Golden Valley Fire District

Daily Quick Drills

Volume 3, Numbers 1-10

The daily quick drill is designed to assist the company officer in delivery of a quick review of a department policy or procedure. Reviews of basic firefighting, ems and special response situations should be referenced to appropriate SOG's.

Golden Valley Fire District
Daily Quick Drills

Volume 3, Number 1

Anaphylactic Shock

PATHOPHYSIOLOGY OF ANAPHYLAXIS

ANAPHYLAXIS: An acute, generalized, and violent antigen-antibody reaction that may be rapidly fatal. The emergent situation develops in seconds to minutes after ingestion, injection, inhalation, or absorption of an antigenic substance.

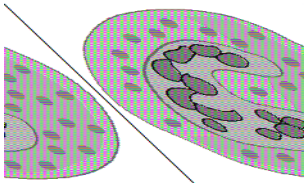
- **ANTIGEN**: Substance capable of inducing an immune response. Antigens(Ag) are proteins and can include animal venom, drug molecules, foods, environmental exposures, etc.
- **ANTIBODY**: Proteins, produced by plasma cells, released in response to an antigen. Antibodies (Ab) bind to antigens to facilitate their removal by scavenger cells.

ANTIGEN-ANTIBODY COMPLEX

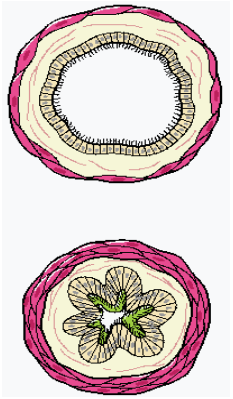
Antibodies find the offending Ag and combine with it. The immune system has 'memory' and becomes sensitized to the Ag. When the Ag is introduced again into the body, an allergic reaction happens. These are usually not life threatening. **Anaphylaxis** is the most severe form of allergic reaction and is an immediate threat to life.

5 CLASSES OF ANTIBODIES

1. IgM: Ab which responds immediately
2. IgG: Ab that "has Memory" and recognizes repeat infection by same antigen
3. IgA: Ab present in mucous membranes
4. **IgE:** Ab responsible for allergic and anaphylactic responses.
5. IgD: Ab present in the lowest amount



MAST CELL binds IgE Ab/Ag complex. Histamine is then Released into system



BRONCHOCONSTRICTION
Decreases intake of the antigen Through the respiratory system

ANAPHYLACTIC REACTION:

1. IgE antibody/antigen complex attaches to Mast cells and Basophils which release several substances. Most importantly they release **Histamine** into the blood stream.
2. After Histamine is released, it finds histamine receptors on which to bind.
   - **H1 receptors**: found in the **lungs** and **peripheral blood vessels**. H1 activation causes bronchoconstriction and peripheral vasodilation, also causes peripheral capillaries to become leaky
   - **H2 receptors**: are found in the **stomach**. H2 activation causes increased gastric secretion and speeds transport of material through GI tract.
3. All of these responses aid the immune system in getting rid of the antigen and preventing entry of more antigen into the body
4. The body does not know exactly where the antigen entered the body, so all systems are activated to excrete Ag and prevent reentry of more Ag. This, along with previous IgE sensitization to the Ag, is why Anaphylaxis is a systemic, not a localized allergic reaction.

