Ladder Safety Training

There are more than 300 ladder-related deaths and over 130,000 emergency room visits related to ladders each year, as well as 2,000 ladder-related injuries every day.

In the workplace: the Bureau of Labor Statistics reported in 2020, 161 fatal work injuries from which ladders were the primary source. An additional 22,710 non-fatal ladder incidents resulted in a worker losing at least one day of work.

These statistics emphasize the need for ladder safety training.

DISCUSSION TOPICS and ACTIVITIES

- Regulations and Standards
- Types of Ladders
- Duty Ratings
- Selection
- Inspection
- Use
- Storage
- Maintenance
- Disposal
- Q and A

Do You Work on Ladders? What Types of Ladders?

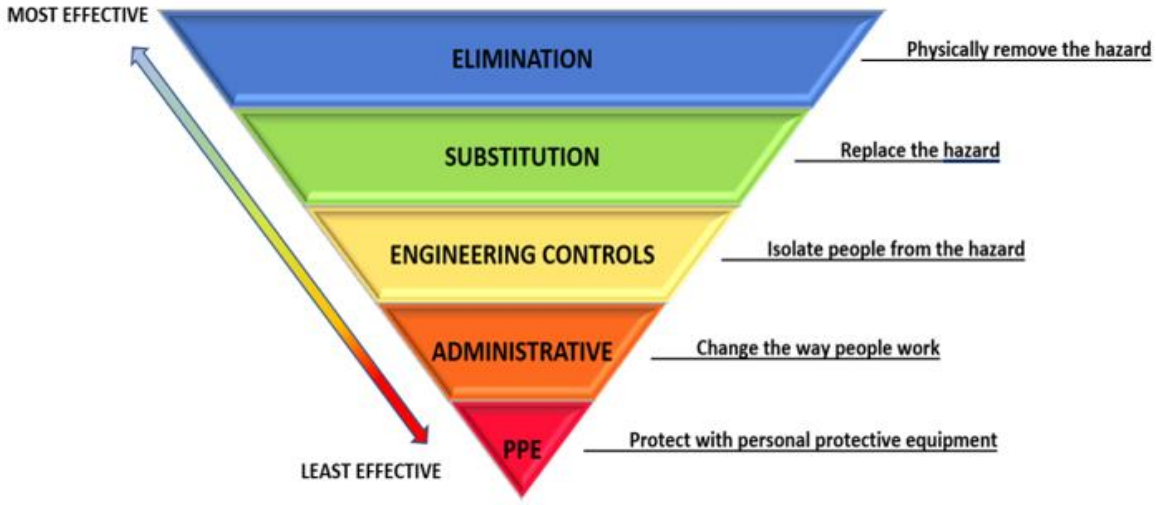
Why Do You Use a Ladder?

_____

_____

Do You Have Another Option? Consider…

Hierarchy of Controls



OSHA Regulations and ANSI Standards

OSHA General Industry 29 CFR 1910 Subpart D – Walking and Working Surfaces
1910.23 Ladders

- General requirements
- Portable
- Fixed
- Mobile ladder stands

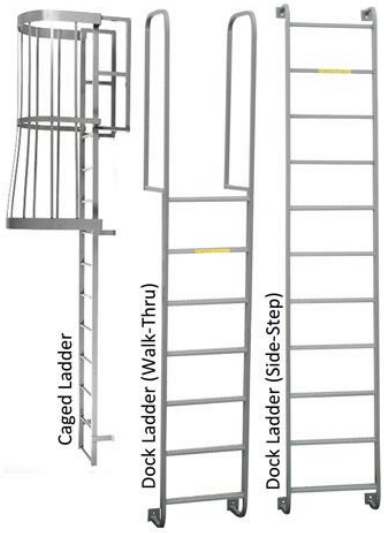
OSHA Construction 29 CFR 1926 Subpart X – Stairs and Ladders
1926.1050- 1060 Ladders

- General requirements
- Stairs
- Ladders
    - General
    - Use
- Training
- References to ANSI Standards

American National Standards Institute (ANSI)

ANSI-ASC A14.1	Wood Ladders
ANSI-ASC A14.2	Portable Metal Ladders
ANSI-ASC A14.3	Fixed Ladders
ANSI-ASC A14.4	Job-Made Wooden Ladders
ANSI-ASC A14.5	Portable Reinforced Plastic Ladders
ANSI-ASC A14.7	Mobile Ladder Stands and Mobile Ladder Stand Platforms
ANSI-ASC A14.8	Ladder Accessories
ANSI-ASC A14.9	Disappearing Attic Stairways
ANSI-ASC A14.11	Step Stools

