



PROBATIONARY TRAINING

TRAINING EXERCISE

Roof Operation - Ladders

When do we cut a Roof:

- top floor fires
- when the roof is safe
 - *not truss construction
 - *not gypsum
 - *the roof can support us on it !

Why do we cut a Roof:

- slow the horizontal spread of fire by channeling it to the air from the hole we cut.
- allows the smoke and heat to lift & makes the interior environment more tolerable, (for us and possible victims)
- allows easier advancement of teams
- prevents backdrafts.

Roof Team's - Tools:

- Roof teams should make sure the follow tools make it to the roof with them:
 - * Set of Irons (axe/halligan)
 - * Saw for the job
 - * Roof Hook - 8' ideal
 - * Hand lights
 - * Ropes (life saving & utility)
 - * Portable Radio(s)

Gaining Access to the Roof:

- Portable Ladder
- Aerial Device
- Adjoining building

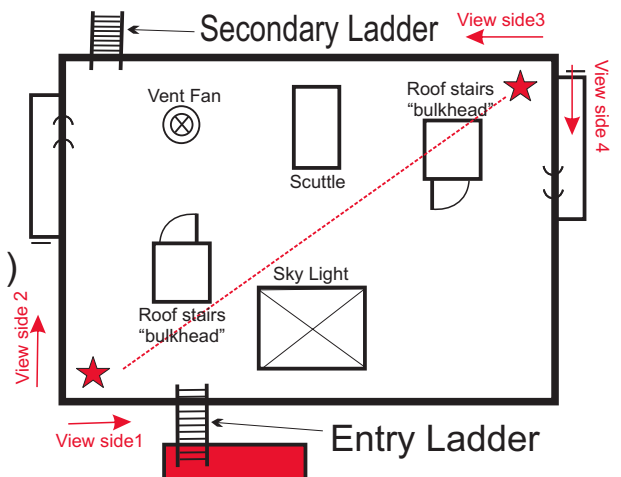
Have of second means of egress

- one of above that you didn't used to gain your access
- fire escape ladder

(should know it before entering a roof)

You've determine Roof's Safe, You have 2nd means of Egress, You enter the roof, - Now What?

- 1 Member of team, **Do a 360*** over all sides and report findings to the IC as you partner opens the bulkhead(s).
(*looking over the side, of diagonal corners, ★ will enable you to see over all 4 sides of building*)
- * looking for victims out windows
- * closest point of the fire
(*the roof has the quickest access to all 4 sides and will be able to let IC know: size, fire walls...*)

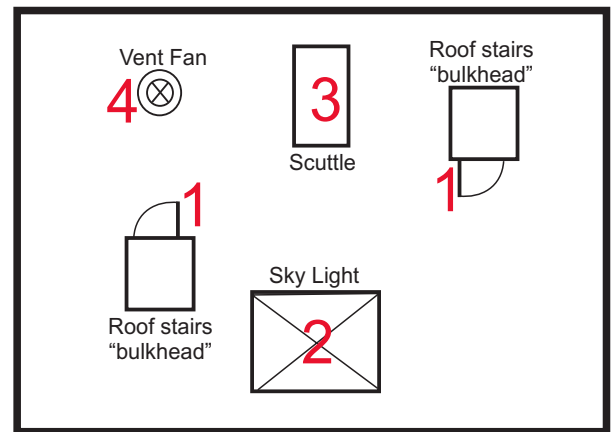


Once you've sized up your needed & reported to IC:

- open all natural openings:

- 1 - bulkheads - once open check immediately inside for victims
- 2 - Sky lights - checking the returns for fire
- 3 - Roof Scuttles (even if tarred over)
- 4 - Roof vents

These are quickly opened and will provide immediate results, possibly saving lives.



If we've determined the roof needs to be cut, we need to:

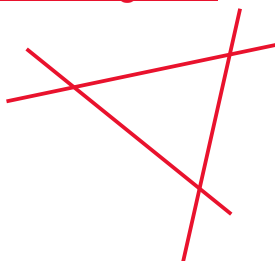
- determine the wind direction, we want to cut with the wind at our back, so the smoke we release doesn't hinder our cutting.
- the area we cut should be as close as possible to above the main body of fire, while still operating over a safe roof.

We determine this area by:

- * Soft spots, or tar that has bubbles
- * Melting snow or ice
- * On a wet roof, dry area or areas steaming
- * Close proximity to hot to touch soil pipes or vents
- * Radio transmissions from inside telling us where the fire is
- * From our looking over the edge

Once we determined the area we want to cut - do an inspection cut(s) to verify: * plunge the blade of saw 3 time crossing cuts forming a triangle - assure all cuts overlap

crossing cuts



Inspection cut

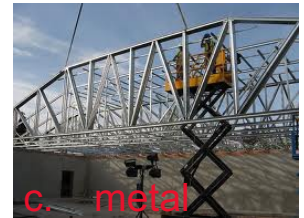
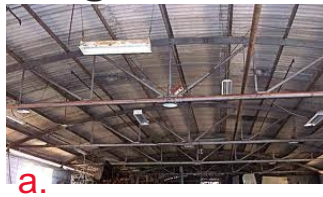
*punch out triangle w/ roof hook and clear the ceiling below.

This inspection cut, outside of confirming the fire is below, will also allow you to size up the roofs construction: thickness, roofing material, roofs deck type and possibly the roof's beam type, preparing you for your larger cut.

Besides Never Working on

Truss style roofs:

- a. Bow Truss
- b. Bar Truss
- c. Light Weight Truss



We also don't want to be operating on **Gypsum Roofs**.

Most of the time, without pre-plan info, we'll be unsure of the roofs make up. We always want to caution to the side of a truss especially when dealing with buildings with large open floor plans such as retail stores, educational facilities, offices ...



This is why performing an Inspection cut is so important.

When cutting a Gypsum roof, you'll get a white powdery smoke, letting you know your cutting gypsum. **This roof is UNSAFE, Roof operations are over!**

With the Truss' (outside of residential) the decking will normally be a metal decking called "Q- Decking". **This roof is UNSAFE, Roof operations are over!**

**The minute you find a Truss, Q-Decking or Gypsum Roof,
- don't continue - reports such to IC and get off the Roof.**

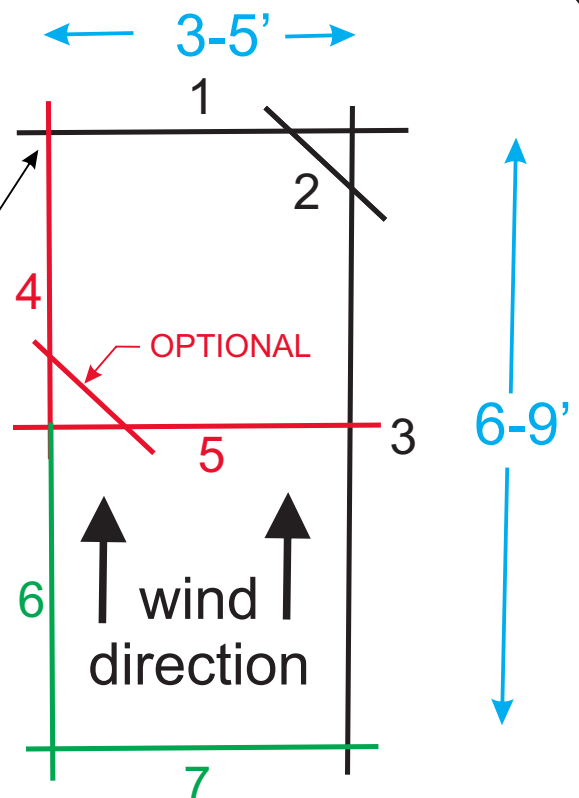
When conditions allow for cutting:

REMEMBER: 7 9 8

- * Cut 1, 2 & 3 Make up the 7
- * **Cut 4 & 5 make the 9**
- * **Cut 6 & 7 make the 8**

*make sure all your cuts **overlap**
this will save you time and pain later!*

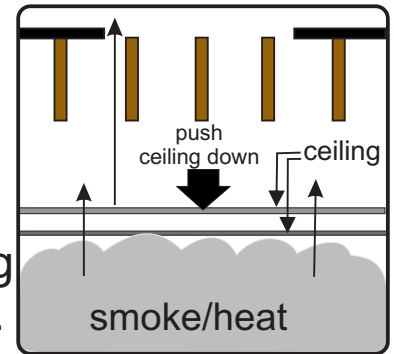
- * Once the member on the saw is done with cut number 5 his/her partner should pry off the first section as the member cutting continues with cuts 6 & 7. Time is usually a factor with roof operations, the sooner we get off the roof the better!



Once we have our hole:

we want to make sure to clear the ceiling(s)
(*in older building there may be multiple layers,
every renovation adding a new layer of ceiling*)

If you don't clear the ceilings, you're only releasing
the smoke that has made it way above the ceiling.



We want to release the smoke and heat from the fire area, bringing
the fire up and outward instead of extending horizontally.

This is achieved by using a 8' hook, pushing the ceiling downwards,
forcing it inwards. Use caution there should be an immediate burst
of heat and smoke that comes out the cut hole. The area around
this hole will soon become unstable, so when the ceiling is cleared
move on or get off the roof if you're done with roof operations.