Golden Valley Fire District
Daily Quick Drills

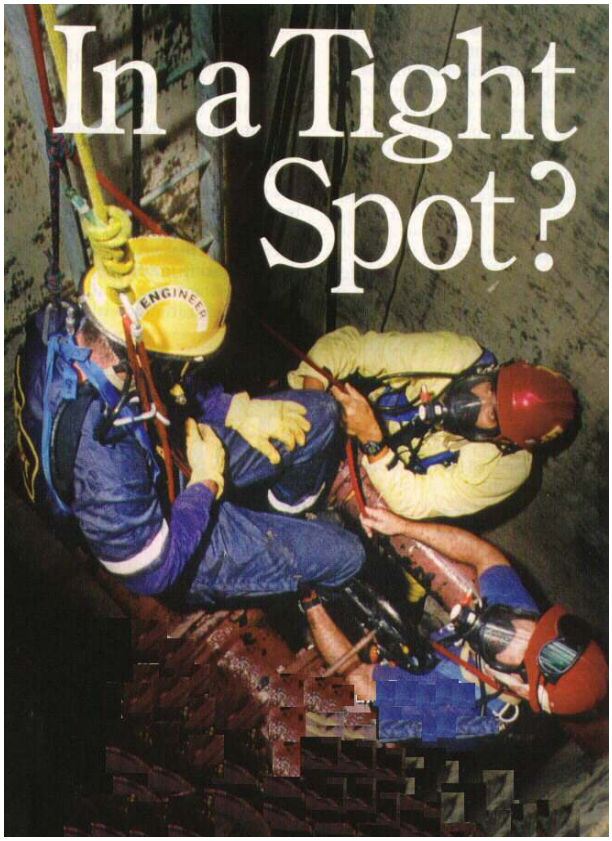
Volume 3 Number 2

Confined Spaces

Confined Space Rescue

Confined Space Awareness

Companies should be aware and prepared in their role as *"First Units In"* involving Trench and Confined Spaces



What are some examples of Confined Spaces as listed in dept. SOG's.

What is our response to reported confined space or trench rescue situations?

What are the Awareness Level responsibilities of the first arriving companies? (See Confine Space/Trench Awareness Manual)

Golden Valley Fire District

Daily Quick Drills

Volume 3, Number 3

Electrical Emergencies

Refer To:

Essentials of Firefighting (4th)
Pages 210 & 211

Review Guidelines for Electrical Emergencies

Review Department SOG on Downed Wires or
Review Uni–Source Procedures

What is the recommended danger zone when encountering downed wires from a utility pole?

Golden Valley Fire District
Daily Quick Drills

Volume 3, Number 4

Fire Cause Determination

Fire Investigations

Firest-Due Company Responsibility

Please read:
On Arrival and During Firefighting sections of IFSTA Essentials (4th,Ch 17.)

Identify the role of the firefighter in determining cause and origin of a fire. (According to department SOG)

Identify Enroute or vicinity observations that should be made.

Identify at least 3 on arrival observations that the company should make.

Identify at least 3 during firefighting observations that should be made.

Golden Valley Fire District
Daily Quick Drills

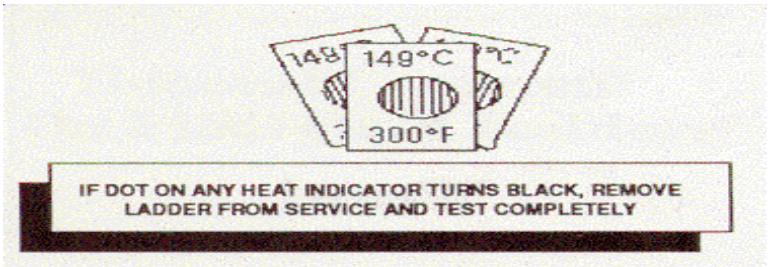
Volume 3, Number 5

Ground Ladder Basics

Ground Ladders

Aluminum, as it is found in fire department ground ladders today, is a heat-treated alloy. This treatment is done to give greater strength for the relative weight of the section. Heat-treating strength, however, can be reversed by exposure to elevated temperatures. Exposure to heat of approximately two hundred degrees (200 ^{0} F) can begin irreparable changes. These changes can lead to a loss of structural integrity. The higher the temperature, the less time of exposure is required to make this change.

How can you tell if a ladder has been exposed to heat?



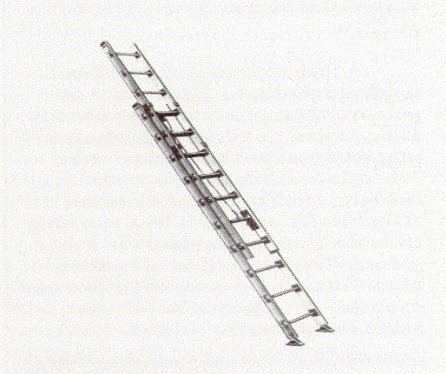
Aluminum ladders can become extremely cold in frigid conditions, causing a bare hand to adhere to the surface. However, this is usually not a problem in the fire service, since virtually all firemen are wearing gloves.

How many rungs should normally be extended above the roof leve?

Where must a ladder tip be positioned for a window rescue operation?

What size ladder will be needed to reach a 2nd story roof? How is this calculated?

See IFSTA Essentials Chapter 9 (4rd edition)



Golden Valley Fire District
Daily Quick Drills

Volume 3, Number 6

High Rise Operations

High Rise

Review SOG's on High Rise Operations.