Types of Fixed Ladders



Types of Portable Ladders

Ladder Accessories

Ladders – Label the Parts

Stepladder

Top Cap – No Climbing/Standing

Top Step – No Climbing/Standing

Spreader

Step

Front Side Rail

Rear (non-climbing) Side Rail

Anti-slip Safety Shoes/Feet

Extension Ladder

Fly Section

Base Section

Rung

Rung Locks

Side Rail

Rope and Pulley System

Anti-slip Safety Shoes/Feet

Fixed Ladder

Anchor Bracket _____

Rung _____

Ladder Stile _____

Safety Cage (vertical members) _____

Lowest Hoop _____

Intermediate Hoop _____

Toe Plate _____

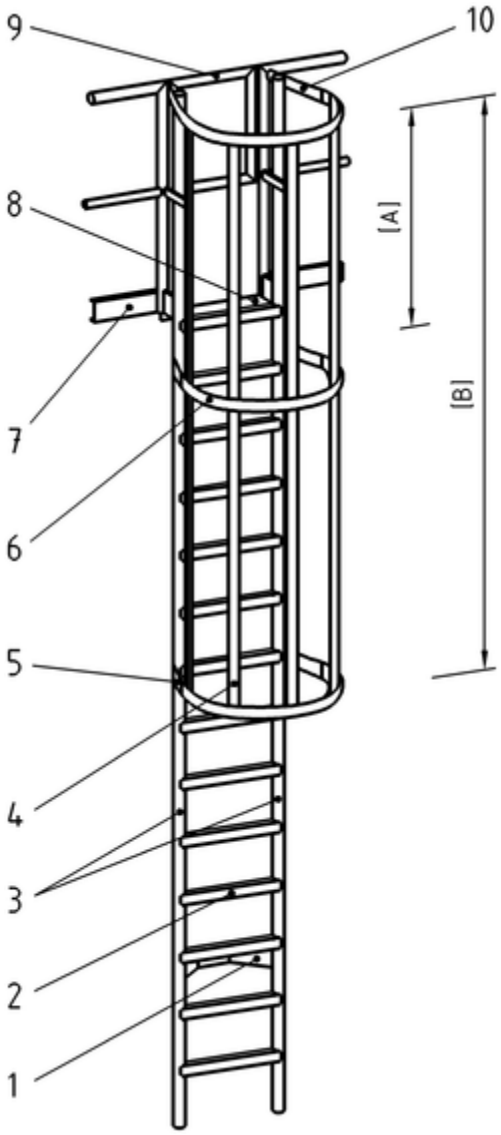
Platform Step _____

Gate _____

Upper Hoop _____

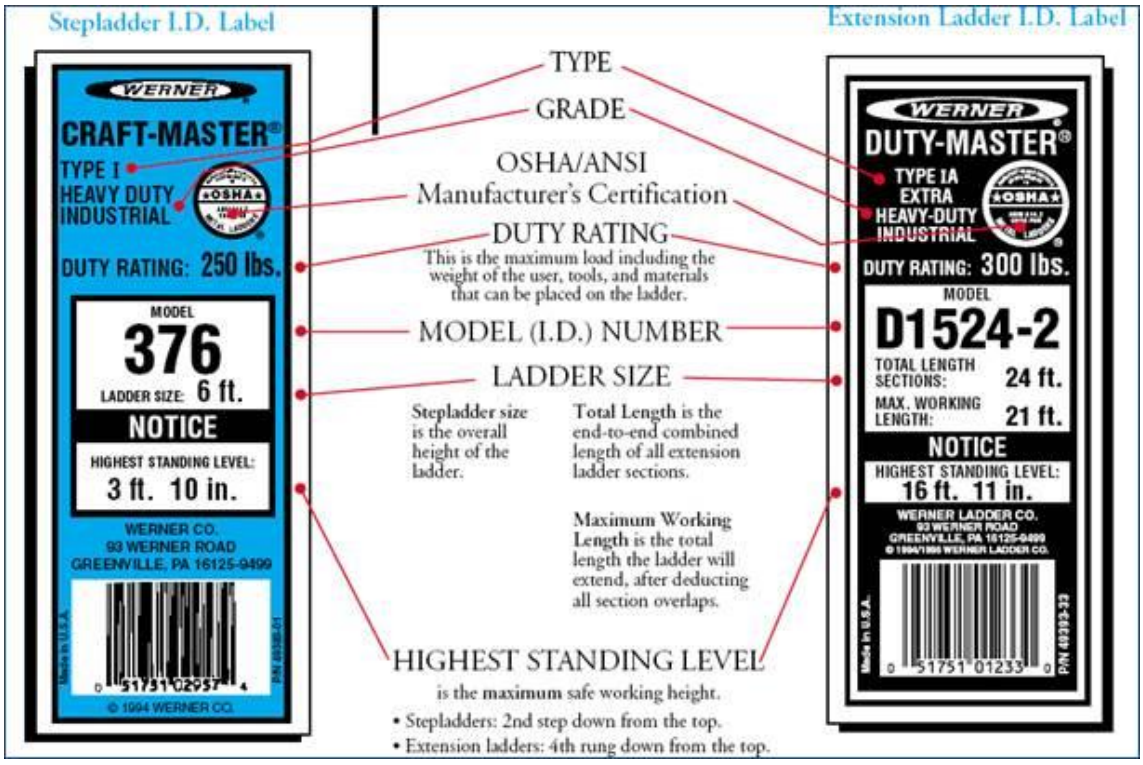
Exit Section _____

Safety Cage _____



Duty Ratings

LADDER TYPE	DUTY RATING	WORKING LOAD (POUNDS)
1AA	Special Duty	375
1A	Extra Heavy Duty	300
I	Heavy Duty	250
II	Medium Duty	225
III	Light Duty	200



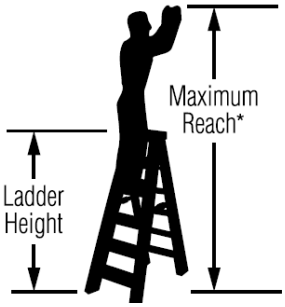
Ladder Selection Activity

Style

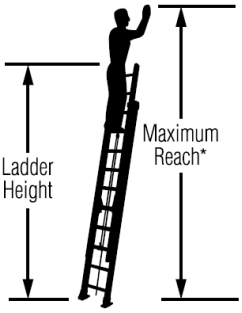




Height



STEPLADDERS	
Ladder Height	Maximum Reach*