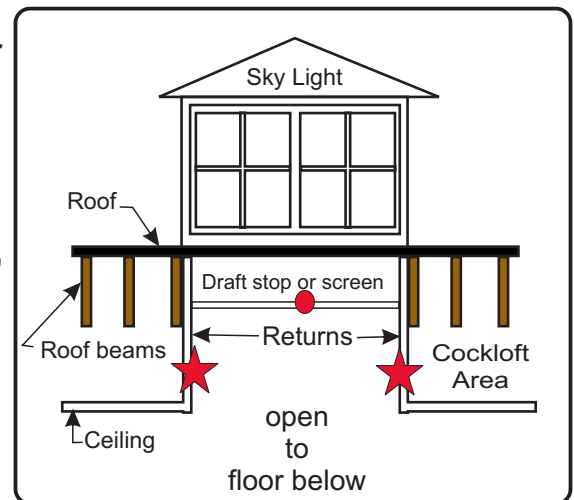
Report to IC the roof is open, the inside teams should already know
by feeling temperatures drop, but if they didn't feel relief, the radio
report will let everyone know conditions should be getting better.

Sky Lights:

When we take sky light, it may be easier
to pry the entire unit off, then to break?

If you're going to break the glass, break
a single pane or small area of glass first,
then wait a few moments before taking
the entire thing, this alerts members
below to take cover.

Once all glass is taken or the sky light
is removed, check for a draft stop ● (additional piece of glass to stop
wind/weather drafts) or a screen, they will need to be cleared for
the smoke/heat to escape.



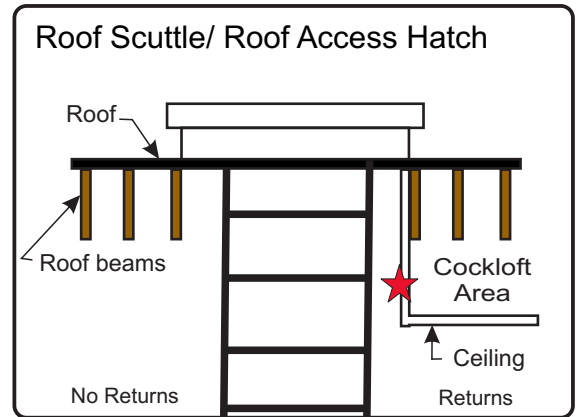
Open the Returns★ with a hook, this will allow you to check if the fire
has extended past the ceiling and into the cockloft. Report your
findings to the IC, since a fire in the cockloft may change IC's tactics.

Roof Scuttles/Roof Access Hatch:

Roof Scuttles are most typically pried open, even when they are tarred over.

When opened, there may or may not have Returns like with the sky light. Typically these scuttles are in “employee only” areas and these areas are unfinished having exposed roof beams.

If there are Returns, ★ open them, exposing the cockloft like you would with a sky light and report your findings to the IC.
(“roof to command - roofs open, cockloft is clear at this time”)

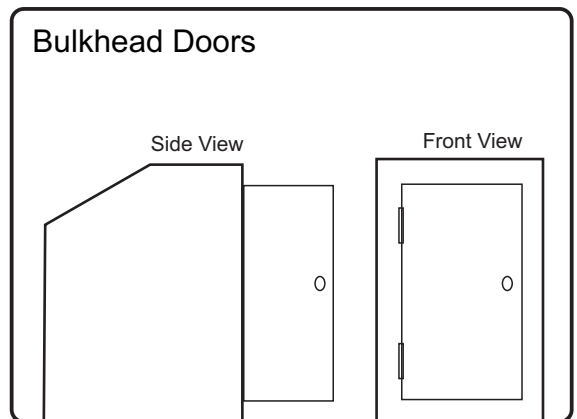


Under NO Circumstance should you descend a scuttles ladder!

Bulkhead Doors:

Bulkhead doors are doors at the top of the building stairs, giving roof access.

It is important to get the bulkheads open as soon as possible. This will clear the stairway of smoke, giving victims trying to escape and firefighter entering a more tolerable environment. If the door to these stairways, are open on the fire floor, all the floors above the fire floor will contain smoke, getting worst as you go up. Getting the bulkhead open will relieve this smoke.



When you open the bulkhead, chock the door open, so the wind doesn't close it requiring you to force it again. Check immediately inside the door for victims, who may have become overcome by the smoke, as the attempted to get to the roof to escape the fire.

At no time should you consider these stairs a second means of egress or should you descend down them unless there is a immediate rescue of a victim **on the stairs.**

Horizontal Ventilation:

After the completion of opening all the natural openings and making your roof cut(s) if the roof condition still allows, the roof team can assist with horizontal ventilation.

This can be achieved by reaching over the sides with a 8' hook and taking the top floor windows.

You can also use a halligan tied to the utility rope being dropping.

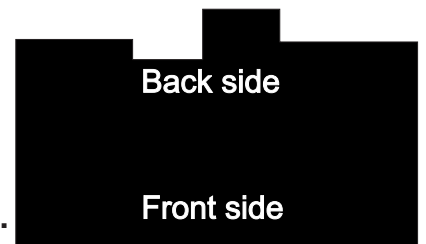
- first measure the distance lowering the tool to the center of window
- pull tool up, the drop down, this should stop the tool at that distance of the window, crashing the tool into the window.

As with all horizontal ventilation, this needs to be coordinated with the hose line, knowing there is water on the fire.

Horizontal ventilation from a roof is only done if the roof conditions allow, we don't want to be spending more time on the roof than is necessary, if we can do horizontal ventilation from a ladder below, this is what should be done!

Additional Safety Considerations:

- * When walking a roof, try to stay to the front side, they tend to be more even, where the back distances tend to vary from store to store.
- * If you can't see your feet, you shouldn't be walking but down on a knees and with a tool sounding the roof
- * We don't want to be on Truss or Gypsum roofs (*white powder or Q -Decking*)
- * Have a second means of egress (portable Ladder, aerial ladder, adjoining building or a fire escape gooseneck in an emergency)
- * Don't want to be cutting between yourself and your exit.
- * Cut with wind at our back - (facing the top cut of 7, wind should at our back)



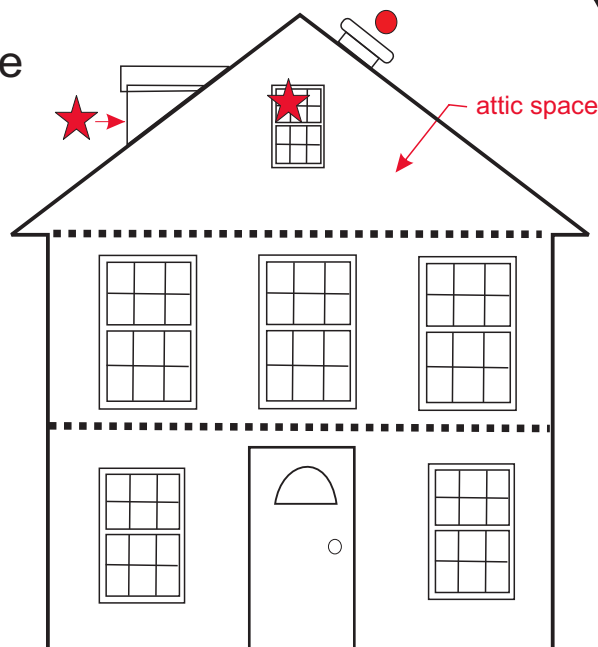
Residential Roof Operations:

In cases where there is a full attic space above the fire floor, the attic should be opened using extreme caution.

Like the commercial structures we are not going on the roof if it is a light weight truss construction, which is common in today's newer style homes, allowing for the demanded wide open floor plan and at a cheaper price.

Home that were built Pre WWII were built is a style called balloon frame construction, with allows for easy vertical spread of fire. The outside wall studs run from the basement sill plate to the attic, so a fire that started in the basement could quick be found in the attic before it noticed anywhere else. This style houses it is not uncommon to be alerted to an attic fire, but actually have a basement fire! For this reason, we may need to open the roof. Venting these roofs should only be done from a Aerial platform(Tower Ladder) , due to the possible instability, height and pitch of the roof. We first want to remove any natural opening such a attic window(s)★ or roof vents● before we preforming any roof cutting operations. These natural vents will give us a good idea of what is happening in that attic space. If we are met with significant fire, upon taking them, there will be NO roof operations!

You should also use caution on the roofs of Pre WWII homes, due to the roof make up. Most of these roof are 1"x 3"or 4" nailing strips spaced about 6" apart that shingles are nailed to, leaving very little between us and the attic below especially under a fire condition. If there is fire in that attic it will be through the roof in a very short period of time. (Risk - vs- Reward) This is another reason we'll be venting from the platform of an aerial device.