Identify which buildings in the area are classified as high rises.

What is the typical discharge pressure used to supply standpipes?

List the contents of the hotel (high rise) packs.

What are the recognized procedures in regards to elevator use?

When feasible, what should be done with the buildings air handling system?

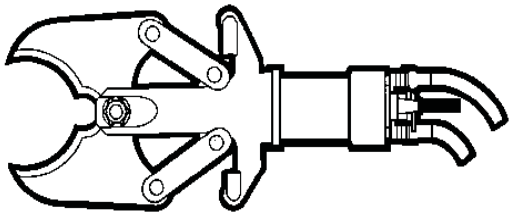
Golden Valley Fire District
Daily Quick Drills

Volume 3, Number 7

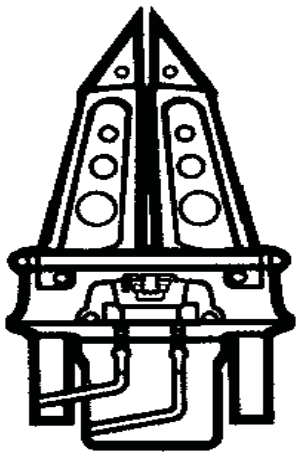
Hydraulic Rescue Tools

Hydraulic Tools

Review all set-up and return to service operations with the complete hydraulic rescue system.



Companies that are equipped with hydraulic tools must make arrangements to complete care and maintenance of these tools.



What are the general safety concerns when using this equipment?

Review department **SOG's**

Golden Valley Fire District
Daily Quick Drills

Volume 3, Number 8

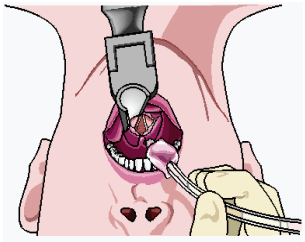
Managing Allergic Reactions

MANAGING ALLERGIC REACTIONS

AIRWAY MANAGEMENT: First and most important component in management of allergic rxns.

1. **Supplemental Oxygen** administered in high concentration (15L/Non-Rebreather Mask)
2. **Ventilations** should be initiated with a Bag-Valve-Mask if necessary.

- Review all airway adjuncts that could be utilized in these cases

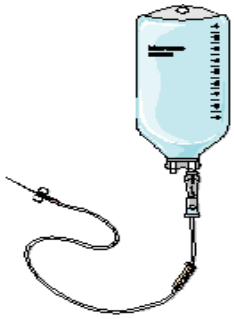


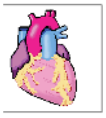
EPINEPHRINE 1:1000
Class: Sympathomimetic
Actions: Bronchodilation
Pos. Chronotrope
Pos. Inotrope
Dosage: 0.3-0.5 mg
Route: Subcutaneously
Peds Dosage: 0.01 mg/kg

ALLERGIC REACTION (localized signs)— adult

BENADRYL If history of systemic reaction or airway compromise
EPINEPHRINE 1:1000
may repeat x 1 after 15 minutes if
minimal response.

DO NOT DELAY TRANSPORT WAITING FOR A RESPONSE





ANAPHYLAXIS (multisystem rxn with altered LOC or hypoperfusion)
If signs of hypoperfusion, **IV FLUID CHALLENGES IN 200 CC INCREMENTS**
EPINEPHRINE 1:10,000 0.5 mg
EPINEPHRINE 1:1,000
DO NOT DELAY TRANSPORT WAITING FOR A RESPONSE BENADRYL 50 mg slow

DIPHENHYDRAMINE (BENADRYL)
Class: Antihistamine
Actions: Blocks histamine receptors. Has some sedative effects
Dosage: 50mg
Route: Slow IV push
Deep IM

Golden Valley Fire District
Daily Quick Drills

Volume 3, Number 9

Unprotected Steel Buildings

Just a few things to remember about unprotected steel.....

