



VENTILATION WITH AERIAL LADDER (1.1)

Developed by Engineer Bobby Bartlett
August 2011

- NFPA 1001
- NFPA 1002

TASK SKILL DESCRIPTION AND DETAIL

Using the Aerial ladder to assist with ventilation.

Placement Guidelines

1. Properly position the ladder for its intended use.
 - a. The tip just below the windowsill for rescue operations and ingress/egress.
 - b. The tip adjacent to the top of the window placed on the windward side for horizontal ventilation operations.
2. Avoid placing ladders over windows and doors. This will reduce the possibility of exposing the ladder to heat or direct flame contact as well as keeping the means of egress open.
3. Place the aerial for the best tactical advantage
4. Take advantage of strong points on a building (i.e. corners).

Aerial Ladder Set-Up

1. Stop the truck on as level an area as possible. Take into account: building stability, height, building set-back, collapse possibilities, fire involvement, overhead wires, obstacles, and your mission; for fire calls think possible defensive position and rescue.
2. Set brakes
3. Engage PTO
4. Chock wheels
5. Set outriggers, ground pads and pins, in accordance with department procedures

Aerial Ladder Placement

1. Pick the target for the ladder, plan the path, and consider obstacles.
2. Switch on the fast idle. This will allow you to do multiple functions without losing speed.
3. Elevate the ladder to just above the target angle. Most cases unless obstacles require different approach.
4. Rotate the ladder to target.
5. Extend the ladder to desired length.
6. Lower the ladder to target keeping the ladder 6-8 inches above the building so the ladder will not touch the building when loaded.



Removing Windows for Horizontal Ventilation

1. The firefighter must be secured to the ladder using a ladder belt.
2. Make sure that there is no one below the ladder that would be hit by falling glass.
3. Use a pike pole, trash hook, or similar tool to break out window making sure to clear all components of the window (see Figure 1).
4. Contact incident command or support group supervisor and advise horizontal ventilation is in place.

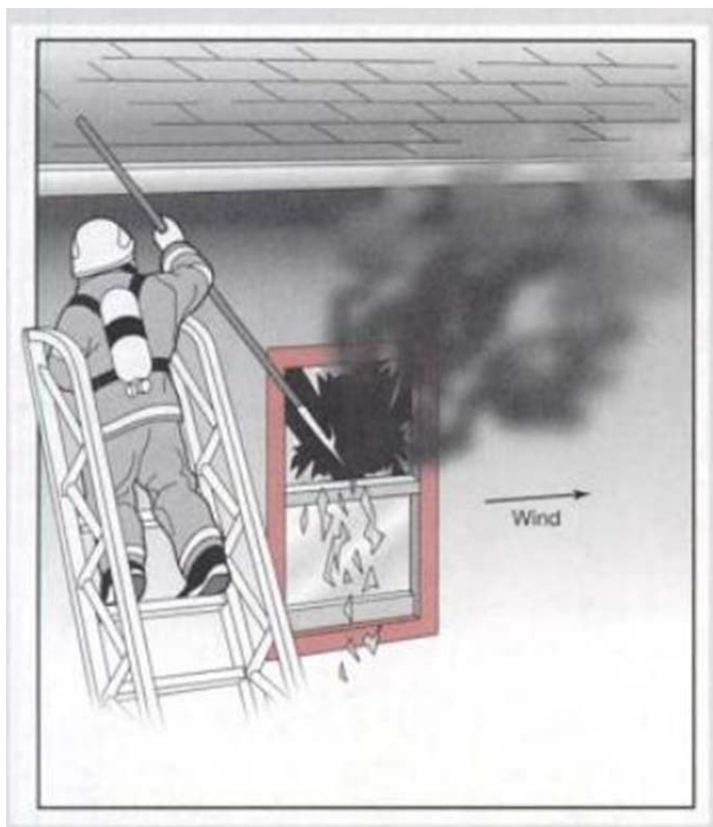




Figure 1

Horizontal Ventilation using the Aerial

1. Position the ladder truck as close to in-line with the window or windows that are going to be used for ventilation (see Figure 2).



Figure 2

2. Once the ladder truck is set-up in accordance with department policies, rotate the turntable and place the aerial in-line with the window.