4'	8'
6'	10'
7'	11'
8'	12'
10'	14'
12'	16'
14'	18'
16'	20'



EXTENSION LADDERS		
Ladder Height	Maximum Reach*	Height To Gutter or Top Support Point††
16'	15'	9' max.
20'	19'	9' to 13'
24'	23'	13' to 17'
28'	27'	17' to 21'
32'	31'	21' to 25'
36'	34'	25' to 28'
40'	37'	28' to 31'

†† Support points for extension ladders reflect section overlap, ladder angle, or 3' extension above roof line.

Duty Rating

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1AA	Special Duty	375
1A	Extra Heavy Duty	300
!	Heavy Duty	250
II	Medium Duty	225
III	Light Duty	200

Material

Wood

Aluminum/Metal

Fiberglass

Inspections

Walk Around

Inspect before use

Thorough inspection top to bottom

Examine for damaged or missing parts

Check for exposure to excessive heat or acid

Never use a bent or damaged ladder

Lay It Down

Check the rails – not cracked, split, or frayed

Check the rungs – not cracked, bent, or missing

Ensure feet pads are present and in good condition

Lift It Up

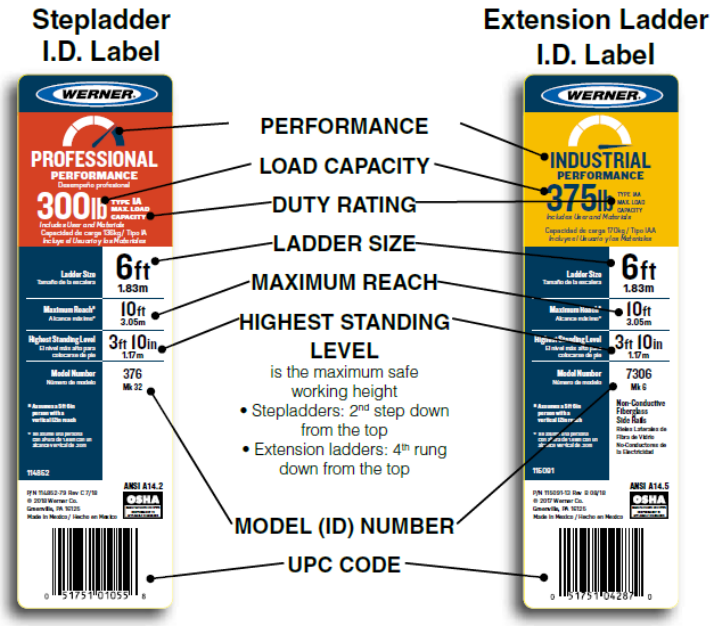
Make sure the ladder top is not cracked or loose