Definition: **"Unprotected" steel construction means the steel is not encased in any protective masonry, perlite or vermiculite covering, which ordinarily would insulate the steel from heat for 30 minutes to four hours or longer. Therefore, "unprotected" steel structural units may fail rapidly during fires.**

Examples of Fire Resistance of Steel Elements

Hollow steel column; 6-inch i.d. will fail in	**20 minutes**
Hollow steel column filled with concrete 6" i.d.	**25 minutes**
Hollow steel column with 2 inches concrete around outside – 6 inch i.d.	**120 minutes**
Unprotective coatings absent from all steel elements	**Less than 30 min.**

Unprotected Steel Structural Elements and Heat

FIRES IN BUILDINGS OF CLASS A FUELS

5 minutes	**1000^{0}F at the ceiling**
10 minutes	**1300^{0}F at the ceiling**
15 minutes	**1425^{0}F at the ceiling**
30 minutes	**1550^{0}F at the ceiling**
60 minutes	**1600^{0}F at the ceiling**

Structural steel can receive enough heat within 5 to 15 minutes to begin expanding or elongating.

Expansion of structural steel occurs through 1100^{0}F to the point of total loss of strength.

800^{0}F	**Structural steel loses 65% of its strength**
1100^{0}F	**Structural steel loses 100% of its strength**

Golden Valley Fire District
Daily Quick Drills

Volume 3, Number 10

Using Ground Ladders

Refer To ISFSI

Ground Ladder Use

Some firefighters find that there is less "bounce" to the climb if the foot and hand on the same side are raised together.

QUESTIONS:

Where should your eyes be focused while climbing?
What is the proper spacing between firefighters?
Can you identify and demonstrate ways of tying off a ladder?
—To a roof or the side of a building?
Identify a safety precaution that MUST be followed prior to throwing a ladder.

Golden ValleyFire District
Daily Quick Drills

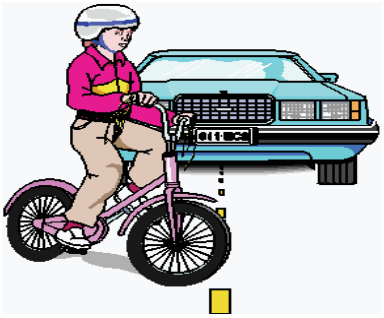
Volume 3, Number 11

Helmet Removal in Trauma

Helmet Removal in Trauma Victim

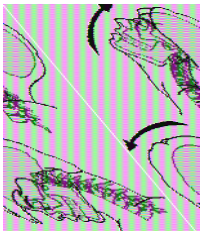
Helmets used in different activities (ice hockey, cycling, football, skateboarding) should *not* be removed in the prehospital setting unless **Special Circumstances** exist:

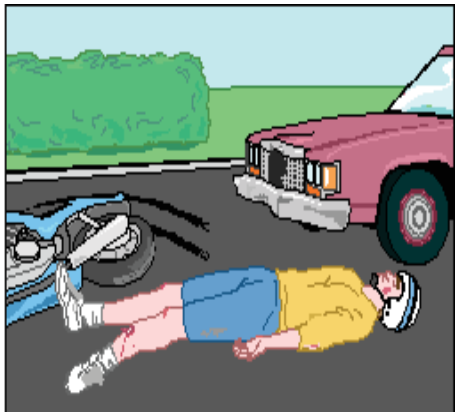
1. **Respiratory distress** coupled with inability to access the airway
2. **Airway Obstruction** which must be removed
3. **Inability to** successfully **manage** the airway with the helmet left on



Athletic Helmet Removal

1. Design of athletic helmets will generally allow easy airway access once the Face Guard is Removed
   - Face Guard attachment tabs can easily be cut off using: EMS type scissors, wire cutters, or ratchet garden shears.
   - Can also be taken off by unscrewing the attachment tabs with a screwdriver
2. If the patient is **wearing shoulder pads**, the **helmet should be left in place** and spinal immobilization completed with this equipment left on the athlete as long as the previous special circumstances do not exist.
   - The neck is in a neutral position when both helmet and shoulder pads are left on while immobilized on a back board.
   - If the helmet is removed, padding must be inserted under the head to keep the neck from extending.
3. Football Helmet Removal is completed by removing the cheek pads, releasing the air inflation system and then sliding the helmet off in the usual manner.