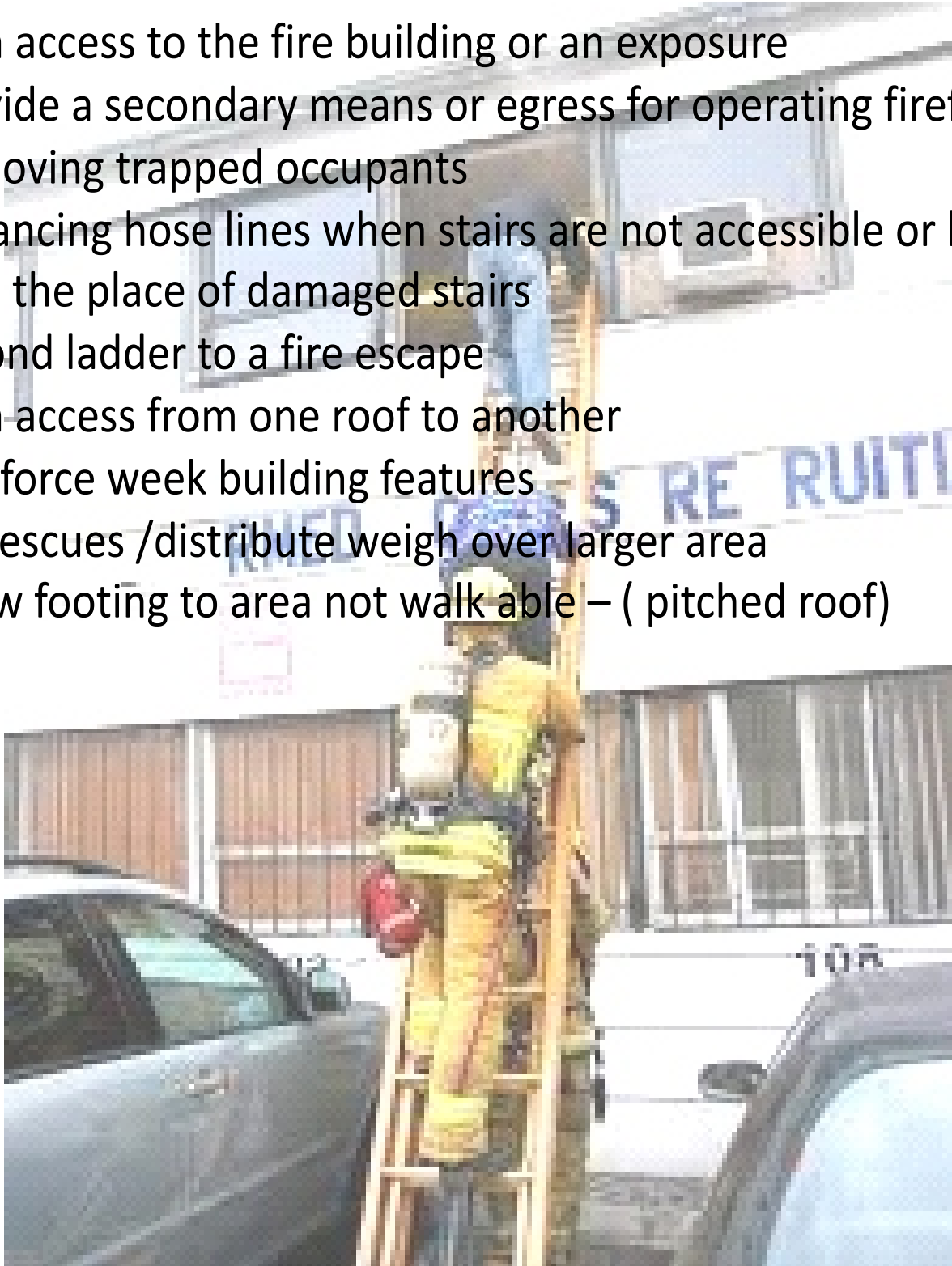
**MOST IMPORTANT - WITH ALL ROOF OPERATION -
SIZE UP, HAVE A PLAN & MONITOR WHAT GOING ON AROUND YOU !**

Ground Ladders

one of our most basic firefighting tools

Ground Ladder uses:

1. Gain access to the fire building or an exposure
2. Provide a secondary means of egress for operating firefighters
3. Removing trapped occupants
3. Advancing hose lines when stairs are not accessible or limited
4. Take the place of damaged stairs
5. Second ladder to a fire escape
6. Gain access from one roof to another
7. Reinforce weak building features
8. Ice rescues /distribute weight over larger area
9. Allow footing to area not walk able – (pitched roof)



Ground Ladders – Who puts the up?

Here in Westbury:

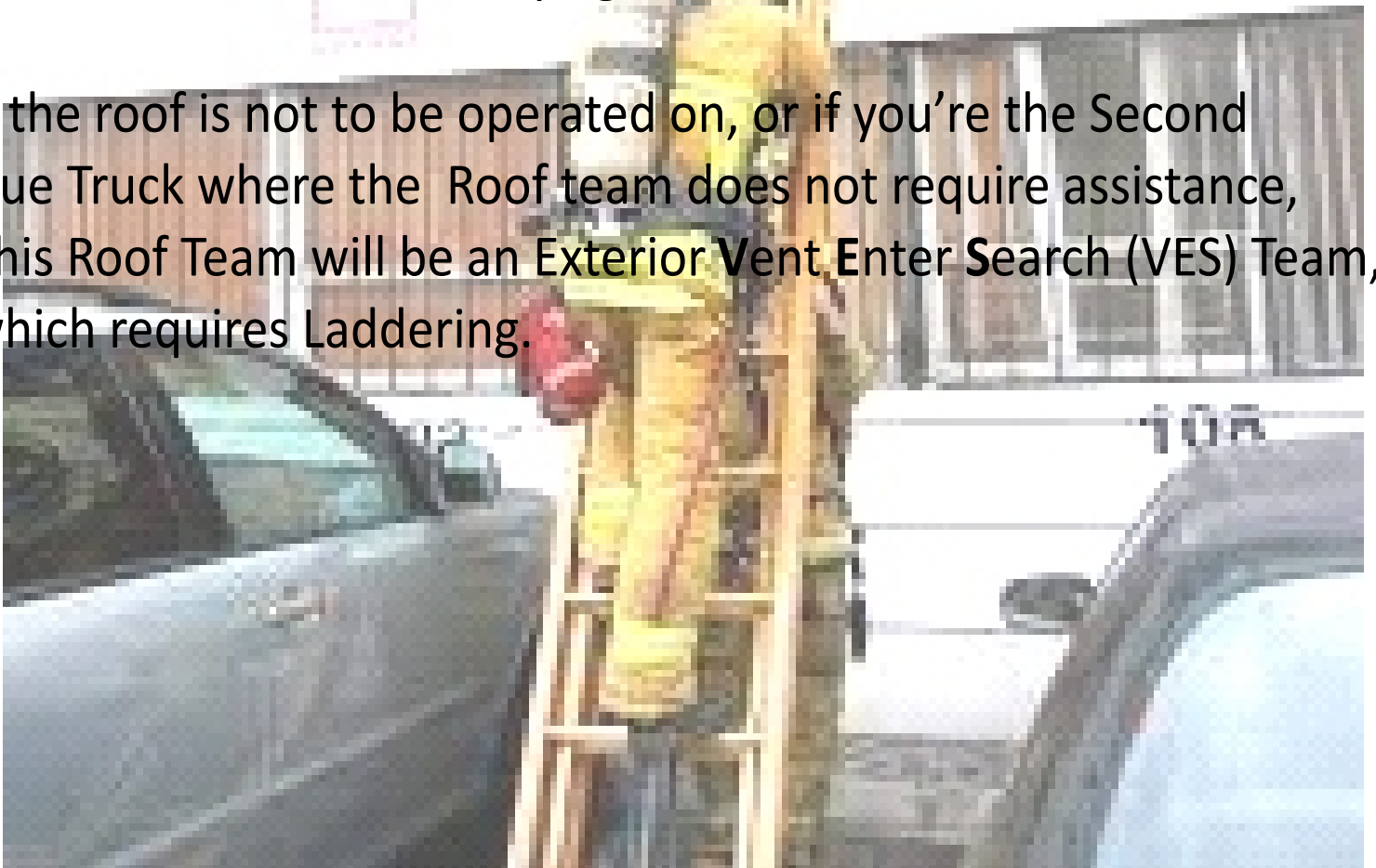
Engine (Position 4) – Hydrant/Outside Vent (OV)

After hooking up the hydrant – this position's responsibility is to get a ladder up and provide **Outside Ventilation**.

1st Due Truck Positions 3 & 4 – Roof Position(s)

If using an Aerial ladder to get to the roof, it's good practice to set a secondary egress ladder, first.

If the roof is not to be operated on, or if you're the Second Due Truck where the Roof team does not require assistance, This Roof Team will be an Exterior Vent Enter Search (VES) Team, which requires Laddering.



Ground Ladders Types:

Straight Ladder:

A single stage Ladder, a ladder where the length is not adjustable.

Sizes normally seen: 10', 12', 14', 16', 18'