Check spreaders – make sure they are not too loose

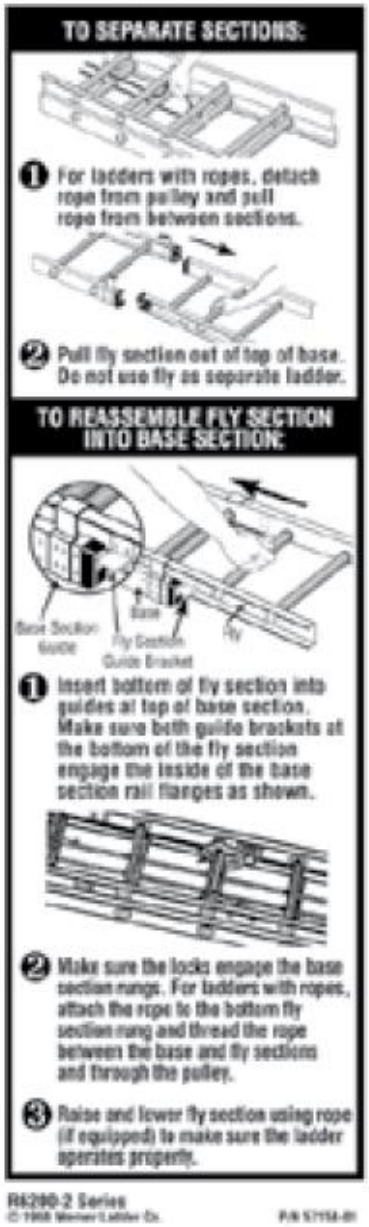
Ensure all components are there and in working order

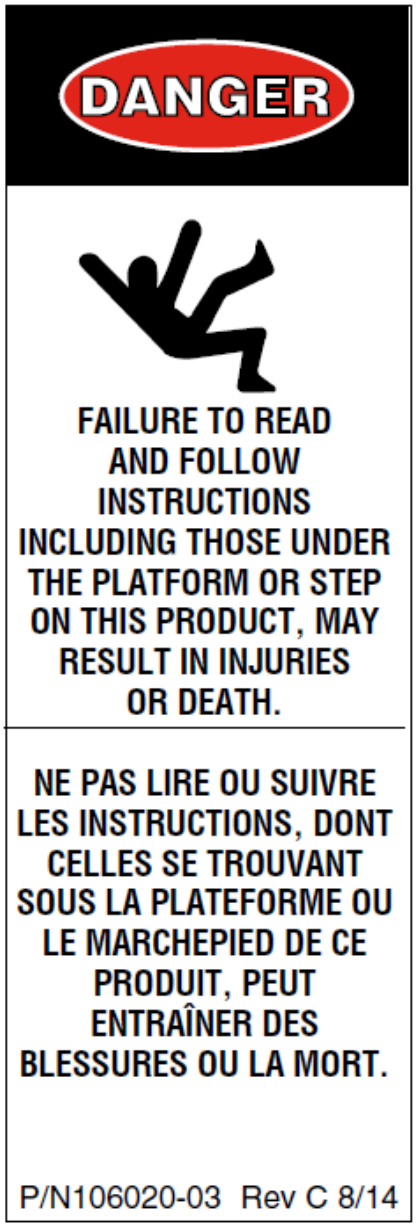
DO NOT drill or tape into any ladder

Inspection – Labels



Inspection – Labels





DON'T FORGET!

Read Safety Instruction Labels:
Werner ladders, stages, planks and accessories are sold with safety instructions to guide users. These instructions and warnings should always be read before climbing. Failure to follow all instructions and warnings may result in an injury or death.

Damaged ladders must be tagged for repair or disposal.

What Do You Do With This?