Motorcycle Helmet Removal

1. Motorcycle helmets must often be removed in the field.
   - often have full face guards limiting airway access
   - frequently are poor fitting and not custom designed
   -their large size usually produces neck flexion if left in place when immobilized on a backboard
2. Motorcycle accidents are usually associated with much more violent forces than athletic injuries, making cervical injury likely due to mechanism of injury.
3. This is a **Two Rescuer Procedure**
   - helmet must be maneuvered over the nose and ears while the head and neck are held rigid
   - stabilization is applied from the top of helmet
   - stabilization shifted below with pressure on jaw and occiput
   - helmet is removed, spine is immobilized using normal SOP

Golden Valley Fire District **JPR PERFORMANCE REQUIREMENT** **Company Training Program**	DESCRIPTION: This JPR Training Guideline follows the format identified in NFPA 1001, Standard for Firefighter Professional Qualifications 1997 Edition. Knowledge, skill, performance and topic description are referenced from the Certified Firefighter II & III. Other materials are referenced as needed.

JPR Duty Area : Fire Prevention **Subject: Prefire Planning**

Job Performance Requirement: Develop a pre-incident plan, given an assigned facility and preplanning policies, procedures, and forms, so that all required elements are identified and appropriate forms are completed and processed in accordance with policies and procedures and the company officer is able to utilize the pre-fire plan to coordinate the fireground operation using the pre-fire plan as a tool to proper decision making.

	Skill / Knowledge / Performance / Topic Description	NFPA #	Standard	Validated
	Develop a pre-incident plan, given an assigned facility and preplanning policies and procedures	2-6.1	Pass/Fail	√
	Develop an initial action plan using information contained in preplan form	2-6.2	Pass/Fail	√
	Implement an action plan at an emergency operation using information contained in a preplan form	2-6.3	Pass/Fail	√
	Coordinate action plan using information contained in a preplan form		Pass/Fail	√

GENERAL TASK STATEMENT:

- Use preplan form information to find the components of construction used, coordinate simulated fire attack operations.

Prerequisite Knowledge	Prerequisite Skills
• Strategy options for fire operations • Reading preplan information • Action priority sequence • Tactical objectives that support strategies	• Communication with companies • Radio procedures for transmitting extra alarms • Accountability in tactical assignments

Validation Synopsis

1. Using a preplan survey, conduct a simulated fireground operation a selected occupancies.

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JPR Duty Area: General FF 1 **Subject: Salvage & Overhaul**

Job Performance Requirement: Conserve property as a member of a team, given salvage tools and equipment and an assignment, so that the building and it contents are protected from further damage. Overhaul a fire scene, given personal protective equipment, attack line, hand tools, a flashlight, and an assignment so that structural integrity is not compromised, all hidden fires are discovered, fire cause evidence is preserved, and the fire is extinguished.

GVFD #	Skill / Knowledge / Performance / Topic Description	NFPA #	Standard	Validated
	Demonstrate two folds and rolls for salvage covers. *One person roll, Two person fold, One person spread, Two person spread*	3-15.2	Pass / Fail	√
	Construct a water chute using salvage covers (with and without pike poles)	3-15.4	Pass / Fail	
	Construct a water catch-all using a salvage cover	3-15.5	Pass / Fail	
	Demonstrate the use of salvage equipment to cover doors, window, or other opening	3-15.6	Pass / Fail	
	Demonstrate the removal of debris and routing of water from a structure using available equipment	3-15.7	Pass / Fail	
	Demonstrate the procedures of inspection, cleaning and maintaining salvage equipment	3-15.8	Pass / Fail	
	Identify the purpose of overhaul	3-16.1	Pass / Fail	√
	Recognize indicators of hidden fire	3-16.2	Pass / Fail	
	Demonstrate exposing hidden fires by opening ceilings, walls, floors, and by pulling apart burned materials	3-16.3	Pass / Fail	√
	Demonstrate separation, removal, and relocating charred material to a safe location while protecting the area of origin for determination of cause	3-16.4	Pass / Fail	
	Identify the duties of firefighters left at the scene for fire and security surveillance	3-16.5	Pass / Fail	√

GENERAL TASK STATEMENT:

- Demonstrate the ability to conserve property at a fire scene using tarps.
- Demonstrate the ability to locate hidden fires using tools and equipment.

Prerequisite Knowledge	Prerequisite Skills
• Purpose and value of property conservation • Methods used to protect property • Types and uses of salvage covers • Operations at sprinklered buildings • Methods used to expose hidden fires • Obvious signs of arson and fire origin • Tools used for overhaul	• Clustering of furniture • Rolls and folds of tarps or covers • Use of stoppers and wedges • Removal of flooring, walls and ceilings • Applying water with max. effectiveness • Exposure of hidden fires • Recognition of fire cause

Validation Synopsis

1. Demonstrate salvage cover folds and throws.
2. Demonstrate overhaul of fire building with tools and infrared equipment.