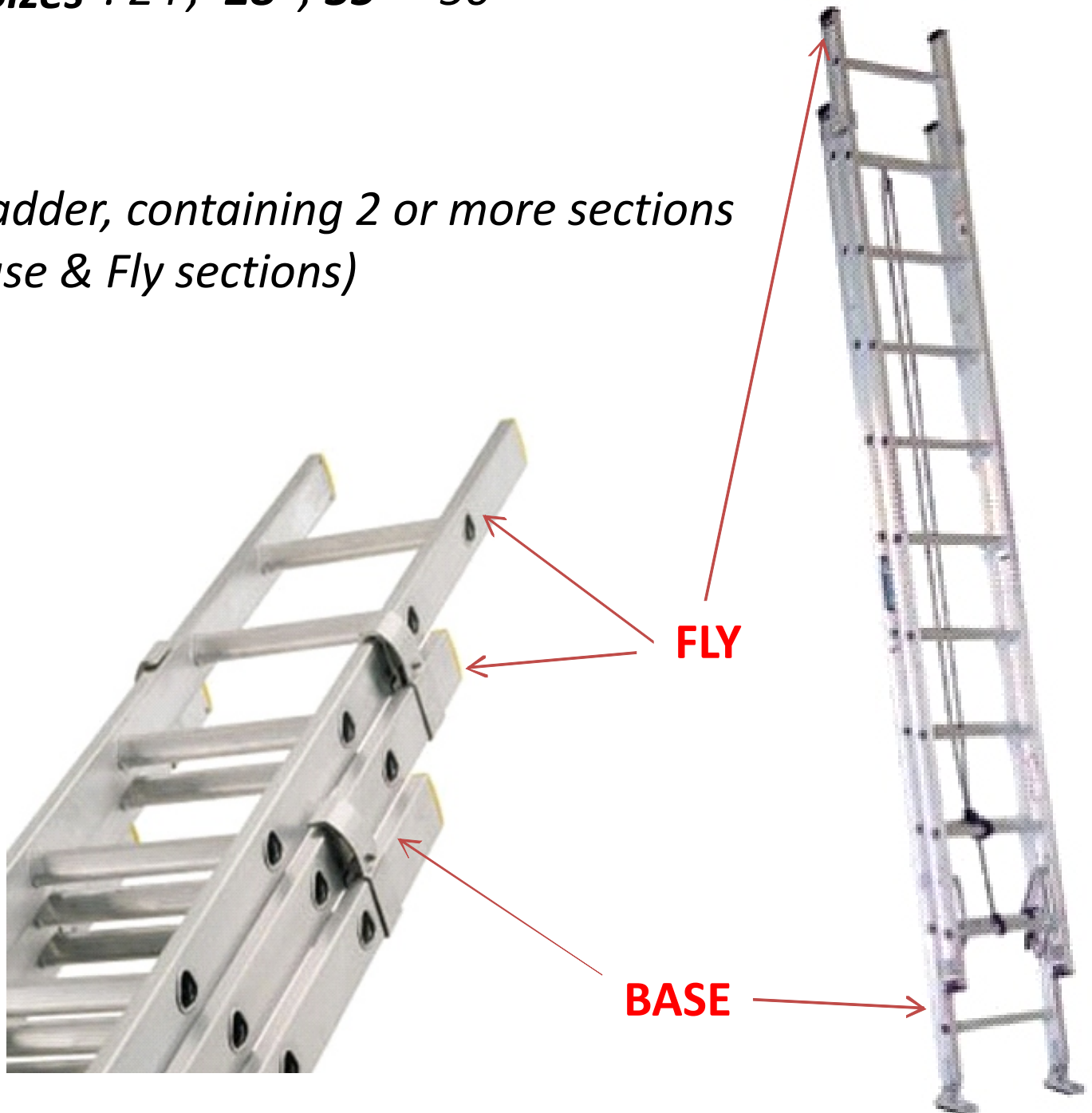
Ground Ladders Types:

Extention Ladder:

which allows the length to be adjusted as needed.

Sizes : 24' , 28' , 35' – 50'

*A Ladder, containing 2 or more sections
(Base & Fly sections)*



Ground Ladders Types:

Roof Ladder:

A straight ladder with hooks that retract at a 90 degree angle. That allows the ladder to be secured to a roof ridge (peak)

Sizes : 12' , 14' & 18'

HOOKS →

Commonly seen stored with

24' extension – 14' Roof

28' extension – 16' Roof

36' extension – 18' or 20' Roof



Ground Ladders Types:

Folding Ladder: (aka “Attic Ladder”)

*A narrow ladder who’s rungs can be folded into the beam
Making it compact and easily set up in tight quarters.*

*Commonly used to access attic spaces located
In a small closet openings.*

Sizes : 8’- 14’



Ground Ladders Types:

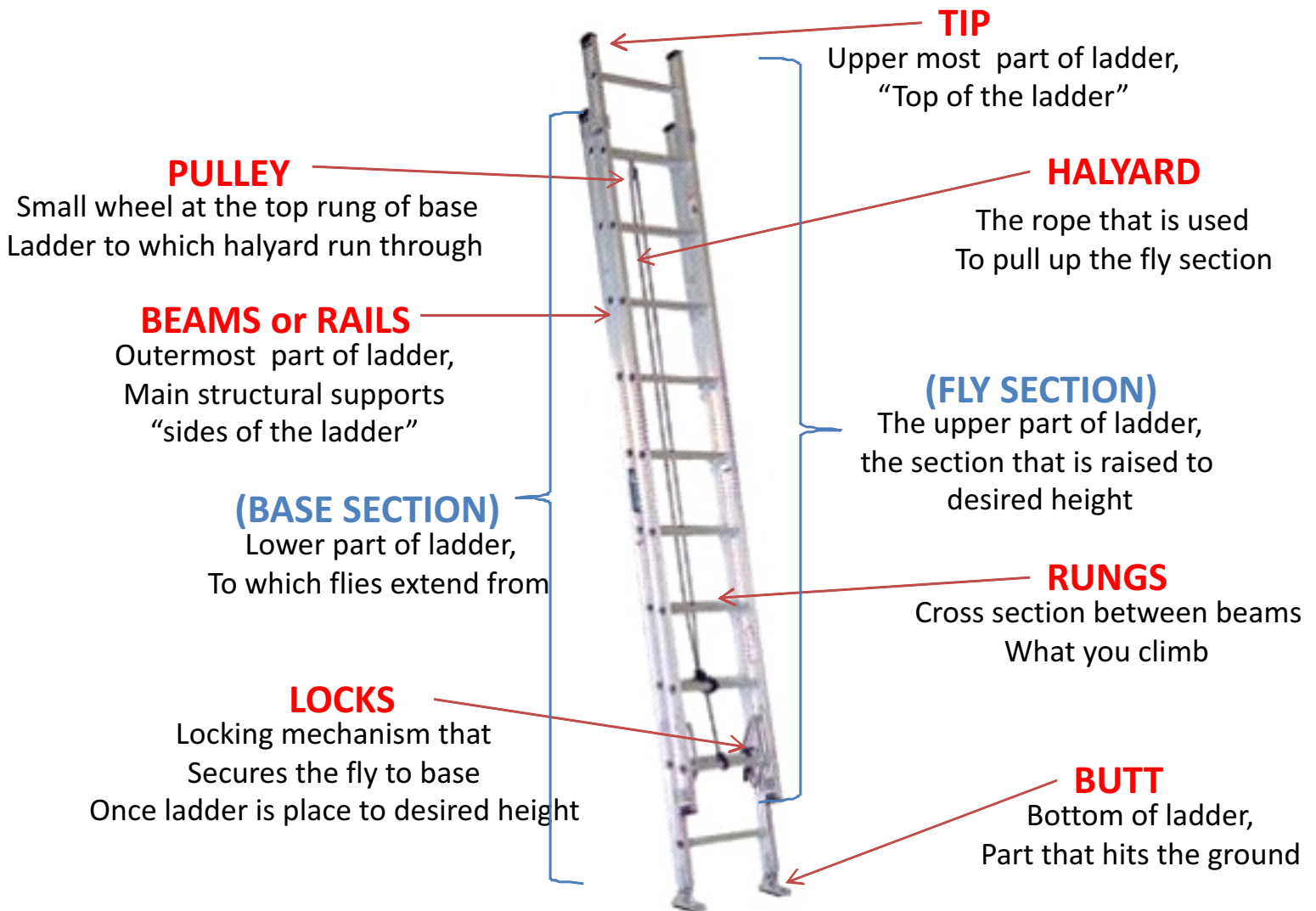
Combination Ladder: (aka “Little Giant” or “A - frame”)

*A ladder that can be set up as a straight ladder or
Converted to an A frame, depending on users need*

Sizes : 4' - 16'



Ladder's Components:



Handling Ladders:

- When handling ladders, the methods used to carry & raise them should require the least amount of maneuvering and time.
- When the ladder is being moved, it should never be put to the ground, it should go from the carry to the raised position without delay.
- The firefighter at the butt of the ladder is the control person, in the ladder positioning and raising. (if a multiple firefighter operation).

In some cases, laddering could be 1, 2, 3 or 4 person operation. The size of ladder will dictate amount of firefighters needed.

All firefighter *should* be able to raise straight ladder and 24' extension ladder as a 1 person operation without difficulty.

- The butt of the ladder should lead to the fire building
- Ladders and be raised, parallel or perpendicular to building, the space available will dictate how it is raised.
- Climbing angle of the ladder is generally $\frac{1}{4}$ the working length of the ladder. (75 degrees)

Example:

Working length 20' - ladder should be 5' from the structure

Working length 16' - ladder should be 4' from the structure

Working length 32' - ladder should be 8' from the structure

Handling Ladders:

- Checking proper/safe climbing angle by:
 1. Placing toes at butt of the ladder
 2. Extend arms, your finger should be able to touch beam or rung,
(while keeping you back vertical)



Ladder Carries:

One-Firefighter: Low-Shoulder Carry:

Step 1: Kneel beside the ladder facing the tip.

Step 2: Grab the middle of the ladder with closest hand and find the balance point.

Step 3: Lift the ladder

Step 4: Pivot into the ladder as it is raised.

You will carry the ladder when facing the butt of the ladder.

Step 5: Place your free arm between two rungs so that the upper beam of the ladder rests on shoulder. Grab a forward beam to assist with carry



Ladder Carries:

One-Firefighter: High-Shoulder Carry

Step 1: Kneel beside the ladder facing the tip.