Sample Checklists

Department	Supervisor	Date
Inspected By	Ladder Type STEP EXTENSION PLATFORM FIXED	Ladder ID

GENERAL SAFETY	PASS	FAIL	COMMENTS
Loose steps/rungs			
Loose nails, screws, bolts or other metal parts			
Cracked, split/broken uprights, braces, steps/rungs			
Slivers or splinters on uprights, steps/rungs			
Damaged, worn or missing nonslip bases			
Oil, grease, other slippery material on steps/rungs			
Dents or bends in ladder rails or steps/rungs			
STEP LADDERS			
Ladder wobbles (side strain)			
Loose or bent hinge spreaders			
Broken stop on hinge spreaders			
Loose hinges			
EXTENSION LADDERS			
Loose, broken or missing dogs/pawls (extension locks)			
Dogs/pawls (extension locks) do not seat properly			
Halyard is deteriorated			
PLATFORM LADDER			
Worn or missing tires			
Wheels that bind			
Wheel brackets broken, loose or missing			
Platform clean of oil, grease of other slippery material			
FIXED LADDER			
Loose steps/rungs			
Rust or corrosion of rungs, rails or cage			
Splinters, sharp edges, burrs or projections on steps, rungs or rails			
Oil, grease or other slippery material present on steps/rungs or rails			
If cage is present - inside must be clear of projections			

Ladder Inspection Form

Provided by Werner Co.

Company Name: _____

Ladder Reference Number: _____ Dept. _____

Inspector: _____ Dept. _____

☐ STEPLADDER

Size: _____ ft.

☐ Fiberglass
☐ Aluminum
☐ Wood

Circle Areas of Damage 6206

	YES	NO
Steps: Loose, cracked, bent, or missing	☐	☐
Rails: Cracked, bent, split or frayed rail shields	☐	☐
Labels: Missing or not readable	☐	☐
Pail Shelf: Loose, bent, missing, or broken	☐	☐
Top: Cracked, loose, or missing	☐	☐
Spreader: Loose, bent, or broken	☐	☐
General: Rust, corrosion, or loose	☐	☐
Other: Bracing, shoes, or rivets	☐	☐

ACTIONS:

☐ Ladder tagged as damaged and removed from use

☐ Ladder is in good condition

☐ PODIUM

Size: _____ ft.

☐ Fiberglass
☐ Aluminum
☐ Wood

Circle Areas of Damage PD6204

	YES	NO
Steps: Loose, cracked, bent, or missing	☐	☐
Rails: Cracked, bent, split or frayed rail shields	☐	☐
Labels: Missing or not readable	☐	☐
Top: Cracked, loose, or missing	☐	☐
Spreader: Loose, bent, or broken	☐	☐
Platform: Cracked or bent	☐	☐
General: Rust, corrosion, or loose	☐	☐
Other: Bracing, shoes, or rivets	☐	☐

ACTIONS:

☐ Ladder tagged as damaged and removed from use

☐ Ladder is in good condition

☐ EXTENSION LADDER

Size: _____ ft.

☐ Fiberglass
☐ Aluminum

Circle Areas of Damage D6224

	YES	NO
Rungs: Loose, cracked, bent, or missing	☐	☐
Rails: Cracked, bent, split, or frayed	☐	☐
Labels: Missing or not readable	☐	☐
Rung Locks: Loose, bent, missing, or broken	☐	☐
Hardware: Damaged, loose, or missing	☐	☐
Shoes: Worn, broken, or missing	☐	☐
Rope / Pulley: Loose, bent, or broken	☐	☐
General: Rust, corrosion, or loose	☐	☐
Other: Bracing rivets	☐	☐

ACTIONS:

☐ Ladder tagged as damaged and removed from use

☐ Ladder is in good condition

Ladder Inspection Form, Continued

Provided by Werner Co.

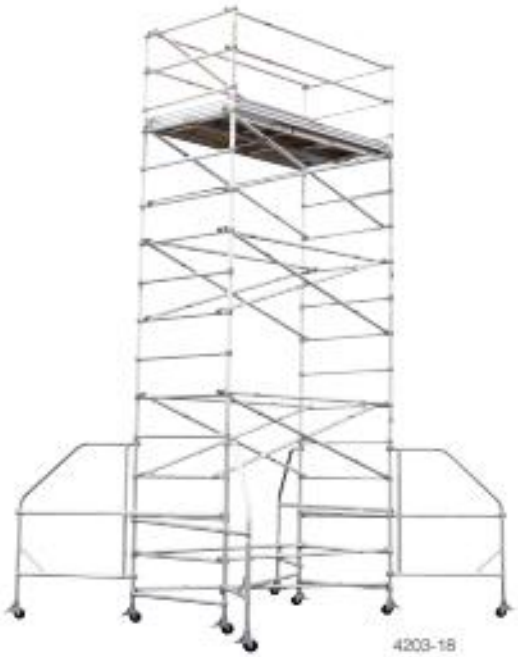
☐ **SPECIALTY LADDER** Model Number: _____