Detect the presence of fire cause indicators.

Golden Valley Fire District **JPR PERFORMANCE REQUIREMENT** **Company Training Program**	DESCRIPTION: This JPR Training Guideline follows the format identified in NFPA 1001, Standard for Firefighter Professional Qualifications 1997 Edition. Knowledge, skill, performance and topic description are referenced from the Certified Firefighter II & III. Other materials are referenced as needed.

JPR Duty Area : Fireground Operations **Subject:** Thermal Imaging Cameras

Job Performance Requirement: The firefighter as part of a team, will utilize Thermal Imaging Cameras (TIC) to identify victims, fire location, high heat concentrations, exits, and other hazards so that the victim can be identified and removed, the source of heat identified and managed, alternative exit points are identified, proper extinguishment takes place and all firefighters are able to operate equipment and safely operate in hazardous environments.

GVFD #	Skill / Knowledge / Performance / Topic Description	NFPA #	Standard	Validated
	Identify the care and maintenance procedures for all types of Thermal Imaging Camera units used by the department		Pass/Fail	√
	Identify the uses of Thermal Imaging Cameras in emergency and non-emergency operations; Interior firefighting, overhaul, rescue, search, smoke investigation, and other operations	3-1.1.2	Pass/Fail	√
	Identify other uses for TIC's; Hazmat incidents, wilderness search and rescue, confined space operations, technical rescue operations		Pass/Fail	√
	Demonstrate the above competencies in a simulated fire operation		Pass/Fail	√
	Demonstrate the above competencies in a simulated hazmat or trt scenario		Pass/Fail	√
	Identify the function of the TIC equipped firefighter in all of the above scenarios, review department operating procedures for who utilizes TIC's and their role and responsibility		Pass/Fail	√
	Identify GVFD area resources and recommendations for using TIC's		Pass/Fail	√

GENERAL TASK STATEMENT:

- Identify procedures and demonstrate skills necessary for operation of Thermal Imaging Cameras in a variety of situations.

Prerequisite Knowledge	Prerequisite Skills
• Department SOG on TIC use • Use, care and maintenance procedures • Location of TIC's on apparatus • Storage of TIC's/recharging systems/power supply • Proper operation in a variety of situations	• Changing batteries or power supplies • On/Off functions • Special features; telemetry, modes, focus • Troubleshooting • Proper use during operation • Ability to identify victims, fire, heat, or other features while operating • Care and maintenance after useage

Validation Synopsis

1. Use TIC equipment in a simulated fire operation.
    - Searching for victims
    - Monitoring heat conditions
    - Identifying hot spots or hidden fires
    - Identifying liquid levels in vessels
    - Other applications as assigned by instructor

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JPR Duty Area: General FF 1 **Subject: Ventilation Operations – Forced & Hydraulic**

Job Performance Requirement: Perform horizontal ventilation on a structure operating as part of a team, given an assignment, personal protective equipment, ventilation tools, equipment and ladders so that the ventilation openings are free of obstructions, tools are safely used, ventilation devices are properly placed, and the structure is cleared of smoke.

GVFD #	Skill / Knowledge / Performance / Topic Description	NFPA #	Standard	Validated
	Identify and demonstrate the advantages and disadvantages of the following types of ventilation: *horizontal, mechanical, mechanical pressurization, and hydraulic*	3-9.3e	Pass / Fail	√
	Identify fireground situations where forced ventilation procedures may be required.	4-9.5	Pass/Fail	√
	Demonstrate ventilation using water fog as a ventilation mechanism according to IFSTA Essentials			
	Demonstrate the positioning and set-up of smoke ejectors to assist in smoke removal		Pass/Fail	√
	Demonstrate the positioning and set-up of positive pressure fans to assist in smoke removal in a structure		Pass/Fail	√

GENERAL TASK STATEMENT:

- Perform horizontal ventilation on a structure using fog streams, smoke ejectors and positive pressure.