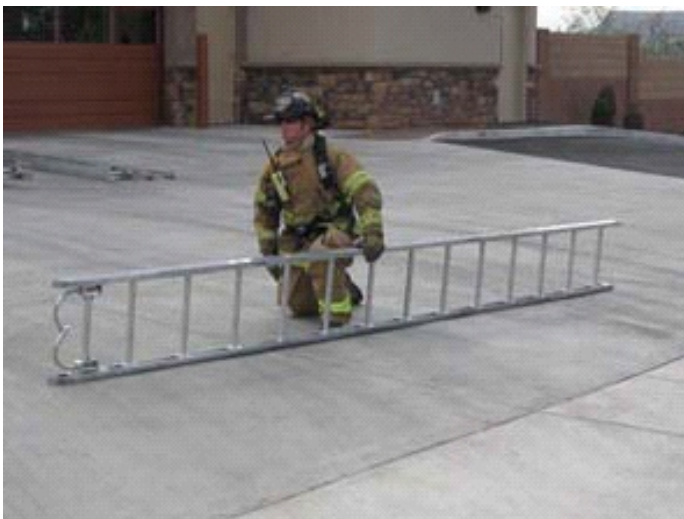
Step 2: Grab the middle of the ladder with closest hand and find the balance point.

Step 3: Lift the ladder

Step 4: Pivot into the ladder under the bottom beam as it is raised.

You will carry the ladder when facing the butt of the ladder.

Step 5: Grab the top beam or a forward rung. Place your other arm under bottom beam. Bottom beam of the ladder rests on shoulder.



Ladder Carries:

One-Firefighter: Suitcase Carry

Step 1: Kneel beside the ladder facing the Butt.

Step 2: Grab the middle of the ladder with closest hand and find the balance point.

Step 3: Lift the ladder.



Ladder Carries:

Two-Firefighter: Low-Shoulder Carry

Note: Firefighter #1 is located near the butt end and Firefighter #2 is located near the tip end of the ladder.

Step 1: Both firefighters: Kneel beside the ladder on the same side, facing the tip.

Step 2: Both firefighters: Grab a rung and stand ladder on beam.

Step 3: Firefighter #1: Gives the command to, “shoulder the ladder.”

Step 4: Both firefighters: Stand, lifting the ladder.

Step 5: Both firefighters: Pivot and place the free arm between two rungs. You will carry the ladder when facing the butt of the ladder.

Step 6: Both firefighters: Place the upper beam on shoulders.



Ladder Carries:

Two-Firefighter: Hip/Underarm Carry

Note: Firefighter #1 is located near the butt end and Firefighter #2 is located near the tip end of the ladder.

Step 1: Both firefighters: Kneel beside the ladder on the same side, facing the tip.

Step 2: Both firefighters: Grab a rung and stand ladder on beam.

Step 3: Firefighter #1: Give the command to “shoulder the ladder.”

Step 4: Both firefighters: Stand, lifting the ladder.

Step 5: Both firefighters: Pivot and place the free arm over the top beam. You will carry the ladder when facing the butt of the ladder.

Step 6: Both firefighters: Place the upper beam under the arm and the hand on the lower beam.



Ladder Carries:

Two-Firefighter: Suitcase Carry

Step 1: Kneel beside the ladder
facing the Butt.

Step 2: Grab the ladder with closest
hand

Step 3: Lift the ladder



Ladder Carries:

Three-Firefighter: Flat- Shoulder Carry

Note: The knee closer to the ladder is the one on the ground.

Step 1: Firefighter #1 located at the butt of the ground ladder, Firefighter #2 is located center, Firefighter 3# located at the tip.

Step 2: Firefighter #2: kneel on the opposite side of the ladder in the middle, facing the tip.

Step 3: All firefighters: Stand and lift the ladder.

Step 4: All firefighters: Pivot toward the butt. You will carry the ladder when facing the butt of the ladder.

Step 5: All firefighters: Place the beam onto shoulders.



Ladder Carries:

Three-Firefighter: Flat Arms-Length Carry

Step 1: Kneel beside the ladder facing the butt.

Step 2: Grab the ladder with closest hand.

Step 3: All firefighters: Stand and lift the ladder.



Ladder Carries:

Three-Firefighter: Low-Shoulder Carry

Note: Firefighter #1 is located near the butt End, Firefighter #2 located in the center, and Firefighter #3 located at the tip of the ladder.

Step 1: All firefighters: Kneel beside the ladder on the same side, facing the tip.

Step 2: All firefighters: Grab a rung and stand ladder on beam.

Step 3: Firefighter #1: Give the command to, “shoulder the ladder”.

Step 4: All firefighters: Stand while lifting the ladder.



Ladder Carries:

Three-Firefighter: Low-Shoulder Carry (continued)

Step 5: All firefighters: Pivot and place the free arm between two rungs.

You will carry the ladder when facing the butt of the ladder.

Step 6: All firefighters: Place the upper beam on shoulders.



Ladder Carries:

Three-Firefighter: Suitcase Carry

Step 1: Kneel beside the ladder,
facing the Butt.

Step 2: Grab the ladder with closest hand.

Step 3: Lift the ladder

Note: All 3 Firefighters facing
the Butt of the ladder



Ladder Carries:

Four-Firefighter: Flat-Shoulder Carry

Note: The knee closer to the ladder is the one touching the ground.

Step 1: Firefighters #1 and #2: kneel on one side of the ladder, one on either end, facing the tip.

Step 2: Firefighters #3 and #4: kneel on the opposite side of the ladder, one on either end, facing the tip.

Step 3: All firefighters: Stand and lift the ladder.

Step 4: All firefighters: Pivot toward the butt.

Step 5: All Firefighters: Place the beam onto the shoulders.



Ladder Carries:

Four-Firefighter: Low-Shoulder Carry

Step 1: All firefighters: Kneel beside the ladder on the same side, facing the tip.

Step 2: All firefighters: Grab a rung and stand ladder on beam.

Step 3: Firefighter #1: Give the command to “shoulder the ladder”

Step 4: All firefighters: Stand, lifting the ladder.

Step 5: All firefighters: Pivot and place the free arm between two rungs.

Step 6: All Firefighters: Place upper beam on shoulders.



Ladder Carries:

Four-Firefighter: Suitcase Carry

Step 1: Kneel beside the ladder, facing the butt.

Step 2: Grab the ladder with closest hand.

Step 3: Lift the ladder.



Ladder Raises:

There are two ways we can raise a Ladder:

1. Flat Raise – 1, 2, or 3 Firefighters
2. Beam Raise – 2 Firefighters



Flat Raise



Beam Raise

Ladder Raises:

One-Firefighter: Ladder Raise

Step 1: Place the butt end of the ladder on the ground with the butt against the wall of the building. The butt of the ladder can be carried or pushed into this position.

Step 2: Grab rung at tip end.

Note: Fly section should be toward the building.

Make a visual check for overhead obstructions.

Step 3: Lift ladder and advance hand-overhand down the rungs toward the butt end until the ladder is in a vertical position.

Step 4: Foot the butt end of the ladder.

(continue if an extension Ladder)



Ladder Raises:

One-Firefighter: Ladder Raise (Continued)

Step 5: Extend the ladder by pulling the halyard until the ladder has been raised to desired level. Engage the ladder locks. Keep an elbow in contact with one of the beams.

Step 6: Position the ladder for climbing by grabbing rungs two and five.

Step 7: Move the ladder butt out from the building to correct angle of inclination.

Step 8: Secure halyard knot.

Note: The ladder has 3-5 rungs showing over the roof line. If necessary, rotate the ladder to bring the fly section to the out position.



Ladder Raises:

Two-Firefighter: Flat Raise

Note: Firefighter #1 is located near the butt end of the ladder. Firefighter #2 is located near the tip of the ladder.

Step 1: Both Firefighters: Carry the ladder to the location for the raise.

Step 2: Firefighter #1: Place the butt end of the ladder on the ground.

Step 3: Firefighter #2: Rotate the ladder to a position with both beams on the ground.

Step 4: Firefighter #1: Foot the ladder by standing on bottom rung. Kneel down and grab a rung with both hands.

Step 5: Firefighter #1: Lean back.

Note: A visual check is made for overhead obstructions

FF1



Ladder Raises:

Two-Firefighter: Flat Raise (continued)

Step 6: Firefighter #2: Lift ladder and advance hand-over-hand down the rungs toward the butt end until the ladder is in a vertical position.

Step 7: Both Firefighters: Face each other and foot the ladder by placing toes against same beam.

Step 8: Firefighter #1: Extend the ladder by pulling the halyard until the ladder has been raised to desired level and the ladder locks are engaged.

Step 9: Firefighter #2: While still footing the ladder, grasp beams and look at the ladder tip.



Ladder Raises:

Two-Firefighter: Flat Raise (continued)

Note: Firefighter #2: Verbally communicate the distance of the tip from roofline to Firefighter #1.

Step 10: Both Firefighters: Gently lower the ladder onto the building

Note: The ladder has 3-5 rungs showing over the roof line.



Ladder Raises:

Three-Firefighter: Flat Raise

Note: Firefighter #1 is located at the butt end of the ladder. Firefighter #2 and #3 are located at the tip end of the ladder.

Step 1: All Firefighters carry the ladder to the desired location.

Step 2: Firefighter #1: Place the ladder butt end on the ground. Firefighters #2 and #3: Secure the beams with hands and rest the ladder flat on the shoulders.

Step 3: Firefighter #1: Foot the ladder by standing on bottom rung. Kneel down and grab a rung or beams with both hands.

Step 4: Firefighter #1: Lean back.

Note: A visual check is made for overhead obstructions.



Ladder Raises:

Three-Firefighter: Flat Raise (continued)

Step 5: Firefighters #2 and #3: Advance in unison, with outside hands on beams and inside hands on the rungs, until the ladder is in a vertical position.

Note: If necessary, pivot the ladder to position the fly section away from building.

Step 6: All Firefighters: Face each other and foot/heel the ladder by placing toes against same beam.

