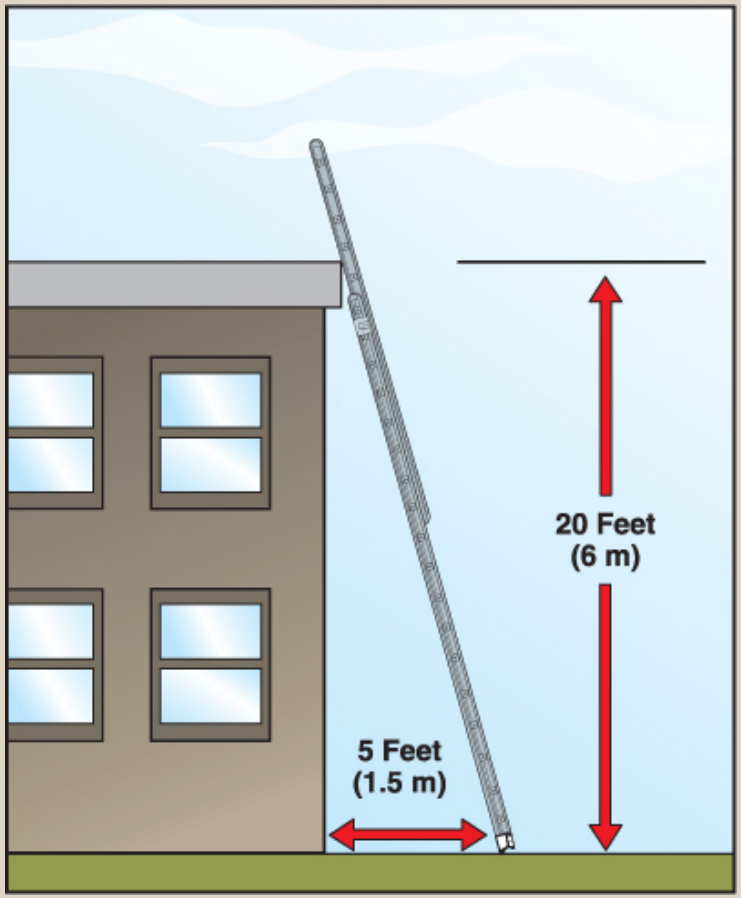
Avoid top of sidewalk elevator trapdoors, sidewalk deadlights

Do not place against unstable walls, surfaces

THE DISTANCE OF THE BUTT END FROM THE BUILDING IS WHAT DETERMINES LADDER ANGLE.



THERE ARE SEVERAL WAYS TO DETERMINE PROPER DISTANCE FOR LADDER ANGLES.



METHODS FOR LADDER RAISES REQUIRE TEAMWORK, SMOOTHNESS, AND RHYTHM.

Depends on

- Type, size of ladder
- Number of personnel available
- Weather conditions
- Topography conditions

THE TRANSITION FROM LADDER CARRY TO RAISE SHOULD BE DONE IN ONE SMOOTH MOTION.

SEVERAL CONSIDERATIONS MUST BE ADDRESSED BEFORE RAISING A LADDER.

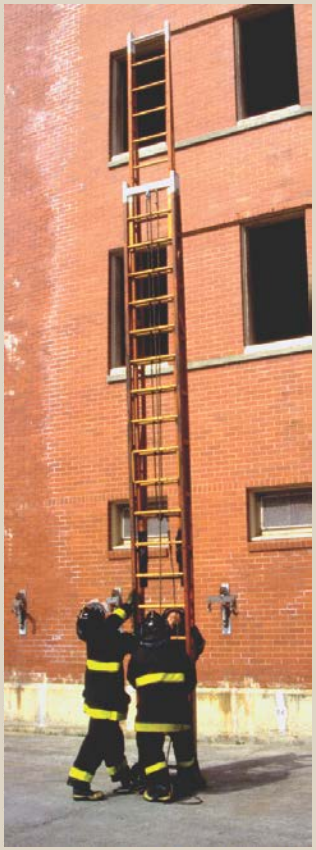
Identify electrical hazards

Example: Look up before lifting

WARNING

All ladders will conduct electricity, especially when wet, regardless of their construction material.

SEVERAL CONSIDERATIONS MUST BE ADDRESSED BEFORE RAISING A LADDER.



SEVERAL CONSIDERATIONS MUST BE ADDRESSED BEFORE RAISING A LADDER.

THE ONE-FIREFIGHTER RAISE CAN BE USED FOR BOTH SINGLE AND EXTENSION LADDERS.

THERE IS LITTLE DIFFERENCE IF THE LADDER IS PARALLEL OR PERPENDICULAR TO THE BUILDING FOR TWO-FIREFIGHTER RAISES.

THE THREE-FIREFIGHTER FLAT RAISE CAN BE USED FOR HEAVIER LADDERS.

THE FOUR-FIREFIGHTER FLAT RAISE CAN BE USED FOR HEAVIER EXTENSION LADDERS.

THERE ARE A NUMBER OF WAYS A ROOF LADDER CAN BE DEPLOYED.

SUMMARY

You must be able to select, carry, and place them to effectively gain access and perform your assigned tasks.