Prerequisite Knowledge	Prerequisite Skills
• Principles and advantages of horizontal ventilation techniques • Fire behavior in a structure • Thermal balance • Safety considerations for horizontal ventilation	• Hose advancement into buildings • Positioning of positive pressure and smoke ejector units • Operation of horizontal ventilation equipment

Validation Synopsis

1. Perform horizontal ventilation of a structure
2. Operate fog stream to ventilate
3. Operate smoke ejector in a variety of positions
4. Operate positive pressure fan
5. Remove smoke from building

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J.P.R. Duty Area: F.F. I **Subject: Ventilation Operations – Ladders & Openings**

Job Performance Requirement: Perform vertical ventilation on a structure operating as part of a team, given an assignment, personal protective equipment, ground and roof ladders and tools, so that ladders are properly positioned for ventilation, a sufficient opening is created, all ventilation barriers are removed, structural integrity is not compromised, products of combustion are released from structure and the team retreats from the area when ventilation is completed.

GVFD #	Skill / Knowledge / Performance / Topic Description	NFPA #	Standard	Validated
	Demonstrate determining the integrity of a roof system by sounding	3-9.8	Pass / Fail	√
	Demonstrate the ventilation of a peaked roof using both hand and power tools	3-9.13	Pass / Fail	√
	Demonstrate positioning, raising, and lowering the following ground ladders *as presented in class*: Roof Ladder Only	3-11.2	Pass / Fail	
	Climb the full length of each type of ladder available to the fire department.	3-11.4	Pass / Fail	
	Demonstrate tool carries while ascending and descending ladders	3-11.4a	Pass / Fail	√
	Demonstrate the deployment of a roof ladder on a pitched roof	3-11.5	Pass / Fail	
	Demonstrate the proper techniques for opening a roof as described in Essentials	3-8.2	Pass / Fail	

GENERAL TASK STATEMENT:

- Perform ventilation on a peaked roof using hand tools or power saws

Prerequisite Knowledge	Prerequisite Skills
• Methods of heat transfer • Thermal layering • Techniques and char. of peaked roofs • Building construction terms and identification • Ladder and tool positions	• Transportation and operation of powered ventilation tools • Ladder carries and raises, including roof ladder placement • Sounding of roofs for integrity • Working from ladders on pitched roofs

Validation Synopsis

1. Access peaked roof with ground ladders and roof ladders.
2. Sound roof for integrity
3. Perform vertical ventilation by cutting hole and removing interior obstructions.
4. Retreat from ventilation position when ventilation is complete.

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JPR Duty Area : Fireground Operations (FF2) Subject: Truck Company Operations - Ventilation

Job Performance Requirement: **3-3.10** Perform horizontal ventilation on a structure operating as part of a team, given an assignment, personal protective equipment, ventilation tools, equipment, and ladders, so that the ventilation openings are free of obstructions, tools are safely used, ladders are properly used, ventilation devices are properly placed, and the structure is cleared of smoke.

3-3.11 Perform vertical ventilation on a structure operating as part of a team, given an assignment, personal protective equipment, ground and roof ladders, and tools, so that ladders are properly positioned for ventilation, a sufficient opening is created, all ventilation barriers are removed, structural integrity is not compromised, products of combustion are released from the structure, and the team retreats from the area when ventilation is accomplished

GVFD #	Skill / Knowledge / Performance / Topic Description	NFPA #	Standard	Validated
	Identify the principles of ventilation and identify the advantages and effects of proper ventilation.	(3-9.1)	Pass/Fail	√
	Identify the safety considerations and precautions to be taken while ventilating a structure.	(3-9.2)	Pass/Fail	√
	Identify the advantages and disadvantages of the following types of ventilation: Vertical, Horizontal, Mechanical, Pressurization, Hydraulic		Pass/Fail	√
	Identify the signs, causes, and effects of backdraft explosions.	(3-9.4)	Pass/Fail	√
	Identify methods of preventing a backdraft explosion	(3-9.5)	Pass/Fail	√
	Identify the procedures for the types of ventilation referred to in 2-14.3.	(3-9.10)	Pass/Fail	√
	Identify the types of tools used during ventilation.	(3-9.6	Pass/Fail	√

GENERAL TASK STATEMENT:

- Understand the types of ventilation used in fire suppression operations and the proper application of horizontal, vertical and forced ventilation.

Prerequisite Knowledge	Prerequisite Skills
• Advantages and disadvantages of types of ventilation • Considerations when venting a structure • Fire behavior principles • Tactical advantages of types of ventilation	• Ability to transport tools and equipment • Size-up of ventilation access points • Use of ladders for access • Use of tools and ventilation equipment • Safety in ventilation of structures

Validation Synopsis

1. Understand the principles of ventilation of fire buildings.