Step 7: Firefighter #1: Extend the ladder by pulling the halyard until the ladder has been raised to desired level and the ladder locks are engaged.



Ladder Raises:

Two-Firefighter: Beam Raise

Note: Firefighter #1 is located near the butt end of the ladder. Firefighter #2 is located near the tip end of the ladder.

Step 1: Both Firefighters: Carry the ladder to the desired location for the raise.

Step 2: Firefighter #1: Place the beam of the butt end of the ladder on the ground.

Step 3: Firefighter #1: Place the foot closest to the lower beam on the butt to foot the ladder. Grab beam with both hands.

Step 5: Firefighter #1: Lean back.

Note: A visual check is made for overhead obstructions.

Step 6: Firefighter #2: Lift ladder and advance hand-over-hand down the beam.



Ladder Raises:

Two-Firefighter: Beam Raise (continued)

Step 7: Both Firefighters: Face each other and foot the ladder by placing toes against same beam.

Step 8: Firefighter #1: Extend the ladder by pulling the halyard until the ladder has been raised to desired level and the ladder locks are engaged.

Step 9: Firefighter #2: While still footing the ladder, grasp beams and look at the ladder tip.

Note: Firefighter #2: Verbally communicate the distance of the tip to Firefighter #1.

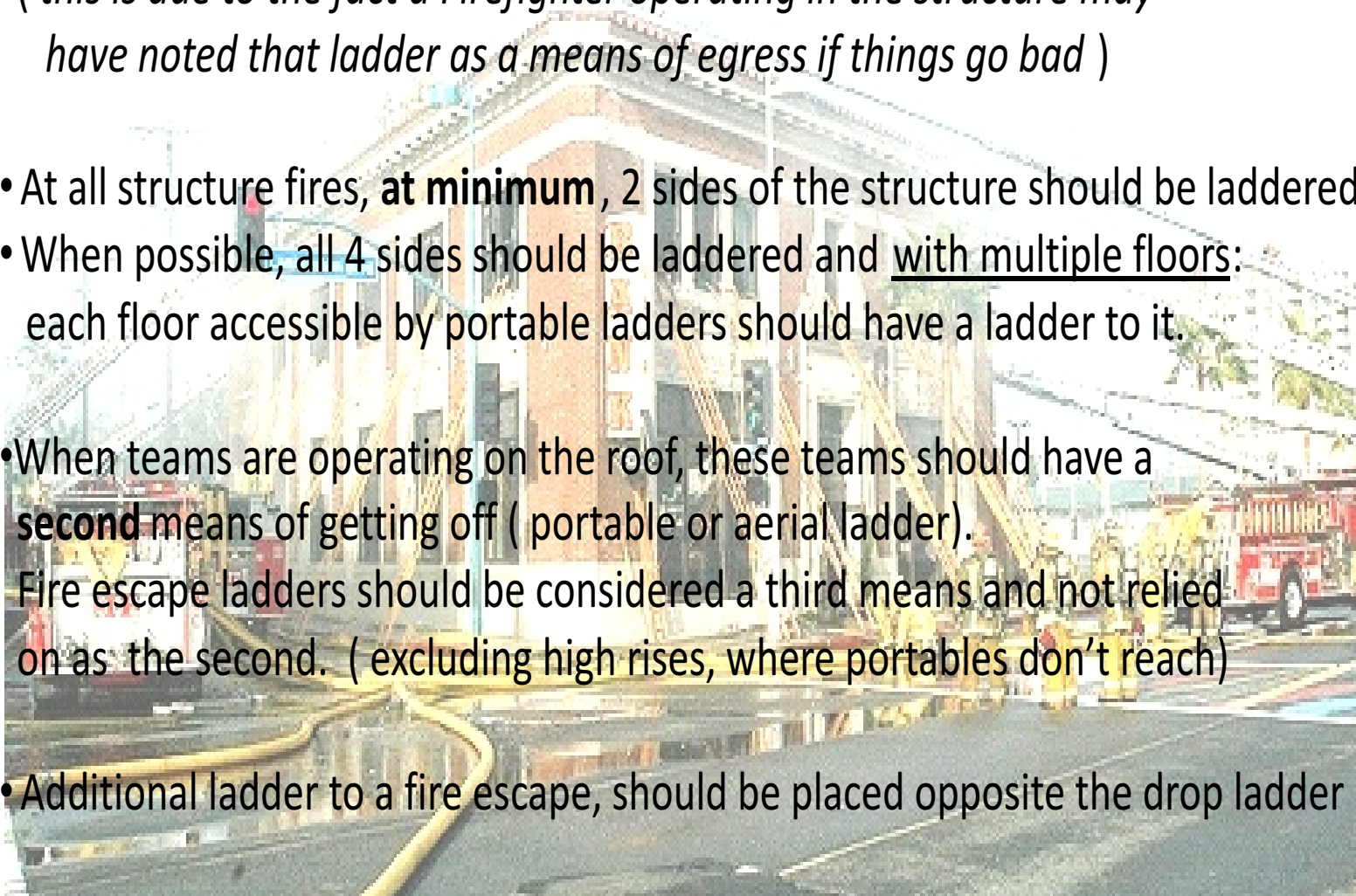
Step 10: Both Firefighters: Gently lower the ladder onto the building

Note: The ladder has 3-5 rungs showing over the roof line. If necessary, turn the ladder to bring the fly section to the out position.



Ladder Positioning:

- Ladders should be placed where best suited for the overall operations, since once a ladder is set, it should remain in place.
(*this is due to the fact a Firefighter operating in the structure may have noted that ladder as a means of egress if things go bad*)
- At all structure fires, **at minimum**, 2 sides of the structure should be laddered.
- When possible, all 4 sides should be laddered and with multiple floors: each floor accessible by portable ladders should have a ladder to it.
- When teams are operating on the roof, these teams should have a **second** means of getting off (portable or aerial ladder).
Fire escape ladders should be considered a third means and not relied on as the second. (excluding high rises, where portables don't reach)
- Additional ladder to a fire escape, should be placed opposite the drop ladder



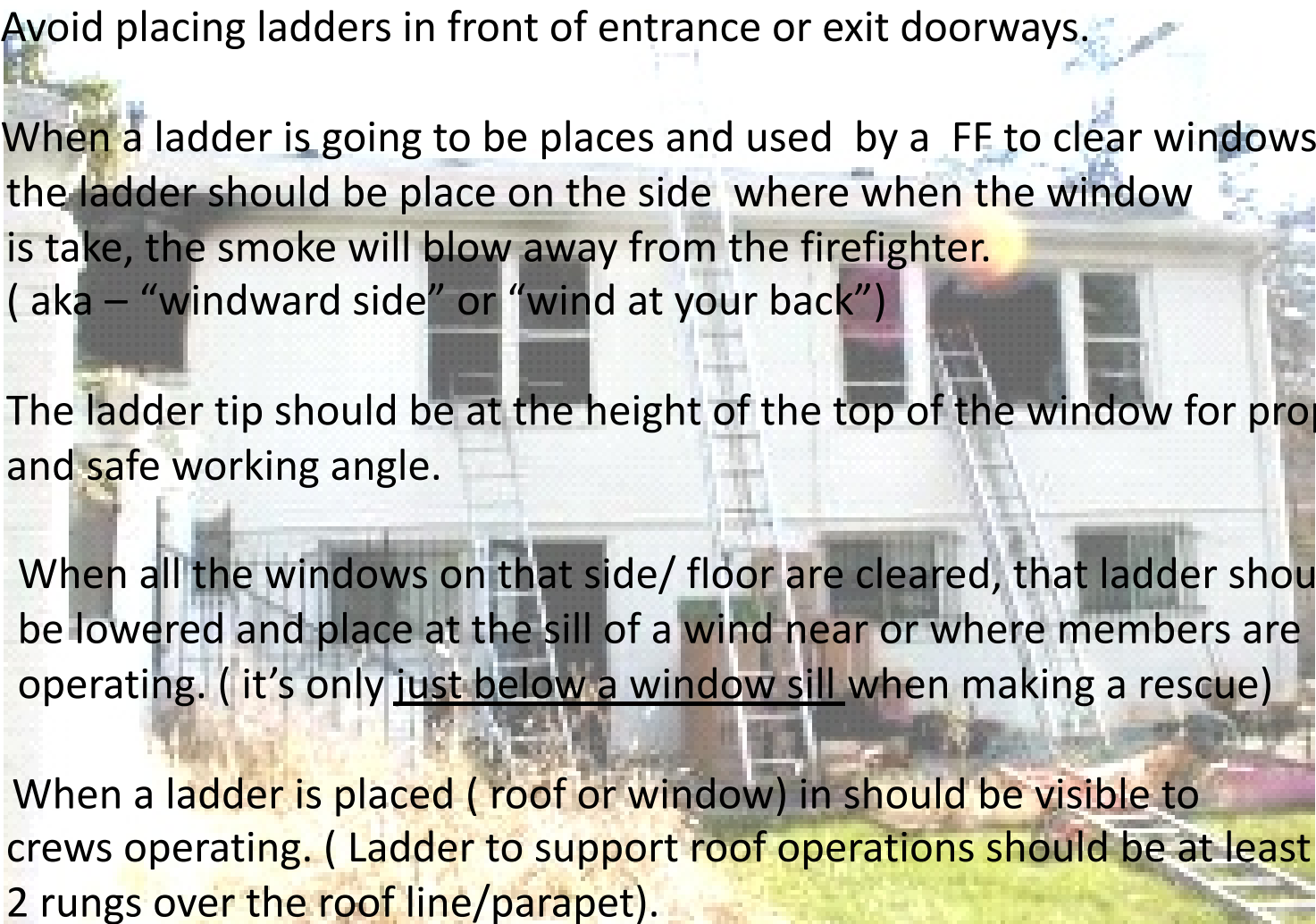
Ladder Positioning:

- Avoid placing ladders in front of entrance or exit doorways.
- When a ladder is going to be placed and used by a FF to clear windows, the ladder should be placed on the side where when the window is taken, the smoke will blow away from the firefighter. (aka – “windward side” or “wind at your back”)

The ladder tip should be at the height of the top of the window for proper and safe working angle.