3. Position the top of the aerial ladder 6-8 inches below the top of the “window” (see Figure 3).



Figure 3



4. Extend the aerial ladder into and just past the window (see Figure 4).

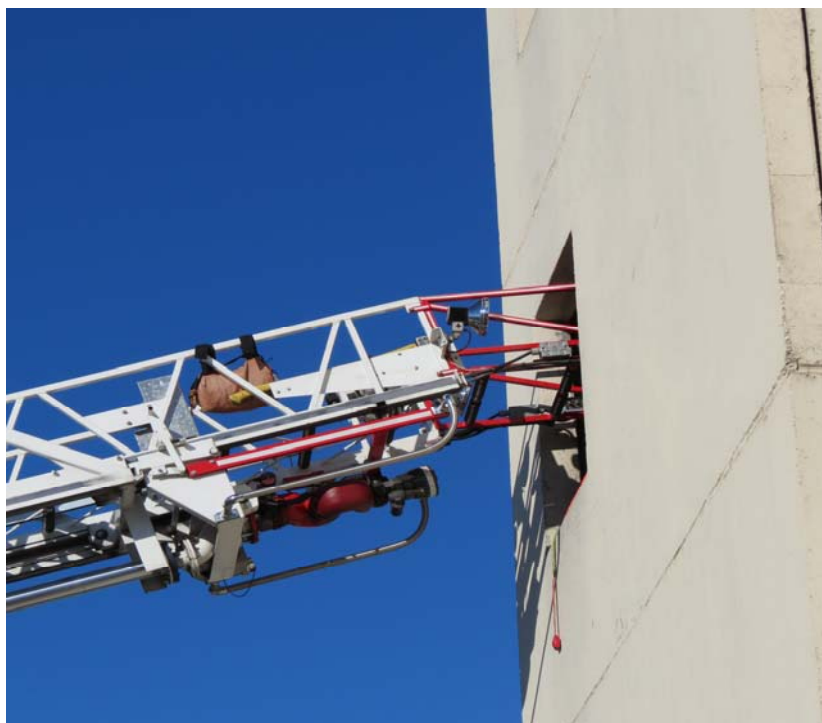


Figure 4



5. With the aerial ladder still inside window frame lower the aerial ladder until you are 6-8 inches above the window sill. (this will help clear out any debris not removed when the aerial was extended into the “window” (see Figure 5).



Figure 5

6. Retract the aerial ladder from the window and contact either the Incident Command or the Support Group supervisor and advise horizontal ventilation in place.

Vertical Ventilation

1. Position the ladder truck in such a manner that the operator is able to place the tip of the ladder close to where the crew is making the cut or to the peak of the roof. If you place the Truck too close to the building you may only be able to hit the eave.
2. Once the aerial ladder is positioned the Officer is the first one to the roof to check for roof stability and ventilation “needs”.
3. When the placement of the vent hole is determined it is the officer’s discretion if he/she is going to place the roof ladder.
4. Using the methods described in the Training Manual Page Ventilation 1.1 proceed to cut the type of ventilation hole determined by the company officer.
5. When the ventilation hole is completed contact incident command or support group supervisor and advise ventilation is in place, whether or not you have good smoke production and if you are going to make another hole or make your way off the roof.



6. Once the initial ventilation hole has been placed conditions may dictate the need for an additional heat hole or the completion of a trench or strip cut. If this occurs the D/O at the turntable must re-position the ladder to a safer location for the crews working on the roof.

Vertical Ventilation While on the Aerial Ladder

1. Reference the ventilation chapter for additional details on vertical ventilation operations.
2. Position the ladder as close to ridge pole as possible (see Figure 6). Check stability of roof with long handle tool.



Figure 6

3. The “Firefighter” must secure themselves to the ladder using a ladder belt.
4. The “Officer” secures themselves to the ladder at a place where they can take a firm hold on the person making the cut.
5. Make the 1st cut parallel to ridge pole and follow as shown in Figure 7 (the hole should be a minimum of 16 square “feet”).

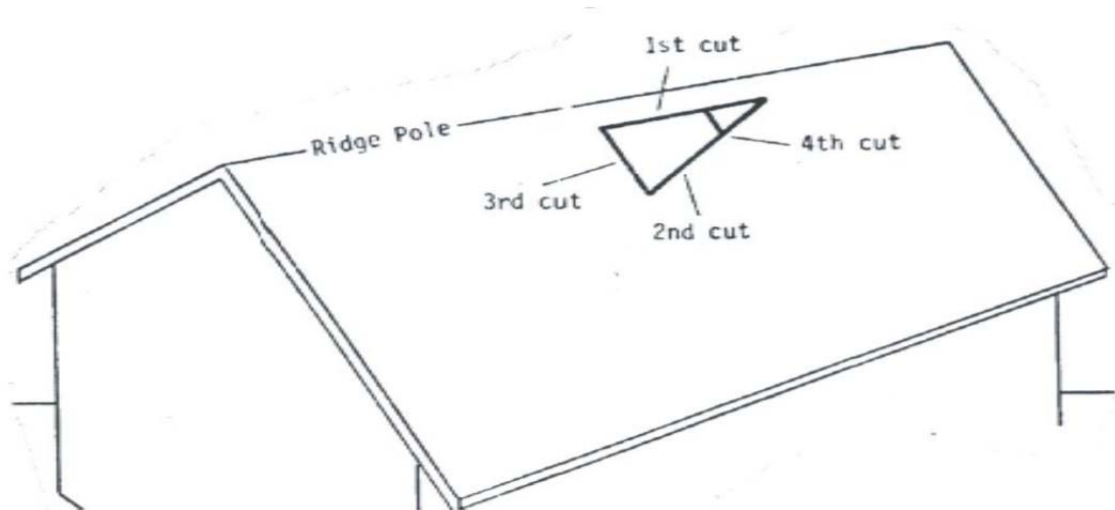


Figure 7





6. Open up the roof using long handled tool.

TASK SKILL INSTRUCTIONAL REQUIREMENTS AND IMPLEMENTATION

- Ventilation procedures are performed in high hazards environments that require full structural PPE at all times including SCBA. During training hearing protection should be considered while working with power saws.
- <V:\Fire\Fire Training Division\LFR Training Materials\Firefighter Training\Truck Company Training\Training Videos>

REFERENCE INFORMATION

This heading includes information about the following:

- 5th Edition Essentials of Fire Fighting and Fire Department Operations. IFSTA/Bradey Copyright 2008 Authorship reference for this section
- Truck Company Operations. John Mittendorf/Fire Engineering Copyright 1998
- FDNY Ladder company operations and standard deployment guidelines
- <V:\Fire\Training Division\LFR Training Materials\Firefighter Training\Truck Company Training>
- <V:\Fire\Training Division\LFR Training Materials\LFR Training Manual\Training Manual Finalized Documents>