☐ Fiberglass
☐ Aluminum
☐ Wood

PT1074-4C

E1078

M7108-1



4203-18

Mark all that apply	YES	NO
Steps / Rungs: Loose, cracked, bent, or missing	☐	☐
Rails: Cracked, bent, split, or frayed	☐	☐
Labels: Missing or not readable	☐	☐
Hardware: Missing, loose, or broken	☐	☐
Fasteners: Rust, corrosion, loose, or missing	☐	☐
Top: Cracked, loose, or missing	☐	☐
Spreader: Loose, bent, or broken	☐	☐
Outriggers: Missing, rust, corrosion, or loose for scaffolding	☐	☐
General: Rust, corrosion, or loose	☐	☐
Hinges: Loose, bent, or missing	☐	☐
Locks: Loose, bent, broken, or missing	☐	☐
Bracing Front, Rear: Loose, bent, broken, or missing	☐	☐
Rivets: Rust, corrosion, loose, or missing	☐	☐
Shoes: Worn, broken, or missing	☐	☐
Platform: Loose, bent, broken, or missing	☐	☐
Rail Shield: Missing or loose	☐	☐
Shoulder Bolt: Rust, corrosion, or loose	☐	☐
Casters: Rust, corrosion, or loose for scaffolding	☐	☐

ACTIONS:

☐ Ladder tagged as damaged and removed from use

☐ Ladder is in good condition

Ladder Use

Proper Handling

Do not drop or throw ladder

Fully close ladder before moving

Carry on shoulder with your arm through ladder

Use two people for longer ladders

Transporting on Vehicle

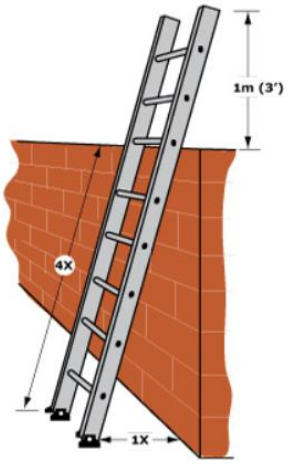
Support ladder properly

Minimize overhang of supports

Contact points – soft or non-abrasive material – rubber or carpeting

Positively clamp down to avoid movement

Extension Ladder Set-up



Secure at top and/or bottom (ideally both)

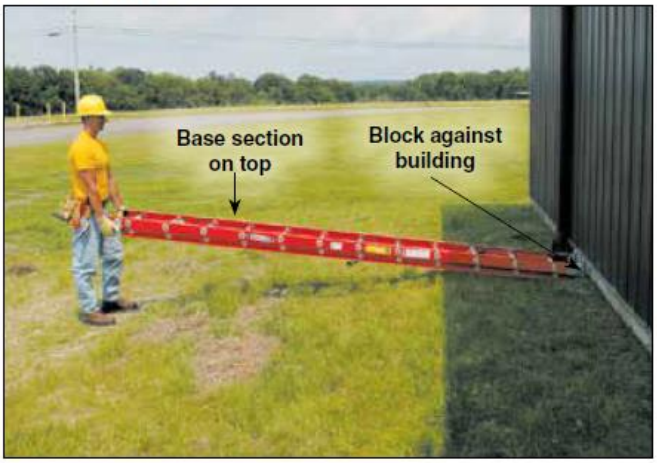
Extend at least 3’ above upper landing

Set ladder at “quarter-length rule” (4:1)

Protect from falls at upper level

Ladder Set-up

Step 1.
BLOCK THE FEET:

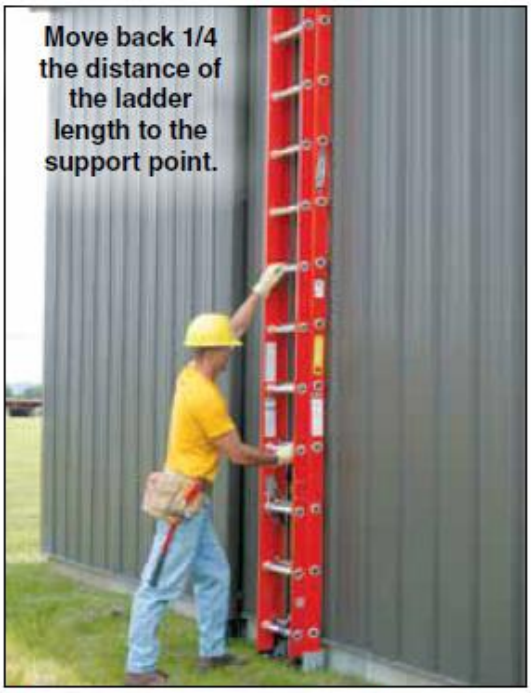


Fully close the ladder. Position the ladder with the base section on top of the fly section. Block or "foot" the ladder against the base of the building or another secure object.

Step 2.
WALK IT UP:

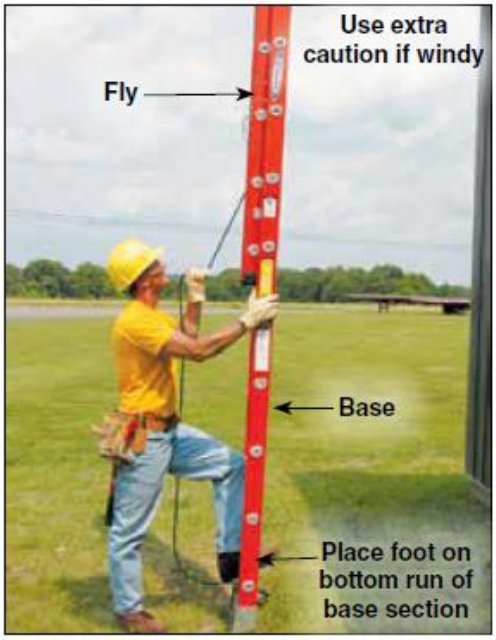
Always check for sufficient overhead clearance and make sure there are no overhead power lines. Erect the ladder by "walking" it up to a vertical position. Be sure the bottom is securely blocked against a fixed object or securely "footed" by another person.

Step 3.
LIFT INTO POSITION:



Move the ladder away from the building so that it can be set at the proper angle. Carefully and firmly grip the ladder before moving – keep it vertical.

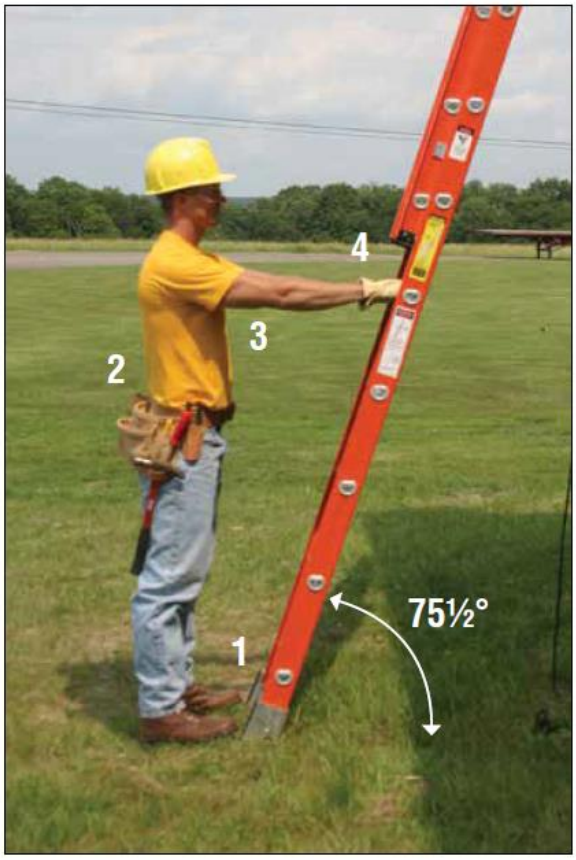
Step 4.
RAISE FLY SECTION:



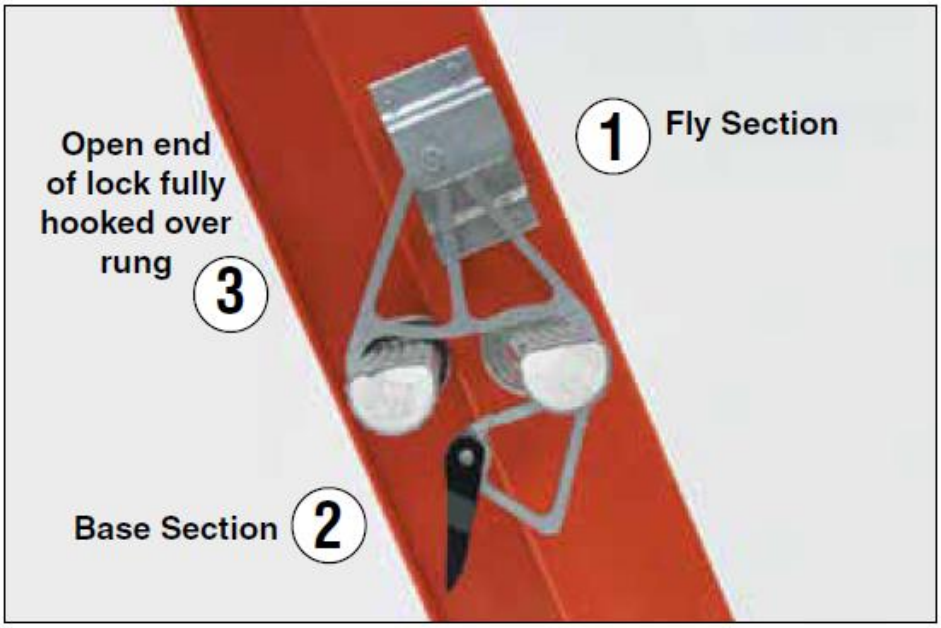
Carefully raise the fly section using the rope and pulley system. After the bottom rung of the fly section clears the bottom rung of the base section, place one foot on the base rung to provide continuous firm footing.

Step 5.
PLACE AGAINST BUILDING

Carefully lean ladder against building at the correct 75-½° angle. The base should be 1 foot out for each 4 feet of ladder length to the upper support point. Extend the ladder 3 feet above the roof edge for access. Be sure both end caps or contact points are resting firmly and securely against the building.

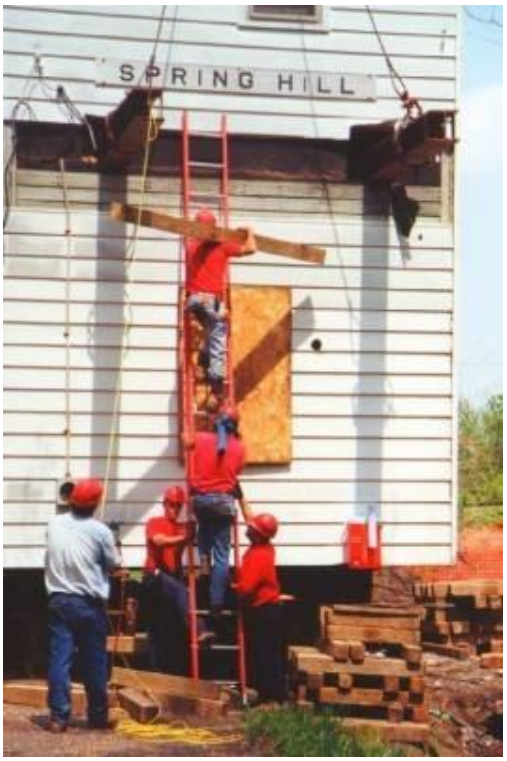

4
3
2
1
75½°


16ft
12ft
8ft
4ft
4ft
3ft
2ft
1ft


Open end of lock fully hooked over rung
3
1
Fly Section
Base Section
2


12"
min.
12"
min.

Ladder Use – Hazard Recognition


SPRING HILL

Ladder Storage

Indoor storage if possible

Protect from changing weather conditions

Avoid hot temperatures

Prevent UV (ultraviolet) damage

Store away from hazardous chemicals

Store on racks when not in use

Prevent possibility of sagging with sufficient support points

Contact points – soft non-abrasive material – rubber or carpeting

Do not place materials on ladders when in storage

Care and Maintenance

Consult manufacturer's guidelines for proper care

Maintain and follow all label requirements

Clean spills, drips, and dirt from ladder promptly

Keep ladders in good condition

Lightly lubricate moving parts

Inspect before every use

Properly replace damaged or worn components

Inspect fiberglass rails for weathering, cracks, or splitting

Protect ladder from heat, weather, and corrosive materials

Disposal

Check for capability of recycling/transfer station

Possible curbside bulky waste collection

Do not allow potential for someone else to use it

Cut the ladder vertically down the rungs