When all the windows on that side/ floor are cleared, that ladder should be lowered and placed at the sill of a window near or where members are operating. (it's only just below a window sill when making a rescue)

- When a ladder is placed (roof or window) it should be visible to crews operating. (Ladder to support roof operations should be at least 2 rungs over the roof line/parapet).



Ladder Placement Guidelines

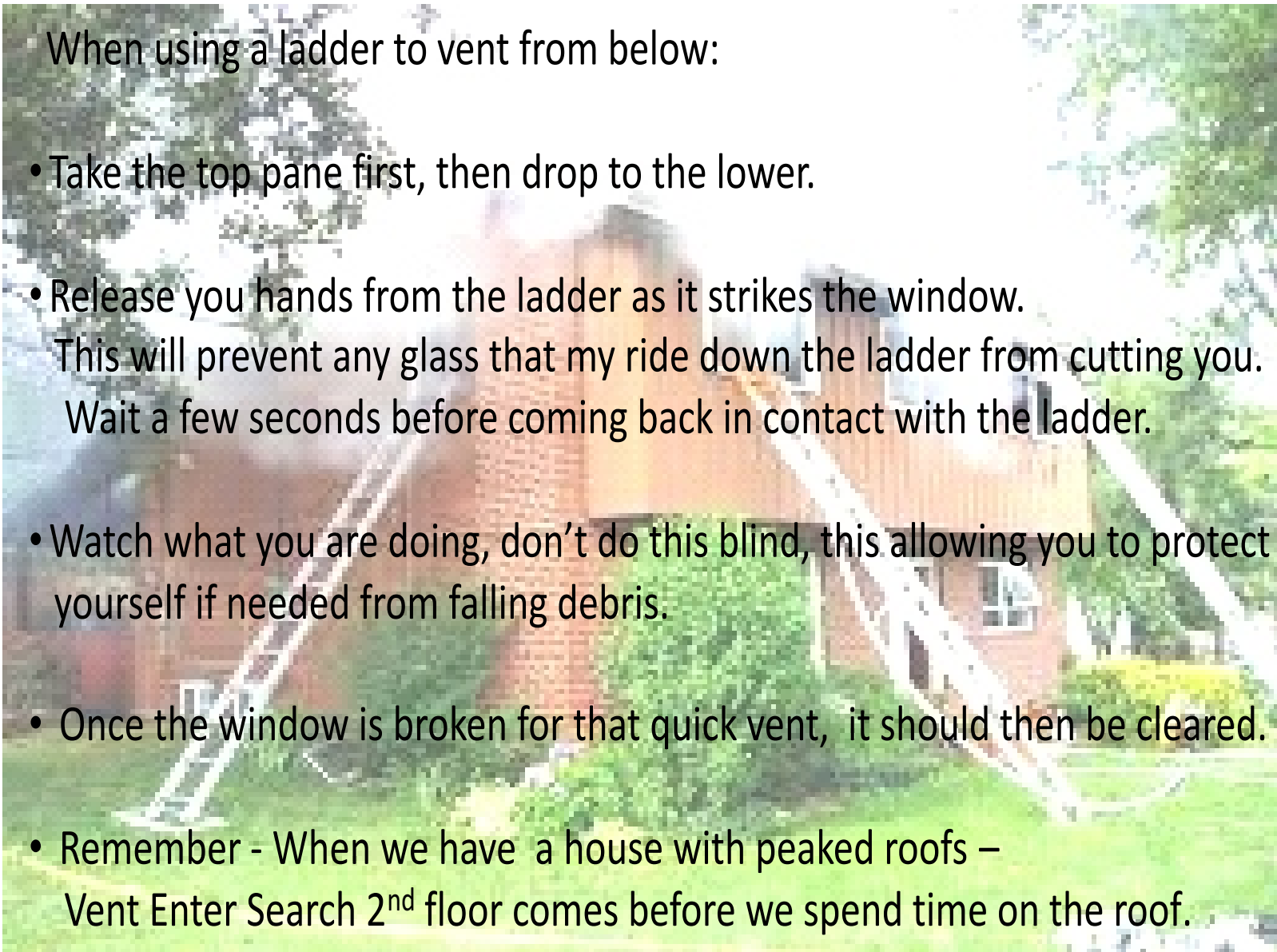
DON'T:

- over openings such as windows and doors .
- where it may contact overhead obstructions .
- on uneven terrain or soft spots .
- on main paths of travel .
- where ladder may contact flames or burning surfaces.
- on top of sidewalk elevator trapdoors or “bilko ” style doors
- against unstable walls or surfaces.

Using a Ladder to Vent Windows:

When using a ladder to vent from below:

- Take the top pane first, then drop to the lower.
- Release your hands from the ladder as it strikes the window. This will prevent any glass that may ride down the ladder from cutting you. Wait a few seconds before coming back in contact with the ladder.
- Watch what you are doing, don't do this blind, this allowing you to protect yourself if needed from falling debris.
- Once the window is broken for that quick vent, it should then be cleared.
- Remember - When we have a house with peaked roofs – Vent Enter Search 2nd floor comes before we spend time on the roof.



Climbing Ladders:

- When climbing a ladder, your eyes should be up, looking where you're going, *not down to where you've been*.
- Your arms should be straight out and in constant contact with the beams of the ladder or the rungs.
- Ascend (up) ladder, creating least possible bounce and sway
- Start climbing only after you've checked the angle and if it's securely footed.
- When carrying equipment, use free hand to maintain constant contact with the ladder. In these cases, it's easier to maintain contact with beam instead of rungs.
- Whenever possible, use utility rope to hoist tools and equipment.
- In wet or ice conditions climb on heels and not toes



Getting a Ladder to the Back Yard:

Sometimes it is very difficult getting a ladder to the rear of a structure, looking beyond the obvious, “outside the box” for a solution:

- Through an adjoining building
- Around the building or block
- Through an rear yard neighbors yard
- Over the building (to the roof then down)

May be some solutions?

Working from a Ladder:

Before working from a ladder, we want to use a ladder lock to secure ourselves. Ladder locks, the locking legs should be opposite the side you're planning to work.



Climb 1 rung over desired height



Place leg, opposite the side you're planning to operate between rungs



Bring that leg around and place heel back on starting rung. With opposite leg, drop down 1 rung



Wrap the locked leg so top of foot is now Under the rung



This lock is adequate when you are performing tasks that don't require reaching past ladder.



When extending Beyond the Ladder: You should now wrap the top of your foot around the ladder's beam, locking it



This lock will further secure you to The ladder.

Working from a Ladder:

(Ladder Lock Continued)

Operating Side

Taking window
TOP
DOWN



Wind direction



Ladder Lock side

Assisting victims down ladder:



The conscious victim, we will assist walking them down the ladder – (feet first, facing ladder)

- Make sure your arms are under theirs, this way you can catch them if they slip
- Walk at their pace, not yours – reassuring their safety all the way. Your voice will divert their attention off the height?



FF arms
Under the Victims

FF Knee
Between victims
Groin

The Unconscious victim, we will rest on our supporting knee, supporting a crotch and the chest we'll support under the victim's arm, with ours.

- These victims should be facing you

Assisting victims down ladder:



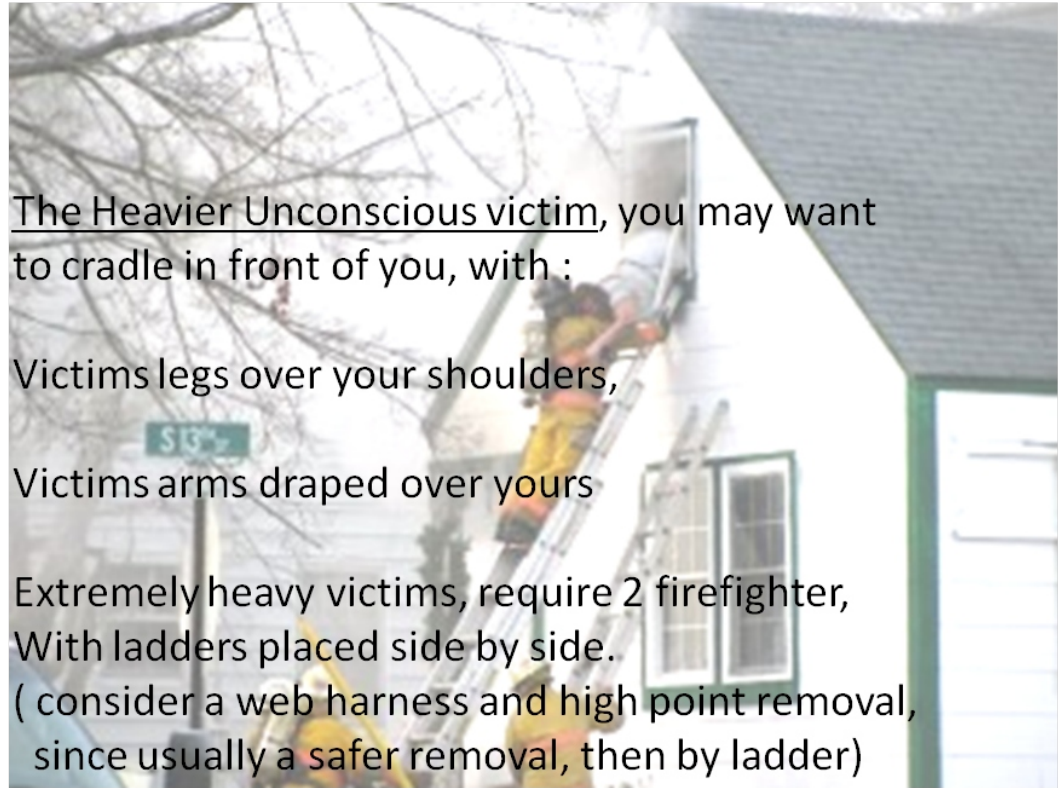
The Heavier Unconscious victim, you may want to cradle in front of you, with :

Victims legs over your shoulders,

Victims arms draped over yours

Extremely heavy victims, require 2 firefighter,
With ladders placed side by side.

