

STANISLAUS CONSOLIDATED FIRE PROTECTION DISTRICT
POLICIES & PROCEDURES

ARTICLE: C-13
SECTION: Operations Division
DATE: 10/15/96
SUPERSEDES:
TITLE: **VERTICAL VENTILATION FOR INITIAL OFFENSIVE ATTACK**

Rapid and effective ventilation is critical to the survival of both firefighting personnel and any exposed occupants of an involved structure. It is **STANDARD OPERATING PROCEDURE** that effective ventilation be established in all offensive structural firefighting operations ahead of deployment of resources inside the involved structure.

COMMON TERMINOLOGY

Vertical Ventilation: Establishment of a vertical ventilation flow through the roof of a structure using natural openings and/or openings created through roof cutting operations.

Pitched Roof: Any roof that requires the use of a roof ladder to provide secure footing (regardless of pitch.)

Positive Pressure Ventilation: Assistance of natural ventilation flow through the development of a positive pressure within a building using a blower to introduce fresh air at the point of entry.

Ventilation tools: Standard vertical ventilation tools include a power saw carried by the firefighter assigned to the saw position, a pickax, a rubbish hook or pike pole, and a rope bag carried by the firefighter assigned to the tools position.

Vertical Ventilation Cues

If any of the following cues are present upon arrival at the scene, vertical ventilation shall be established prior to the initiation of interior operations:

- High velocity of smoke discharge
- Fire in the attic or top floor of the structure
- Fire in a multi-story structure with the probability of vertical extension

Positive Pressure Ventilation Cues

Positive pressure horizontal ventilation is the fail-safe option in primary search and fire attack tactics.

The following cues indicate that positive pressure ventilation will be most effective:

- Approximate fire location is known
- Exhaust openings can be controlled
- Exhaust opening will not exceed 1-3/4 times the area of the air inlet(s)

Positive pressure may also be used to assist vertical ventilation operations particularly if multiple air inlets are used. **Pitched Roof Operations**

A roof ladder should be used on all operations with a pitched roof. The only purpose for the ladder is to provide secure footing. If the ladder is necessary to prevent structural failure, it's not safe for offensive operations. Pitched roof vents shall be a minimum of 24 square feet (3' x 8').

Flat Roof Operations:

- All movement on flat roofs shall be along the strongest points of the roof (over walls, peaks, valleys etc.)
- Vertical ventilation through flat roofs shall be a minimum of 48 square feet (6' x 8').
- When travel distance from the point of access to the ventilation location exceeds 30', a second means of egress (ladder) shall be provided.

General considerations:

- Hose lines shall be in place prior to the completion of ventilation operations in offensive structural firefighting operations.
- Effective ventilation shall be established in all offensive structural firefighting operations prior to the deployment of resources inside an involved structure.
- A standard tactical crew shall perform vertical ventilation, with firefighters assigned to the tools and saw positions.
- The roof must be sounded continuously in the direction of travel and over the area the crew may or will work.
- The crew leader must continually assess the situation to determine if it is safe to continue roof operations.
- A vertical vent should be established in a safe area between the fire and the unburned areas and not directly over the fire, due to the fact that lightweight construction may collapse without audible or visual warning.
- Continue ventilation through the completion of all post fire control operations including fire investigation. Use positive pressure to maintain an effective ventilation flow.

END

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