

## **Truck Operations Drill Summary 2021-1**

In March, the truck companies from Shoreline, Bothell and Woodinville traveled to an acquired structure donated by the City of Shoreline to practice vertically ventilating the top floor center hallway of a simulated multi-family residential building.

**Fundamental:** Center Hallway Multi-Family Vertical Ventilation Pages 10-25, 10-32, 10-35, 10-36, 10-39

**Tactical Guidelines:** Center Hallway Apartment Fire Page 38

**Task:** The Center Hallway Cut

**Location:** 1306 N 175<sup>th</sup> St

**Dates:** 3/14, 3/27, 3/28, 3/31 0900-1200

**Instructor:** Captain Bruce Rice, L161A

Bruce has been with the Shoreline Fire Department for 30 years and assigned to T61/L61/L161 for 27 years as both a driver and officer.

### **Additional Objectives/Lessons:**

1. Aerial Positioning- Aerial Operators were forced to short-jack due to access issues
2. Climbing the Aerial Device – Crews accessed the roof using Aerial Device
3. Radio Communications – Officers communicated with their crews over the radio at the beginning of the drill.

**Takeaway for crews:** Ventilating hallways makes conditions more tenable for building occupants and makes entry safer and more efficient for interior crews. Using visual cues during a building size up can help truck companies identify hallway locations from the exterior.

## **Truck Operations Drill Summary 2021-2**

In April, the truck companies from Shoreline, Bothell and Woodinville and Engine 151/Aid 151 traveled to an acquired structure donated by the Arcadia Homes to practice primary search in a single family single story home.

**Fundamental:** Search and Rescue Section 7

**Tactical Guidelines:** Search and Rescue pages 6, 12, 13, 19, 25, 35-37, 54-55

**Task:** Primary Search

**Location:** 2308 N 179<sup>th</sup> St

**Dates:** 4/14, 4/21, 4/25, 4/28 0900-1400

**Instructor:** Lieutenant Jeremy Jamerson, E151 D

Jeremy has been with the Northshore Fire Department for 15 years and assigned to E157 and E151. He is a technical rescue team member and will be an academy instructor for NKCTC this fall.

### **Additional Objectives/Lessons:**

1. Positive Pressure Ventilation
2. Forcible Entry-removing bedroom door from frame
3. Radio Communications – Crews communicated with an incident commander as part of an initial assignment

**Takeaway for crews:** On average crews took about seven minutes from the time of arrival to patient removal from the building. The fastest crew removed the victim at 3:20. We observed that almost 40% of the crews supported their searches with ventilation and that on average ventilation supported searches were 20% faster than unventilated searches. USFA Civilian Fire Fatality Data tell us that over half our fire victims will be found in bedrooms so following paths of egress to those bedrooms will improve our chances of finding patients when their location is not otherwise known.

## **Truck Operations Drill Summary 2021-3**

In May, the truck companies from Woodinville and Bothell as well as E151 and E157 traveled to The Postmark Apartments in Shoreline to practice ventilating a simulated fire unit and the center hallway in a multi-family residential building by using portable fans and the building stairwell pressurization system. This drill complemented the March drill which focused on vertically ventilating a top floor fire in a center hallway multi-family building.

**Fundamental:** Center Hallway Multi-Family Positive Pressure Ventilation Pages 10-25, 10-32, 10-35, 10-36, 10-39

**Tactical Guidelines:** Center Hallway Apartment Fire Page 38

**Task:** Positive Pressure Ventilation Center Hallway Multi-family.

**Location:** 17233 15<sup>th</sup> Ave NE Shoreline, WA 98155

**Dates:** 5/18 to 5/21 0900-1200

**Instructor:** TO Andres Orams, SHFD Deputy Fire Marshalls Ryan Burgess and Todd Johnston

Special thank you to Shoreline Fire Prevention for the all of the help planning and executing this drill.