(consider a web harness and high point removal,
since usually a safer removal, then by ladder)



Small Children (Conscious or Unconscious),
The best way to remove is to Cradle in (across)
your arms.

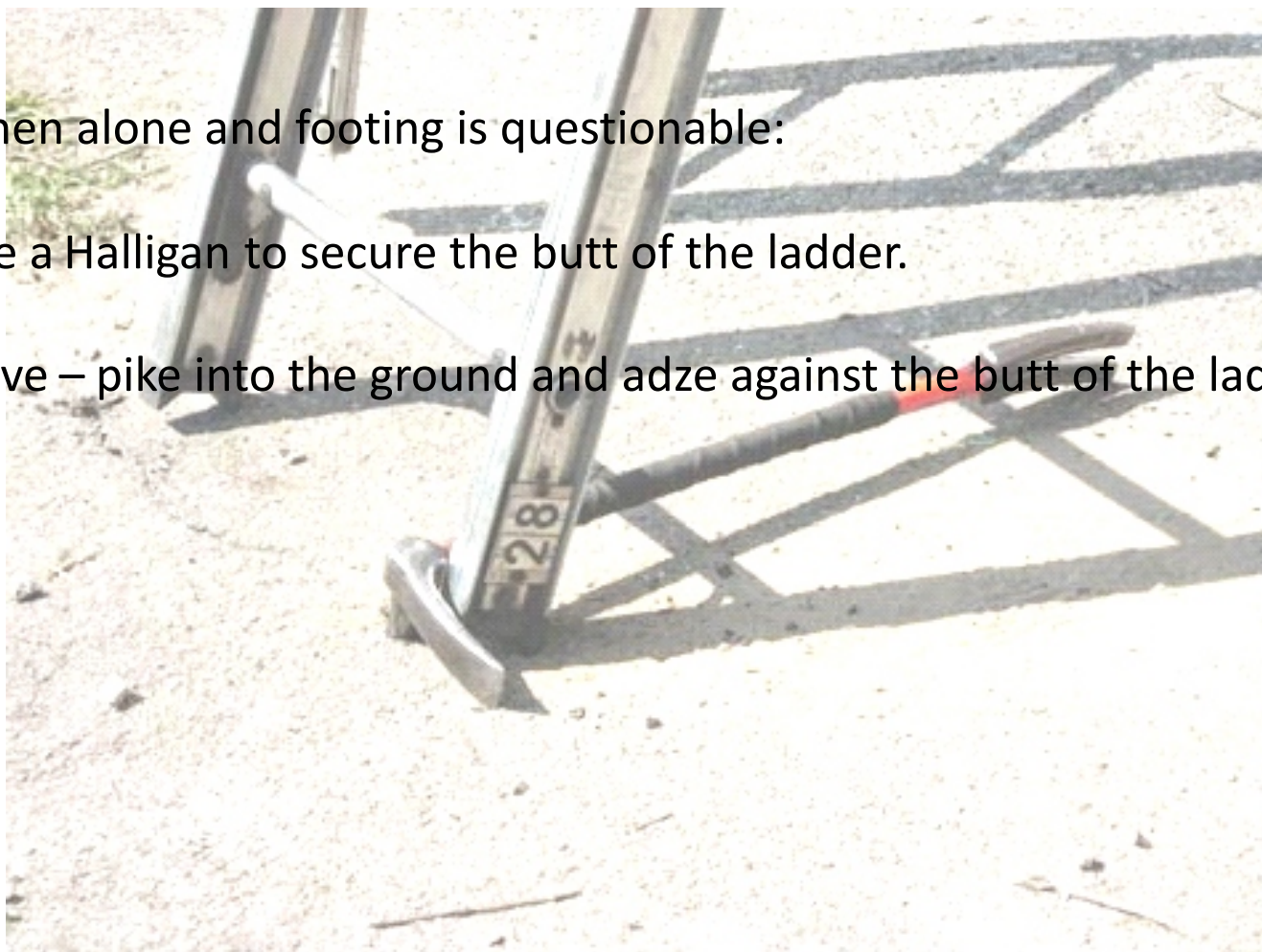
Ladders – Safety Considerations:

- Be cognizant of overhead obstructions, especially wires.
Ladders should be kept at least 10' from wires, just in case they do slide.
- Ladders should not be placed over window or doors
Windows – if fire vents out, may compromise ladder structural integrity
Doors – may be opened violently compromising ladders stability
- Cleared window, should be fully cleared for emergency egress.
run a tool around window opening assuring there is no hazards
- Extra care needs to be used when using ladders in ice and wet weather.

When alone and footing is questionable:

Use a Halligan to secure the butt of the ladder.

Drive – pike into the ground and adze against the butt of the ladder

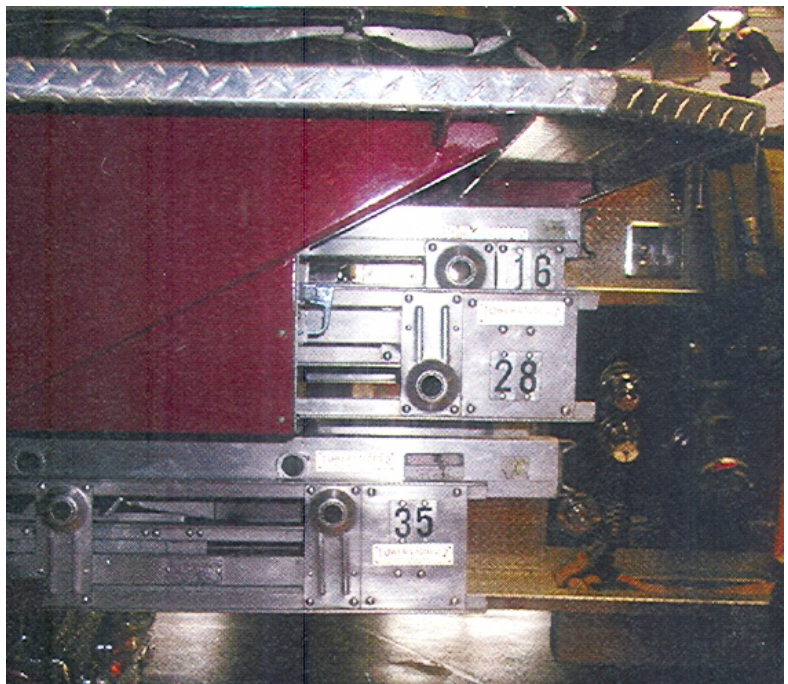


Ladders – Safety Considerations:

- Once a ladder is placed and members enter from that ladder, it should not be moved.

The only time it is acceptable for a ladder be moved, is to effect an emergency rescue utilizing that ladder. Even in these cases the firefighter(s) who set this ladder and used it, should be made aware it is being moved (at least radio transmission).

- Proficiency with ladders is only obtained by routine use, handling through training.
- When Lifting, you should utilize you legs, not your back.
- Sizes of ladders should be clearly marked recognizable when secured on the apparatus.



Ladders – Safety Considerations:

- Heat Sensor Labels.
- These sensors should be placed throughout the ladder. If any of them are black, it means the ladder has had heat impinged on it and may have structural damage.



This ladder needs to be tested to confirm its safety before it is used.

- Ladders cleanliness needs to be maintained after use.

A mild soap and brush can be used, then once cleaned, it should be dried before placed back on apparatus.

- Ladders should be visually inspected before put back into service. The next person is relying on you, that the ladder was put back in service and capable for a rapid deployment.



Hands On Station 1

4x8 sheet of Plywood on wood crates:
Wood Blade - cut 7 , 9 , 8
review inspection cuts
Prying roof - 7 8 9 cut & use slats of crates

Hands On Station 2

Single Firefighter Ladder Carry & Raise
2 Firefighters Ladder Carry & Raise
3 Firefighters Ladder Carry & Raise
4 Firefighters Ladder Carry & Raise
Placing a Roof Ladder from a Ground Ladder

Hands On Station 3

Once Ladder is Raised to Proper Angle:
Carrying Tools up a Ladder
Operating from Ladder with Leg Lock
Positioning a Ladder for Vent vs Rescue
Removing a Victim from Ladder - Un/Conscious

Hands On Station 4

Ladder Inspections
Ladder Stowing in Rig
Picking the correct Ladder for the Job

Hands On Station 5

With Aerial on roof - Climbing Aerial
Inspecting a Roof
Getting on/Off Roof from an Aerial Ladder