### **Additional Objectives/Lessons:**

1. Operating the stairwell pressurization system from the control panel
2. Operating fire alarm system
3. Portable fan placement
4. Sprinkler section valve control

**Takeaway for crews:** Ventilating hallways makes conditions more tenable for building occupants and makes entry safer and more efficient for interior crews. In buildings with built-in stairwell pressurization systems, ventilation can be initiated by simply chocking doors open in your preferred flow path as long as you have an exit opening made. We can replicate this in buildings without systems, by setting up portable fans on the ground floor stairwell entryways. Additional reading about ventilating tall buildings can be found here: [Evaluating Positive Pressure Ventilation In Large Structures: High-Rise Pressure Experiments\(NISTIR 7412\) | NIST](#)

## **Truck Operations Drill Summary 2021-4**

In June, Company Officers from Shoreline, Woodinville, Bothell and Northshore traveled to the Sky Valley Training Center to train on ventilation strategy and techniques for single and multi-family residential fires. The focus was using ventilation as a way to mitigate the hazards that contribute to civilian fire fatalities. The Training Division witnessed a tremendous amount of collaboration and relationship building across the officers which is in line with NKCTCs goal of improving interoperability across the four agencies.

**Dates: June 10 and 11, 2021**

**Location: Sky Valley Training Center**

### **Topics:**

4. Flow Path and Exhaust Openings
5. Positive Pressure Ventilation and Positive Pressure Attack
6. Battery Operated and Gas Operated Fans
7. Multiple Agency Roof Operations and Communications
8. Ventilating Basements
9. Effect of Quick Hits on Flow Path

### **Takeaways for crews:**

1. Identifying the flow path, in particular the relationship of the entryway, fire location, interior arrangement and exit opening, and coordinating with the fire attack crew should be part of the Truck's continual size up and initial actions.
2. Ventilation operations require constant evaluation and adjustment while ongoing. Trucks should be ready to adapt to conditions as they evolve. Ventilation is not a "set it and forget it" operation.
3. Experiments conducted by the Company Officers at this training suggest that exit openings that are as large as or slightly larger than the entryway to the fire room allow for quicker less turbulent ventilation. This is supported by the laboratory experiments conducted by UL/NIST in recent years.
4. Adjusting fan speed can be a way to reduce turbulence when the exit opening is not large enough, but Trucks should consider ways to make exit opening larger by cutting down windows or opening additional exits in the fire room.
5. Gas fans and Battery operated fans have different strengths and weaknesses. Having an intimate understanding of how each fan operates and what their effect will be is critical to establishing a good ventilation plan.

## **Truck Operations Drill Summary 2021-5**

In October, Capstone Properties generously donated two multifamily structures at the Husky Village Student Housing Development adjacent to Station 42. Crews were able to practice VES and forcible entry in furnished apartment units and vertical ventilation techniques for large pitched roofs.

**Fundamentals:** Search, VEIS and Victim Ladder Removal 7-7 to 7-9, 7-12 to 7-15  
Multi-family Pitched Roof Ventilation 10-12, 10-25, 10-34

**Tactical Guidelines:** Duties of Ladder Companies Pages 12, 38

**Location:** 18612 Beardslee Blvd, Bothell, WA 98011

**Instructors:** Lt. Joel Secan and Capt. Bruce Rice

### **Additional Objectives/Lessons**

1. Building construction discussion
2. Review of attic fire tactics
3. Spotting the aerial for roof access
4. Bringing a patient down a ladder

### **Takeaway for Crews:**

1. VES with ground ladders can be an efficient and safe way to search for and rescue trapped occupants when traditional access paths are blocked by smoke or fire. In this style of apartment building, there is only one egress stairwell. Fires on lower floors will block egress for occupants on upper floors. Crews should consider VES for occupants on upper floors.
2. When vertically ventilating large pitched roofs, make sure you have long enough hooks to punch the ceiling below. Otherwise, the attack crew will have to pull ceiling to effect ventilation. The result is delayed relief for interior occupants and crews and additional effort for attack crews.
3. Understanding building construction and unit layout is key for fast and efficient ventilation and searches